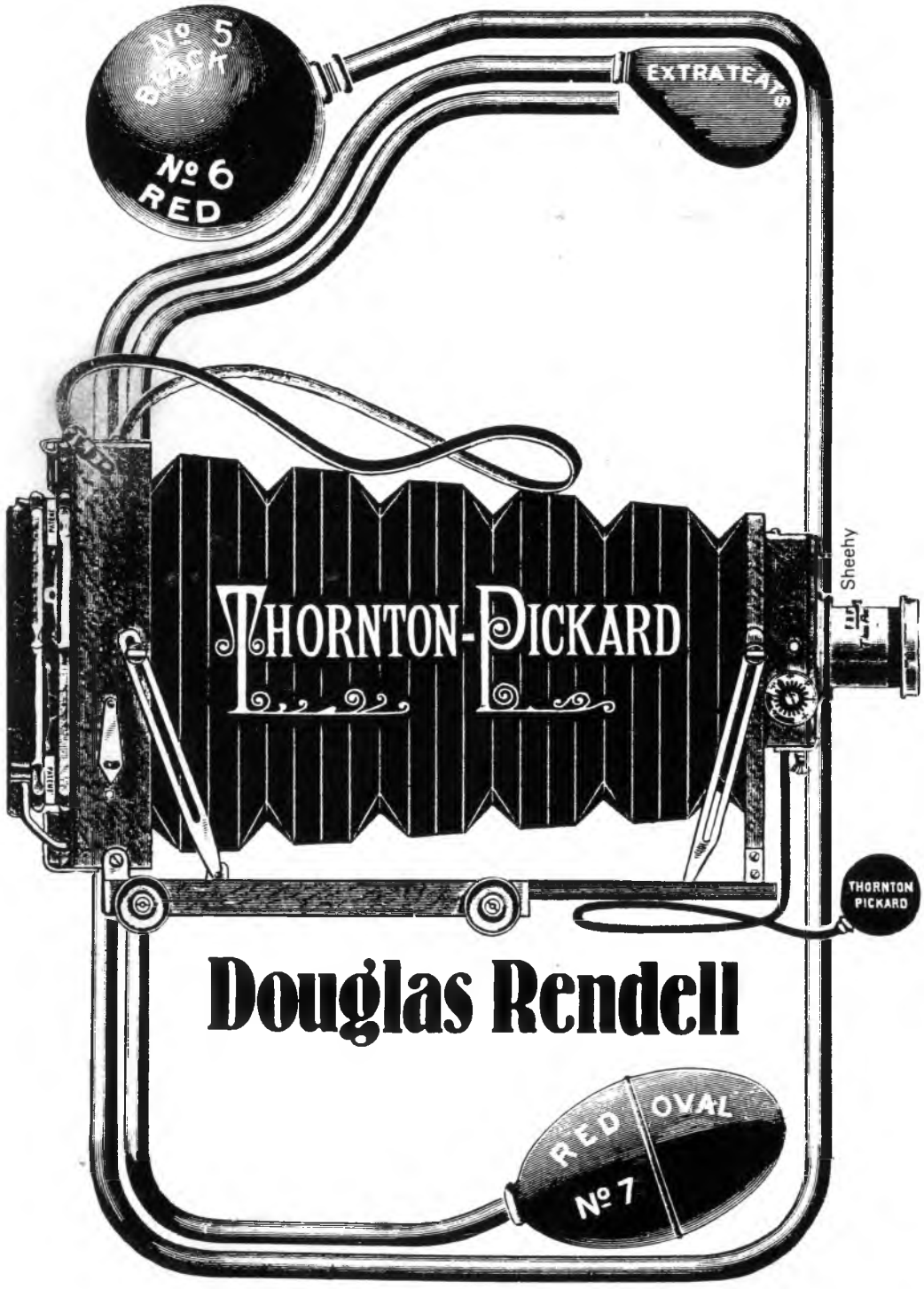
# The Thornton-Pickard Story




Douglas Rendell

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PHOTOGRAPHIC COLLECTORS CLUB
OF GREAT BRITAIN

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# FOREWORD

In the late 1970s correspondence appeared in the columns of the *British Journal of Photography* on the subject of the use of colour photography in the Royal Navy during the Second World War, to which I was able to be make a contribution. The outcome, to cut a long story short, was that I wrote a series of articles for the *BJP*, 'Reminiscences of Naval Photography 1939-1945' (*BJP*, issues 2, 6, 10, 20 and 24, 1980). In the first part reference was made to Thornton-Pickard in connection with a T-P 3½ x 2½ Horizontal Reflex camera which I possessed at the time and as an aside I wrote, and I quote - 'Many years later I was offered the business for £40'.

After the publication of the articles a number of letters were received from which it became clear that photographers, while well acquainted with T-P cameras, knew little about the company itself and I was taken to task for not giving more details about the sale of the company. In a letter published in the *BJP* Donald Pike, after expressing disappointment, wrote - 'As an old T-P user I have been waiting, together with a few friends, for more details and felt sure that all would be revealed in a later series. Alas, this was not to be, so please may we know more?' Thus the T-P story was born, subsequently published as five articles in the *BJP* (issues 50, 51, and 52, 1983 and issues 1 and 2, 1984).

**Douglas Rendell**

The Photographic Collectors Club of Great Britain approached Douglas Rendell at the end of 1991 with a view to reprinting his original *British Journal of Photography* articles. Doug indicated that he would be happy for the Club to go ahead, but he felt that there were some changes that he would like to make in the light of information received after the original publication. He offered to review the original work and make corrections, changes and additions accordingly. This re-issue, then, presents a fully revised text and additional illustrations.

Co-incidentally, this book represents the first research publication from the Club's Publications Committee. Several years ago the Club set aside a sum of money to enable the publication of major research projects outside of the scope of its journal *Photographica World*. The *Thornton-Pickard Story* is an example of what can be achieved and sets a benchmark for future work. The Committee would welcome the opportunity to discuss future publications on all aspects of photographic history including cameras, manufacturers, photographers, stereoscopy, amongst others. Authors may contact the Publications Committee at the Club's normal address. The Club's journal, *Photographica World* publishes shorter research pieces up to 10,000 words and its pages are open to both members and non-members. The Editor's address is given elsewhere.

**Michael Pritchard, Editor**

# CHAPTER 1
# THE EARLY YEARS

## INTRODUCTION

The name was emblazoned along the frontage of what was claimed to be 'one of the finest camera works in the world'[1] - THE THORNTON-PICKARD MANUFACTURING COMPANY LTD. PHOTOGRAPHIC APPARATUS - spelt out in white glazed-brick lettering some two feet high. This type of permanent sign, now surely a lost art, was a common feature of early industrial buildings and looked particularly impressive on this single-storey works. It was an indication of the great faith held in the future of the British camera industry - almost as if those responsible thought it would last for ever.

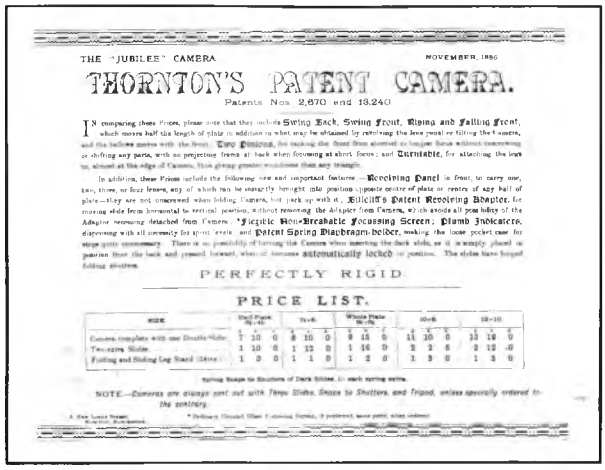
The company survived, in fact, for nearly fifty years, production finally ceasing in 1939. The building, in Atlantic Street, Broadheath, Altrincham (originally in Cheshire), stands to this day, its sign lost forever behind a cement rendering added by a later owner. The photographic apparatus made there will be remembered by older photographers and is well recorded in the early photographic press, notably in the advertisement pages of those massive *BJ Almanacs* of the early part of the century. The story of the company and its personalities, however, appears to have missed the history books and this is an attempt, as far as possible, to fill the gap.

It was J. E. Thornton who started it all when he set up business in Manchester, seven miles to the north, in about 1885, three years before his partnership with Edgar Pickard began.

Most of the information on Thornton and the early years of T-P comes from the Thornton papers and effects at the Vernon Park Museum, Stockport. The papers were deposited by Thornton with Pickfords, the removal firm, before he went to America just before the First World War and, although he returned, the papers were never collected. They came to light when the building in which they were stored was being cleared in the 1970s and only by good fortune were they acquired by the museum.


*The Thornton-Pickard works c.1895.*

*John Edward Thornton, c.1905.*



THE "JUBILEE" CAMERA. NOVEMBER, 1896.

THORNTON'S PATENT CAMERA.

Patents Nos. 2,670 and 18,240.

IN comparing these Prices, please note that they include **Swing Back, Swing Front, Rising and Falling Front**, which moves half the length of plate in addition to what may be obtained by raising the lens panel or tilting the Camera, and the bellows moves with the front. **Three Pinions**, for making the Stand from shortest to longest focus without removing or shifting any parts, with no projecting frame at back when focussing at short focus; and **Turntable**, for attaching the lens on, almost at the edge of Camera, thus giving greater movement than any triangle.

In addition, these Prices include the following new and important features:—**Receiving Panel** in front, to carry one, two, three, or four lenses, any of which can be instantly brought into position opposite centre of plate or centre of any half of plate—they are not unscrewed when folding Camera, but pack up with it. **Billcliff's Patent Receiving Adapter**, for moving slide from horizontal to vertical position, without removing the Adapter from Camera, which avoids all possibility of the Adapter becoming detached from Camera. **Perfectly Non-Breakable Focussing Screen. Plumb Indicators**, dispensing with all necessity for spirit levels, and **Patent Spring Diaphragm-holder**, making the loose pocket case for stops quite unnecessary. There is no possibility of having the Camera when inserting the dark slide, as it is simply placed in position from the back and pressed forward, when it becomes **automatically locked** in position. The slides have hinged folding shutters.

PERFECTLY RIGID.

PRICE LIST.

| SIZE | Half Plate (6½ × 4¼) | Whole Plate (8½ × 6½) | 10×8 | 12×10 |
|---|---|---|---|---|
| Camera, complete with one Double Slide | £ s. d. 7 10 0 | £ s. d. 8 10 0 | £ s. d. 9 15 0 | £ s. d. 11 10 0 | £ s. d. 13 10 0 |
| Two extra Slides | 1 10 0 | 1 15 0 | 1 16 0 | 2 2 0 | 2 12 0 |
| Folding and Sliding Leg Stand (Extra) | 1 0 0 | 1 1 0 | 1 2 0 | 1 3 0 | 1 3 0 |

Spring Swage to Shutters of Dark Slides, 2s. each spring extra.

NOTE.—*Cameras are always sent out with Three Slides, Swage to Shutters, and Tripod, unless specially ordered to the contrary.*

* Ordinary Circular Iris Focussing Screen, if preferred, same price, when ordered.

*Advertisement for Thornton's patent camera.*

## JOHN EDWARD THORNTON

J. E. Thornton was born in Manchester at 92 Wellcombe Street, Hulme, on 30 May 1865. Some two years later his mother, Henrietta (née Buck) died aged twenty-six. His father, a journeyman cabinet maker and upholsterer, re-married and his second wife, Catherine (née Clegg), gave birth to a daughter, Florence, Thornton's half-sister, in July 1878.

The Thornton family were ardent Methodists, and Thornton's father showed a deep interest in his son's education. Thornton's school books of 1877-1878 show he was studying arithmetic, geometry, geography and grammar. When almost fifteen he became a bound apprentice to the prestigious printing firm Deansgate Press (George Faulkner & Sons) in March 1880. It was during the following six years that he became inventor, patent speculator and entrepreneur, the pattern of his future career.

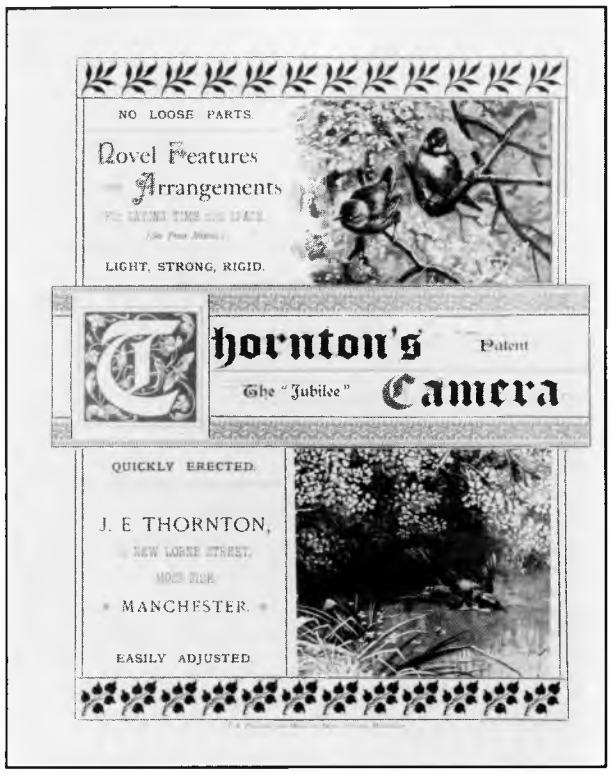
Thornton's father was an amateur painter and Thornton accompanied him to various sites whilst he painted. However, Thornton's father complained that his long working hours reduced his painting time and Thornton persuaded him to buy a secondhand camera so that subjects of his paintings could be photographed and then painted at leisure. Thornton would also have gained some experience with process cameras at the Deansgate Press where he became interested in the reproduction of photographs. He soon began to apply his inventive mind to photographic improvements and by 1886, while still a bound apprentice, he had designed a camera and a roller blind shutter. In the same year he began trading under his own name as a dealer or agent at 4 New Lorne Street, Moss Side.

Notable amongst his stock was 'Thornton's Patent Camera', the 'Jubilee', introduced in October 1896, which had such features as a panel to hold up to four lenses, any one of which could be brought into position opposite the centre of the plate - and a flexible non-breakable focusing screen.[3] On a faded photograph of this camera the name plate can just be read, giving the information that it was made by Billcliff of Manchester.[4]

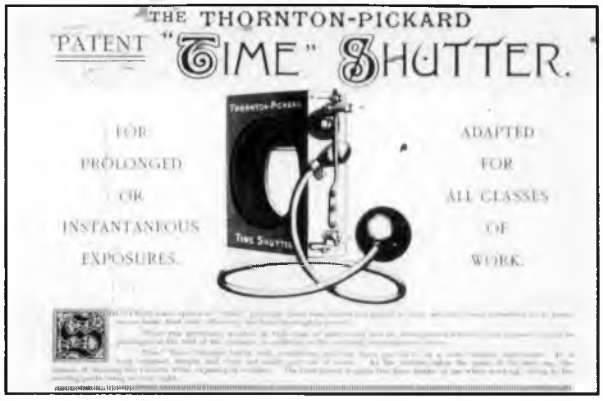
Manchester was then the centre of the largest industrial area of the world, an appropriate site for the Royal Jubilee Exhibition of 1887 held in Trafford Park. Thornton, with other members of the photographic trade, exhibited in an area of one off the main halls described as the 'Photographic Sub-Section'. His entry in the exhibition catalogue indicates the extent of his activities - 'Photographic Apparatus, Thornton's Patent Camera, Roller Slide, Shutter, Exhibition Detective Camera, Satchel Detective Camera, Tripod Stands, Cheap Cameras, Tyler's Metal Slides, Thornton's Patent Advertiser[5], Specimen's of Enlarged Portraits by the Patent Air Brush'. During the year of the exhibition Thornton turned his attention to manufacturing.

## THE THORNTON MANUFACTURING COMPANY

He started manufacturing in the centre of




*A Thornton advertising leaflet from c.1886. Printed in blue and black, these colours would later be adopted by T-P for their own advertising material.*




*Thornton's first shutter*

Manchester at what he described as a 'works' at 10 St Mary's Street and an 'office' at 54 King Street West, two nearby parallel streets off Deansgate, from where he traded under the name of the Thornton Manufacturing Company. Apart from his 'Jubilee' camera he now advertised two other patterns, the 'Cyclum' and the 'Tourist', names which speak for themselves; more prominence was given to these cameras which were still probably made elsewhere, than to his patent 'Time' roller-blind shutter, yet it was through the development of the shutter that the business became successful.

By the end of 1887 Thornton had twelve patents registered (not all of which saw the light of the day) and in a note he clearly stated his business aims -

> 'I have a number of new patents, I wish to obtain the most that I can get for them.'

and it was this obsession with patents that contributed to his many financial problems. It seems that many of his inventions either were not commercially viable or that Thornton did not have the production experience to make them so. Almost immediately after starting production he was in difficulties and his search for support brought the Pickard family into his life. Information on the Pickard family has been provided by Mr T.A. Pickard, the son of Arthur Gray Pickard, Managing Director of T-P during its last years. Unlike the Thornton papers, the Pickard diaries give few details about the early days of the company.

## GEORGE PICKARD

The Pickards were a Quaker family living in Mansfield, Nottinghamshire. George Pickard, from all accounts a remarkable man, started life as a farmer's son near Wakefield in 1820 and rose to be a notable of the town of Mansfield - Mayor, JP, governor of a local school, county councillor, head of the local Liberal Association - all accomplished through his prosperous wholesale grocery business. He married Mary Ann Hartas in 1846 by whom he had eight children, four boys and four girls. (One of the latter died young). After education at Quaker schools all the boys entered their father's business and all were later to become involved in some way with Thornton-Pickard. It was George's third son, Edgar, who was to become the co-founder of T-P, and George himself played an important part in the background by providing capital for the partnership.

## EDGAR PICKARD

Edgar Pickard was born on 28 January 1862, and until recently little was known about him but the discovery of a Pickard family diary reveals that Edgar Pickard was far from being the untrained, untechnical man that had been supposed. Here is a summary of his career after leaving Bootham School at the age of 17½ in July 1879 -

> Autumn 1879-Jan 1880. Working in the pattern shop of a local iron foundry, Messrs Maude's.
>
> Jan 1880. Transferred to moulding shop. He refers to making paperweights and casting a large bandsaw stand weighing 2 tons.
>
> Jan 1882. Left Maude's.
>
> April 1882. Joined Messrs Tangye's Engineering Works, Birmingham. (A famous firm, specialising in hydraulic equipment, which made its name by

designing the jacks that launched the *Great Eastern* in 1858). Edgar worked there for six months, mainly on a lathe.

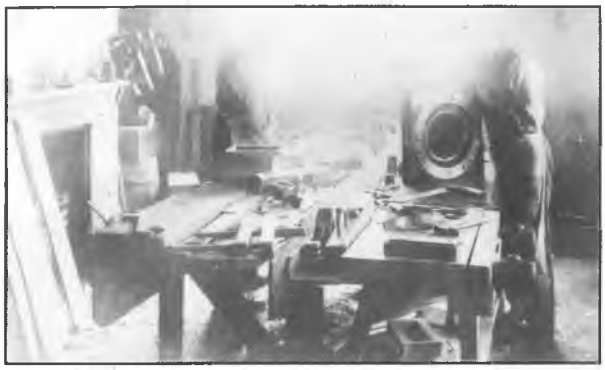
Oct 1882-July 1883. Attended a year's course on engineering at Mason's College, Birmingham, under Prof R.H. Smith.

Sept 1883. Appointed manager of the Bleak Hill foundry, near Mansfield, near Mansfield, of Messrs Robinson & Cooper. Stayed three years.

None of this has any direct application to photography. Yet it all adds up to a thorough practical and theoretical training, as far as England understood the terms, in engineering. In addition Edgar's own workshop at his home would have given him practical experience of woodworking.

He was a man of wide scientific interests including shell collecting and astronomy as well as sharing the interest in birds, flowers, the weather etc, which all his family displayed. He was an active Liberal in Mansfield and as a Quaker was an active temperance campaigner.

Edgar also seems to have had abundant physical energy. He was cricketer, footballer and keen tennis player. All the younger members of the family went for long walks, by night as well as day, in Sherwood Forest.



*The original T-P works in St Marys Street, Manchester showing the baseboard and tripod mount of a T-P field camera.*

And Edgar was an indefatigable cyclist - for example, on 1 July 1882 'a very hot day' he set out from Birmingham at 3.50am on a bicycle, reached Castle Donnington at 8.00am for breakfast, spent an hour in Nottingham and reached Mansfield at midday (62 miles) and then he played tennis all afternoon and evening. The diary entries show no literary genius -

*The Pickard family at their home, 'Crowhill', Mansfield, c.1886. Those connected with this story are George, centre, (his wife died in 1865); Arthur, eldest son, middle row, extreme right; William, second son, middle row, exreme right; Edgar, third son, back row, extreme right; Frederick, youngest son, back row, third from right; Arthur Gray, Arthur's son, front row, centre.*

A

B

D



C

E

*A typical small workshop of the period 1880-1890 in adapted premises. The prints, very faded, were recently found in the Thornton papers and probably depict the original Thornton-Pickard premises in St. Mary's Street, Manchester c.1889. In the middle of the eighteenth century the street was part of a high-class residential district, but by the middle of the nineteenth century most of the houses were used commercially and for small manufacturing industries.*

***A**. Shutter assembly bench? Timber partition suggests link with E.*

***B**. Adapted room on a domestic or office scale. Manually operated machines rope driven from hand operated wheel on right to shaft under bench, placed below windows. Belt drive to saw-bench from shaft. Wheel under wheel bench possibly alternative foot drive. Gas lighting (no mantles) over bench in centre of room but tied back, either to be out of the way or to give light over the window benches and lathe. Glue kettle and gas ring on mantlepiece. Woodworking lathe, benches and tools. Part of camera turntable base right foreground.*

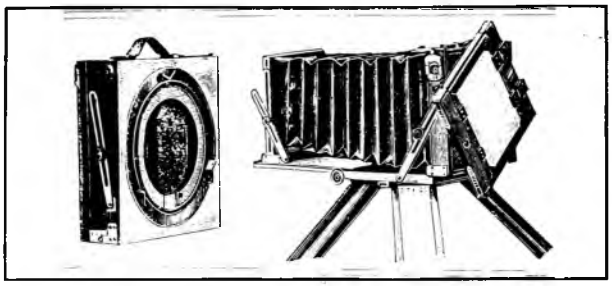
***C**. A woodworking or assembly shop. Driving wheel for hand operated power source (matching that in B). just visble in rear left. Glue kettles, left, below funnelled exhaust vent possibly suggesting a top floor location.*

***D**. A metal workshop with metal turning lathes, metalwork vice and small anvil. A belt drive to overhead shaft fronting windows from a power source (gas engine?) at the far end and centre of the room. Main gas pipe along the rear wall (cf. C) and extension over windows with open burners over lathes and window benches.*

***E**. Woodwork shop, possibly an assembly workroom. No power tools. Glue kettle on bench on right - and kettle for brewing up. Gas lighting over each workplace.*

*As with T-P many of these small manufacturing industries moved out to purpose built premises.*

Additional research by V. I. Tomlinson.



*The T-P Tourist camera made in Manchester c.1890.*

even the spelling is a little erratic - but they are clear and businesslike and occasionally enlivened with pen-and-ink sketches.

Edgar seems a very interesting and accomplished young man, and photography seems the natural activity for one so variously endowed, part scientist and engineer, and part artist.

An extract from a Pickard diary gives the date of his first interest in photography -

> 'June 23, 1885 - I have taken to photography having set up a Camera etc (Lancaster's Instantograph)'[6]

We do not know why Edgar Pickard gave up his post as manager of the Bleak Hill foundry for a career in photographic manufacturing. The business-like Pickards do not give the feeling that they would take commercial risks, so the industry must have appeared to be an attractive investment. Presumably Edgar Pickard was impressed by Thornton and/or his patents and Thornton for his part could be very persuasive about future prospects and easy profits, subjects on which he was never short of words.

## THE THORNTON-PICKARD MANUFACTURING COMPANY

The circumstances under which the two men met have not emerged. Thornton may have advertised for capital as he was to do in later life and it seems likely that a meeting would have taken place at the Royal Jubilee Exhibition, an event that acted like a magnet to thousands of people in the north. The first mention of Edgar Pickard appeared in a letter dated October 1887, the contents of which suggest that he was working with Thornton at that time. Thornton announced the partnership in a circular letter sent to his customers dated 2 January 1888 -

> 'We beg to inform you that in consequence of the introduction into this firm of Mr Edgar Pickard, of Mansfield, the style of the firm from this date will be "THORNTON-PICKARD MANUFACTURING COMPANY". Trusting to be favoured with esteemed commands.'

Favoured they were - with so many commands for their roller-blind shutters that they were soon claiming 'The Largest Sale in the World'. It cannot be said that Thornton invented the roller-blind shutter, only one kind of mechanism. This was the period, of course, of the increasing popularity of photography that had started with the introduction of the dry plate, and the time was ripe for a good, reliable time-and-instantaneous shutter - perhaps the success of T-P can be attributed to the fact that they were able to fulfil that need with just such an instrument. The range of shutters made in Manchester, apart from the basic T & I included a 'Foreground Shutter' (for cloud effects, etc), an 'Extra-Rapid' (a double blind going in opposite directions) and a 'Stereoscopic'. Rubber mouldings were supplied as packing to enable one shutter to be used for several lenses. An extinction type exposure meter was also advertised during this period.[7]

Cameras continued to be supplied and to the 'Cyclum' and 'Tourist' were added the 'Artist', all variations on the same theme - a turntable design which gave a lighter and more compact instrument. In June 1888 Thornton wrote to an unhappy customer -

> 'We have suffered so much from the delay in getting the cameras and in such unsatisfactory finish that we have been compelled to manufacture ourselves'.

In the same month he promised delivery to another customer 'within two weeks, not two months as before'.

However, making cameras had its problems; another manufacturer who had purchased a 15 x 12 T-P complained about the weak joints which Thornton accepted -

> 'the more so as we know it to be justifiable...of course, *you* know that making cameras especially ones like ours, means much failure and many lessons at first, and you will understand the difficulties which we have met'

T-P were obviously learning the hard way. Despite this Thornton was able to write to an enquirer in the same month -

> 'now nothing to equal them...the most perfect

*The Thornton-Pickard works in Manchester. The coach party is thought to be from a pub further down the road.*

Photograph courtesy the late David A. Davies

*The Broadheath T-P works General Office c.1895. Thornton is seated at the desk, right, with Edgar Pickard back to camera.*

*The examining and finishing room at the T-P factory.*

instrument in the market and the most compact camera in the world'.

But camera-making remained a sideline and T-P became essentially a shutter-making company. After about three years Thornton stated -

> 'My firm have sold above 12,000 of these shutters since they were introduced in a commercial way some three years ago, and in fact above 6,000 were sold during last year.'

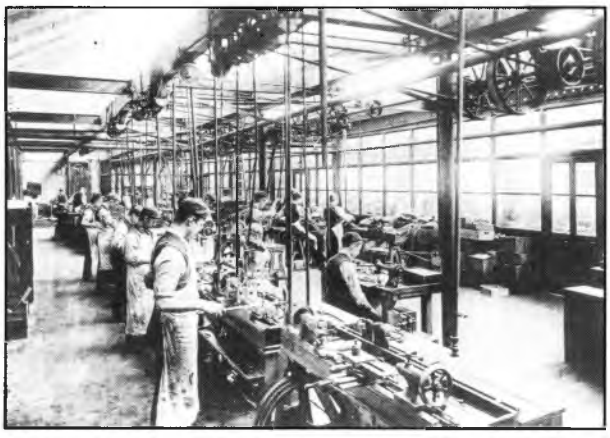
It was on the strength of that and future prospects that a decision was made to build the purpose built factory at Broadheath, and the move was made in 1891. The St Mary's Street premises were sold to C.F.S. Rothwell,[8] a chemist interested in photography who enters this story later.

Throughout its Manchester period the company suffered many a financial crisis and was continually supported by the Pickards. George Pickard made a further loan of £1200 at 5% interest at the time the factory was built, the approximate cost of the building. The success of the T-P shutter, sold worldwide, improved the company's fortunes from this point.

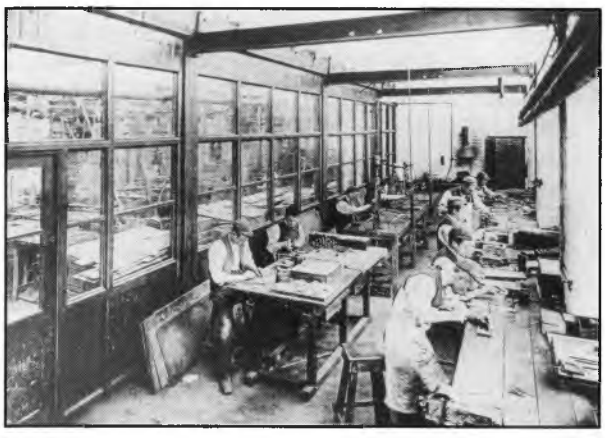
*Cabinet makers in the T-P factory c.1895.*

## THE FACTORY

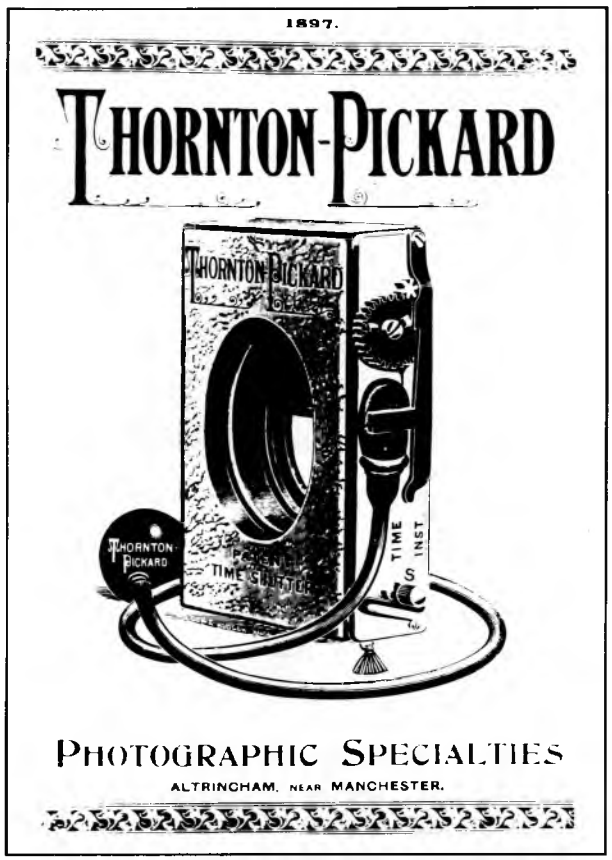
Broadheath today is an industrial/residential area,



*Metal-working machinery at the T-P factory.*



*The brass finishing department.*




*The T-P roller-blind shutter from 1897.*

but in the early 1890s it lived up to its place-name - a far cry from the grime of nineteenth century Manchester. Some industrial activity had begun after the building of the Bridgewater Canal which ran through the district; later, the railway helped the rapid, but haphazard, development of industry during the two decades before the First World War. T-P was one of the early settlers and was soon to be surrounded by illustrious names in the engineering world. The factory was on a prime site, for within distances that could be measured in yards were the main Manchester to Chester road, a railway station, a railway goods yards and a coal yard on the banks of the canal. There was a certain amount of woodworking tradition in the district with consequent skilled labour available, a point that must also have been considered in the choice of Broadheath. Altrincham itself, a small market town, had been discovered as a pleasant place to live by the early Manchester merchants even before the coming of the railway, and both Thornton and Edgar Pickard made their homes in the town.

A good impression of the works is given in an album of eight reproductions of photographs of the works *'Taken with the Thornton-Pickard Time and Instantaneous Shutter and Ruby Camera'*, all pin sharp with no sign of movement on any of the workmen posed at their benches. A total of ninety heads can be counted, but this cannot be taken as a precise figure of the total number of employees in view of the habit of photographers (and clients) of filling in empty spaces on factory shots with employees from other departments. But taking that into consideration together with the fact that not all departments are illustrated (for example, French polishing) then a figure of 100 workforce cannot be far off the mark. Power for the machinery was provided by a 'National' gas engine which was described as working like 'a warhorse'; it was situated in an outhouse which contained much glass which shattered when the main belt drive broke. The land acquired by T-P covered an area of 3000 sq.yds., the factory as built about 10,000 sq.ft.

## SHUTTER PRODUCTION

Mahogany, mostly from Central America, arrived at the works (after 1895 via the Manchester Ship Canal) in the form of large boards which were stored in a commodious drying shed. The boards were cut in to long pieces of the exact width required, planed and cut again into small pieces of the correct size for making up. These pieces, to form a box, then underwent the process of 'combing' or 'plain dovetailing', the notches being cut out at one operation by a series of circular cutters revolving at high speed. After assembly of the boxes each was sawn in half to form two shutter-bodies which were then drilled, sandpapered and polished, the latter process 'though not increasing their utility, adds in no small degree to their handsome appearance'. To increase production two dozen shutter-boxes were clamped together for the final operations, while the metal working tools turned out parts by the gross. This was early mass production and an attempt to beat the competition on price, a Thornton philosophy.

The various items to make up a shutter were given out from the main stores in lots of a dozen, each man having twelve shutters of a kind to assemble. While the individual parts had been cut accurately, it needed skilled labour to put them together and make the


*In addition to shutters a range of accessories were also produced.*


shutters work. Thornton realised from the start that the use of skilled labour on such a scale was a great disadvantage an he had plans to overcome the problem.

Production settled down to seven patterns of shutter (a Focal Plane Shutter with patent adjustable slit was now included in the range) each supplied in various sizes, for which it was necessary to stock: 104 different parts of wood; 254 different parts of metal; 18 kinds of screw. Again, there were teething troubles; Mr Edwards, a foreman, was having difficulties, as Thornton noted -

> 'Edwards - Feb 2/93 - Too much to do. Because doing other things. Eds. has to do his own repairs, as they are never right. If he sent all back instead would never have any to go out at all. Shutters never right when they come into finishing room. Material never examined before putting together. Sometimes there may be 200 or 300 shutters in stock - all jumbled together, some made in Jan some April and perhaps unable to get one out of the lot that is right. Boxed - lot glued together at once. 2 doz. squeezed up in cramps at once. No use, Eds. has to make them right a few at a time. Boy (sweeper) put to assist Edwards.'

## BOSTON, MASSACHUSETTS

In 1894 a scheme to break into the American market showed great enterprise although the venture did not survive for long. It seems that a Mr Hesketh (later to become company secretary at Broadheath) and an assistant, Mr Piercy, opened an office at 2 Park Square, Boston, with the intention of assembling shutters. Thornton visited the office and made these notes:

> 'Nov 1894.
>
> CHANCES - *If we come away* at once we get back in money and goods about £200 towards the £500 and therefore LOSE £300.
>
> REMEDY - A determined effort to push sales.
>
> Cutting down on expenses.
>
> Doing more fitting up for the wages paid. Raising American prices by 25%.
>
> Note - Expenses might be reduced by £20 by printing only 10,000 catalogues and £15 by posting only 7000. Electros of pages could be kept for future editions and further reduced by £50 by not going over that year.'

Thornton's estimate of costs for the 1½ in. Time Shutter read as follows:

| | s. d. | | s. d. |
|---|---|---|---|
| England | 18:6 | America $6.50 = | 27:0 |
| Less 33⅓ | 6:2 | Less 33⅓ | 9:0 |
| nett | 12:4 | nett | 18:0 |
| | | nett England | 12:4 |

| | |
|---|---|
| American office gets more than English | 5:8 |
| American office pays - | s. d. |
| For all parts including 3d. | 2:11 |
| for Rubber Duty on 2s 11d | :11 |
| Carriage, Brokerage, etc. 10% on invoiced value of parts | :4 |
| Add 331/3 on the 12s 4d or English Trade Price | 4:1 |
| Contingencies (say 10% on parts) | :4 |
| Before fitting up costs, American Office nett | 8:7 |

Total overheads were about £750 a year, including wages for Hesketh and Piercy of £216:13:0d and £164:10:0d respectively. Thornton estimated that 2000 assorted would have to be sold each year just to make ends meet. This was not to be Thornton's only visit to America; he took a keen interest in photographic developments in that country and made a collection of American catalogues. Competition was on the way.

## CAMERAS

Camera production in the first years at the new factory concentrated on the 'Ruby' which had made its appearance during the final years in Manchester and which replaced all the other patterns, the main difference being the permanent fixture of the shutter on the camera body.

There was a brief appearance of a 'Hand Camera'

in 1894/1895, an early form of twin lens reflex - a folding camera with two bellows side by side; one acting as a focusing viewfinder complete with mirror. The camera could also be used for stereoscopic photography. It took two quarter-plates and one version accepted an Eastman Roll Holder for 48 exposures.

It was not until 1896 that camera production increased with the introduction of a cheaper version of the traditional design - the 'Amber'. For the 'Ruby' and 'Amber' cameras the following parts were required: 116 different parts of wood; 163 different parts of metal; fifteen different sizes of bellows; six kinds of screw. Thornton's rough estimate for making a half-plate in lots of six reads as follows (model of camera not given):

| | | £ s. d. |
|---|---|---|
| Making - each | | 12:0 |
| Polishing | | 6:0 |
| Fitting | | 6:0 |
| Brasswork | | 2:0:0 |
| Bellows | | 8:0 |
| 3 slides, | making 6s | 18:0 |
| | polishing 1s | 3:0 |
| | fitting 1s | 3:0 |
| Brass, wood and sundries | | 10:0 |
| Total cost, say | | 5: 0:0 |
| Working and selling expenses | | 2:10:0 |
| | | 7:10:0 |
| Selling price | | 10:15:0 |
| Less 20% | | 2: 3:0 |
| | | 8:12:0 |
| Cost | | 7:10:0 |
| Profit | | 1: 2:0 |

## CONFLICT

The eventual success of the company was not matched by the personal relationship between the two partners, which was often stormy. Thornton recorded their differences, mainly concerning the company's finances, in some detail. He had the habit of setting down his thoughts and arguments on paper before confronting Edgar Pickard. For example, after bickering about the number of hours each partner worked and the time off for holidays (four weeks) Thornton wrote -

> 'He wants to work harder but I won't let him, does not intend to work harder unless paid for it...not going to give him 12s per hour for what I could get done by a foreman at 1s.'

In 1892, in an attempt to settle their differences, Thornton wrote to his partner -

> 'The cause may be on my [Thornton's] side or on yours, I think it chiefly yours, but whichever it is I am willing to do all I can to get on amicably...you treat me at times in such a domineering and overbearing manner that do what I will I cannot help resenting it... In fact you treat me like a servant...perhaps the worst feature of the matter is that the treatment is carried on openly before our employees...'


*The T-P Ruby from the Manchester factory c.1890.*

After another row, again about money, Thornton recorded Edgar Pickard's remarks -

> 'I (Thornton) said, had considered and could not give an increase. He (Edgar Pickard) got vexed. Said many nasty things, referred to and raked up the past. Said he had been deceived and taken in, scandalously, etc. Said he had come in and saved me from ruin. If he had stuck out longer his father [George Pickard] said I would come to anything in a fortnight) he would have done better. Said he found, did the work, invented all new patents, made the time shutter work, etc. Said I gave him no thanks nor acknowledgement for photos, etc. Took all and gave nothing, did not mind how poor I was myself so that he was no richer. Said he had always considered my feelings. Could have shut up and sold the business. Said he always supported me at his home, made me out to be a saint etc.
>
> I said very little except to deny some of his statements.'

We can only see a one-sided view of the situation, there being little recorded response from the Pickards. Even the business-like Pickards must have found it difficult to control Thornton's excesses. He was a very self-opinionated man and had to go his own way. However, the partners battled on, their differences never reconciled, and in 1897 they formed a public limited company.

But within a few weeks of the formation of the company on 20 January tragedy struck - Edgar Pickard, after a short illness, died on 27 March 1897. He was only thirty-five years old.

# CHAPTER 2
# THE MIDDLE YEARS

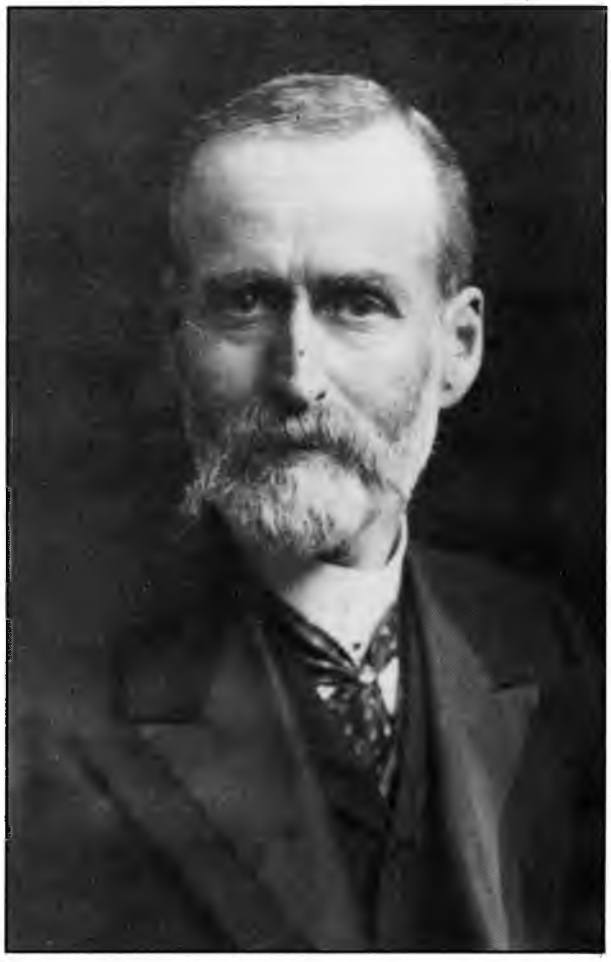
The death of Edgar Pickard in March 1897 at such an important stage in the development of T-P was a great loss to all concerned. Thornton, despite his conflicts over the years with his late partner said of him:

> 'I can testify in the highest terms as to his integrity, high character and business ability. To his energy and skill the firm owed a great deal of its rapid progress and success'.

The immediate effect was a boardroom reshuffle and Thornton now found himself with a new joint managing director, his late partner's brother George Arthur Pickard, who had been made a director on the formation of the new public limited company in the previous January.[10]

## GEORGE ARTHUR PICKARD

Arthur was the eldest of the four Pickard brothers and was 47 years old when appointed a director of T-P. He was born on 17 November 1850 and received a Quaker education before entering his father's wholesale grocery business in Mansfield. From there he branched out to found and develop a preserve



*George Arthur Pickard who became joint managing director, with Thornton, in 1897.*

making business which, from all accounts, proved very successful. His prosperity was reflected in the large house in which he came to live - 'Racehill' in Bowdon, Altrincham. (The house and stables have now been turned into flats). He was married with one son, Arthur Gray, then about 16 years old, who was destined to join the company a few years later. Presumably G. A. Pickard had come into the business to protect the family interest, but to make the move he had to be tempted with a salary of £500, twice as much as provided by the Articles of Association for the original partners, a fact that must have rankled with Thornton. G. A. Pickard was never a strong man and the events at T-P, starting with the death of his brother, and the resulting extra responsibilities he had to bear proved a great strain, but he was to remain with the company until his death in 1919. His main hobby was fly fishing, a sport on which he was a recognised authority.[11]

## STATUTORY AND FIRST GENERAL MEETINGS

The statutory meeting that had to take place within four months of the formation of the limited company took place in May 1897, and at this Thornton reported that shutter sales had shown an increase of 11% and camera sales 264%, the latter due to the introduction of the new cheaper 'Amber' pattern. G. A. Pickard also spoke at the meeting, and stated that the company had been so busy coping with the demand for shutters that it had been unable to devote its full energy to cameras until recently -

> 'it was perhaps to cameras that they must look for that future increase in business.'

At the first Annual General Meeting on 28 February in the following year G. A. Pickard was in the chair, and he reported that sales had increased, for which he gave three reasons - 1. To meet demand for a cheaper shutter, aluminium boxes had been used in place of mahogany. 2. A new film carrier 'to enable films to be used without the addition of any cardboard backing to strengthen the carrier'; 3. The use of aluminium for the shutters of their patent plate holders. G. A. Pickard stated: 'The three items in question were largely the result of Mr Thornton's energy and foresight, and would help them to keep in the forefront of the photographic trade'. New machinery had been installed, extra staff employed and both meetings were cautiously optimistic about the future.

Due to illness Thornton was not at the meeting, but prior to it wrote a draft report in which he noted -

> '...only that morning they had received an order from Tokyo, capital of Japan, numbering 81 shutters, slightly under £100 worth. Germans had copied their shutters and were selling imitations on the continent without let or hindrance...the company had unfortunately not taken out patents on the continent'.

After a fall of profits from £8,343 in 1896 to £7,255 in 1897 Thornton noted: 'had my proposals of extension been carried out the company would have made £10,000 to £15,000', and he had the following to say about the situation -

> 'Falling off of profits - this is entirely due to the fact that the company is not keeping up with its competitors. Formerly it kept well in advance of them but is now falling most lamentably behind. It cannot keep up with the times so long as it is managed by people who don't understand the business. I have been urging against overwhelming odds for two years a change of policy upon lines indicated repeatedly to G. A. Pickard, but they would not move. The business is of a novel and special character and must not be compared with an ordinary business. The man who can build up its profits and reputation must have special and peculiar abilities such as are not be found in the photo trade.'

So there we have Thornton saying as long ago as 1898 what we say today about the demise of the British photographic manufacturing industry. His plan for T-P was for them to manufacture films and, equally important, to make cameras that would take only those films - just like Kodak. Furthermore he wanted to


*A T-P advertisement from the 1907 BJ Almanac.*

*Workers from the Broadheath Industrial Estate passing the T-P works in Atlantic Street, c.1912. The original building bore the legend 'THE THORNTON-PICKARD MANUFACTURING CO', an extension added 'LTD. PHOTOGRAPHIC APPARATUS.' A later extension is visible through new brickwork. Duke's Cottages (see Chapter 5) are on the right.*

change production methods to eliminate the need for so much skilled labour. There were further rumblings from Thornton which could hardly have gone down well with his colleagues -

> 'I want an alteration of salary which at present is on very unequal lines... I want a technical board etc., also assistants, such as one in the office, one in works...I want 10% on turnover of all new things.'

Clearly he was not having his own way with G. A. Pickard whom he regarded as a 'non-technical' director, lacking experience of the business. This conflict with his new joint managing director on the question of future company policy was never resolved and resulted in Thornton's resignation.

## EXTRAORDINARY GENERAL MEETING

The first indication to the shareholders that anything was wrong came with the announcement of an extraordinary general meeting on 4 July 1898 which was called for the purpose of considering the following resolution -

> 'That the Directors be authorised to arrange for the release of Mr J. E. Thornton, one of the Managing Directors, from his position as Managing Director.'

At the meeting it was stated that the proposed retirement of Thornton was entirely voluntary and that it had been agreed for his holding in the company to be purchased by some of the directors and their friends. Satisfactory arrangements had been made for the future management of the business under the guidance of G. A. Pickard. It was stressed that it had not been suggested or hinted to Thornton that he should retire, indeed the directors seemed 'grieved and surprised' when the request came from Thornton. No reasons were given for Thornton's request at the meeting, and the resolution was carried by 10 votes for, to three against. Opposition was expressed by a shareholder -

> '...it seems to me that having already sustained a very heavy loss through the death of Mr Edgar Pickard, to be now deprived also of Mr Thornton would be practically cutting them off from the original founders of the firm, and that, to my mind, would be a quite unmitigated calamity. The fortunes of the company had hung solely and entirely on Mr Thornton's personal prestige...and it was Mr Thornton's personal inventive faculty that had planted the germs (*sic*) of the company, and therefore they could not afford to treat lightly his request to be liberated...If agreed, Mr Thornton's future inventions might be the means of wrecking the company, and I oppose the resolution very strongly.'

The chairman of the meeting assured the shareholders that Thornton would be precluded from engaging in photographic manufacture in the UK for five years but

'he is more likely to exercise his gifts outside the photographic business altogether'. Little did the chairman know.

Writing some time later Thornton explained his reasons for leaving the company -

> 'All my efforts to bring about a change of policy and manage and develop the concern upon the lines which my long connection with the business had taught me was the *only* way to success, were rendered futile by the opposition of the Pickard family who held a controlling interest, and not one of which understood anything at all about such a technical business. I did not want to go out, When they opposed my proposals, I tried to buy up their shares. Several proposals to do so were made by me, and although I offered a much higher price than I considered the shares were worth...all these proposals were likewise a failure. The family would not sell at *any* price. All they did was to examine my offers and to decline them. When all my efforts had failed, I came to the conclusion that there was only one course left to me, if I must protect my own interest and that was to sell out entirely. I was reluctant to do this and first threatened to do so, without acting upon the threat immediately, in the hope that this would bring about a change. But it did not, and at last I parted with every share I possessed but one. I never parted with anything in my life with greater reluctance and so much sadness and bitterness than when I parted with my interest in the concern that I founded.'

## THE GOLDEN YEARS

Maker of jam and a 'non-technical' director notwithstanding, G. A. Pickard ran the firm with some success for the next two decades. Perhaps what he lacked in experience of photographic manufacturing was made up by his business expertise. Certainly there are references to his skill in business matters and it was said that he enjoyed business for its own sake. It is doubtful if he had the ruthlessness to make a great businessman yet strict honesty, application and consideration evidently made him a popular employer. Under his leadership the company expanded considerably during the years prior to the First World War. The factory was extended several times to its present area of 20,000 sq.ft. and to the name of the company that was embedded along the frontage in white glazed brick were added the words '...LTD. PHOTOGRAPHIC APPARATUS'. A large export trade was built up and T-P became well known throughout the world, or as G. A. Pickard put it -

> 'we might take it as a maxim that where the name of Thornton-Pickard is unknown there is no civilisation'. What at first sight seems difficult to accept is a local newspaper report that clerks were employed who could correspond in six languages, French, German, Dutch, Italian, Spanish and Portuguese. This can be explained by the proximity of the cosmopolitan textile trade.'

A peak of about 250 employees was reached

### YESTERDAY'S WITNESS - 1

May Fleming went to work in the French polishing department in 1903 and had nothing but happy memories of her few years stay. Yet times were hard - she worked a five and a half day week, 7.30am to 6.00pm, noon on Saturdays, for which she received four shillings, half of which she gave to her mother, the other half she spent on clothes. Like all new girls she was trained in French polishing on the tripods, which were made of ash. She recalled the process of 'yellowing' which gave the wood an appearance of oak. Later, on cameras, she remembered the various processes known as 'bodying-up', 'building-up' and 'spiriting-out'. From the wood-working room came 'boxes and backs' for treatment and these were hung up to dry overnight during the various polishing processes. Great care was taken to obtain a fine finish, with the windows being kept close to prevent dust entering. There were about 12 girls in the department together with the foreman, Mr Brewer, who prepared the polishes in bulk, the girls taking their empty jars for him for re-filling. May Fleming became an expert French polisher but when she tried her hand at it at home after leaving the works she was never able to obtain as good a finish, perhaps because she did not know the exact ingredients of the materials used.

There was a happy social life amongst the girls and at work they were able to talk, a point May Fleming emphasised as if that was unusual. One of the leisure activities was for the girls to meet at the top of the road after work on a Saturday and walk to the Cheshire village of Rostherne, have tea and walk back, a distance of some ten miles, thoroughly enjoying themselves and 'feeling good'. May Fleming could not understand some of the youth of today who frequent pubs and do not know what to do with themselves. There was an annual works picnic to Blackpool and an annual 'ball' at the Public Hall, Altrincham, which in effect was a dance with entertainment provided by members of the staff.

It was around 1903 that G.A. Pickard's son Arthur Gray, then 21, came into the business. Gray Pickard had to leave Dalton Hall, Manchester University, before taking his degree because, it is thought, his father became ill. He worked his way through the factory to learn the business and was later made manager, then a director. May Fleming remembered him working in her department for about three weeks. She had a high regard for both father and son whom she described as 'real gentlemen'.

during this pre-First World War period, one of whom was Mrs May Fleming a lively 96, when interviewed. (She died aged 101 in 1989).

## THE CAMERAS

There continued to be a steady demand for shutters, but it was the camera side that developed from the time of the formation of the new company. The range of the traditional mahogany and brass cameras was extended, the policy seeming to be lower prices - for instance, the half-plate 'Imperial' triple extension (1903) was later sold as the 'Seventy Shilling Set' and the 'Tribune' (1907) for juniors, a quarter-plate priced at a guinea; even allowing for inflation these prices appear remarkably cheap considering the cameras were complete outfits including lens and tripod. The 'Ruby' remained the top of the range - the 'King of Cameras'.

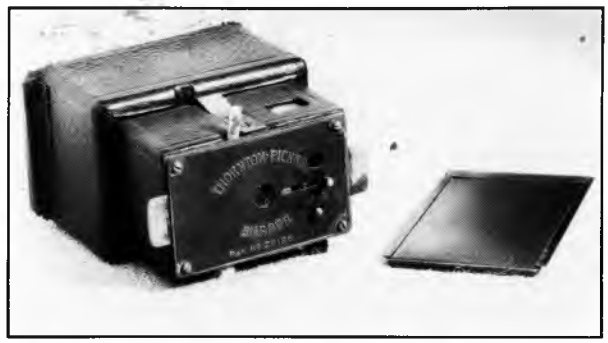
T-Ps first folding hand camera was the 'Automan' (1901), for plates, later rollfilms, described as opening like a 'Jack-in-the-Box'. There followed a series of folding and box types for the amateur market which was rapidly expanding - the 'Totator' (1902) a box type that took twelve plates (a patent 'changing rotator' dropped the exposed plate to the bottom of the camera); folding cameras for the pocket, the 'Weenie' and the 'Wafer' (1909) - the latter a 'dainty camera for lady photographers' - and a series of cheap snapshot cameras, the 'Clipper', 'Snappa' and 'Limit' (1913). More unusual was the vest pocket Minim (1910) with 'the smallest focal plane shutter in the world', and a twin-lens folding hand camera with two bellows (1913). The major introduction was, of course, the 'Ruby' single lens reflex (1908). And many more, most of which can be seen in the advertisement pages of *BJ Almanacs* of the time.

## CAMERA PRODUCTION

Descriptions of the factory[12] in the photographic press of the period were usually in the form of what we now call advertising features and due allowances have to be made -

> 'What a bustle and hum as we passed into the main shop, where wood-working machinery of every description was fashioning and moulding timber into all sorts of shapes and sizes. Here a number of circular and band saw machines, there, routers, moulding machines and planers were hard at it cutting, grooving and smoothing the surfaces of pieces of mahogany that looked like anything except parts of cameras and dark slides.'

One of the special machines used in the production of dark slides was the 'four-cutter moulder' into which long strips of mahogany were fed and - 'by one operation the wood was planed on four sides, shaped on three, and two ornamental beads cut upon the surface'. Black pear wood was used in the making of



*The T-P Snappa camera. The subject of a 1911 patent.*

reflex cameras, and in the metal working section machines turned out springs, rollers, bearings, catches, releases and other parts in enormous quantities. One piece of equipment was a Taylor, Taylor and Hobson engraving machine presumably used for engraving the company's name on lens mounts made elsewhere. In contrast to all the sophisticated machinery was the shutter testing department - 'One workman sits before a metronome and is kept constantly employed testing the speeds of time valves'. It was concluded that -

> 'the company is certainly not going to be behind the best American workshops, and in order to keep up with the times they procure the best and most efficient machinery money can buy...the company is quite up to the times in its methods, in fact, it would be impossible to find a company that is more so'.


*The Thornton-Pickard 1910 Catalogue.*

## ADVERTISING

The ornate type-face that was the hallmark of the company can be traced back to the Thornton Manufacturing Co and was certainly chosen, if not designed by, Thornton himself, reflecting his early connection with the printing trade. His first finely printed leaflets of 1886 quickly gave way to catalogues as business expanded and these, as was common at the time, were in the format of the *BJ Almanac*. There is every reason to believe that Thornton wrote the copy for advertisements himself - he never had any problems describing the splendour of his products, just, as we shall see, he was not modest in writing about himself. Advertising was on the grand scale - for instance in the 1907 edition of the *Almanac* there was an 'Abridged Catalogue' of forty pages in which the readers were invited to apply for the full catalogue of 80 pages. A feature of these catalogues was the reproduction of photographs taken with T-P equipment, often action shots, and the early editions reveal both Thornton and Edgar Pickard as competent photographers. Testimonials abounded, often whole pages, and in 1900 a booklet of them was published, *Candid Opinions*. According to Thornton, for every testimonial printed, 150 were received. In 1899 a £200 competition was held for 'photographs taken with T-P shutters' and reproductions of the winners were published in a well produced slim hardback book, *The Thornton Pickard Book of Prize Pictures* price 6d. Mr Hesketh the company secretary, made an extensive world tour visiting the principal cities of South America, New Zealand, Straights Settlements, Burma, India and the Falkland Islands. Salesmen were employed in later years, but on the first occasion in 1896 Thornton had this to say...'The employment of a traveller at £120 with expenses of £80 was a disaster'.

## PROFIT AND LOSS

How golden was it for T-P during the 'golden age' of British photographic manufacturing? In financial terms it is difficult to say as no detailed accounts have yet been found, but that it was not an easy ride is illustrated by these quotations from the minute book of company general meetings...

**1902** Boer War '...they had noticed a very great falling off in orders from officers of the Army who, before the war commenced, had been very large customers of the Company. Increased expenditure in connection with the war had adversely affected business and consequently the profits'. (Dividend of 71/2% in 1898 had now dropped to 2½%).

**1903** '...although they did not make much profit they had kept in the forefront. In the manufacture of Stand Cameras they were still ahead of anybody either at Home or Abroad. The reason they could not make as much profit as they ought to be doing was first, as regards Roll Blind Shutters, that these were so closely imitated by the Germans and sold at such low prices that it was impossible for the Company to make anything like the profit they used to do. In the case of Stand Cameras the same thing applied, but the competition they had to meet was not Foreign competition but from small English Makers whilst some of the Company's most noted productions in Stand Cameras were copied by their larger Competitors practically in every part...the Company had for some years been endeavouring to enter into that larger trade for supply of Hand Cameras but although no great measure of success had attended their efforts hitherto, he felt that they were on to the eve of being perhaps as successful as they had been in Stand Cameras'.

**1909** 'The Company had been compelled by the exigencies of trade competition to considerably enlarge their scope of operations and that meant there was a certain amount of capital on which interest had to be paid...' The company had become involved with Cameras Ltd of Manchester and W.L. Parkinson of Liverpool 'with the hope and express objects of being able to share in the very large profits realisable on the retail sale of Photographic Apparatus'. But they lost about £2,900 on the deal...it was the same old story, as long as a man minded his own business all went well, but directly he commenced minding other peoples, his own went wrong.'

**1914** 'For some reason or other the Report was not so good as it ought to be, but the amount of work done was greater than usual'

There are frequent references in the minute book to 'the great amount of detail in the business' which is not surprising considering the wide range of products. In 1914 for example 2,000 letters were sent out in February as against 1,500 the previous year - 'these were letters the greater number of which required very great care and attention, and were quite apart from all the standard letters'.

## END OF AN ERA

The outbreak of the First World War in 1914 saw the end of T-P's heyday. The period had been one of achievement, although it is doubtful if Thornton would have regarded the company as keeping up with the times. The government contracts that came with the war provided a boost, but did not help to save it.

# CHAPTER 3
# THORNTON'S LATER CAREER

In the summer of 1898 Thornton, had a brief sortie into non-photographic production. His inventive genius was not entirely confined to photography, his patent applications covering, amongst other things, motor vehicles, bicycles, steam generators, paper, cardboard boxes and electrical goods. Even his wife got into the act by patenting a skirt suspender,[13] some brass fittings of which have survived.

## J. E. THORNTON, ENTREPRENEUR

In 1897, while still at T-P, Thornton acquired Worsley Mill in Hulme, Manchester, which was sub-let to three companies with which he was connected -

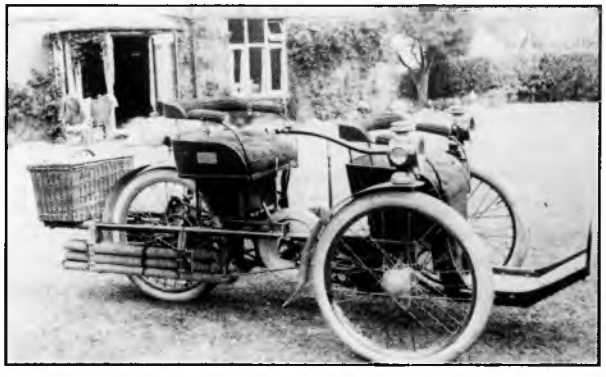
The Thornton Motor Company Ltd[14]
The Flexoid Syndicate Ltd[15]
The Premier Box Company Ltd[16]

Although some papers relating to this complicated set-up have survived, it is difficult to obtain a clear picture of Thornton's involvement apart from the fact that he was a director of each, and working his patents. To add to the confusion, after he left T-P he began to trade under his own name as a portrait photographer working from his home, 'Rokeby', in Altrincham. Then, another business entered the scene, The Artistic Photograph Company of Altrincham which dealt in D&P and local view postcards, but it is not certain if that company was formed by Thornton or a company already in existence which was purchased by him.

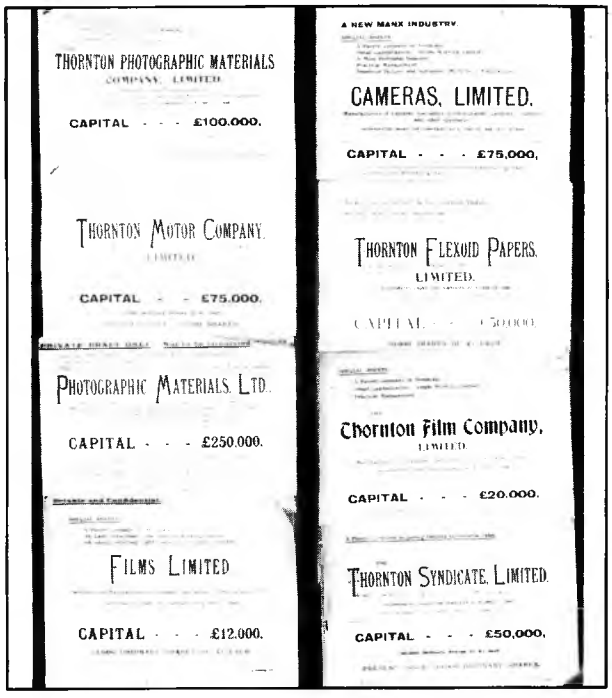
It might be thought that this was enough for any man, but no, Thornton had a great urge to get back into photographic manufacturing despite the hurdle of his agreement with T-P which bound him not to:

> 'directly or indirectly carry on or be engaged or concerned or interested in the business of a manufacturer of, or dealer in cameras, shutters or other photographic appliances.'

This applied in the UK for a period of five years, but



*The Thornton car in the garden of his home in Altrincham. The car was probably made by, or very strongly influenced by, a French design of the late 1890s. A Thornton company proposed to make all sizes of vehicle from tricycles to heavy lorries and drays.*




*A selection of Thornton company prospectuses.*

now Thornton made some attempts to circumvent this agreement. His first scheme which probably never got beyond his pencilled notes, was to form a company, named 'Pakko', raise the capital, buy up T-P, merge the two companies and trade under the name of Thornton. Then followed an idea of starting up in Belgium, where he expected to find cheap labour -

> 'To enable me to obtain the full benefit of my foreign patents I am forming a company in Belgium to work same...it will be my utmost endeavour to build up a gigantic business. I am determined to put all my energies into it and the full benefit of my extreme and valuable experience of the photo trade.'

This also got nowhere as did his next ambitious Isle of Man venture the gist of which was as follows -

'Cameras, Ltd' English company to manufacture cameras and apparatus. Thornton to have no direct interest.

'Films, Ltd' English company to manufacture films and plates. Thornton to have no direct interest.

'Thornton, Ltd' A Manx company, formed under Manx law to carry on trade of photographic materials supplies, to buy up patents and inventions etc. Cameras and films to be purchased from the above English companies. Thornton managing director.

'Jones & Co' An English firm to sell Thornton Ltd goods.

It was probably as well that this 'New Manx Industry' came to nothing, although some progress was made...a site was found in Douglas, a quotation for building was obtained, and a prospectus was issued.

Finally, and this idea did come to fruition, Thornton announced -

> 'I have decided to manufacture and sell films, plates and printing paper - still a good opening for money to be made.'

He did not go into all these schemes lightly - there is plenty of correspondence to show that he consulted his legal advisors, and it can only be assumed that in settling for sensitised materials it was thought that this would in no way compete with T-P. Thornton wrote to his old company to inform them that he proposed to start...

> 'a totally new business...I believe it does not come within the scope of the terms of the Agreement of Sale and am quite sure that it does not come within the spirit of the Agreement either. As a matter of friendliness and courtesy I think it desirable to acquaint you of my intention.'

But T-P did not see it that way and immediately applied for an injunction to restrain him, based on the Agreement of Sale. It cannot have helped matters that Thornton had rented a factory but a mile away from T-P in the centre of Altrincham, or that he was going to trade under the name of 'The Thornton Film Company Ltd'. All this was going on during 1899.

## THORNTON-PICKARD *v.* THORNTON

The case was heard on 3 April 1900 and the judgment went in Thornton's favour. It will be more entertaining for the reader to give Thornton's opinion of the proceedings, albeit a one-sided point of view. It seems that after the case G.A. Pickard wrote a letter to the press critical of Thornton. The latter's draft reply was not conciliatory -

> '...Then I became associated with a Company to manufacture Films. Mr Pickard says I formed the Company myself. I did not. He knows nothing about it, and said so in his evidence. Anyhow it matters not whether I formed it or not.
>
> Then, through his Company, he objects to my being interested in the manufacture of Films. Why, nobody knows. He and his Company admit that by making Films I should not injure the business of The Thornton-Pickard Company to the extent of a farthing. Yet for all that they bring an action against me for doing so. That Company never made Films, never wanted to, and never intended to. Yet, with true characteristic dog-in-the-manger spirit they say, we won't let you make Films either.What could be more absurd? what, I ask, could be more unfair in every way?
>
> Mr Pickard says the agreement made to protect the business sold was intended to prevent me from manufacturing Films also. This is absolutely untrue. It was nothing of the kind. On the contrary I had always intended to manufacture Films, as was stated in my sworn affidavit, which neither Mr Pickard nor the Company can deny. Moreover, I wanted the old firm to do so, but it would not. Was it likely, therefore, that I would have allowed myself to be bound out

from doing so?

Mr Pickard says the notorious word "appliances" where the Agreement speaks of Cameras, Shutters, or other photographic appliances, shows that the two partners wished to protect each other against rivalry. It does not show anything of the kind. There was no question of rivalry; how could there be? Besides he does not know what the two partners wished.

...The action which the Company brought against me miserably failed, as it deserved to do.

It was an action that should never have been brought, and would not if common sense had been used. Mr Justice Kekewick clearly took that view. It was quite evident that he considered the Plaintiffs were seeking to make the agreement wider, in order to cover and include something that it was never intended to include, and which in fact was unnecessary for the protection of their business. His summing up and judgment were very clear. In the course of it he said - "Test it in this way. Supposing some inventive man had, within a short time after the conversion of the firm into a Company, found out some entirely new photographic appliance - something not dreamt of at the date of this agreement? The result according to the Plaintiffs' contention, would have been that Mr Thornton, though he might have been the inventor of it - not that it matters - could not be concerned or interested in that new invention, because it was a photographic appliance. That seems to me to reduce it to an absurdity. I am suggesting something which is quite possible in this 19th century, not dreamt of, not thought of; not an improvement on what has been hitherto in use, but something entirely new. It seems to me that shows - it certainly would come within the term 'other photographic appliances' - that the agreement is too large in its terms."

His Lordship could hardly have imagined or given a more apt illustration, for I have quite recently invented something photographic which is quite new and has not been thought or before [the film pack]. If the Plaintiffs were to have their way, they would prevent me from reaping any benefit therefrom, or allowing the public to have any benefit, although the Plaintiffs themselves have not contributed one iota to that invention, and have no legal nor moral claim upon it.

The fact is, that throughout the whole of this matter there has been exhibited the most remarkable want of tact on the part of those responsible for commencing the action, and instead of trying to arrange to share the benefits of new inventions they have spurned all approaches and have graspingly overreached themselves.

...The idea of the Company permitting me to sell nitrate of silver, bromide of potassium, gelatine, distilled water, etc., but objecting to my bringing them "into certain combinations with each other" and coating "glass or celluloid" with such a wonderful mixture is delicious. In fact it is too funny to be taken seriously. I really must express my profound thanks to the Company (or its Managing Director - which?) for such magnanimity.

But, joking apart, there is one thing for which I thank both your correspondent and the Company most heartily, and that is for the magnificent free advertisement they have given the Thornton Film. I believe the Company handling it hope to have the Film on the market by Whitsun-tide.'

## DOUBLE YOUR MONEY

In his search for capital Thornton advertised in the national press and had contacts in London. Apparently it was not easy - 'it's half the battle to get hold of someone who will look at a photographic Co', but he aimed high - 'a man like Alfred Harmsworth of the *Daily Mail*, who has taken much interest in the American invasion (Kodak), is the kind of man to get at'. A Thornton company prospectus read like an invitation to double your money and the unwary investor was assured that 'his [Thornton's] special knowledge of the requirements of the photo public, inventive ability, keen foresight, capacity for organisation and high reputation in the trade may be taken as a guarantee of success'. In support of his confidence in the pickings to be made he often quoted, perhaps with envy, the profits of his competitors - in 1899 'Lumière £82,830, Ilford £51,928, Kodak £335,919', and in connection with his film company he made liberal quotes from the photographic press, for example, 'We are sure that the man who is first in the field with low priced films will reap a golden harvest' (*Practical Photographer*, July 1899), Thornton was that man, but there was to be no harvest.

## THE THORNTON FILM COMPANY LTD

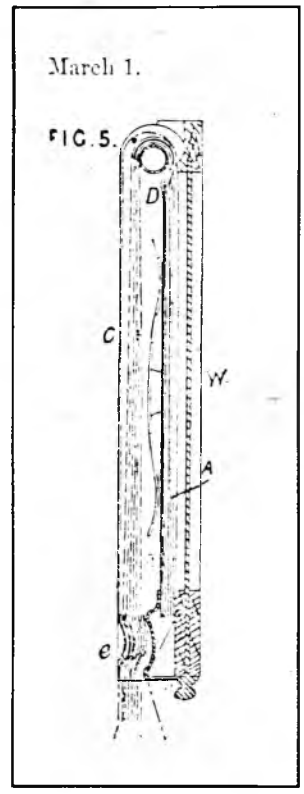
Thornton called his film 'Glassoline' - 'It consists of a film or foundation of pure gelatine, coated with the sensitive emulsion and having a backing of transparent paper, which can instantly be removed from the film itself when the negative is finished and dry. The removal of this backing with such perfect ease has only been rendered possible by the discovery of a new transparent material known as "Flexoid".' It was

*Thornton's film factory in Altrincham.*

introduced in 1900 together with a 'paper film' and the first catalogue (fourteen pages) included a page of testimonials from the press. But Thornton had his problems - there were production difficulties, intense competition from Eastman Kodak and to crown all, T-P appealed against the judgment that had freed him from their agreement. At the Court of Appeal in April 1901 the judges were quickly satisfied as to the rights of T-P and gave judgment accordingly. T-P had won 'hands down', as they said, and commenced further action to constrain the company using the name 'Thornton'. The whole affair was settled when the Thornton Film Company went into liquidation before the year was out.

Two applications by letter for jobs at the Thornton Film Company have survived - one man offered his services for £5 a week to coat bromide and the other wrote - 'I have three years experience in silver, platinum, my age is 17, wages required 18/- per week'. Apart from skilled employees the fact that Thornton was able to branch out into emulsion-making at all must be certainly due to the man he appointed as his chief chemist and director, C.F.S. Rothwell F.C.S.

*Thornton's British patent no. 4955 of March 1 1898 was one of a numbering relating to film packs. The patent referred to by the American visitor, Robertson, has not been traced.*






## CHARLES FREDERICK SEYMOUR ROTHWELL

It was Rothwell who had purchased the old T-P premises in St Mary's Street, Manchester, *c.*1890, from where he traded as Rothwell's Photographic Materials Company. It is known that he experimented with emulsion-making at the time, his tests being processed by a photographic dealer across the road, Frederick Foxall (see note 8, part 1). Rothwell was also a director of Thornton's 'Flexoid Syndicate' and in 1899 had taken out patents jointly with Thornton in connection with film coating.[17] After the failure of the film company he became associated with the Brooks-Watson Daylight Camera Co. Ltd. of Liverpool, which was formed in 1901 to exploit an invention for the daylight loading and unloading of flat films. The company built a factory to make films - the 'Rajar' works at Mobberley, near Altrincham - with Rothwell in control. In 1907 Rothwell was one of the founders of a new company Rajar Ltd (now incorporated in Ilford Ltd) and later became managing director. After the First World War Rothwell also became a director of T-P itself during the mergers that took place in the 1920s.

It is thought that Rothwell was a fairly wealthy man and so may have provided some financial backing for Thornton. The two men obviously worked closely together and there is some correspondence which indicates that Rothwell did some testing on Thornton's film pack.

## THE FILM PACK

Thornton had been experimenting for some time with a film pack or 'Daypack' as he called it and in 1901 he attempted to raise capital with the intention of manufacturing it at his film factory -

> 'I have invented and protected by patents in several countries a practical and efficient system for Daylight Loading *Flat* Films, the packets being in such a form that they can be used in all cameras that take Plate Holders, including the many think American Hand Cameras on the market and especially suitable for a special series of cameras. There is a fortune in the system if properly pushed. My object in writing to you is to ask if you would be prepared to take the matter up financially...'

Capital was not found, but his patent was spotted by an American visitor to this country, John A. Robertson, the secretary of the Rochester Optical & Camera Co., who had this to say -

> 'During my visit to England in 1901, my attention was directed to a patent granted to John Edward Thornton June 15, 1901, No. 663,039. At that time Thornton was putting a film pack in a tin box, which was soldered up and had to be opened with a can opener for development after exposure in the camera. This was not a practical thing, but I thought that a practical film pack could be produced. Upon my return to the United States, this matter of film pack was investigated and it was found that a certain Frank Whitney of Winnetka, Cook County, Illinois, had patents on photographic cameras and films with which the Thornton patent interfered. Thereupon a license was secured from Frank Whitney on May 31, 1902...On September 8, 1902, the Rochester Optical & Camera Company obtained a license from Thornton under his patent on a royalty basis... A

patent on the perfected invention was granted to the company on May 19, 1903.'

Later in 1903 the Rochester company was purchased by Eastman. The film pack manufactured by the Rochester Optical & Camera Co and later by Kodak, was of metal and cardboard construction; from 1905 the pack was made so that it could be opened to remove only the exposed films for developing without disturbing the remaining unexposed film. An entry in Thornton's cash book of 1906 records royalties received of £128 in March and £195 in October, presumably in connection with the film pack.

## 'OUR SHARP YANKEE FRIENDS'

Incredibly, during Thornton's film-making episode he was giving detailed thought to camera manufacture,[18] but he was up against the same problems as T-P -

> 'The photographic apparatus trade is formed chiefly by very small concerns, many of them "garret" men, whose goods are turned out with an entire want of system, both as regards manufacture, design and business methods; the consequence has been that our sharp Yankee friends the Eastman Kodak Co saw their chance and have come over here and captured a very large amount of British trade which they could not have done of British manufacturers had handled it properly. The Americans have produced a good article, have turned it out in good style and pushed it with good business methods and for these reasons have done a big trade and scooped up enormous profits. Fortunately, among the photographic dealers there is a magnificent amount of patriotism and if you make close enquiries among them you will find wherever you go a very strong feeling against this American company, and an equally strong desire to support any British manufacturer who would only supply them with goods of the same quality and in a businesslike way. The fact of the matter is that there has never been such a grand opportunity in the photographic trade for an up-to-date firm to supply the right thing as there is today.'

That was written in 1900, but by the following year the dealer's patriotism seems to have taken a knock from the aggressive business methods of Kodak -

> 'I cannot see what hope of success can be expected from dealers. They won't support anything. Give them a range of cameras equal to Kodak, and our films, then they will sell them. But if you travelled the British Isles you would not get £500 subscribed by them . We hear continually, however, that they are all with us in spirit, and very much vexed with Kodak people. It can only be done by strong financial people, and the dealers collectively are not such. If they were they would never stand dictation. I have had a long talk today with our Scottish traveller and London traveller. Scotsmen are very bitter and they won't stand the dictation. They say they will sell our goods anyhow, and in many cases show their practical sympathy by placing orders, after, mark you, reading the latest of the Kodak circulars. On the other hand London people are frightened and have, like the ostrich, buried their heads in the sand, going so far as to send stuff back and cancel orders. Provincial people take all makes of films besides ours, except Kodak, out of their windows and only sell to a customer in a sneaking kind of way...it is evident that the reason people are not ordering roll film is because they are afraid that the Kodak Co will take away their supplies of cameras.'


*A postcard printer c.1905.*

Thornton's approach to camera making was 'the evolution of a system of manufacture whereby machinery and cheap unskilled labour will largely take the place of the present expensive highly skilled hand labour'. But he was never able to find the capital required; he needed £50,000 - 'and I don't know where to find it'.

All Thornton's enterprises were finally jumbled together in 'The Thornton Syndicate' where they were either sold off or left to die a natural death.

## THORNTON AND THORNTON-PICKARD

During this period Thornton was in constant touch with his old company, either as a customer or by letter suggesting some business deal. Also, as a holder of one T-P share he was entitled to attend their AGMs - which

he did each year until 1906. At the meeting of 1905 he gave further evidence of the part played in the T-P story of early days by George Pickard, the father of G.A. Pickard, who had died in that year at the age of 85. -

> 'I well remember the time in the history of the business when there was a very severe crisis and how the late Mr Pickard came forward and helped it financially "over the stile" as it were...had it not been for the assistance then rendered, the firm must certainly have been "snuffed out" completely.'

In 1901 in an attempt to salvage something from his film company he wrote to G.A. Pickard -

> 'Having regard to the fact that litigation between yourselves and myself has now terminated, I should be glad to know whether you would be agreeable to reopen negotiations between us.'

Thornton had several proposals to make including a merger between T-P and the Thornton Film Company and a scheme which would have brought back Thornton to T-P as manager. T-P considered these proposals but did not accept them - by now Thornton must have been something of a thorn in their flesh. To carry on in photography, Thornton had to look elsewhere.

## PICTURE POSTCARDS

After the collapse of the film company Thornton's wife wrote to a few of her husband's friends to inform them that he had lost all his savings of £8,000 through litigation that wrecked the Thornton Film Company and asked their support for yet another venture - picture postcards, then enjoying their boom years. These friends seem to have rallied round to provide Thornton with a small capital to set up the National Photo Printing Co Ltd, which was a merger of his own company Thornton Limited, of Altrincham and 'The Palatine Publishing Company' of Manchester. Thornton had already published 'real photo' postcards under the names of 'Thornton Series' and 'Picturesque Views of Cheshire' and he now proposed to extend the range with cards printed by halftone, covering a large area - Lancashire and North Wales. Being Thornton, he was also concerned with improving the machinery to print cards quicker and cheaper, not to mention penny-in-the-slot automatic machines for selling cards for use in country places frequented by tourists - 'in addition to Views they are useful for distributing portraits of popular Actresses and other people of note'. Again, optimism was high -

> 'It is believed that within a very short time the profits of the business as a trading concern will soon be sufficient to justify the formation of a company with a capital of £100,000 to buy up the Patent Syndicate'.

Finally the inevitable happened -

> 'I suffered an unexpected loss which has left me penniless. All my estate is tied up under a deed of assignment.' (19 February 1906)

These financial circumstances forced a removal from his large house in Altrincham and during the next few years he lived at various addresses. It was from a small terraced house in Stockport that he deposited his papers and emigrated to America where, by 1913, he had set up a studio in Rochester, NY.

Either because of the war or financial failure, he was back in England by 1915 and in the late 1920s moved to Jersey in the Channel Islands. During this period he continued to be a prolific inventor, turning his photographic interests to kinematography and colour photography. In *c.*1930, possibly in connection with an early Technicolor process, he was receiving a royalty of £3,000 per annum (¼d per foot) from Eastman Kodak.

Later in life Thornton appears to have been abandoned by his family (he had two sons). By 1937 he was living with his half-sister in Whitefield, Bury, and in that year, as we shall see, he was still taking an interest in the company he founded. He died in Bury Infirmary on 5 October 1940 - a man forgotten by the industry he had played so large a part in.

# CHAPTER 4
# AERIAL CAMERAS

The struggle to establish, expand and perfect the technique of photography from the air as an aid to military intelligence and for geological survey is a fascinating story.[19] The First World War created a demand for aerial cameras, albeit at first slowly, and specifications came to be issued by the Photographic Division at the Royal Aircraft Factory, Farnborough.[20] There was much competition between the photographic manufacturers to obtain contracts from the Royal Flying Corps and the Royal Naval Air Service; many models were produced, some of which never reached the stage of meeting the specifications required and the question of who made what is not always easy to answer, particularly as there was a certain amount of sub-contracting. The first known aerial camera was the so-called Watson Vertical Wooden camera fixed to the outside of a 1912 vintage aircraft, a one-off destroyed in an air crash. As far as T-P was concerned virtually all production at their factory from the early part of the war centred on contracts for the RFC - aerial cameras for reconnaissance and gun cameras for the training of aircrew, and it is possible to chronicle the main activities of the company during the war years.

Prior to the issuing of contracts the situation was rather hit and miss. During the early years of the RFC - which was formed in 1912 - aerial photography was not looked upon as being of any particular importance. It was the work of individuals using hand-held cameras that eventually impressed the 'top brass'. However, it was not until February 1915 that a serious attempt was made to organise photography by the formation of an experimental unit, attached to No. 2 Wing of the RFC stationed in France; the purpose of the unit was to report on the best form of organisation for aerial photography and to develop a camera specifically for use in the air. In charge of this unit was a young pilot - Lt. J.T.C. Moore-Brabazon[21] with a team including Lt. C.D.M. Campbell and Flight Sergeant F.C.V. Laws[22] each of whom had some photographic experience and all three were to become key figures in the development of photography in the RFC. According to Moore-Brabazon the group was 'as welcome as the measles' and he explained the apathy towards photography as the reluctance of the older Services to adopt to new inventions -

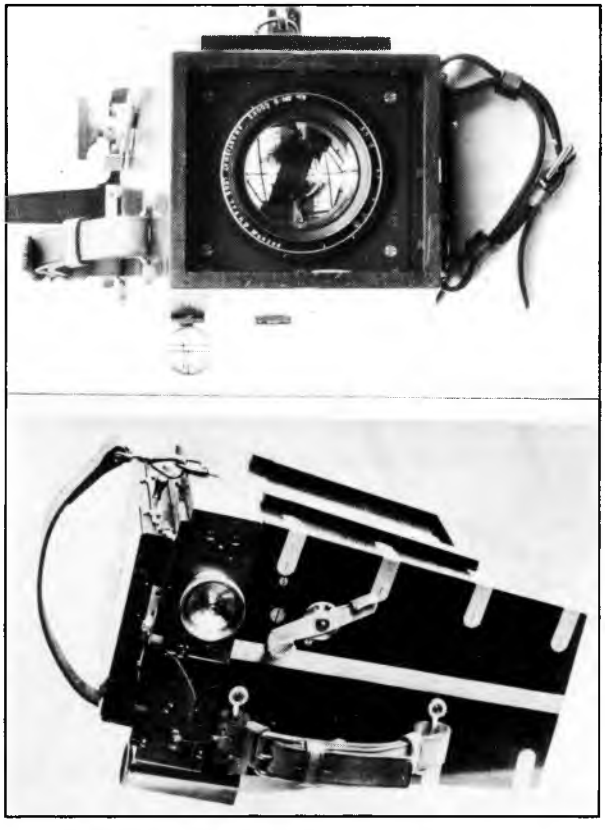
> 'they take the greatest exception to an enemy who refuses to play according to the rules as understood...aerial photography was thing that had not been done before, and to expose the whole set-up behind the enemy lines was to invade a privacy that had always been accorded the enemy'.

Nevertheless, the commander of No.1 Wing, Colonel (later Lord) Trenchard gave the unit every encouragement and carried prints around with him in an effort, not always successful, to interest other commanders in the use of aerial photography.

*Royal Flying Corps men at T-P's factory working on the 'A' type aerial camera.*

## THE TYPE 'A' CAMERA

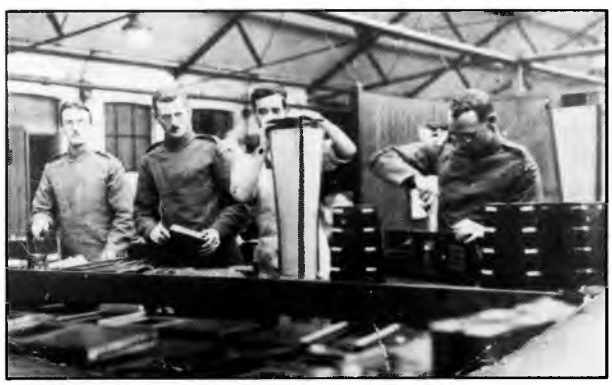
The cameras used up to this time were mainly of the bellows type with focal plane shutter which, not surprisingly, were unsatisfactory for use in the cockpit of an aircraft travelling upwards of 70mph and it was apparent that a new camera made to the specifications of the experimental unit was urgently required. Accordingly, Moore-Brabazon and Campbell were sent to London with a free hand to obtain what was required. The company secretary of T-P, R. Hesketh, was summoned[23] to Moore-Brabazon's town house in London and a meeting took place one Friday afternoon in February 1915. The first hour of the meeting was taken up with the problems of discussing military affairs with a civilian, after which it became obvious that military security had to be stretched and Hesketh taken into complete confidence. The next 80 minutes were spent over a sheet of foolscap on which eventually appeared the shape of a tapering box-like apparatus which was to become the Type 'A' camera, the first official RFC camera designed for oblique work. After the designs had been agreed Hesketh sent a telegram to the T-P works calling for two works foremen to be at his home that evening and a motor car at the station on his arrival. He was duly met by either G. A. Pickard or his son Gray, followed by discussions at his home with Pickard and the foremen on the design details and arrangements for sub-contract work such as brass angle



*The 'A' type aerial camera.*

*The Type 'C' aerial camera in use. The cord from the cockpit to the camera released the shutter.*

plates and special fittings. An exhausted Hesketh got to bed in the early hours, but was back at work at 9.00am on Saturday morning to examine the progress on the mahogany camera body, when he had to 'fiercely admonish' an operator who had thought fit to reduce the thickness of the wood from 5/8 to 1/4 inch, as a result of which it had to be remade. The completed camera was ready on the following Wednesday morning for collection by Moore-Brabazon; it was a ruggedly constructed tapered box of brass bound mahogany fitted with an 8 inch lens, focal plane shutter and a McKenzie-Wishart slide for 5x4 inch plates.[24]



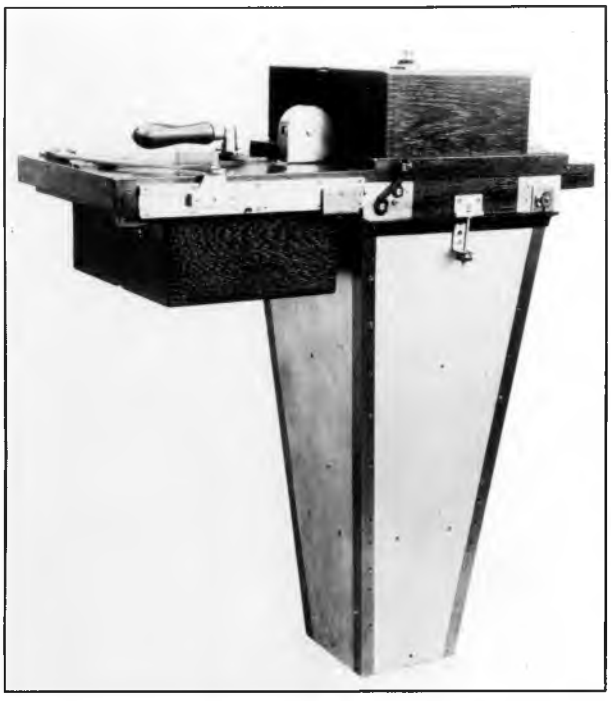
*The 'E' Type camera and members of the Royal Flying Corps at the T-P works.*

Moore-Brabazon immediately discovered the need for two small modifications, one in the shutter winding mechanism, the other in the positioning of the leather hand grips. These alterations delayed delivery, but the camera was ready on the following Saturday when it was rushed out to France and used for the first time in the air, over the village of Fauquissant on 2 March 1915.

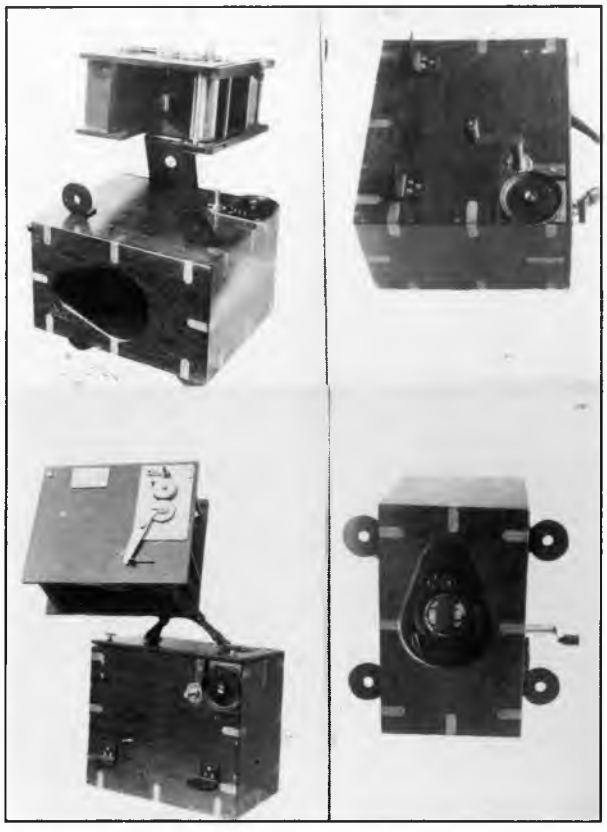
The Type 'A' was designed as a hand-held camera, but in use it was found to be heavy and bulky for the operator, who aimed and operated it by leaning out of the cockpit, a hazardous operation to say the least. One user on his first photographic flight found the Type 'A' 'rather disconcerting' and very nearly lost his balance when he leant over the side of the aircraft to avoid a landing-wire that was in his field of view; thereafter he made sure his feet was firmly braced before indulging in any similar exercises. To add to the difficulties of handling, the camera needed eleven operations to take the first photograph and ten for each subsequent one.

## THE TYPE 'C' CAMERA

In the Summer of 1915 a semi-automatic plate changing device (a double box for holding 18 5 x 4 plates, patented jointly by Gray Pickard and the assistance works manager, Fred Slinger)[25] was fitted to the Type 'A' body in place of the



*The Type 'E' experimental model. The final version was fitted with a metal lens cone.*



*The unidentified rollfilm aerial camera believed to be made by T-P.*

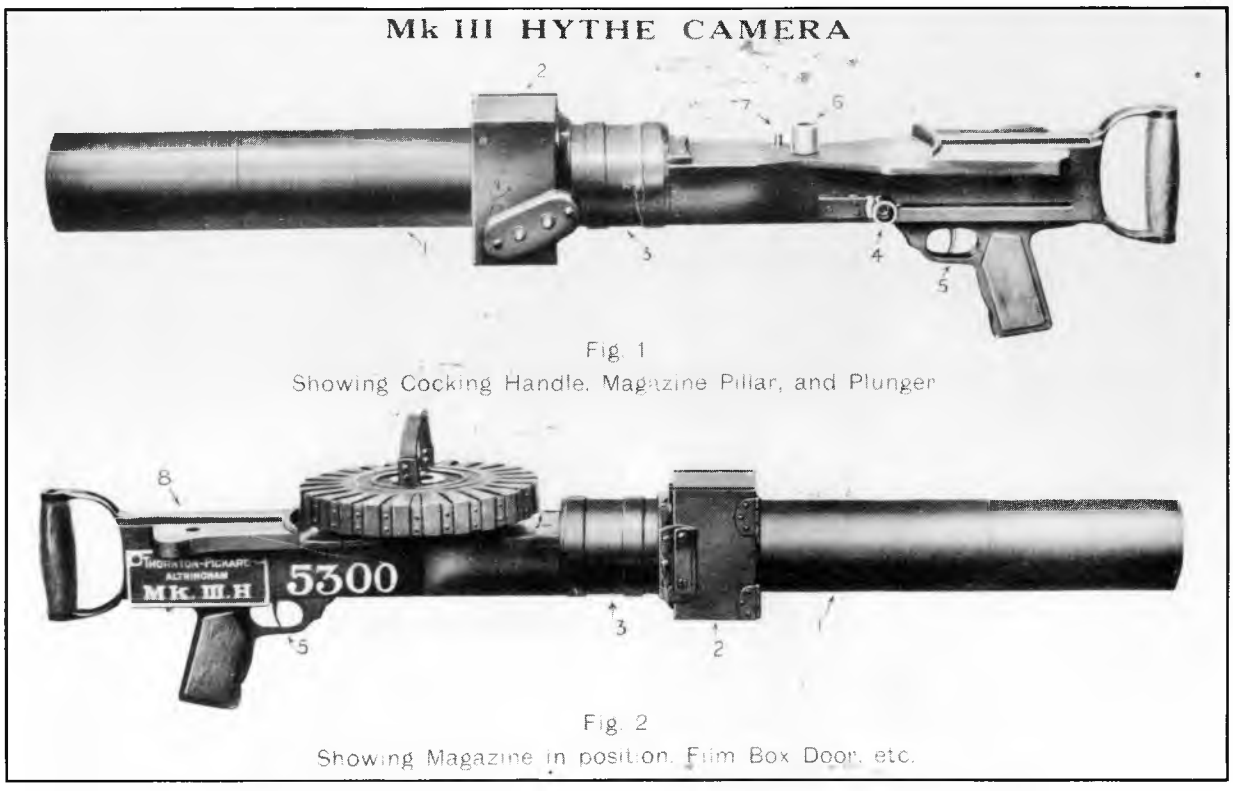
Mackenzie-Wishart slide and reclassified as Type 'C'. This camera was mounted vertically outside the aircraft just below the cockpit; plates were changed and the shutter set by a sliding lever on the top of the camera, exposure being made by means of a cord. Exposures could now be made in rapid succession which, with a 60% overlap, made stereoscopic photography easier. But there were problems - the cord proved to be a weak link, often breaking particularly in freezing conditions; the lens cone, made of wood, tended to warp and distort the focus and there was the drag problem of having a bulky instrument protruding into the air-stream. Nor was the plate changer foolproof - an instruction book listed ten 'possible troubles and their remedies'. For instance, the sheaths holding the plates might not drop true into the focal plane causing out of focus negatives and jamming could occur, again due to the warping of the wood.

## THE TYPE 'E' AND AFTER

The next logical step was to mount the camera inside the aircraft[26] and from the autumn of 1916 there appeared the Type 'E' with an adjustable lens mount housed in a metal cone with the cord for exposing replaced by an endless cord which activated a ratchet gear. This gear also changed the plates, but the camera was still too demanding in time and attention, the pilot or observer having many other things to occupy their minds. However, the Type 'E' seems to have been the last of the T-P aerial cameras made during the war, for the fully automatic cameras that followed - the Types 'L' and 'LB' - were made by the Williamson Manufacturing Co. (incidentally, the power source for these automatic cameras was a propeller fitted in the slipstream, and connected by a flexible drive - a device, from all accounts, that worked better in theory than practise).

This does not detract from the importance of T-P's early experimental work. They were the first British camera designers to produce the first solidly built aerial camera and a number of their design features were used in subsequent cameras built by Williamson; the later plate cameras (P7 and P14) used by the Air Services until 1923 were based upon the principles of the Type 'A' and its successors.

Why T-P lost out is not clear; a T-P patent of 1917[27] describes a spring driven camera but perhaps they did not have the expertise to manufacture the more complicated mechanisms required - Williamsons on the other hand were originally makers of kinematographic equipment and would have had the capacity in their works, for as will be seen later, by 1917 they were also very much involved in the manufacture of gun cameras. The double-box plate holder was fitted to the early Williamson cameras and it is reasonable to assume that T-P continued to manufacture them. Certainly there was some co-operation between the two




*The Mk III Hythe Gun camera in detail.*

companies for an ex-employee reports that a member of the Williamson family spent some time at the T-P works during the war.

## AN UNIDENTIFIED CAMERA

It is curious that the use of rollfilm in air cameras took so long to come to the fore. There is no record of any official T-P air camera using film, but recently some photographs were found which depict a box-like camera taking perforated film with a distinct T-P look about it; indeed the brass angle fittings are identical to those on the Types 'A' and 'C' aerial cameras; furthermore, the photographs were originally in possession of an ex-T-P employee of the period. The photographs turned out to be official photographs with copies being held by the Imperial War Museum, but no information about the camera is readily available. That it was a prototype or experimental model is suggested by the fact that the lens/shutter assembly appears to have come straight from a folding camera which together with the crude levers for setting and firing the shutter could hardly have stood up to the rigours of aerial photography.

The first aerial camera designed to accept film was the 'Aerocam' (Type 'F') made by Williamson in 1916 - a box-like camera taking up to 125 exposures 5 x 5 inch on perforated film, powered by a propeller attached directly to the camera itself.[28] The camera was rejected in France for some unknown reason, but later was successful in mapping large areas of the Middle East.

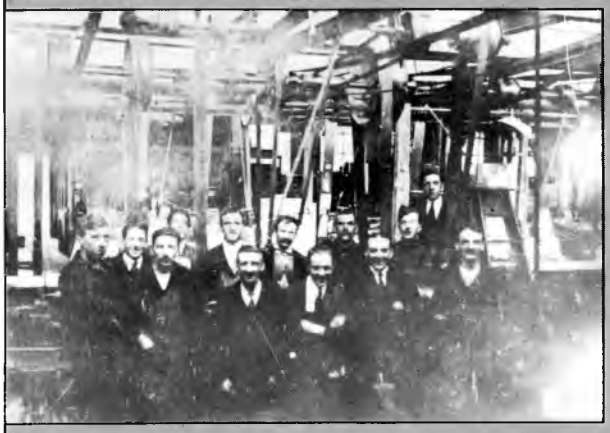
To be purely speculative, but bearing in mind the cooperation between T-P and Williamson, could this unidentified camera have been a prototype for the 'Aerocam'? The gear wheel on the film counter spindle might be significant - an external power source could easily have been attached to it.

## GUN CAMERAS

The methods of training in gunnery for land units could not be applied to aerial combat where both distances and positions of both the gunner and the target were constantly changing. The requirement was a gun camera similar in outline and operation to an actual gun; such a camera was developed at the School of Aerial Gunnery, Hythe[29] and manufactured from *c.*1916 by T-P, the well known, but now rare, Mk III Hythe Gun camera.[30]

Before this camera could be developed the quicker solution of mounting a simple camera on to an actual gun was adopted at the beginning of the war - not entirely satisfactory as changing the film between exposures distracted the gunner away from the target; also attaching these cameras to a gun altered the balance of the gun making it foreign to actual practise when firing. Two of these cameras originated from

## YESTERDAYS WITNESS- 2



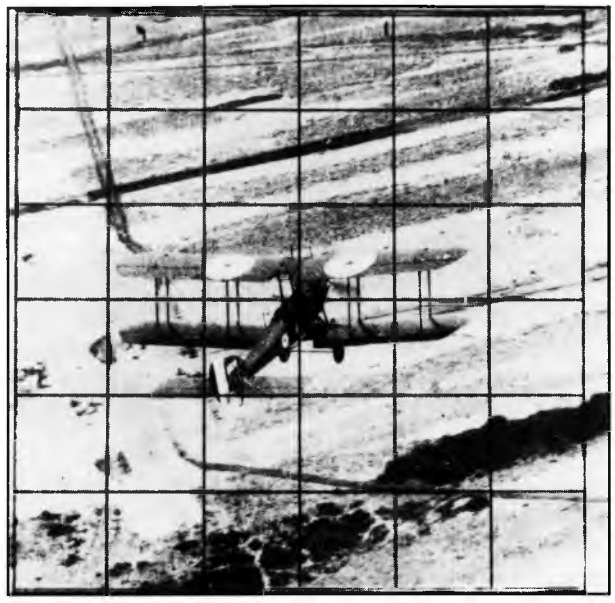
*Night shift, 1917. The late J. W. Part, in uniform, third from right and, below, with his half-plate Triple Imperial Extension, in 1981.*

Although descriptions of the T-P works in the pre-war photographic press were somewhat eulogistic, J.W. Part who arrived there in 1917 found them very antiquated and in a chaotic state, but acknowledged with high regard the skill of some of the employees. He makes the point of the machinery being belt driven, a method he states which 'was going out fast before the war'. Yet in the north of England belt drives were common and remained so well after the war; perhaps Part's view can be explained by the fact that he came from the south where industry had developed later and was therefore, on the whole, more modern. Part had been an instrument maker before the war, having learnt his trade, as was the custom, by working in a small number of firms including Negretti & Zambra; later, he became interested in photography and worked for a time with Lafayette of London. During the war he joined the RFC as an engine fitter, transferring to the photographic section in 1916 as a camera repairer. In 1917 he was sent to the T-P works to take a course on the MK III Hythe Gun camera for a period which should have lasted only a few weeks; however, the management must have been very impressed with Part's work for they asked him if he would like to stay and work for them. This he did after special permission was obtained and he stayed for nearly a year, having the freedom of the premises, probably because he wore the uniform of the RFC. (Incidentally, he was paid both by T-P (about 39/- a week) and the RFC). It is Part's impression that in 1917 priority was being given to the Mk III and he cannot recall the aerial cameras which were being made in another department. Later in 1917 Part rejoined his unit, had a spell with the Royal Naval Air Service (still in RFC uniform - the two services were closely connected at the time) and eventually, just before being sent abroad, he was transferred to a secret establishment near Croydon, where a camera was being developed that would take photographs of the entire German front. (Part thinks he got this position through the influence of T-P). In command of this establishment was Moore-Brabazon. The end of the war came before work on the camera could be completed.

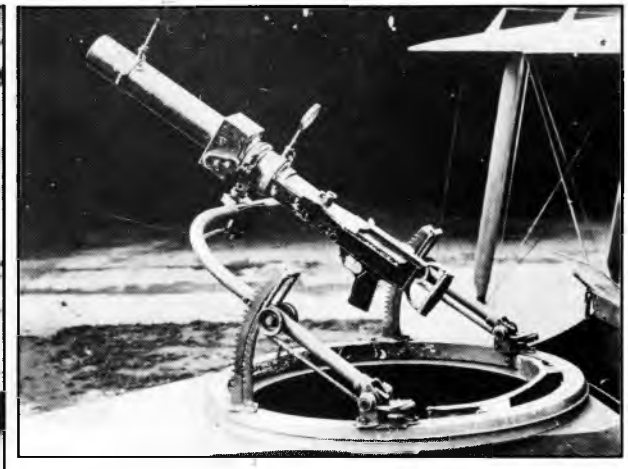
Part has two tales to tell. He claims that T-P employed one of the best press toolmakers in the north of England, T.W. Piercy (who went on the American office adventure in 1894) who was fond of a drink and would disappear from work on occasion; he was regarded as such a valuable employee that G.A. Pickard would go out in his pony and trap to search for him. Part also states that most of the wood-working employees had one or more fingers missing, this being common in the trade and used as proof of their trade when applying for a job.

(After the war Part started his own business in the south. It failed and he was bought up by the Record Electrical Co Ltd who happened to be based near the T-P works at Broadheath. He went to work for Record, later became manager and during the 1930s he employed several men from T-P during the company's run down. He did industrial photographic work for Record with a T-P half-plate Imperial Triple Extension.)

As a young girl of 15 years Mrs Price went to work in the kitchen where a small staff was employed to cook employees' own food. (A dining room was provided when the factory was built). Mrs Buckley, who joined the firm as a typist at the age of 17 (15/- a week), later to become G.A. Pickard's personal secretary (37/6 a week). Mrs Price recalled the visits each month of three or four 'soldiers', presumably RFC men, who came to test cameras on a platform that was situated on the roof; she had to make them tea and attend to the paperwork associated with their visits. Mrs Price never forgot her first pay day; she was paid with a crown, but all the other girls received two half-crowns - she took it back to the cashier and made him change it, not realising it was of the same value). Mrs Buckley remembered with affection G.A. Pickard with whom she worked during the last years of his life; both ladies told of the long hours and hard work.



*A photograph taken with the Mk III Hythe Gun camera, 1916. The aircraft is an Armstrong Whitworth FK3, range 125-135 yards.*
Courtesy: Joint School of Photography



*The Hythe Mk III Gun camera on Scarff mounting.*

Hythe while the Mk III was being developed; the Mk I (1915) with a square body, telephoto lens and between-lens shutter and the Mk II (1916) with a tubular body, RR lens and focal-plane shutter. Both cameras used rollfilm in removable carriers, the film being changed for each exposure by means of a handle. But it is not clear in what way T-P was involved in their manufacture, if at all.

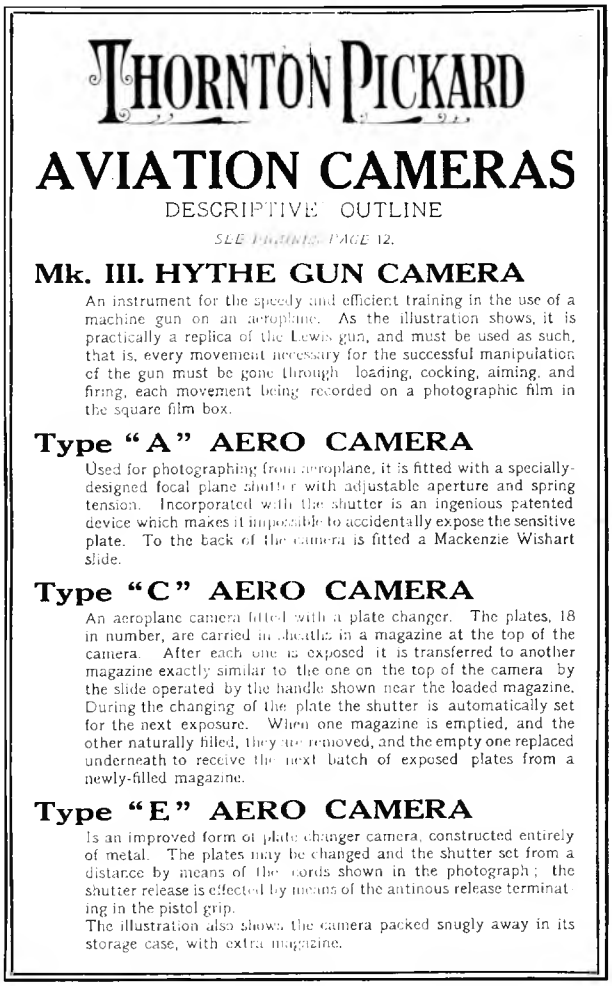
The Mk III was a very superior instrument compared with the earlier models. The outline of the camera was similar to that of a Lewis gun; an 11 inch lens and shutter was fitted inside the barrel casing and 14 exposures size approximately 1.46 x 2.3 inch were made on 120 rollfilm. The drill to operate the camera was exactly the same as the drill for the real camera - the action corresponding to the arming of the real gun set the shutter and pulling the trigger took the photograph. Part of the drill in both cases was the placing in position of a cartridge magazine - on the gun camera this action (with a dummy magazine) taken after each exposure depressed a plunger which activated a film perforator; the resulting hole in the film was a record for the instructor that the drill had been carried out correctly. On all these gun cameras a glass screen with ring or square markings was placed in the focal plane which was this recorded on each exposure as an aid to the assessment of accuracy of aim.

History relates that the optics of the Mk III had been based on the simple meniscus lens that happened to be available at Hythe. When production had been decided upon it was found that no British manufacturer had the means to manufacture the kind of lens required. The aforementioned Hesketh of T-P knew of a French firm who had supplied his company pre-war with a lens of exactly the pattern required and he received special permission to go to France 'for the purpose of consulting technical colleagues on various technical problems' to obtain and collect them personally. Because of the restrictions on exports from France during the war, and in order to get the lenses back without delay, Hesketh talked the French firm into accepting his cheque for what he thought was the alarming amount asked for them, took out most of his clothing out of his suitcase, filled the case with the lenses and set off for home with his personal effects in a paper parcel and his suitcase weighed down with glass.

The Mk III gun cameras and some models of the aerial cameras continued to be manufactured up to the end of the war, by then on behalf of the new RAF. The company minute book states that by 1917-1918 'the whole of the business of the company is now conducted between the company and the RFC, supplemented to some extent with some other government departments', but no details of contracts other than for the RFC have been found.

The same source gives little information about financial details during the war period, the only figures given being a loss of over £900 in 1914 which was made good, plus a profit of £105, in 1915. In 1916 it was commented 'we have nothing to do but put our shoulders to the wheel' and in 1917 'the profits have to some extent increased'; of 1918, 'one of the best reports in the history of the company' when a dividend of 7½% on the ordinary shares was declared. From which it appears that the First World War gave T-P, to some degree, a financial boost.

For a few years after the war, three of the wartime cameras, described were offered for general sale; in the 1920 T-P catalogue the Type 'A' was priced at £20 without lens, the Type 'C' in an improved version with an aluminium body at £50 without lens, and the Mk III



THORNTON PICKARD

AVIATION CAMERAS

DESCRIPTIVE OUTLINE

SEE PRICE LIST PAGE 12.

**Mk. III. HYTHE GUN CAMERA**

An instrument for the speedy and efficient training in the use of a machine gun on an aeroplane. As the illustration shows, it is practically a replica of the Lewis gun, and must be used as such, that is, every movement necessary for the successful manipulation of the gun must be gone through loading, cocking, aiming, and firing, each movement being recorded on a photographic film in the square film box.

**Type "A" AERO CAMERA**

Used for photographing from aeroplane, it is fitted with a specially-designed focal plane shutter with adjustable aperture and spring tension. Incorporated with the shutter is an ingenious patented device which makes it impossible to accidentally expose the sensitive plate. To the back of the camera is fitted a Mackenzie Wishart slide.

**Type "C" AERO CAMERA**

An aeroplane camera fitted with a plate changer. The plates, 18 in number, are carried in sheaths in a magazine at the top of the camera. After each one is exposed it is transferred to another magazine exactly similar to the one on the top of the camera by the slide operated by the handle shown near the loaded magazine. During the changing of the plate the shutter is automatically set for the next exposure. When one magazine is emptied, and the other naturally filled, they are removed, and the empty one replaced underneath to receive the next batch of exposed plates from a newly-filled magazine.

**Type "E" AERO CAMERA**

Is an improved form of plate changer camera, constructed entirely of metal. The plates may be changed and the shutter set from a distance by means of the cords shown in the photograph; the shutter release is effected by means of the antinous release terminating in the pistol grip.

The illustration also shows the camera packed snugly away in its storage case, with extra magazine.

*After the First World War T-P made available their wartime aerial cameras to the civilian population. A 72 page descriptive booklet, Aviation Photography, was issued describing the company's wartime involvement and specifications of their aerial cameras. A standard T-P catalogue appeared at the end of the book.*

gun camera at £50 complete. Included in the catalogue was an article 'Picture Making from the Bird's Point of View'; T-P were obviously hoping to exploit their early foothold in this new field. But again T-P did not get on the market and it is no doubt significant that there is no evidence that the company made any attempt to convert the aerial cameras for film use - indeed the Type 'A' still had the Mackenzie-Wishart slide.

The only information about government contracts between the wars comes from an ex-employee who states that in 1937 an order was received for about 100 Mk III type gun cameras which by that time had been designated as G3 (G indicating gun type camera); it seems likely therefore, that these gun cameras would have been in use at least until the early part of the Second World War.

## G. A. PICKARD

G. A. Pickard had remained in control throughout the war, but his general health had not improved; he had suffered a number of serious illnesses over the years and was out of action for most of 1916 due to some form of heart trouble. He struggled on, often working from home , and died on 22 September 1919 at the age of 69, after being at the works the day before. Under his management T-P had developed from what was almost exclusively a shutter manufacturing company to become one of the best-known British camera makers; it will be remembered that he unexpectedly found himself with the whole of the responsibility of running the company in 1897 after the loss of the two co-founders and there is no doubt that the resulting strain told upon what was never a strong constitution. An obituary[31] stated that despite being weakened by constant ill health he took an active part in matters relating to government contracts and at the same time served on several local war committees; he was justifiably proud of his company's contribution to the war effort and as an employer he received the respect and confidence of his employees. His position as managing director was taken by his son, A. Gray Pickard who was destined to control the company until its closure after the difficult times of the 1920s and 1930s.

# CHAPTER 5
# THE FINAL YEARS

**ARTHUR GRAY PICKARD**

Gray Pickard's education at university had been cut short in 1903 when he was brought into the business during one of his father's illnesses; he became manager soon afterwards and in 1905 he was a director. Because of his father's many absences from work, he no doubt played an increasing role during the First World War in the day-to-day running of the business. He was now in control at the beginning of what was to be a very difficult period.

Unlike his father, he took an active part in both local affairs (Mayor of Altrincham 1928-1929) and in the British Photographic Manufacturers Association of which he was a member of council; his diary of 1918 gives details of several trips to London to attend meetings of the latter and on one occasion he addressed those present on the subject of German competition, from which it can be assumed that he was conscious of the problems that lay ahead. (In November 1918 he attended a Quaker Manufacturers' Conference 'on the better education of managers, foremen and men').

Gray Pickard's family and all who knew him regarded him as a splendid husband and father, one of the most honest and straightforward of men. But he was no technician, far less a 'handyman', nor was he a man of originality. So he would clearly have been unable to supply the technical vision that T-P's management so

*Arthur Gray Pickard.*


*Picabrix cottage set.*


*T-P's Picabrix. The round pegs to join the blocks could become a tight fit, but use of the pliars tended to make the pegs oval shaped, which made them difficult to use later on.*

Photograph: Michael Minifie

much needed if it was to survive. But there was another vital ingredient that was required for survival - a massive injection of capital and of this Gray Pickard was well aware. It was not to be forthcoming.

**1919**

The company's position must have looked hopeful for Gray Pickard when, early in 1920, he gave his first AGM as managing director. In the first half of 1919 government contracts were completed and in the second half, after the wartime restrictions on photography had been withdrawn, there was a great demand for the company's products, resulting in an increased turnover on any pre-war year. The net profit of £9,136 (subject to excess profits tax) with a dividend on the ordinary shares of 5% was somewhat different to the loss in 1914. At this meeting Gray Pickard said of the future -

> 'Owing to the uncertainty of government action, combined with the instability of wages, it is impossible to forecast the future; but up to the present date (February 1920) the demand for the company's cameras continues to increase and the works output continues to rise each month.'

He was wise to be cautious, for this peak of 1919/1920 was to be shortlived - a general trade depression was just around the corner from which T-P was never fully to recover.

Despite the apparent smoothness of the transition to peacetime production, some concern must have been felt about the future, for a decision was made to diversify - into the toy trade. Gray Pickard noted in his diary -

> '1919. 21 October, First complete set of Picabrix ready, the new toy.
>
> 22 October, Passed Picabrix Patent specification.'

**'PICABRIX'**

The toy was a set of perforated plain wooden blocks of various shapes and sizes which were made up into models by joining the pieces together with short lengths of dowelling - a kind of early form of 'Lego'. It was designed by J. G. Kitchen, a camera-maker's draughtsman. T-P was, of course, well-equipped to make this type of toy and it seems to have given a great deal of pleasure to those who remember playing with it as children. (one enterprising boy mixed it with 'Meccano'). An introduction to the toy in the instruction book invited children to write to 'Mr Picabrix' who was illustrated as a model made with the bricks. A competition was held amongst the T-P employees for the best model and the third prize was

won by Mrs Buckley, G. A. Pickard's personal secretary, with a model of Tower Bridge. Fortunately Mrs Buckley kept her No. 2 set which is illustrated here.

Their woodworking skills were again applied in c.1924 when Mrs Buckley recalls the production of a crystal wireless set housed in a wooden box with a glass top - 'The Master Junior'. Gray Pickard's son (who did not enter the business) has a vivid recollection of his father bringing home a mysterious box which had a small metal handle attached to a thin wire; this, when waggled against a crystal, produced a sound of someone talking. Previous to this demonstration a large pole for an aerial had appeared in the garden. The impression gained from these diversifications is that T-P did not have a great deal of faith in the future of photographic manufacturing.

Although Picabrix continued to be made well into the 1930s it was never a great success. T-P found the toy trade a difficult nut to crack and they probably did not have the know-how to do the job thoroughly and launch out seriously with a new product.

## THE TWENTIES

In the early part of 1920 there was the unusual situation of the managing director, Gray Pickard, acting as salesman -

> 'Jan. 13. I went to see Mason at Bradford and Wallace Heaton at Sheffield and sold each 50 Reflexes.
>
> 14. I did Manchester and sold 48 Reflexes.
>
> 16. I was in Birmingham and sold 7 Reflexes.
>
> 20. I went to Edinburgh and sold 15 Reflexes.
>
> 22. Did Glasgow and sold about 53 Reflexes.
>
> 23. I tried to go to Hull and Newcastle doing Leeds on the way but a snow storm the night before broke down the telegraph wires and I only got to Leeds and back in 14 hours. Sold 3 Reflexes.
>
> Feb 2 to 6. While in London I sold 246 Reflexes and 22 Stand Cameras.'

*T-P's key men between the wars. From left to right: Gray Pickard (Managing Director), Billy Biddle (Director) and Frank Slinger (Manager).*


But this peak of 1919-1920 was shortlived as Gray Pickard recorded at the end of 1920 -

> 'Trade dropped in June after raising price to ¼pl Popular Reflex to £20, a mistake but really necessary on account of wage increases. After this things went from bad to worse and a general and heavy trade depression set in and we lost on the second half of the year all we had made in the first half, which was very good.'

And there were other problems -

> 'I found on getting to work a deputation from the Furnishing Trades waiting to see me re. polishing girls' wages. After nearly getting to a strike, we managed to come to a compromise.'

The situation in the following year was little better; an ex-employee recalls working 'weeks about' - one week's work, one week's holiday. What saved the day now seems somewhat ironic -

> 'The whole of 1921 was very badly affected by a bad trade depression and most works have been on short time. Our trade with Japan saved us and enabled us to replace men and girls dismissed last Jan. We ended up with a small profit.'

T-P was not alone with its postwar problems - their competitors were also affected and, as is well known, the industry's answer to the general depression was amalgamation. The Amalgamated Photographic Manufacturers Ltd (APM) was formed in 1921, a

grouping of what is usually given as six companies[32] but it does not seem to be generally known that T-P was also a member, as Gray Pickard recorded in his diary -

'1921.

Feb 23. While discussing with Hesketh at the works his income tax return, we also discussed our entering Rajar Combine and as a result I rang up Rothwell[33] but he was out.

24. Again rang Rothwell and went to see him in the afternoon. He is going to see his fellow directors re. our coming in and will let me know shortly.

Mar 8. Rothwell came to see me at the Works to say Combine was ready to consider our joining them. I rang up Uncle Fred and went this afternoon to Mansfield to discuss matters with him.

9. Went up to Westbank in the morning to discuss matters with Uncle William.[34] Both uncles pleased at the prospects.

10. I went to see our Auditors re. combine and they also are encouraging but think we should get better terms.

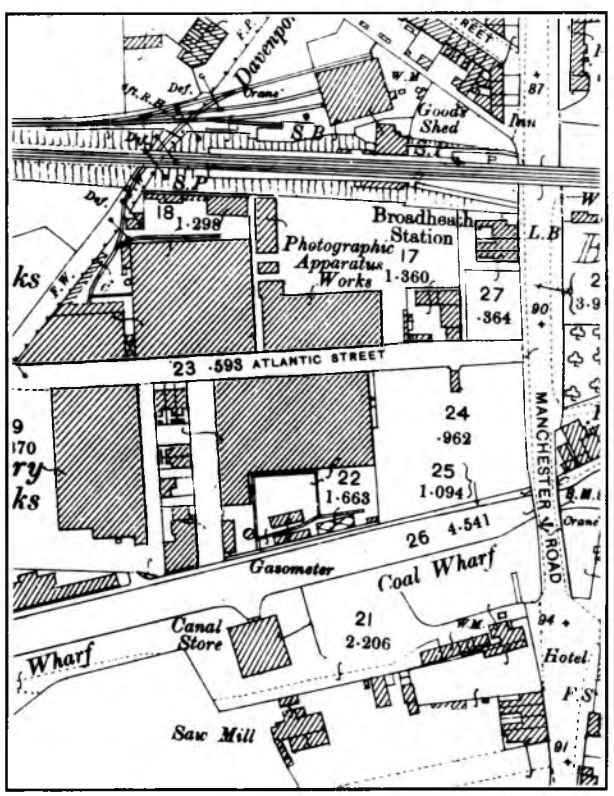
18. Rothwell, Bishop, the 2 Kershaws and Farrow came to meet Uncle Fred and myself at the Works and after inspecting them they made us a definite offer for taking our ordinary shares (40,000) in exchange for APM 13,000 10% Pref. 20,000 Ordinary, and offered me £1,250 a year, practically advanced after my remarks to £1,500. We also insisted on T-P Pref. being raised to 7%.

26. I received by messenger from Rothwell a letter signed by Bishop making complete offer, based on previous verbal one, but offering me £1,250 as Managing Director of T-P and £250 as APM Director also 7% on T-P Pref. I went to see Mr Rothwell at his house and had a very pleasant and satisfactory interview.'

After this date everything went through smoothly and Gray Pickard took the signed agreements (signed by both his Mansfield uncles) to London on 19 April 1921; on 21 April he was made a director of APM Ltd and attended his first board meeting of that company. In a later note in his diary he continues -

'During this month (April) the Combine between the T-P Company and the APM was carried to a successful completion. I got a five year agreement, but thought I ought to have had one for 10, but the uncles at Mansfield persuaded me not to press for it.'

In 1928 the component parts of APM Ltd were reshuffled, the sensitised material companies forming Apem Ltd (later to join Ilford Ltd), and the equipment manufacturers forming Soho Ltd of which T-P was a member. All the T-P directors became directors of Soho Ltd and one of the first effects was a loan of £3,000 from Soho to T-P. No doubt amalgamation was




*Map, early 1900s. Duke's Cottages are to the right of the T-P works, Biddle's saw mill is at the bottom of the map.*



**YESTERDAY'S WITNESS - 3**

At some stage, probably when the land was purchased on which the factory was built, T-P acquired Duke's Cottages, so named after the Duke of Bridgewater whose canal ran nearby. These were an L-shaped group of six dwellings with a communal lavatory, which were rented out at 3/6d a week for the larger cottages and 2/8d a week for the smaller. The inside of the 'L' and the gable end of the T-P works formed a courtyard through which employees could cross to enter the works from the rear. For two boys who grew up in these cottages from the time of the First World War the T-P factory was very much part of their childhood. Forbidden to wander far because of the dangers of the canal, what better place to play on a Sunday than the T-P factory yard, amongst the outbuildings and timber storage yard? They knew a way into the factory and climbed the staircase to the roof to explore the camera testing platform. In later years they went to work on the industrial estate but they knew many of the T-P employees and they would often go into the works to talk to them. Their verdict on the general state of the works was given in one word - 'Dickensian', a description given by other people who knew the works between the wars. It could also be said that the products by this time were becoming old-fashioned.

*T-P office staff in the 1920s.*


*The T-P Ruby Horizontal Reflex camera from T-P's 1935 catalogue.*

the only answer to the industry's problems, but APM was not a financial success; the juggling about did nothing to save T-P or any of the others and looking back it seems to have been a lost opportunity. The company never reached its prewar glory and continued to decline. The works, by this time, had become rather dated.

## THE CAMERAS

The pages of the catalogues issued between the wars clearly show T-P's adherence to the traditional methods of manufacture with wood and metal; roller-blind shutters, stand cameras, reflex cameras and horizontal enlargers of the magic lantern type. Likewise, the patent applications, what few there were compared to the pre-war period, give no evidence of any new ideas. As already noted, the expected business from the experience gained during the war on aerial cameras did not materialise and T-P seem to have lost out completely in that field to their competitors. One of the first new products after the war was the Victory Reflex (3½ x 2½) - 'a really Dainty Reflex' - and it was the increased range of reflex cameras that was the main success of the company between the wars. These included special models like the 'Overseas' (T-P's term for 'tropical') made of teak and the half-plate 'Sports Reflex' with a massive 40 inch Dallmeyer lens. But there was never anything in the pipeline to replace them although the management must surely have been aware of future trends.

The 'Imperial' and 'Ruby' stand cameras continued to be made and an improved version of the 'All Weather Press Camera' made an appearance but never achieved the popularity of its rivals like the VN, which it resembled in appearance.

The snapshotters were also catered for with a range including the 'Puck' box camera, also in a stereo version, T-P making play of the fact that they were solidly made of wood in contrast to the cardboard of some other models on the market. (Photographs taken recently with the 'Puck' provided images far superior to any modern snapshot camera.) One of T-P's few metal cameras, the 'Ruby Folding Camera' was similar to the Kodak's and 'chaste in appearance', but again made no inroads into the stiff opposition.

In 1927 there was a review in the photographic press of the 'Ruby' 16mm. cine camera and projector[35] in which it was stated that it had been manufactured by T-P, but this seems unlikely. The illustrations give the impression of a Bell & Howell 'Filmo' but no information has yet been found. The writer has seen an

'Exposure Meter for the Ruby Cine Camera' which was a special version of the Watkins 'Bee' meter.

## THE THIRTIES

From what little information that has been found concerning T-P during its final years the period seems to have been one of general rundown, with little attempt being made to do anything about it. There was a flurry of activity on government contracts for the Air Ministry in 1937 when an order was received for the First World War Hythe Gun Camera (then designated G3) and an ex-employee refers to the G26 gun camera made by G. Williamson which suggests that T-P might still have been doing sub-contracting work. The same source gave the information that Kershaw of Leeds (Cecil Kershaw had been a director of T-P) supplied cameras under the T-P label, not an uncommon practise in the photographic trade.

The only financial details that are recorded in the company minute book of the period give the information that there was a loss of £693 in 1930 and in 1934 Soho Ltd disposed of most of their considerable proportion of the original shares.

At the AGM of 1937 J. E. Thornton turned up out of the blue for the first time since 1906, presumably entitled to do so by his holding of one company share. Gray Pickard invited him to say a few words and in response 'Thornton gave an outline of the Company up to the time of his severance (1898) & which was most interesting'.

Ex-employees are very critical of the management for lack of investment between the two wars, one going so far as to say that had the ideas of the manager, Frank Slinger, been taken up then T-P could have made a fortune. That is something that we shall never know, but Slinger does seem to have been the key technical man, his name being linked with Gray Pickard on several patent applications. Gray Pickard was in a difficult position with the seeds of his problems being sown before he took control. He certainly appreciated the need for a large injection of capital to change from the traditional methods of manufacture - but even if the money had been forthcoming, from where would have come the skilled labour, not to mention an enlightened management?

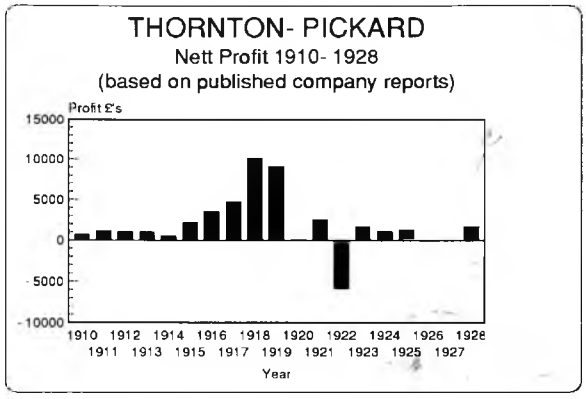
There was no dramatic ending of production, the end coming when the first debenture holders appointed a receiver who took possession on 14 June 1939 and completed the winding up the following year. The number of employees remaining at the end of the year must have been few and they would certainly have been absorbed into the Broadheath industrial estate which by that time was beginning to boom. During the Second World War the factory was taken over by a neighbouring engineering firm who used it as a store and canteen, but the name of T-P was not yet finished - it was to carry on for the next two decades to provide a repair service for T-P cameras. Gray Pickard remained a director but took no active part in this venture, his position of chairman being taken over by one of his fellow directors, W.G.H. Biddle.

## WILLIAM HENRY GEORGE BIDDLE

'Billy' Biddle started work with T-P at the age of 13 in 1897, became company secretary after Hesketh in 1921 and a director in 1934. He was a huge man of 18 stone, from all accounts amiable and kind hearted. With his other directorship of the Broadheath & District Manufacturers Association and his involvement in local affairs (Mayor of Altrincham 1930) he was a well known character much sought after for advice on matters relating to the industrial estate. He also had interests in Radium (Broadheath) Ltd (shoe and household polishes) and the Broadheath Saw Mills Ltd. It was to the upstairs room of his sawmill, a short distance away from the old works on the other side of the canal, that he brought the T-P camera repair business. Biddle has also been described, perhaps unfairly, as 'Dickensian' although he may have looked the part, but it is a description that could aptly be applied to his T-P workroom and the sawmill below; the nineteenth century building was something of a shambles, the T-P section a jumble of boxes of spare camera parts and the sawmill, with very ancient equipment, making small packing cases, firewood and sawdust, deliveries being made by an ex-T-P employee with a donkey and cart. (On one occasion the works of the neighbouring Budenberg Gauge Co Ltd were flooded and one of their labourers was sent to the mill for three bags of sawdust. Unfortunately the labourer could not distinguish sawdust from the bags of oats and the oats were spread all over the works at considerable cost.) Small profits turned into continual losses and Gray Pickard resigned in 1956. (He died at the age of 84 in 1970.) Biddle struggled on with a small staff until his death at the age of 75 in 1959. Before he died he sold his building and the land on which it stood to the Budenberg Gauge Co Ltd on condition that when he died his ex-T-P employee, Mr Hatton, was transferred to that company and his pony put down. That, in fact, is what happened and today Budenberg's factory extension stands on the site.

## 'FOR SALE'

After Biddle's death T-P came up for sale at a price of £40 (in the form of a debenture of £5000) which was offered to the writer, a circumstance brought about by the fact that the writer's accountant was handling Biddle's affairs. This offer was not taken up mainly on the advice of the writer's father who pointed out the dangers of being encumbered with a couple of hundred shareholders of a public company. It was sold later to Alistair Harrison of Photocraft Ltd, then a local




*T-P's nett profits, taken from published company reports, show the boom of the war years and gradual decline as business decreased.*

photographic dealer, by which time the price had gone up to £50. For his money Harrison obtained the T-P company minute book (an important source of information for these articles), many boxes of camera spare parts and just one item of equipment - a 20 x 16 inch camera. He should also have received a considerable amount of methylated spirit, but this was stored unnoticed in Biddle's sawmill and went with the sawmill effects in error. Harrison promptly sold the camera for £45 (now with regret) thus virtually acquiring this once great company for a fiver. But he had not realised this was a public company and he was soon having problems with the shareholders, the very thing the writer had been warned about. The matter was resolved by dissolving the public company and reforming it as a private one - 'The Thornton-Pickard Manufacturing Co (Successors) Ltd' (1 February 1963, capital £1,000). During this time Harrison received letters from all over the world, including a gentleman, from Japan, who requested a catalogue and offered to become an agent. Harrison exploited T-P's name on two occasions - on imported binoculars from Japan (T-P 'Sportsman' 10 x 50 and T-P 'Naturalist' 8 x 40) and later a British made Projection Stand. A colleague of Biddle, F.E. Beisley, continued to offer a T-P camera repair service working under his own name from his home for a short time in the 1960s. The photographic dealers trading under the name of Thornton-Pickard Ltd, who had a brief spell in London some years ago, had no connection with Harrison.

Today the four walls of the old factory still stand, the frontage 'modernised' and the interior largely rebuilt. It is occupied by Broadprint Ltd., printers of continuous stationary and commercial printing specialising in direct mail products. The factory faces evidence of the decline of the British manufacturing industry of which T-P was an early casualty; in place of factory buildings now stand the new 'superstores' of B & Q and MFI.

## CONCLUSION

We have seen T-P expand from primitive beginnings in adapted premises to become one of the world's major camera and shutter makers based in a purpose built factory; the divergence into the new field of aerial cameras during the First World War, followed by the gradual decline during the 1920s and 1930s. The T-P story, in many ways, is the story of the British camera industry, but apart from not keeping up with the times, there were other factors which might have contributed to T- P's demise.

Did T-P become too big too quickly - is small, perhaps, beautiful (T-P's 39 pages of advertisements in the 1907 edition of the *BJ Almanac* is in contrast to the single page of Louis Gandolfi.) And what of the Pickard management? The Pickards had proved themselves as successful Quaker businessmen in the grocery trade, but camera making must have been a very different kettle of fish. Even in what is now called the 'Golden Age' of the industry it was never an easy ride for T-P, with perhaps the writing being on the wall by 1914; there were peaks, but troughs as well and competition from abroad was always intense. Photographic manufacturing management needed much more than good business methods.

Above all the loss of the two enterprising co-founders of the company - J. E. Thornton and Edgar Pickard - so early in its life was a tragedy which altered the course of future events. Thornton, it will be remembered, wanted to develop the company in other directions and scrap the methods of manufacture that required so much skilled labour. If he was correct in saying way back in 1897 that his company was not keeping up with the times, then perhaps the question is not so much why T-P foundered, but how did it survive for so long?

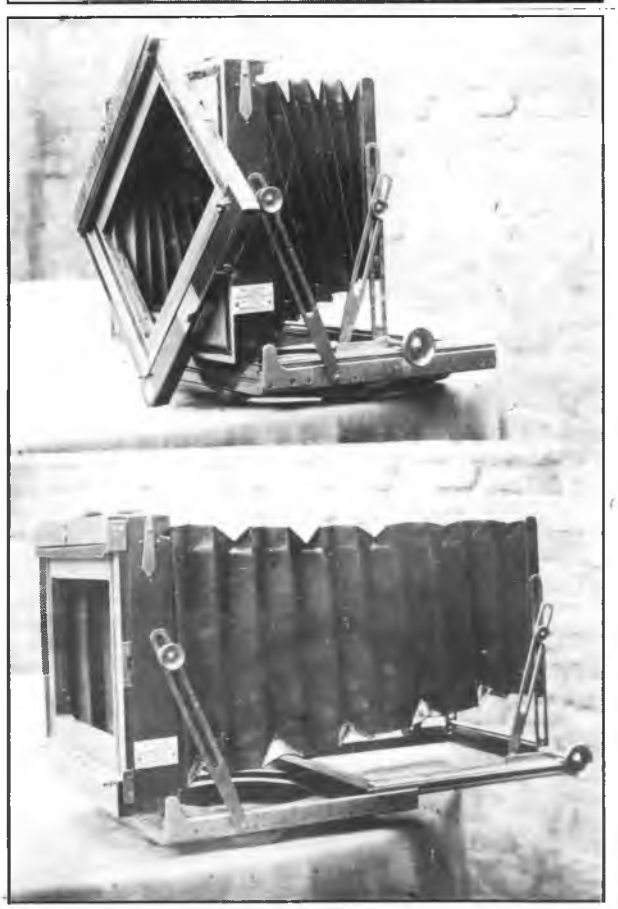
Nevertheless, the company made its mark on the photographic trade and its customers throughout the world and the name will live for many years to come - Thornton-Pickard - 'Thoroughly Practical'.

# NOTES AND REFERENCES

## ACKNOWLEDGEMENTS

**1.** 'Manchester and Liverpool in Relation to the Photographic Industry' a supplement to *The Photographic Dealer*, May 1904.
**2.** Reference has also been made to the late David A. Davies, 'J. E.Thornton: a forgotten Mancunian' in *Manchester Region History Review Vol. II no.2.*
**3.** Patent No. 13240 - 1887. 'In place of the ordinary ground glass I use as a focusing screen a suitable translucent material wound on a spring roller which is fitted on one side of the camera body, the method of using is the same as in an ordinary spring blind, being held at one side by a fastener'.

*The Thornton Jubilee camera with plate confirming manufacture by Billcliff. See note 4.*

**4.** In the opinion of the late Harry Milligan (of the former North West Museum of Science and Industry) this photograph shows the 'Jubilee' to be pure Billcliff stemming back to 1880 and indicates that Billcliffs seemed to have a standard pattern to which they added other people's patent ideas. The firm was founded in 1859 by Joshua Billcliff to make printing frames. Cameras followed a few years later. They also made studio furniture and large cameras for process work, the latter suggesting that Thornton might have known the firm well from his printing days. Billcliff's heyday of camera-making was 1885-1895 during which he employed over fifty workmen. The advent of cheaper cameras as made by T-P and others seriously affected that side of the business.

**5.** Originally 'Littler's Patent Advertising Machine' modified by Thornton. It was a box-like machine with apertures through which could be seen advertisements which changed automatically every half-minute - similar to those seen in public places today. It is mentioned several times in Thornton's papers, but the only record of it in use is on Christmas Eve 1897 in the shop window of the Altrincham Electric Supply Ltd, where it attracted a good crowd. But the manager reported 'It has not been kept going without some considerable attention' and he could not recommend installation in the public street...to be left by itself'.

**6.** An example of the 'Instantograph' can be seen in the Kodak Collection at the National Museum of Photography, Film and Television, Bradford. It was a very popular camera at the time.

**7.** An accessory attributed to Edgar Pickard was 'Pickard's Exposure Meter', an extinction type. A lever on the instrument was moved until the works 'JUST VISIBLE' were seen through the eyepiece. In poor light the word 'FIVE' appeared, indicating a 5x exposure. The instrument was made by Tylar.

**8.** Rothwell in 1896 sold to Frederick Foxall who became a well-known photographic dealer and wholesaler. Foxall moved to premises nearby and his daughter Freda joined him and after his death in 1942 ran the business until merging in 1968 with another old established Manchester photographic company, J. T. Chapman Ltd., established 1874. Freda Foxall and Ted Richards became Joint Managing Directors of Foxall and Chapman Ltd. Ted Richards is the grandson of Josiah Chapman who founded the firm. Freda Foxall married Reg Butler, a representative of Johnsons of Hendon in 1970. She retired in 1976, died in 1991. Ted Richards retired in 1982 and in 1984 wrote and published a history of the company 'The Manchester Camera Shop'. The company was taken over by Wm. Kenyon & Sons (Power Transmissions) Ltd. (1981) who sold to the Leeds Camera Centre (1990).

**9.** *Photographic News*, 3 January 1896.

**10.** The youngest of the Pickard brothers, Frederic, was also appointed a director at this time, staying on the board until 1930, but there is nothing to suggest that he took any part in the day-to-day running of the business.

**11.** In 1902 he made a patent applications for a wooden box 'to carry and store angler's flies'.

**12.** *The Photographic Dealer* May 1904 and March 1914.

**13.** Mrs Thornton's Patent Skirt Suspender. 'The advantage is that it is perfectly rigid and the weight of the skirt is carried by the corset (instead of the blouse as hitherto) consequently tearing of the silk and cotton blouses is avoided and the whole presents a tidy appearance. It prevents the blouse "bagging at the back".'

**14.** 'A prominent feature of the system consists in mounting the Motor, together with the whole of the mechanism belonging to it, on what amounts practically to the back axle of a vehicle...a great advantage of this system of under carriage or bogie is that it is self-contained, and can be fitted to vehicles built throughout specially for the purpose, or to existing horse- drawn vehicles where the owners wish to thoroughly motor traction without the cost of buying entirely new vehicles.'

G. A. Pickard, writing to Thornton from Mansfield, refers to a motor car he is trying out - 'it is shaking itself to pieces'. Could it have been a Thornton vehicle?

**15.** 'Flexoid' was claimed to be a new chemical product for treating any kind of paper to make it waterproof; a substitute for waxed paper and cheaper. The process was later used in the Thornton Film.

**16.** A speciality was week-end boxes for silk hats and dresses. Thornton's patents related to the machinery for folding cardboard boxes.

**17.** Research into Rajar Ltd for the Ilford history *Silver by the Ton* provides the following information not used in the book. 'In 1899 Rothwell together (in most cases) with J. E. Thornton, took out seven patents, some dealing with stripping films, some with a means of reversing a film plates and two dealing with self-developing films, so that processing could be carried out by immersion in water only.'

**18.** Thornton expected to sell the following cameras during a two-year period -

| | | |
|---|---|---|
| BOX TYPE | 150,000 @ 3/6 retail | £8,750 |
| | 220,000 @ 5/0 | £5,000 |
| | 310,000 @ 10/6 | £5,250 |
| | | £19,000 |
| Less trade discount 33⅓% | | 6,333 |
| Turnover on wholesale price | | £12,667 |
| Less labour and materials 20% | | 3,800 |
| Advertising and expenses 20% | | 3,800 |
| Total expenses | | 7,600 |
| Nett profit | | £5,067 |

FOLDING TYPE

120,000 @ 15/-
210,000 @ 21/-
310,000 @ 30/-

giving a nett profit of £8800

Thornton reckoned on selling six films per camera, giving him, according to his calculations, a nett profit of £5,328.

**19.** A history of photography from the air, prepared by the Association of Royal Air Force Photography Officers, is available for viewing in the reading room at the Royal Air Force Museum, Hendon.

**20.** Later changed to the Royal Aircraft Establishment to avoid confusion with the initials of the RAF formed in April 1918.

**21.** *The Brabazon Story*. Lord Brabazon of Tara. William Heineman Ltd, 1956. Other references: *Photo Reconnaissance*, Andrew J. Brookes. Ian Allen, 1975. 'Eye in the Sky'. Owen French. *Manchester Evening News*, 2 February 1977.

**22.** Later Group Captain, Director of Photography at the Air Ministry.

**23.** Hesketh told his story soon after the war to A. J. Insall who recorded it in his memoirs of the RFC *Observer* (William Kimber, 1970). Insall wrote of Hesketh - 'To men like him, who gave so much of themselves in the days of their country's need, without thought of gain or personal advancement, the least one can do it to keep their names in our memory'.

**24.** Made by Mackenzie & Co. of Glasgow. Plates were loaded in light flexible envelopes and inserted one after another by hand into a special adapter on the camera; by drawing out the slide of this adapter the plate was automatically uncovered for exposure and recovered by closing the slide. The adapter served the dual purpose of protecting the focal plane shutter. Reviewed in the *British Journal of Photography* 27 April 1906 p. 336-337. The only person the writer has found who remembers using it described it as 'a useful but awful invention'.

**25.** Patent 121651. 12 August 1915.

**26.** Moore-Brabazon was made an Honorary Fellow of the Royal Photographic Society for a paper on the subject of mounting cameras in aircraft.

**27.** Patented by Pickard and Slinger - 128662, 29 August 1917.

**28.** Propeller patented by the Williamson Kinematograph Co and C. M. Williamson. 123997 and 123998, 13 May 1916. (by means of a 1 inch lens on top of the camera the image of a watch or aneroid could be recorded on the film).

**29.** Gun cameras were prefixed 'H', indicating 'Hythe'. Later, still cameras designed for reconnaissance purposes were prefixed 'P' indicating 'Plate Camera'. The 'FH' prefix on early gun cameras presumably indicated 'Film, Hythe'.

**30.** Patent 128626, 15 August 1917.

**31.** *The Photographic Dealer*, October 1919.

**32.** Kershaw Optical Co Ltd, A Kershaw & Sons Ltd, Marion & Foulgar Ltd, Marion & Co Ltd, Paget Prize Plate Co Ltd, Rajar Ltd (with Rotary Photographic Co Ltd). A history of APM is being researched by Michael Pritchard, 38 Sutton Road, Watford, Herts WD1 2QF who would be pleased to hear from any reader with information.

**33.** Director of Rajar Ltd. Rothwell died in 1935.

**34.** This is the first reference to William Pickard, the second eldest of the original four brothers. There is no evidence that he was ever a director of T-P, as was his brother Frederic, and it is not known in what capacity he signed papers relating to T-P's entry into APM. It is another illustration of the important background role played by the Pickard family in Mansfield.

**35.** *Amateur Photographer & Cinematographer*, 23 November 1927.

## FURTHER REFERENCES

Brian Coe (1978), *Cameras*, Marshall Cavendish.
Hercock & Jones (1979), *Silver by the Ton*, McGraw-Hill
'A Compendium of Photographic History', Part 4, *BJP Annual* 1972, Henry Greenwood & Co.
*British Journal Photographic Almanac*, various years.

## ACKNOWLEDGEMENTS

The writer would like to thank the following for their assistance with the source material - Vernon Park Museum, Stockport (the Thornton papers); T. A. Pickard (the Pickard diaries) and A. Harrison (the T-P company minute book). Thanks also to the late David A. Davies, the late L. A. Eades, the late Harry Milligan, P. Blanco, the individuals referred to in the text, the many others, too numerous to list and the following organisations - Broadprint Ltd., *British Journal of Photography*, Royal Air Force Museum, Ilford Ltd., Imperial War Museum, International Museum of Photography, Rochester NY, Joint School of Photography, Kodak Museum, Manchester Local History and Patent Libraries, the Museum of Science and Industry in Manchester, National Motor Museum; J. Owden O'Brien & Son (Thornton's patent agents); Patent Museum Dept, Eastman Kodak Co; Michael Pritchard FRPS, V. I. Tomlinson, Trafford Library Services, Jenny Wetton.

## PICTURE CREDITS

Thanks are due to the following for supplying and allowing pictures to be used: Christie's South Kensington Ltd, London; Imperial War Museum, London; Museum of Science and Industry in Manchester; T. A. Pickard; Royal Air Force Museum, Hendon; Frank Slinger; Vernon Park Museum, Stockport.

# APPENDIX 1

## ALTRINCHAM RUBBER CO.
## T-P DIRECTORS 1921
## COLLECTING T-P
## USING T-P CAMERAS
## MANCHESTER'S COLLECTION

### ALTRINCHAM RUBBER COMPANY

At a time when many small photographic manufacturing firms were dotted about the country, the small market town of Altrincham and district seems to have attracted more than its fair share - T-P itself, Thornton's film company, the 'Rajar' works at Mobberley and finally the Altrincham Rubber Company. The latter, which will be well known to older photographers, was formed in 1901 by A.W.S. Sanderson who had been the first company secretary of T-P. Why he left T-P is not known, but he was under no restrictions to start up on his own. There was trade between them all - for instance Thornton was a customer of T-P and T-P purchased films for testing from Rajar. Later, as we shall see, T-P and Rajar were to have closer connections.

According to *The Photographic Dealer* of May 1904 Sanderson started the business with one assistant rising to 24 within three years. Apart from india-rubber goods the firm supplied camera cases and other accessories, later turning to the manufacture of shutters ('The Silentus'). A large trade was done in painted backgrounds, many examples of which can be seen reproduced as full page advertisements on the *BJ Almanacs*. Backgrounds were still being supplied after the last war and a local lady made bellows for the firm until recent years. The company survived as a retail shop selling rubber and plastic household goods until the early 1980s.

### T-P DIRECTORS IN 1921

The Directors of T-P at the time of the formation of the Amalgamated Photographic Manufacturers, Ltd in 1921 were: A. Gray Pickard, Frederick Pickard (Jam manufacturer), M.S. Fowkes (Flour miller), A.E. Parke (Paper maker), C. Kershaw (Engineer), G.M. Bishop (Photo plate maker), C.F.S. Rothwell (Photo paper and film maker), L.W. Farrow (Accountant).

### COLLECTING T-P

Equipment by T-P is now much sought after by collectors. The prices obtainable are about the same as most other makes of the same type; for example, an Imperial Triple Extension half-plate field camera about £150, a Ruby Reflex (black leather covered) £70. A tropical teak reflex would fetch about £350, but it is a camera not sought after as much as other 'tropical' makes due to the dull wood finish that T-P used. The most valuable, generally available, item of the T-P range would appear to be the Hythe Mk III Gun camera which, complete with sights and dummy magazine, would be worth around £400. All would have to be in good condition to fetch these prices.

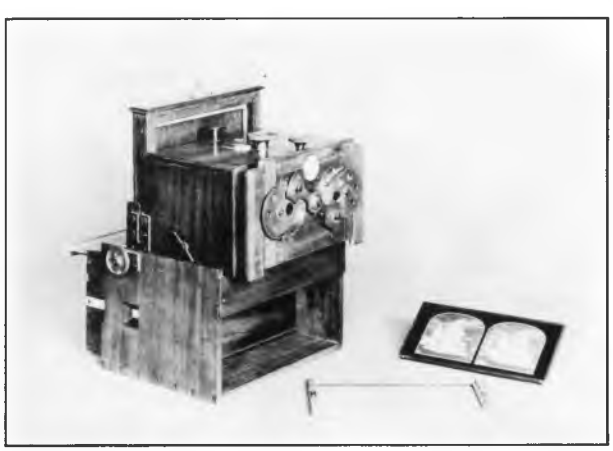
T-P oddities such as the Limit camera and aerial cameras command prices commensurate with their

rarity and sales are sparse. Two examples of the Limit camera have been sold: in 1984 an example made £700 and in 1989 one sold for £1100. A good Type C aerial camera made £1700 in 1986. All these sales results are from Christie's South Kensington, London.

## THE CAMERAS IN USE

The writer's experience with T-P cameras before the war was limited to a 3½ x 2½ Horizontal Reflex with a temperamental shutter, but to be fair it was bought secondhand; then after the war an 'Imperial' outfit purchased for £5 did good work on industrial subjects, after which it was relegated to a copy stand where its roller blind shutter continued to go off with a 'bang' well in to the 1960s. Donald Pike of Upper Norwood had considerable experience with T-P cameras and he has this to say -

> 'During the last war I bought a half-plate field, on which I must have had made dozens of separation negs. for tri-chrome carbro prints. After the war I went through a series of reflexes, mainly quarter-plate or 5 x 4 and these included four T-Ps, Graflex, Ensign, Adams and Soho and although the T-Ps were not so finely constructed or finished as some of the others, I much preferred the action, especially as the mirror was under quite fine control and I never suffered from camera shake. I fitted flash contacts on all the T-P cameras for use with Sashalite bulbs and never had any trouble with them. At this time it was possible to buy field cameras in the secondhand shops of Croydon and the majority of these were T-P. The going price for an outfit with three double dark slides, RR lens, roller-blind shutter and folding ash tripod in faded canvas case was usually £2 10/- and £3 10 6d and I must have had seven or eight of these. The thing I did not like was the turntable base and as I was doing technical and scientific work, I often needed to look up or down at the subjects and also needed to look down on a vertical stand into a microscope, so I removed the turntable base and glued and screwed a piece of mahogany obtained from the draw-slide of a large darkslide and fitted a tripod bush. The camera could then be mounted on a normal tripod. Despite the fact that cameras were occasionally blown or knocked over I never once either broke or even split any part on a T-P camera - at the time my wife and I were riding a motorcycle sidecar outfit in one-day sporting trials and it was said by the knowledgeable that a whippy flexible sidecar chassis would give and not break, but a rigid one would crack under the stress. We proved this right and I wonder of the long life of a T-P field camera was due to the same reason? In the late 1960s I bought a Gandolfi for the reason that the T-P was, in my opinion, a bit too flimsy at the front. In their day, with f/8 lenses and roller blind shutters I am sure they were perfectly adequate, but with a modern lens with more and heavier glass and a leaf shutter it seemed to me that I would get better results with a stronger front. I think that I am right, but that does not in any way detract from the excellence of the T-P product.'



*J B Dancer's twin-lens stereoscopic camera, as patented in 1856 (patent number 2064).*

## COLLECTED CAMERAS: THE EXHIBITION AND THE PHOTOGRAPHIC COLLECTIONS AT THE MUSEUM OF SCIENCE AND INDUSTRY IN MANCHESTER

The 'Collected Cameras' exhibition at the Museum of Science and Industry in Manchester tells the story of the inventors, maker's and photographers who helped make Manchester an important centre for photography. It looks at the people who developed still photography and the manufacture of photographic equipment in Manchester from the 1840s. Although quite small, the exhibition includes roughly a third of the Museum's collection of photographic equipment. The collection itself consists of some eight hundred items and covers all aspects of photographic equipment, including still photography dating from the early 1850s to the present day, cine photography and projection and darkroom equipment. It includes the collections of several private individuals and the large collection given to the old North West Museum of Science and Industry by J T Chapman Ltd in 1966.

The exhibition starts with early photography and includes a selection of daguerreotypes from the collection. The most important is the earliest-known photograph of Manchester, taken in 1842 by John Benjamin Dancer, the well-known optician and scientific instrument maker. He became interested in photography when hearing of Daguerre's invention in 1839. He sold cameras and taught photographic techniques to people when he came to Manchester in 1841.

In the exhibition, are cameras which Dancer made and sold, including three examples of the twin-lens stereoscopic camera he patented in 1856. One of these is on loan to the Museum from the Manchester Literary and Philosophical Society. It is believed to have been

owned by Joseph Sidebotham, an amateur photographer and a good friend of Dancer.

Dancer also invented the technique of microphotography, probably in 1853. The Museum has a collection of some two hundred microphotographs of a wide range of subjects including the Royal Family, Lord's Prayer and Niagara Falls. One showing Dancer's family is displayed in the exhibition.

Josiah Thomas Chapman established his business selling cameras and photographic equipment in Manchester in 1874. He designed the highly successful 'British' range of cameras, some of which are included in the exhibition. He also worked on a formula for a reliable dry plate process and introduced the 'Manchester' plate in about 1880. Hurter and Driffield chose this plate for their experiments on the sensitivity of dry plates, from which they produced the first reliable light meter.

Thornton-Pickard feature in the next section of the exhibition with examples of the 'Time and Instantaneous' roller-blind shutter in a workshop setting. Also on display are an 'Imperial' triple extension camera, on its tripod and with its carrying case, and some of the Ruby reflex cameras. The graphic panel briefly covers the company's history and includes photographs of the workshop in Manchester and the Broadheath factory. Other Thornton-Pickard cameras the Museum has acquired include two Ruby plate cameras, a College field camera of *c.*1912, a Triple Victo camera of *c.*1915, a Mark III Hythe gun camera made around 1918 and a Fingerprint camera of *c.*1935.

In the exhibition, the impact of Kodak cameras and the Brownie camera of 1900 is traced. The display includes some roll film cameras produced by other British manufacturers such as Houghton-Butcher. Kodak and German manufacturers, such as Zeiss Ikon, used mass production methods and more aggressive marketing techniques. British manufacturers were unable to compete effectively, many going out of business before the Second World War.

Manchester has always been an important newspaper printing centre and the next section of the display covers the development of press photography. On display is a Peeling and Van Neck Anschütz plate camera with its accessories, donated to the Museum by C R Sutcliffe, a local press photographer. He used the camera from 1935, when he bought it, until his retirement in 1980. Plate negatives could be developed and printed more quickly than film negatives, thus allowing prints to to be rushed to the printing house much quicker.

The final section of the exhibition displays more modern cameras. It coves the introduction of the 35mm. camera, and includes a Leica I of 1929. It also illustrates the importance of twin lens reflex cameras, with a Rolleiflex of *c.*1932, and the introduction of the pentaprism into the optical system. Finally, there is a selection of 35mm. cameras from the 1980s.

*Examples of equipment made by Thornton-Pickard including an Imperial triple extension camera (left), a Ruby single lens reflex camera (right) and three Time and Instantaneous shutters.*

The photographic collections at the Museum are of great regional significance. They include examples of locally-made equipment and equipment made elsewhere, but used within the Manchester area. Staff add to the collections following the guidelines laid down in the Museum's collecting policy. Researchers and members of the public can obtain access to the Museum's reserve collections of photographic equipment by appointment with Curatorial staff.

The collections also include photographs which have been acquired as examples of processes or because their content is of industrial or scientific interest. An important example is the collection of photographs of engines taken by James Mudd for Beyer-Peacock & Company, locomotive manufacturers of Gorton, Manchester.

The public can obtain access to the photographs, and the Museum's collection of antiquarian photographic books, at the Library and Record Centre. This is open between 1.00pm. and 4.30pm. on Tuesday and Thursday and at other times by appointment. The Museum can be contacted at Liverpool Road, Castlefield, Manchester. M3 4JP. England. Telephone 061-832 2244 or fax 061-833 2184.

**Jenny Wetton - Curator of Science**

# APPENDIX 2
## PATENTS

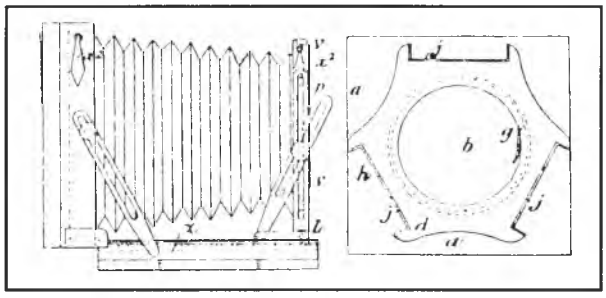
The following have been extracted from *Patents for Inventions. Abridgements of Specifications. Class 98. Photography* and cover those photographic patents taken out by J. E. Thornton, the Pickards and the Thornton-Pickard Manufacturing Co. Ltd. They cover the period 1885-1930. The inclusion of this appendix is designed to facilitate further research into T-P and to show the breadth of Thornton's and the Thornton-Pickard company's inventiveness.

**1886**

February 24. 2670. J. E. Thornton. *Cameras.* A collapsable, compact, field camera.

September 27. 12,238. J. E. Thornton. *Shutters.* A roller blind shutter.

October 18. 13,240. J. E. Thornton. *Cameras.* Describes a form of field camera. See below.



November 9. 14,421. J. E. Thornton. *Lens fittings.* A holder fixed to a camera body for Waterhouse stops.

**1887**

November 22. 16,018. J. E. Thornton. *Sensitised plates and films.* Using algin as a substitute for glass as a support for photographic films.

**1890**

January 11. 511. J. E. Thornton and E. Pickard. *Shutters.* Fitting shutters to differently sized lens hoods or mounts.

July 19. 11,293. J. E. Thornton. *Cameras; shutters; lenses and lens fittings.* A camera which can be used as a detective or hand camera, or as a field camera.

**1891**

October 14. 17,516. J. E. Thornton and E. Pickard. *Shutters.* A new design of roller blind shutter.

November 10. 20,253. J. E. Thornton and E. Pickard. *Dark slides.* An indicator shows whether a dark slides has been exposed.

December 3. 22,171. J. E. Thornton and E. Pickard. *Tripod and like stands.* Securing folding legs on tripods.

**1893**

February 24. 4081. J. E. Thornton and E. Pickard. *Photographic shutters.* A method of changing the slit in a shutter blind.

**1894**

July 4. 12,976. E. Pickard. *Shutters.* A double blind roller blind shutter.

December 18. 24,607. J. E. Thornton and E. Pickard. *Dark slides.* A method to hold plates in the dark slides and facilitate their insertion and removal.

**1895**

January 28. 1924. J. E. Thornton and E. Pickard. *Shutters.* A double blind roller blind shutter, an improvement on patent no. 17,516 of 1891.

November 20. 22,136. J. E. Thornton and E. Pickard. *Cameras.* An improved field camera.

**1896**

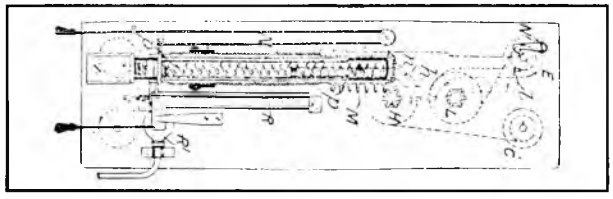
March 18. 6007. J. E. Thornton. *Photo-mechanical printing.* A machine for printing on stiff materials.
July 27. 16,544. J. E. Thornton and F. Pickard. *Cameras.* Improved camera design and tripod heads.

**1897**

June 26. 15,277. J. E. Thornton. *Dark slides; change-boxes.* A film carrier or sheath made of very thin metal and strengthened by ribs.

**1898**

February 8. 3118. J. E. Thornton and Thornton-Pickard Manufacturing Co. *Dark slides.* Light tight joint for the shutters of dark slides.
February 9. 3240. J. E. Thornton. *Shutters.* Design and construction of an aluminium case for roller blind shutters.
March 1. 4955. *Change-boxes; plate boxes.* A method of storing and changing flat sensitised films (a film pack).
June 4. 12,528. J. E. Thornton. *Shutters.* A shutter with two roller blinds. See below.



**1899**

January 14. 877. J. E. Thornton and C. F S. Rothwell. *Positives, producing directly; sensitised films.* Manufacture and treatment of a photographic film for producing positives directly in the camera.
February 25. 4237. J. E. Thornton and C. F S. Rothwell. *Sensitised films.* A stiff or flexible transparent photographic emulsion support.
March 17. 5793. J. E. Thornton. *Sensitised plates and films.* A method of coating plates and films with sensitised emulsion in a series of layers.
March 28. 6628. J. E. Thornton. *Shutters.* A pneumatic timing device for exposure shutters.
March 28. 6629. J. E. Thornton. *Envelopes for plates and the like; change-boxes.* Film packs.
March 29. 6754. J. E. Thornton. *Cameras.* A boxform camera made out of composite aluminium.
April 7. 7360. J. E. Thornton. *Cameras; shutters.* The metal jointing for articles such as cameras, shutters by cutting dovetailed tongues and interlocking them.
May 25. 10,933. J. E. Thornton. *Shutters.* A method of actuating roller-blind shutters.
June 5. 11,600. J. E. Thornton. *Shutters.* Various arrangements of roller blind shutters.
June 17. 12,644. J. E. Thornton. *Cameras; roller slides.* Folding hand cameras made of aluminium or other materials.
July 8. 14,049. J. E. Thornton. *Sensitised films.* Several methods of stiffening photographic films to be used for the production of negatives and positives.
August 24. 17,164. J. E. Thornton and C. F S. Rothwell. *Sensitised films.* A stripping film.
August 24. 17,165. J. E. Thornton and C. F S. Rothwell. *Sensitised films.* A method of attaching sensitive films to their supports so that they are easily stripped off.
August 26. 17,292. J. E. Thornton and C. F S. Rothwell. *Developing; fixing; washing.* A film with developer coated on to the surface, needing water to start the development process.
August 29. 17,446. J. E. Thornton and C. F S. Rothwell. *Sensitised films; positives; producing directly.* A film capable of producing non-reversed positive photographs.
September 2. 17,737. J. E. Thornton. *Roller slides; sensitised films.* A novel roller slide.
September 2. 17,738. J. E. Thornton and C. F S. Rothwell. *Printing paper; developing; fixing; toning.* A printing paper with applied chemical developer, needing immersion in water to start the developing.
December 6. 24,319. Thornton-Pickard Manufacturing Co. and C.G. Woodhead. *Shutters; kens fittings.* A combined shutter and iris for insertion between the front and back members of a lens.

**1900**

September 3. 15,640. Thornton-Pickard Manufacturing Co., G.A. Pickard and C.G. Woodhead. *Cameras.* A folding hand camera.
October 13. 18,252. A. Pickard. *Printing.* A printing frame.
November 7. 20,015. J. E. Thornton. *Roller slides; cameras.* A roller slide made to fit specially designed cameras.

**1901**

February 9. 2843. Thornton-Pickard Manufacturing Co., G.A. Pickard and C.G. Woodhead. *Shutters.* Relates to a stop for holding open shutters such as described in patent no. 24,319 of 1899 for the purpose of focusing.
February 26. 4146. Thornton-Pickard Manufacturing Co. and G.A. Pickard. *Shutters.* A roller blind focal plane shutter.
September 18. 18,631. H. P. Tattersall and G. A. Pickard. *Exposures, determining.* A slide-rule exposure calculator.

**1903**

March 18. 6242. Thornton-Pickard Manufacturing Co. and G.A Pickard. *Shutters; lens fittings.* Improvements in photographic shutters combined with iris diaphragms of the type described in no. 24,319 of 1899.
June 25. 14,137. Thornton-Pickard Manufacturing Co., G.A. Pickard and A. Woods. *Cameras.* Camera fronts with swing are provided with a lens panel with independent rise.
October 13. 22,000. Thornton-Pickard Manufacturing Co. and G.A. Pickard. *Shutters.* Focal-plane roller blind shutters such as described in no. 4146 of 1901 are fitted with an extra length of blind with a slit for time exposures or focusing.
October 15. 22,207. Thornton-Pickard Manufacturing Co. and A. Woods. *Shutters.* A mechanism for releasing the blinds of roller-blind shutters.
November 2. 23,670. Thornton-Pickard Manufacturing Co. and E. V. Piercy. *Shutters.* A method of winding up a roller-blind shutter.
December 21. 27,692. Thornton-Pickard Manufacturing Co. and A.G. Pickard. *Shutters.* A release mechanism for roller-blind shutters.

**1904**

January 1. 30. Thornton-Pickard Manufacturing Co., G.A. Pickard and Piercy, E.V. *Shutters.* Devices are described for releasing photographic shutters by means of the Bowden wire.

March 7. 5522. J. E. Thornton. *Shutters.* In a roller-blind shutter an endless cord is passed around the axles of the two blind rollers so that they wind in the same direction, at the same rate.

March 22. 6899. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Cameras.* A releasing mechanism for plates in magazine cameras and an auxiliary flap shutter used in conjunction with a roller blind shutter.

September 21. 20,327. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Shutters.* Improvements to roller-blind shutters.

September 21. 20,330. Thornton-Pickard Manufacturing Co. and G.A. Pickard. *Shutters.* The pneumatic ball release is provided with two plate levers so that equal amounts of air is expelled when the shutter is released.

December 31. 29,631. J. E. Thornton. *Change-boxes; roller slides; envelopes.* Improvements to film packs.

**1905**

March 4. 4515. Thornton-Pickard Manufacturing Co. and G.A. Pickard. *Cameras.* The front and back parts of a field cameras are made so they can be moved very close together.

October 14. 20,800. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Shutters.* Roller-blind shutters constructed so that it is not possible to give a time exposure without releasing the actuating-spring and working with the lowest tension.

**1906**

January 6. 405. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Shutters.* A roller-blind shutter provided with an auxiliary shutter.

May 11. 11,033. J. E. Thornton. *Sensitised films.* Film packs for special purposes such as colour.

May 15. 11,346. J. E. Thornton. *Film packs.* Improvements to film packs.

May 22. 11,884. J. E. Thornton. *Film packs.* Improvements to film packs.

May 23. 12,003. J. E. Thornton. *Change-boxes; film packs.* Detail improvements to film packs.

May 23. 12,004. J. E. Thornton. *Change-boxes; film packs.* Modified constructions to change boxes intended to be filled or emptied of films in the darkroom.

June 30. 14,863. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Squeegees.* Rubber blades with beaded edges.

July 30. 17,092. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Cameras.* The lens panel of a field camera is brought into position while being kept parallel to the back.

August 2. 17,358. J. E. Thornton. *Shutters.* A roller-blind shutter is adapted for use either as a focal-plane or as a hood shutter.

August 2. 17,359. J. E. Thornton. *Cameras.* Focusing devices for cameras.

September 25. 21,189. J. E. Thornton. *Sensitised films; developing; fixing.* Films characterised by having manipulating tabs are provided with developing and fixing layers to form self-developing plates and films.

**1907**

March 21. 6785. Thornton-Pickard Manufacturing Co. and G.A. Pickard. *Shutters.* Improvements to roller-blind shutters described in no. 20,800 of 1905.

May 3. 10,269. Thornton-Pickard Manufacturing Co. and W. Booth. *Cameras.* A distance finder or gauge is used in combination with a photographic view-finder.

July 2. 15,199. J. E. Thornton. *Cameras.* A form of reflex viewing camera.

October 1. 21,692. J. E. Thornton. *Developing; fixing; washing; sensitised plates and films; change-boxes; envelopes; dark-slides; plate and like boxes; roller slides; trays and dishes.* Daylight loading packages of films are developed, fixed and washing in daylight without any preparation after leaving the camera.

**1908**

May 14. 10,469. Thornton-Pickard Manufacturing Co., A. G. Pickard and T. W. Piercy. *Cameras; shutters.* Relates to the operation of the reflector and release of the shutter in reflex cameras.

June 17. 12,925. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Cameras.* In reflex cameras the focusing pinion is connected to the retaining or releasing catch of the mirror so that the mirror can be automatically released.

July 2. 14,024. J. O. O'Brian [J. E. Thornton]. *Trays; dishes, etc..* Photographic developing tanks fitted with a thermometer.

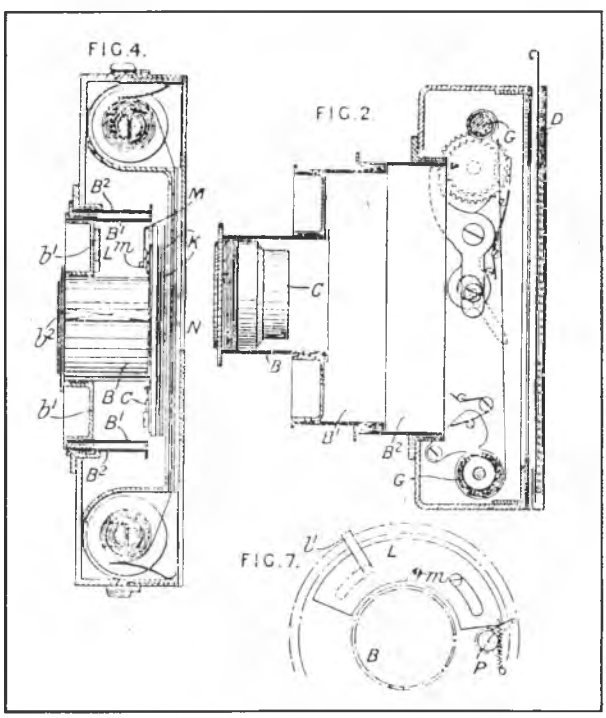
July 23. 15,608. Thornton-Pickard Manufacturing Co., A. G. Pickard and A. Shepherd. *Cameras.* Cameras with sliding fronts are fitted with a pair of auxiliary upright struts for supporting the front for additional movements.

September 3. 18,478. Thornton-Pickard Manufacturing Co., A. G. Pickard and T. R. Foxcraft. *Cameras; enlarging.* A photographic enlarging lantern.

September 26. 20,227. A. G. Pickard. *Cameras; enlarging.* An angularly adjusting negative carrier.

December 8. 26,535. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Cameras.* Improvements to the movable runners supporting the body of a camera.

December 12. 26,980. J. O. O'Brien [J. E. Thornton]. *Change-boxes.* Developing film packs.



**1911**

May 25. 12,607. Thornton-Pickard Manufacturing Co., A. G. Pickard and R. Hesketh. *Cameras, collapsable; lens fittings; shutters.* A camera with lens on a collapsable mount. [This cameras was sold by T-P as the Limit]. See bottom of previous page.

November 10. 25,015. Thornton-Pickard Manufacturing Co. and A. G. Pickard. *Cameras, reflex.* A special attachment converts an ordinary hand camera into a reflex camera.

December 2. 26,997. J. E. Thornton. *Printing-apparatus.* For printing kinematographic films.

**1912**

January 1. 40. Thornton-Pickard Manufacturing Co. and A. G. Pickard. *Cameras, twin- lens.* A horizontal form of twin lens reflex camera.

February 10. 3384. J. E. Thornton. *Printing-apparatus.* For printing kinematographic films.

February 10. 3385. J. E. Thornton. *Chromo-gelatine and like processes; kinematographic picture films.* Kinematographic films are produced without the use or aid of silver salts.

February 17. 4043. J. E. Thornton. *Chromo-gelatine and like processes; kinematographic picture films.*

February 17. 4044. J. E. Thornton. *Chromo-gelatine and like processes; kinematographic picture films.*

February 17. 4045. J. E. Thornton. *Chromo-gelatine and like processes; kinematographic picture film.*

March 13. 6238. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Shutters, roller-blind.* Improvements to roller blind shutters.

April 19. 9324. J. E. Thornton. *Colour photography.* A positive kinematographic film for use without colour screens.

May 23. 12,231. J. E. Thornton. *Developing etc. apparatus for successive treatments of long films; varnishing; finishing.*

[June 21, 1911]. 14,433. *Printing-apparatus with continuous movement of negative and printed surface; developing etc. apparatus for successive treatment of long films.*

November 1. 25,084. J. E. Thornton. *Colour photography; kinematograph picture films; toning and after treatment.*

[June 21, 1911]. 28,825. J. E. Thornton. *Developing etc. apparatus for successive treatments of long films.*

December 17. 29,112. J. E. Thornton. *Kinematographic picture films; chromo-gelatine and like processes.*

December 17. 29,113. J. E. Thornton. *Chromo-gelatine and like processes; kinematographic picture films.*

December 21. 29,512. J. E. Thornton. *Printing-apparatus with flexible tensioned coverings.*

December 21. 29,513. J. E. Thornton. *Printing-apparatus with flexible tensioned coverings.*

December 21. 29,514. J. E. Thornton. *Printing-apparatus with continuous movement of negative and printed surface.*

December 21. 29,515. J. E. Thornton. *Printing-apparatus with continuous movement of negative and printed surface.*

**1913**

April 26. 9865. Kinofilms Ltd., J. E. Thornton and H. Workman. *Printing-apparatus with continuous movement of negative and printed surface.*

August 7. 17,978. J. E. Thornton. *Kinematograph picture films.*

**1914**

February 25. 4856. Thornton-Pickard Manufacturing Co., G. A. Pickard and A. G. Pickard. *Tanks with plate or film transfer arrangements for daylight developing etc.; with partitions for developing etc. several plates or films.*

June 5. 13,711. J. E. Thornton. *Colour photography, screen processes for.*

June 11. 14,145. J. E. Thornton. *Colour photography, screens for.*

June 23. 14,901. J. E. Thornton. *Printing-apparatus, set-and-repeat.* For the printing of three colour and other kinematograph films.

July 16. 16,899. J. E. Thornton. *Kinematograph picture films; bichromated colloid processes.*

**1915**

April 1. 5100. J. E. Thornton. *Kinematograph picture films; photo-mechanical printing- surfaces.*

April 10. 5420. Thornton-Pickard Manufacturing Co., G.A. Pickard and F. Slinger. *Shutters, roller-blind.* A focal-plane shutter with a means to lock the shutter of the dark slide in the closed position.

June 4. 8300. J. E. Thornton. *Colour photography, screen processes for.* Addition to 13,711 of 1914.

August 12. 11,651. Thornton-Pickard Manufacturing Co., G. Pickard and F. Slinger. *Magazine hand cameras with sliding change in plane of plate; shutters, roller-blind.* Gravity fed plate-changing mechanism for aerial cameras.

**1916**

[May 13, 1915]. 100,629. J. E. Thornton. *Kinematograph picture films.* Multicolour kinematograph films for projection.

September 12. 125,615. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Cameras, roll-film with connected action between shutter and changing mechanisms.*

**1917**

August 15. 128,626. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Cameras, gun form.* A photographic camera is constructed so as to have an external contour and appearance as nearly as practicable the same as a Lewis or other machine gun.

August 29. 128,662. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Magazine hand cameras with connected action between shutter and changing mechanism; change-boxes, self-contained.* [The T-P Type A aerial camera].

October 2. 129,027. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. Shutters, roller-blind. Improvements.

**1918**

November 1. 133,201. Thornton-Pickard Manufacturing Co., A. G. Pickard and F. Slinger. *Change-boxes; dark slides.* Flexible sliding covers or shutters used for dark slides and change-boxes.

**1922**

December 27. 213647. J. E. Thornton. *Kinematographic picture films; colour photography; bichromated colloid processes.*

December 27. 213866. J. E. Thornton. *Kinematographic picture films; colour photography; bichromated colloid processes.*

December 27. 214934. J. E. Thornton. *Colour photography; films.*

**1923**

May 18. 224569. J. E. Thornton. *Kinematographic picture films; colour photography.*
May 18. 224570. J. E. Thornton. *Kinematographic picture films; colour photography.*
May 18. 224571. J. E. Thornton. *Colour photography; films and papers; stripping.*
May 18. 224572. J. E. Thornton. *Colour photography.*
May 18. 224573. J. E. Thornton. *Colour photography; films with multiple sensitive layers.*
October 11. 227199. J. E. Thornton. *Kinematograph picture films; developing and after-treatment.*
October 19. 227900. J. E. Thornton. *Kinematograph picture films; colour photography; finishing; films; stripping.*
November 17. 224,722. Thornton-Pickard Manufacturing Co. Ltd., A. G. Pickard and F. Slinger. *Cameras, reflex.* Adjustment to vary the distance of the viewing hood from the focusing screen.

**1924**

February 15. 230965. J. E. Thornton. *Kinematograph picture films; lantern slides.*
July 16. 231030. J. E. Thornton. *Colour photography.*
July 16. 231058. J. E. Thornton. *Colour photography.*
January 9. 232302. J. E. Thornton. *Kinematograph picture films; colour photography.*
November 3. 233985. J. E. Thornton. *Colour photography; films with multiple sensitive layers.*
February 15. 233989. J. E. Thornton. *Colour photography.*
February 15. 233990. J. E. Thornton. *Colour photography; kinematograph picture films.*
November 6. 233991. J. E. Thornton. *Colour photography.*
August 2. 238688. J. E. Thornton. *Colour photography.*
November 17. 246257. J. E. Thornton. *Colour photography.*
November 25. 246266. J. E. Thornton. *Colour photography.*
December 19. 246282. J. E. Thornton. *Colour photography.*
December 19. 246283. J. E. Thornton. *Colour photography; continuous apparatus for developing.*

**1925**

March 31. 253643. J. E. Thornton. *Colour photography, screens and screen plates for.*
April 17. 253660. J. E. Thornton. *Colour photography.*
December 11. 272140. J. E. Thornton. *Kinematograph films.*
December 11. 272256. J. E. Thornton. *Kinematograph films.*

**1926**

March 16. 257836. J. E. Thornton. *Colour photography, screens and screen plates for.*
March 18. 272986. J. E. Thornton. *Colour photography; enamelling and finishing.*
March 18. 273056. J. E. Thornton. *Colour photography; enamelling and finishing.*
May 6. 274591. J. E. Thornton. *Colour photography; films and papers, stripping.*
May 5. 275331. J. E. Thornton. *Colour photography.*
June 9. 274,250. Thornton-Pickard Manufacturing Co. Ltd., F. Slinger and S. W. Rogerson. *Dark slides.* Sheet metal single darkslides.
October 9. 279,617. J. E. Thornton. *Roll spools.* A means of locking film in a spool case for use in a camera or projector.
September 11. 279220. J. E. Thornton. *Kinematograph films.*
September 11. 279241. J. E. Thornton. *Kinematograph films.*
September 11. 279593. J. E. Thornton. *Kinematograph films.*
September 11. 279594. J. E. Thornton. *Kinematograph films.*

**1927**

January 20. 285227. J. E. Thornton. *Colour photography; films and papers, stripping.*
January 20. 285228. J. E. Thornton. *Colour photography; enamelling.*
March 8. 285262. J. E. Thornton. *Colour photography.*
June 8. 295,465. Thornton-Pickard Manufacturing Co. Ltd., A. G. Pickard and F. Slinger. *Roll-spools.* A specially shaped film spool end for coupling to a camera.
October 12. 286,568. J. E. Thornton. *Enlarging, copying, and reducing.* A method of printing from a single-width negative film.
October 12. 286,568. J. E. Thornton. *Colour photography; printing apparatus.*
December 6. 303,262. J. E. Thornton. *Developing and finish films.*

**1928**

April 25. 316,338. J. E. Thornton. *Kinematograph picture films; colour photography.*
April 25. 316,339. J. E. Thornton. *Kinematograph picture films; colour photography.*
May 18. 316,367. J. E. Thornton. *Colour photography.*
June 21. 319,398. J. E. Thornton. *Printing paper; printing apparatus with continuous movement of negative and printing surface.*
June 21. 316,388. J. E. Thornton. *Kinematograph picture films; colour photography; continuous apparatus for developing.*
July 7. 314,682. Thornton-Pickard Manufacturing Co. Ltd. and P. Fripp. *Change-boxes, self-contained.* A film pack adapter with a cover plate through which the film tabs are withdrawn.

**1929**

July 3. 339,296. J. E. Thornton. *Colour photography.*
July 3. 339,319. J. E. Thornton. *Colour photography.*
July 3. 339,321. J. E. Thornton. *Colour photography; photo-mechanical printing surfaces; films.*
July 3. 339,321. J. E. Thornton. *Change-boxes; self-contained; roll-film cartridges.* A duplex dye-printing plate for producing two-colour pictures by dye-impression printing.
August 10. 339,977. J. E. Thornton. *Colour photography.*
September 19. 335,057. Thornton-Pickard Manufacturing Co. Ltd, A. G. Pickard and F. Slinger. *Enlarging.* A movable lens carrier.
December 4. 338,390. Thornton-Pickard Manufacturing Co. Ltd., A. G. Pickard and J. H. Reeves. *Cameras, reflex.* The folding hood of a reflex camera is provided with a pocket for holding the sheath of a dark slide.

**Compiled by Michael Pritchard**

***THE THORNTON-PICKARD STORY*** tells the story of one of Britain's largest photographic companies which had its heyday from the 1890s to 1918.

In this book Douglas Rendell details the origins of this Manchester-based company, through text and pictures, from the mid-1880s until its eventual demise in the 1960s. The roles played by its founders, the inventive genius John Edgar Thornton and business-like Edgar Pickard and the Pickard family are detailed as is Thornton's acrimonious departure from the company in 1898. The book looks at the cameras manufactured, in particular the aerial cameras made during the First World War, the production facilities of T-P, and the people involved in the company throughout its history. Many of the pictures and much of the research is presented for the first time.

Based on original research, family diaries and company records a story is presented which mirrors the success and decline of the British photographic industry as a whole.

***DOUG RENDELL*** was born in Sale, Cheshire, in 1918, and from an early age became interested in both the cinema and photography; the cinema through the children's matinees of the 1920s, photography through his father who taught him how to develop roll films in a daylight tank and print negatives on gaslight paper. He was educated at Altrincham Grammar School and studied photography at the then Manchester College of Technology, and film at the Polytechnic, Regent Street, London. In 1939 he was conscripted into the Royal Navy as an ordinary seaman, transferring to the Photographic Section in 1941. In 1943 he married Joan Hill, who had also studied photography in Manchester, and after the war they started their own business as commercial/portrait photographers in Hale, Altrincham. They have two daughters, one of whom took over the business after retirement in 1983, and two grandchildren.

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