

## Patent Intelligence.

### Application for Letters Patent.

3948. JOSEPH JULIUS SACHS, of 8, Union Court, Old Broad Street, in the city of London, for an invention of "Improvements in the manufacture of pliable plates and surfaces as a substitute for glass for photographic and other purposes."—A communication to him from Messieurs Fickeissen and Becker, resident at Villengen, Baden, Germany.—Dated 14th August, 1883.

### Notices to Proceed.

1870. WILLIAM LLOYD WISE, of 46, Lincoln's Inn Fields, in the county of Middlesex, for an invention of "Improvements in and pertaining to apparatus for utilising solar heat."—A communication from La Société Centrale pour l'Utilisation de la Chaleur Solaire (Brevets Mouchot et Abel Pifre), of Paris, France.—Dated 12th April, 1883.

1971. WILLIAM COOKE, of 43, Southampton Buildings, Holborn, in the county of Middlesex, Civil Engineer and Patent Agent, for an invention of "An apparatus for automatically exposing bodies or articles to the action of the sun's rays or to light otherwise produced."—A communication to him from abroad by Richard Schlotterhoss, of Vienna, in the empire of Austria, Engineer.—Dated 18th April, 1883.

3837. WILLIAM ROBERT LAKE, of the firm of Haseltine, Lake, and Co., Patent Agents, Southampton Buildings, London, for an invention of "Improvements in adjustable chairs, chiefly designed for photographic purposes."—A communication to him from abroad by William Shields Liscomb, of Providence, Rhode Island, United States of America, Gentleman.—Dated 7th August, 1883.

### Patents Sealed.

1061. WILLIAM ROBERT LAKE, of the firm of Haseltine, Lake, and Co., Patent Agents, Southampton Buildings, London, for an invention of "An improved process for sensitizing photographic paper, and developing pictures thereon."—A communication to him from abroad by Redfield Benjamin West and Benjamin Corey West, both of Guilford, Connecticut, United States of America.—Dated 27th February, 1883.

1007. JAMES HENRY HARE and HENRY JAMES DALE, both of Little Britain, in the city of London, for an invention of "Improved apparatus for supplying sensitive plates in photographic cameras."—Dated 24th February, 1883.

### Patent Filed.

JULIUS ALLGEYER and CARL BOLHOEVEN. No. 896.—Dated 19th February, 1883.

This invention has for its object to obtain from drawings, wood-cuts, photographs, and other pictures, relief plates, which may be used for printing simultaneously with letter-press. For this purpose a heliotype (sun-print or Lichtdruck) is first produced on a plate prepared like ordinary heliotype plates, except that chloride of calcium in the proportion of one part of the chloride to five parts of the gelatine, or other substance capable of producing a "grain," has been added. The heliotype plate is exposed to light under a diapositive, rolled over with greasy ink, and the image is either immediately strengthened by strewing graphite powder or some other suitable coating over it, or an impression is made from it on a gelatine foil, which impression or copy may also be strengthened in the manner described. By either method a grained negative is obtained, which in one case is right-handed, and in the other case left-handed. Under one of these grained negatives a film chiefly composed of bichromate and glue, and prepared in the manner hereafter described, is exposed to light. The back of this film is subsequently fastened on to a wood block to the exact height of type to be used with it. Those parts of the picture on the wood block which have not been acted on by the light are now mechanically removed by friction with moderate damping, and by this means the required relief is produced, which may be used in combination with letter-type for printing on the ordinary type printing-press. From the same relief plate an electrotype may be produced, in the same manner as from ordinary engraved blocks. The exposure of such a sensitive film to light is equally successful with a lined negative. The film destined to receive the picture, and to serve as a printing surface, is prepared in the following manner:—One kilogramme of glue (Cologne glue) is soaked in one litre of water for several hours, then dissolved by adding thirty grammes of bichromate of potash and 12 grammes

of glycerine, and placing the vessel containing the mixture in a warm water bath. A suitable quantity of the mixture is then poured on glass plates which have been previously coated with a solution of ox-gall. The film of prepared glue thus disposed of is then allowed to dry in a dark place. When well dried, it is scraped perfectly even with an edged instrument, then taken off from the glass plate, and exposed under a negative in the manner hereinafter described, care being taken to expose that side of the film which adhered to the glass.

The claiming clauses are as follows:—

1. The production of grained negatives (a) by the direct use of heliotype plates containing chloride of calcium or any other suitable grain-producing substance, which heliotype plates have been inked in, and the image strengthened by the addition of graphite powder or any other suitable coating; (b) by the use of an impression taken on a gelatine foil, and strengthened in a similar manner.

2. The production of printing blocks by pouring chrome glue over a plane of glass plate, previously prepared with a solution of ox-gall, allowing the film to dry, exposing under a grained negative (which may be obtained as indicated in the preceding claim) or under a lined negative, that side of the film which has adhered to the glass, attaching the other (back) side upon a bare plate, and developing the relief by means of damp friction, for the purpose of using such blocks directly in the type printing press, or for obtaining printing blocks by means of electroplating in the manner well known.

### Specification Published during the Week.

6114. STEPHEN HENRY EMMENS, of Soho Square, in the County of Middlesex, Actuary, and JOHN MUNRO, of West Croydon, in the county of Surrey, "Improvements in photometric apparatus" Dated 22nd Dec, 1882.—A comparison photometer in which the equilibrium of the lights is established by an adjustable prism or wedge of tinted or obscured glass.

### Patents Granted in America.

281,660. EDWIN L. BERGSTRESSER, of Hublersburg, Pa., for "A photographic-plate holder."—Application filed 21st April, 1883.—No model.

281,743. HAWLEY C. WHITE, of North Bennington, Vt., for "A stereoscope."—Application filed 17th May, 1883.—No model.

## LESSONS IN OPTICS FOR PHOTOGRAPHERS.

BY CAPTAIN W. DE W. ABNEY, R.E., F.R.S.

### LESSON V.

*Oblique Excentrical Rays.*—Take a lens, and cover all up with black paper except a line of bare glass passing through its centre, and then use it with a camera which has a large

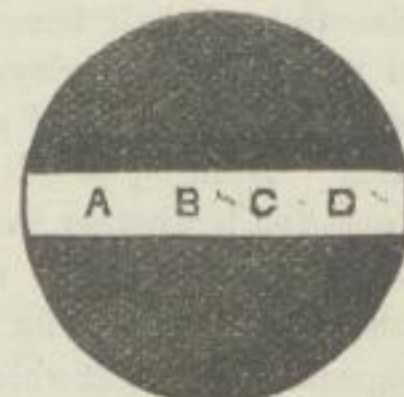


Fig. 25.

focussing screen. Cover up the line of glass, except the portion A B, and focus a distant object, making a large angle with the axis of the lens, and measure the distance

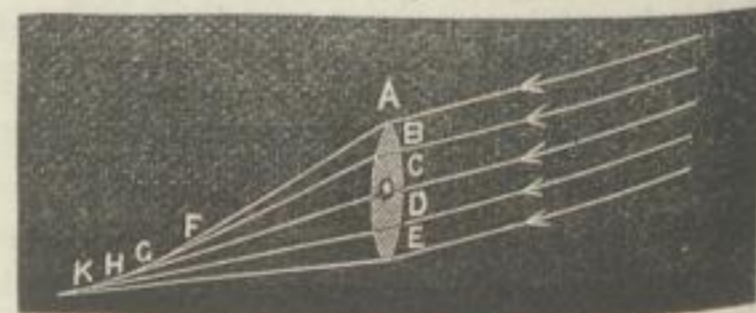


Fig. 26.

from O; it will be found to be O F. Cover up next all except the portion B C, and again focus, when the image will be found to be sharp at a distance, O G. Similarly, focus