There were two firms closely associated with Marions in this. They were A. Kershaw & Son Ltd, with works at Leeds which made reflex cameras, cinematograph projectors, binoculars, and scientific apparatus, and an off-shoot of this firm, the Kershaw Optical Company Ltd, formed in 1917 to handle contracts for optical instruments for the Ministry of Munitions and which doubtless supplied the lenses for Kershaw's equipment.

A company with a longer connection with Marions was Marion and Foulger which made photographic mounts, frames and mouldings at Magna Works in Bedford. These companies together with Paget and Rajar (and with it Rotary) formed APM Ltd in 1921. After the final link-up with Ilford, Marions' works and premises were not used. The Soho premises became the headquarters of Soho Ltd, formed from the two Kershaw companies and Marion and Foulger.

**Paget Prize Plate Co. Ltd**

The next of the trio in chronological order of founding was the Paget Prize Plate Co. Ltd. This company played a larger part than Marions in the link-up with Ilford, for its premises were used for miscellaneous manufacturing processes until 1961.

The start of Paget Prize Plate, and its name, resulted from a prize offered in 1879 by Captain (later Sir) Joseph Paget of Staffinwood Hall, Mansfield, Notts. The competition, with a prize of £50 for the best formula for a dry plate emulsion, was organized through the (later Royal) Photographic Society. The winner was W. J. Wilson of Hammersmith. The emulsion was a pure silver bromide washed emulsion and full details of the process were published shortly after the competition.

Wilson decided to go into business and found backing from George C. Whitfield, managing director of the Woodbury Permanent Photographic Printing Co. with the trade mark 'Woodburytype' and works at Castle Bar, Ealing, West London. The new enterprise was set up in the premises of the Woodbury company. From 1882 onwards Paget Prize Plates were listed in the catalogues of Jonathan Fallowfield, the biggest dealers in London, and in the same year the *British Journal Photographic Almanac* had, as the frontispiece, a 'Woodburytype' print from a negative on a Paget Prize plate, thus showing the close linkage between the two companies. At an exhibition of photographs and photographic apparatus held at the Crystal Palace, Paget's display of transparencies from exposures on their plates, particularly some fine yacht studies made by West and Son, attracted much attention.

In 1889, there was a serious fire at the works at Ealing and Whitfield and Wilson decided to build new works in St Albans Road, Watford, on the Callowland estate close to the LNW railway and station. Whitfield relinquished his interest in Woodbury, and that company continued under the proprietorship of Eyre and Spottiswoode.

The new Paget Prize Plate works were soon visited by the photographic press and reported on by both the *B JP* and *Photography*. The factory was run by Whitfield, Wilson, and Whitfield's two sons Sydney and Laurence: it was reported that the whole of the emulsion was prepared personally by Wilson and Sydney Whitfield.

Before coating, the glass was washed in a plate-washing machine patented by Whitfield and Wilson which was capable of dealing with 100 dozen whole-plates in an hour. The coating machine was a Cadett with a coating head made entirely of silver; initially this machine was rented from Cadetts at £100 per annum but was purchased in 1890 for £175, ancillary equipment having been purchased in the previous year for £150.

All the machinery was powered by a 12 hp Marshall engine and boiler (total purchase price £218) which also supplied the steam for 'boiling' and the heating for drying. There was a small gas engine, a Crossley 'Otto', used to keep the ventilation going at night and at other times when the steam engine was not running. The steam from the engine was used to prepare distilled water, 60 gal always being on hand. The general water, from an artesian well was softened before use. The article in *Photography* closed with these words 'we believe this to be one of the most complete and perfectly designed dry plate factories in the World'.

When first started, Paget produced only dry plates but by 1894 was advertising Paget Matt Printing-Out Paper and Paget Prize Collodiochloride Paper; a few years later (1899) a gaslight type paper Gravura, giving a range of tones by development, was introduced. The exposure required, according to an advertisement, was: 'about 2 minutes a few inches from a gas flame'. Plates and Lantern plates continued with new introductions and improvements from time to time.

The Paget company seemed fated to have fires and one on the night of 17 April 1902, completely gutted the block housing the plate manufacture. Within a year a new plate, the Swift H & D 270, was marketed; it was claimed to be twice as fast as the Paget XXXX Plate and competed with the Ilford Monarch introduced earlier in the year and
advertised as the 'fastest plate in the world'.

At the annual exhibition of 1908 the Paget stand showed prints made on bromide papers, self-toning papers, POP, Platinoid (a POP giving 'platinum' tones), and Gravura. By 1910 yet more plates came on the market; the Extra Special Rapid (H & D 350 to 400), claimed to be most rapid plate in the world; Special Rapid (H & D 200 to 250) 'for special work requiring the highest quality', Ortho (H & D 200 to 250), and others including Lantern plates. The company was justifiably proud that its plates had been chosen by Herbert Ponting, photographer with Scott's South Pole Expedition of 1910, 'after the most 'extensive and severe tests' and that they were chosen for their 'superiority and reliability'; they were not, however, used exclusively on the expedition contrary to the claims of the advertisement. In the following year Panchromatic plates were marketed giving 'real colour values and doing away with the necessity for retouching for portraiture'.

Just before the First World War, Paget marketed a colour screen process known as the 'Paget' or 'Finlay' process, developed jointly by G. S. Whitfield and C. L. Finlay: it differed from other screen processes in that the réseau containing the colour elements was a separate entity. One was used for making the exposure and another was bound with the positive made from the camera exposed negative. This system enabled duplicates to be readily obtained.

Although the motto during the war was 'business as usual', the coming of the war must have militated against the marketing prospects of this colour process. Paget, living up to the motto, marketed bromide papers in nine different fancy surfaces. They were able to do this since they held large stocks of French papers. A 1918 price list showed, in addition, about 20 different types of plates including X-ray plates and process plates.

After the war, amalgamation was the order of the day; first there was the cooperative venture of Selo Ltd, enabling Pagets to market roll films and then, in 1921, the formation of APM Ltd followed by Apem Ltd in 1928 when the Paget works at Watford became the headquarters of the new company. Finally, the full merger of Apem with Ilford took place. During these periods Paget products continued to appear under their old names until rationalization of products in the early 1930s.

Pagets was a family business—that of the Whitfields—starting with the founder George, his two sons Laurence and George Sydney and his two grandsons, Geoffrey, works manager of the Watford factory during the Second World War and Philip, who served in the emulsion laboratories at the Brentwood works in the 1940s and 1950s. George Whitfield had a lifelong interest in photography. He died in 1918.

Rajar Ltd

The last of the trio of companies to be founded was Rajar Ltd. Its factory at Mobberley, Cheshire, became, and still is, the sole paper production factory of Ilford Limited.

Rajar appears to have derived from the Brooks-Watson Daylight Camera Company Ltd, formed in 1901, and had works in Great Homer Street, Liverpool. This company marketed the 'Rajar System of Photography'—a film pack adaptor for plate cameras covered by a number of patents taken out by A. A. Brooks and G. A. Watson in the years 1900 to 1902. The Rajar works at Mobberley were built in 1903, and in 1907 a company, Rajar (1907) Ltd, was formed with a capital of £25,000 in £1 shares: 'to adopt an agreement with Rajar Limited, H. T. Parke and others to carry on the business of manufacturers of and dealers in photographic films, plates, cameras, apparatus, materials, etc.' Rajar Limited had been formed by H. T. Parke and C. F. S. Rothwell FCS, the latter being well known in the Liverpool area for his interest in the science of photography. Rothwell later became managing director. Brooks and Watson appeared to have severed connection with Rajar for, although taking out more patents in the period from 1904 to 1908, these were not associated with the name of any company. The name 'Rajar' is of interest because of its unusual spelling—it may have been chosen because it was a palindrome.

The factory, built in the clean air of Mobberley, was enlarged in 1905 the buildings then covering about three-quarters of an acre on a site of two acres. The factory made its own gas to drive engines to generate electricity for lighting and power—all the machines being driven by 'electromotors'. At this time Rajar was marketing the Patent Film Slide for the Rajar System, several varieties of 'Cleron' film to use with the slides (in ten sizes ranging from 2½ in square to 5 in x 4 in in either 6 or 12 exposure packs) and among other items the Rajar quarter-plate folding camera advertised as 'a folding camera that will really go into your pocket'. It looked, however, as if a really large pocket would be required. Although the original interest of the company was in the film changer cameras and the films to go with them, they were soon marketing sensitized paper and by 1907 were advertising that 'Rajar POP Postcards had the largest sale in the world—the natural result of quality':