

PARTNERSHIPS DISSOLVED.

Sheppard and Watson, Frome, woollen merchants and manufacturers.
 Black and Charnley, Godley-road Bobbin Works, Halifax, bobbin and brushwood turners.
 Butterworth and Murgatroyd, Glebe Mills, Hollinwood, near Oldham, cotton spinners.
 Dugan and Watson, Benhorne Mill, Clitheroe, waste dealers and cotton breakers-up.
 Tatham and Co., Nottingham and Ilkeston, lace manufacturers; as regards Edmund Tatham.
 Bancroft and Horsfall, Halifax, mechanical engineers and draughtsmen.
 Dodson and Kenyon, Bridge Bobbin Works, Honley, near Huddersfield, bobbin manufacturers.
 Kaye and Barnfather, Prickleden Mills, Holmfirth, woollen cloth manufacturers.

Patents.

APPLICATION FOR PATENTS.

The names in italics within parentheses are those of Communicators of Inventions.

Where Complete Specification accompanies Application an asterisk is suffixed.

6TH MAY.
 7539. *JOHN THOMAS ELLIS*, 38, Chancery-lane. Improvements in apparatus for condensing smoke in the furnaces of steam and other boilers.*
 7546. *RICHARD BRAXWOOD LOYND*, 76, Chancery-lane, London. Wilton and Moquette carpets.
 7550. *CHARLES DENTON ABEL*, 28, Southampton-buildings, Chancery-lane, London. Green and violet colouring matters. (*The Actiengesellschaft für Anilin-fabrikation*, Germany.)
 7559. *JOSEPH JAY SCHOLFIELD*, 45, Southampton-buildings, London. Machines for guiding the edges of webs of cloth to cloth finishing machines.*

7TH MAY.
 7585. *ROBERT FERRIDAY SPANGENBERG*, 1, St. James-square, Manchester. Self-feeding apparatus for separating lint from cotton seed.*
 7587. *ADOLF BANG*, 2, East Parade, Leeds, Yorkshire. Azo-colouring matters from diamidodibenzylbenzidine and diamidodibenzyltolidine. (*Messrs. Dahl and Co.*, Prussia.)
 7588. *ADOLF BANG*, 2, East Parade, Leeds, Yorkshire. Paranitrobenzylsulpho acid, and also azo-colouring matters from the amidobenzylsulpho acid, corresponding to this nitric acid. (*Messrs. Dahl and Co.*, Prussia.)
 7591. *WILLIAM WATTIE*, 62, St. Vincent-street, Glasgow. Looms.*
 7618. *HENRY HOLDEN* and *MICHAEL HESSON*, 46, Lincoln's Inn Fields, London. Means for maintaining an uniform tension on a driving band, belt, or cord between a pulley on a fixed or stationary axis and a pulley on an oscillating or pendulous axis, applicable more particularly for use in looms for weaving.

7649. *GEORGE HURST*, 46, Lincoln's Inn Fields, London. Revolving-flat carding engines.
8TH MAY.
 7677. *STEPHEN HULME*, 4, St. Ann's-square, Manchester. Roving frames.
 7680. *JAMES SUTHERLAND*, 47, Lincoln's Inn Fields, London. Calico printing machines.*
 7681. *HENRY ALFRED OLDERSHAW*, 19, Bowling Green-street, Leicester. Sewing machines.* [DATE APPLIED FOR UNDER PATENTS ACT, 1883, S. 103, 18TH MARCH, 1889, BEING DATE OF APPLICATION IN FRANCE.]
 7693. *JOHN WALSH HOWARD*, Town Hall-buildings, Halifax. Shuttle boxes of looms.
 7695. *JOHN ERSKINE*, Town Hall-buildings, Halifax. Machines for hackling flax and other like fibres.
 7704. *GEORGE HURST*, 46, Lincoln's Inn Fields, London. Revolving-flat carding engines.
 7712. *GEORGE GREENWOOD* and *CHARLES HENRY TAYLOR*, 45, Southampton-buildings, London. Machines for scouring and milling cloth.
 7715. *CHARLES FREDERICK HIME* and *JOHN HENRY NODD*, 28, Southampton-buildings, Chancery-lane, London. Waterproofing and preserving textures and other materials.
 7736. *ADOLPHE VICTOR DESHAYES*, 53, Chancery-lane, London. Universal sewing machine.

9TH MAY.
 7751. *ROBERT SCHOFIELD* and *WILLIAM HASLAM*, 4, St. Ann's-square, Manchester. Shuttle guard for looms.
 7753. *WILLIAM GEORGE HANNA*, 24, Wellington-place, Belfast. Connecting the links of chains employed to carry the clips in machines for stentering, breadthening, or finishing cloth.
 7765. *JOHN BUTTERWORTH*, 8, Quality-court, London. Reed arrangement for warping mills or beaming frames.

7779. *JOHN GANTEE*, 55 and 56, Chancery-lane, London. Apparatus for cleansing, disinfecting, and drying carpets, curtains, and other textile fabrics and tissues.

7793. *JOHN LOWMAN*, 34, Southampton-buildings, Chancery-lane, London. Smoothing and facing linoleum and other similar floor-cloth and like materials.

7802. *BENJAMIN WILLCOX*, 47, Lincoln's Inn Fields, London. The manufacture of azo dyes and of materials therefor. (*The Farbenfabriken vorm. Friedrich Bayer and Co.*, Germany.)

10TH MAY.
 7807. *WILLIAM RODGER* and *ROBERT LAING*, New Bridge-street, Manchester. Duplex jacquard machines.

7820. *RICHARD GLEDHILL* and *ROBERT EDWARD FIELD*, Commercial-street, Halifax. Pickers in looms.

7821. *HUGH CROSLAND*, 9, Milton-terrace, Halifax, Yorkshire. An improved method of lifting any single heald in looms for weaving.

7828. *ALEXANDER ANDERSON* and *ROBERT ANDREW FERGUSON POLLOCK*, 62, St. Vincent-street, Glasgow. Sewing machines.

7846. *W. E. HEYS*, 70, Market-street, Manchester. Letting-off motions for looms. (*Antoine Lamouret*, France.)

7857. *OLIVER LEMAY*, 28, Southampton-buildings, Chancery-lane, London. A new colouring matter of the induline series. (*The Farbwerke vorm. Meister, Lucius and Brüning*, Germany.)

11TH MAY.
 7855. *JOHN GARSTANG*, 8, Quality-court, London. Yarn-dressing frames.*

7877. *BARNARD ELLINGER*, 64, Barton Arcade, Manchester. Manufacture of coloured cotton weft pile fabrics.

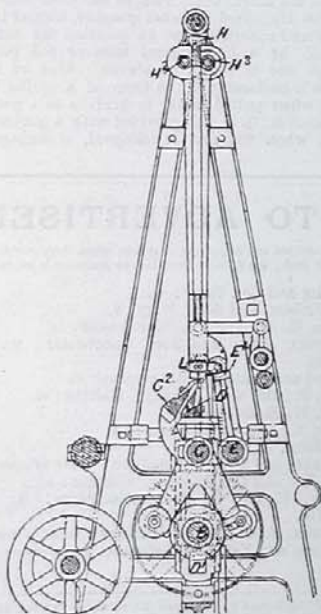
7888. *ROGER TATHAM*, 18, St. Ann's-street, Manchester. Improvements in the "cylinders" "taker-in rollers," "dofters," "breasts," and "fancies," and other rollers of carding-engines for carding cotton, wool, and other fibrous materials.

SPECIFICATIONS PUBLISHED.
 1888.

5954 *CRAWFORD*. Removing lint from cotton seed, &c. 8d.
 7319 *WORSLEY*. Tearing cop waste, &c. 8d.
 8742 *CANNOT (Beraud)*. Utilizing peat-fibre. 1s.3d.
 8773 *HATTERSLEY* and *HILL*. Looms. 11d.
 8944 *JOWETT* and *CAMPBELL*. Packing pile fabrics. 8d.
 9048. *RUSHTON*. Reeling, &c., machines. 8d.
 9426 *LODGE* and *TURNER*. Loom shuttles. 6d.
 9789 *CORRIGAN*. Compressing yarn. 8d.
 11,137 *CLARKE*. Carding engines. 8d.

ABSTRACTS OF SPECIFICATIONS.

17,879. December 29, 1887. **Traversed warp machines.** *J. HANCOCK*, Holmdale, Ilkeston, *J. R. HANCOCK*, Canal-street, Nottingham, and *W. TATHAM*, Belper-street, Ilkeston, Derbyshire.



The needle bar D is mounted on slotted slides D¹ and reciprocated vertically, and the sinker bar C² and presser bar E¹ are oscillated on the shafts C, E respectively, the motion being obtained in each case from cams on the cam-shaft B. The bobbins or cops are carried by hanging bars, which are traversed continuously in opposite directions in double races by means of two screws H¹, H², carried by a T-shaped bar H and rotated in opposite directions. The threads pass through double sleys, carried by each hanging bar, and in contact with two parallel screws, rotated intermittently in opposite directions by a pinion and double rack gearing under the control of cams on the cam-shaft B. The screws are also traversed longitudinally in opposite directions by rocking levers L, acting on their ends. The threads are kept in contact with their respective screws by a rest bar immediately beneath them, carried by brackets from the lower race, and they are transferred from one screw to the other at the ends of the rest bar by a pair of picker plates, operated by a rocking lever from the cam-shaft. The bar H, races hanging bars, and thread-traversing screws are also rocked to lay the threads on the needles by means of levers from the cam-shaft. [1s. 7d.]

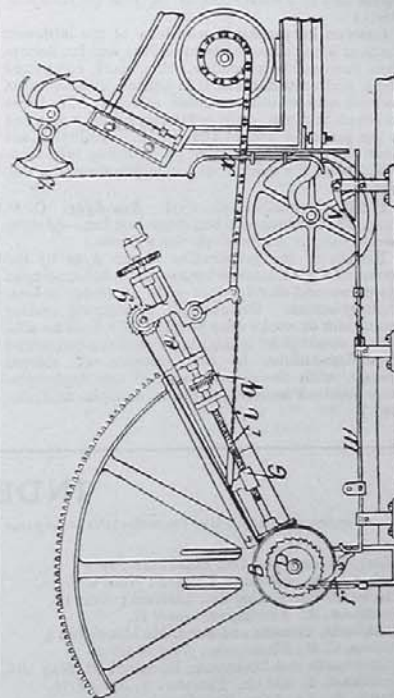
17,884. December 29, 1887. **Sewing-machine shuttles.** *A. ANDERSON*, Kilbowie, Dumbartonshire.—(*The Singer Manufacturing Co.*; New York, U.S.A.)

An oscillating or rotary shuttle is made up of a segmental body and a cylindrical bobbin case pivoted or sprung into it. The rear end of the case is open, so that when removed from the body a bobbin may be introduced, and the front end tapers to spread the needle-loops. [8½d.]

17,887. December 29, 1887. **Circular knitting machines.** *C. DE NEGRI*, 68, S'amford-street, Blackfriars, Surrey.

In the ribbing cam cap the out-throw cam is formed by three linked segments, fitting around the raised part. The segment first is pivoted to the cam-plate, and the third segment carries a screw, which passes through a slot in the cam-plate, and is traversed in it for putting the segments in and out of action by a ring fitting around the boss on the top of the cam-plate. [8½d.]

17,895. December 29, 1887. **Spinning mules.** *J. JONG*, Cormimont, Vosges, France.

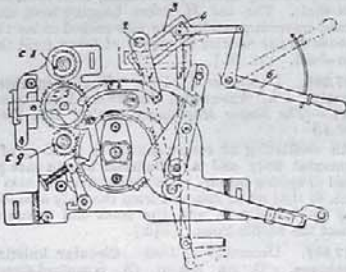


Winding-on.—The pawl r of the ratchet wheel D through which the quadrant nut G is operated is normally held in position by a spring rod u itself held in the position shown, against the force of the spring by a catch v. When the yarn becomes too slack, however, a vertical rod x, hung from a quadrant s on the counter faller shaft, liberates the catch v and renders the apparatus inoperative. The rod carrying the quadrant nut is formed in two parts i, e coupled together by a pin g, and the part e is con-

nected by spur gearing with a handle, and by a worm with an indicator wheel *g* the shaft of which is connected with the shaft of the wheel D by a belt which is kept stretched over its pulleys by a weighted cord or belt. When the cop-bottom is finished, the two rods *i, e* are uncoupled by removing the pin *q* and the ratchet wheel B is moved back one or two teeth. The apparatus is then again set in motion and continues thus until the completion of the cop. [84d.]

17,910. December 30, 1887. **Loom Picking motions.** E. BNOOK, Rashcliffe Ironworks, Huddersfield.

Relates to improvements in apparatus described in Specifications, No. 3,655, A.D. 1883, and No. 4,051, A.D. 1887, in which toothed crank wheels are put by jacquard mechanism into gear with one or other of two oppositely driven broad toothed wheels *c₁, c₂*, for the purpose of operating the shuttle boxes. An additional toothed crank wheel *c₃* is provided for



regulating the picking motion, such wheel being connected by a rod *c₃* with a lever 1 on a rock-shaft 2. This shaft carries a lever 3 with an adjustable block 4 connected by a rod 5, etc., with the picking tappets, grates, or catches. By means of a hand-lever 6 the block 4 may be shifted along the lever 3 to put the picking mechanism at each side of the loom out of action. [84d.]

17,925. December 30, 1887. **Black liquids for dyeing, printing, painting, varnishing, &c.** L. A. GROTH, 5, Crosby Hall Chambers, London.—(C. Collin and L. Errani; both of 15, Rue Quincampoix, Paris.)

Consists in preparing solutions of the different kinds of black obtained from aniline and its derivatives, such as black aniline, blue black, compound black, and unitarian black, in aniline, nitrobenzene, carbolic acid or other similar solvents. To these solutions bitumen, resin or fats are added according to the proposed use of the liquid. Examples are given of the composition of printing ink, anti-septic black for leather, and indelible stamping ink. [64d.]

17,952. December 30, 1887. **Azo dyes.** C. D. ABEL, 28, Southampton Buildings, London.—(Actien-gesellschaft für Anilinfabrikation; Berlin.)

Relates to the preparation of azo dyes by the action of asymmetrical binitro-diazo benzene upon the mono- and di-sulphonic acids of alpha- or beta-naphthylamine. For example, a colouring matter dyeing silk or wool a deep purple shade from an acid bath is obtained by combining the diazo-compound of dinitro-aniline, in the presence of sodium acetate, with the disulpho acid of beta-naphthylamine obtained from beta-naphthol disulpho acid, etc. [64d.]

17,955. December 30, 1887. **Circular knitting machines.** E. W. LEE and G. E. BURNHAM, Wigston Magna, Leicestershire.

The ribbing post is carried by a sliding bar which is held in position by the catch-plate. [84d.]

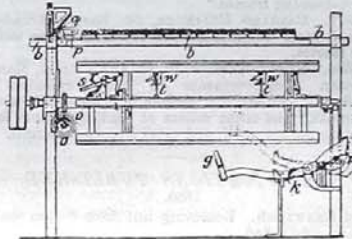
17,959. December 30, 1887. **Circular knitting machines.** E. W. LEE, Wigston Magna, Leicestershire.

Tension is applied periodically to the thread by an arm of a vertically sliding plate, operated by a cam ring. The splicing attachment which is operated by the same cam ring consists of a spring rod with an eye formed near the top, the thread being gripped between the head and the top of a tube. The thread also passes through an eye which is formed in two parts held together by a spring, and thence to the eye of the thread carrier. Instead of a clasp ring, a complete band is provided, toothed internally to correspond with the grooves of the needle cylinder and shogged to release the needles. [84d.]

17,977. December 31, 1887. **Mangling, calendering or finishing fabrics.** W. ROBERTSON and J. G. ORCHAR, Wallace Foundry, Dundee.

Pressure is applied to the bearings of the top roller by means of screwed adjusting spindles passing through swiveling pins on the outer ends of the double levers, which are pivoted at to the frame, and are operated at their inner ends by links from the ram of the hydraulic cylinder. [84d.]

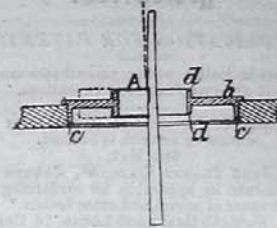
17,978. December 31, 1887. **Reeling Machines.** J. CORRIGAN, 11, Grafton-street, Chorlton-on-Medlock.



The reel shaft is supported during doffing by a claw *g* upon the end of a lever *e*, the required throw of the latter being obtained by means of a lever *h*, the end *k¹* of which is actuated by the usual "swing-gate motion." Or the fulcrum of the lever *e* may be carried by the lever *k*, the lever *e* engaging with the framework by means of a pin and slot arrangement. The shaft may be provided with a protecting collar if desired. To facilitate the reading of the indicating apparatus the dial *o* is provided with an adjustable index finger. The guide rail *b* is steadied during the traverse by means of a finger *q* which slides in a slot in the bracket *p* fixed inside the frame. A shield *r* is fixed on the handle *s* of the "drop motion fork" to prevent injury to the hand of the attendant. Two of the loose staves of the swift are joined by cross pieces *t*, hinged in the middle and normally kept in position by catches operated by a longitudinal wire or rod passing through one of the fixed staves. One of these catches is preferably in the form of a spring lever which, when pulled back, is held in this position by a bracket; it is also provided with a projection, which, when the reel is collapsed, is engaged by

the hinged cross piece, releasing the catch from the bracket and allowing it to take beneath the hinged crosspiece when the reel is again opened out. When "drop staves" are employed the hinged crosspieces are kept in position by hooks *u*. Other means may, however, be employed for holding these cross pieces in position. To prevent the loose staves from changing their position with regard to the fixed staves two of them may be provided with projections, which abut against one of the arms of the fixed stave. When a doffing wheel is employed, it is provided with a lubricating channel around the inside of the boss at the end of which is a cap to prevent the lubricant from escaping. [114d.]

17,995. December 31, 1887. **Ring and traveller spindles.** R. and P. EADIE, Victoria Buildings, Manchester, and J. S. EADIE, 13, High-street, Paisley.

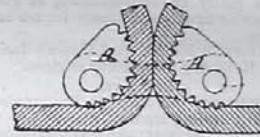


In order that the traveller A may be moved radially between the inner circumference of the ring and the spindle, it is made in the form shown in the drawing, and takes over the vertical flanges *d* formed with or secured to the plate *b* fixed by the flange *c* in the ring rail. The traveller is shown in its extreme positions. [84d.]

18,016. December 31, 1887. **Fancy pile fabrics.** G. CHWALLA, Vienna, Austria.

Patterns are produced on pile fabrics by plucking out by means of cards, emery rollers, or scrapers, acting against the back of the fabric, the pile threads from certain portions of the fabric, or by cutting the pile in certain portions only. The pile threads which are to remain are first cemented together by coating the fabric on either side with cement and impressing it by means of engraved rollers or plates. In the case of plucking, the uncemented fabric may be acted on by the cards, emery rollers, etc., whilst passing over an embossed roller. [64d. Drawings to specification.]

18,038. 1887. [Date given under Sec. 103 of the Patents, &c., Act, 1889, October 26, 1887.] **Strap-coupling.** H. UHLENHUTH, La Fleche Sarthe, France.



Consists of two eccentrics A, A, coupled by one or more links, which grip the strap ends as shown. Applicable to driving bands, ropes used in mining, harness straps, etc. [84d.]

INDEX TO ADVERTISEMENTS.

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