Walker. The first subscribers are :— Shares.
J. F. Pollard, Bramley 1
H. Pollard, Bramley 1
Mrs. Walker, Regent House, Headingley 1
Miss J. H. H. Walker, Regent House, Headingley 1
J. H. Walker, Regent House, Headingley .. 1
H. Denison, 12, East-parade, Leeds 1
P. Bates, 35, Temple-row, Birmingham 1

The first directors are J. H. Walker, J. F. Pollard, H. Pollard, J. W. Walker, 10, Stoplands-road, Broad Green, Liverpool; and E. B. Helroyd, Gillot-road, Birmingham. J. H. Walker is appointed managing director, with a remuneration of £500.

RHENISH COTTON SPINNING MILLS, LIMITED.

Registered by Rooke and Co., 16, King-street, Cheapside, with a capital of £80,000 in £5 shares. Objec,t to acquire certain land at Munchen Gladbach, Germany, suitable for the erection of cotton spinning mills and for general building purposes; to carry on business as cotton spinners and doublers, flax, hemp, and jute spinners &c. The first subscribers are :— Shares.

J. R. Winstone, 2, Stirling-terrace, Walthamstow 1
W. H. Martin, 23, Berners-street, W. 1
G. J. Philp, 23, Trafalgar-square, Peckham .. 1
H. Werths, 31, Avon-rood, Highbury 1
H. F. Morgan, Elms-road, Clapham-park 1
C. A. Swan, 7, Linscott-road, Clapton..... 1
S. Wales, 16, King-street, Cheapside..... 1

There shall not be less than five nor more than ten directors; the first to be appointed by the subscribers to the memorandum of association. Qualification, £100. Remuneration: Chairman, £250; other directors, £150 each.

Patents.

SPECIFICATIONS PUBLISHED.

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

Where Complete Specification accompanies Application an asterisk is suffixed.

1889.

20,594. SMYTH and MIDDLETON. Looms. 6d.

1890.

335. HITCHON. Winding, etc., yarns on flanged beams. 8d.
1,372. APSEY. Printing by blocks on linoleum, etc., 1s. 1d.
1,652. BARNETT. Cleaning and extracting oil from cotton waste, etc. 8d.
1,664. AINSWORTH. Self-acting mules and twiners. 8d.
1,680. ROBINSON. Roving frames for flax, etc. 6d.
1,811. HOLLIDAY. Colouring matters. 4d.
1,812. HOLLIDAY. Colouring matters and dyeing wool, etc. 4d.
1,813. HOLLIDAY. Dyeing textile fibres. 4d.
1,864. BOOTH. Knitted loop or pile fabrics. 8d.
12,229. O'BRIEN. Cotton seed linters. 8d.
15,872. FRIEDEN and KRESZNER. Warp knitting machines. 6d.
16,007. FICKER and HENTSCHEL. Circular knitting frames. 8d.
16,195. BLACKIE and NISBET. Sheep-shearing machines. 6d.
17,404. BOWKER. Looms. 6d.
17,872. SALZMANN. Producing dyed cotton yarns. 4d.
19,992. PEARSON and TAYLOR. Figured cloth. 1s. 3d.

1890.

569. KERN and SANDOZ. Blue colouring matters. 6d.
574. GARNISS. Roving, slubbing, etc., frames. 6d.
1,607. SMITH, J. and ors. Mordanting and dyeing wool, etc. 8d.
1,874. IMRAY (*La Société Anonyme des Matieres Colorantes de St. Dennis and anr.*) Colouring matters. 4d.
2,072. HARDAKER. Looms. 4d.
2,086. HEARTH and ors. Circular knitting machines. 8d.
2,088. HEARTH and ors. Straight bar knitting frames. 8d.
2,096. REID and ors. Lacing, etc, jacquard cards. 8d.
2,183. MONIE and RUTNAGUR. Carding engines. 8d.
2,411. INGHAM. Dyeing cotton. 4d.
2,529. WHITLEY. Clips for stretching woven fabrics. 8d.
2,597. BROADHURST. "Dhootie" weaving. 8d.
15,835. STUART. Fishing, etc., nets. 8d.
16,325. THOMPSON (*McKenney*). Lacing cords. 6d.
16,870. SAUPE. Figured pile fabrics. 8d.
17,056. ADAMS. Cord and braid machine. 6d.
18,083. KOLB. Spinning frames. 6d.
18,188. LAKE (*Hebard*). Fishing nets. 8d.

AMENDED SPECIFICATIONS.

1886.

4,420.* ROTHWELL, A. and C. H. Weaving reversible fabrics. 6d.

1884.

17,083.* SMITH and NICOLLE. Bleaching vegetable fibres. 6d.

SECOND EDITION.

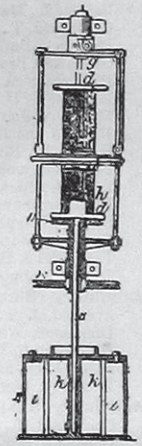
1889.

13,082. SCHOTT. Cut pile fabrics. 8d.

ABSTRACTS OF SPECIFICATIONS.

11,917. July 26, 1889. **Spinning.** A. V. NEWTON, 6, Bream's Buildings, Middlesex.—(*J. Good, Brooklyn, New York, U.S.A.*)

Flyer Spindles. — The invention is specially applicable to flyer spindles for spinning rope yarn. The flyer A is driven in the ordinary manner by a band and wharve E, and the bobbin by the drag on the yarn. To obtain a sufficient and uniform drag the bobbin is connected to the spindle B, so as to rotate with it, and the lower end of the spindle B carries a number of vanes *k*, which take into a vessel F containing liquid, and having vanes *l* projecting from its inner surface. The journals *d*, on the ends of the bobbins, take respectively into a bearing in the flanged head D of the spindle B, and into a loose socket *e*, which may be raised against the action of a spring *g* to facilitate the fixing and removal of the bobbin. The spindle and bobbin are connected together by a pin *h* on the plate D, taking into a hole in the lower head of the bobbin. 8½d.



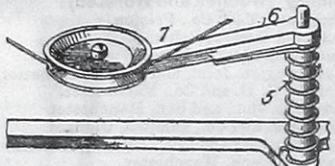
12,031. July 29, 1889. **Dyeing compounds.** O. IMRAY, 28, Southampton Buildings, London. — (*The Farbwerke vorm. Meister, Lucius and Bruning, Germany.*)

Relates to compounds for producing azo-colouring matters directly upon the fibre. Consists in making mixtures in the form of a paste in molecular proportions of a nitrate and amidoazobenzol, amidoazo-toluol, amidoazoxylol, metanitraniline, paranitraniline, or metanitrotoludine. 6½d.

12,050. July 30, 1889. **Calendering rolls.** W. P. THOMPSON, 6. Lord-street, Liverpool.—(*Granger Foundry Company, Providence, Rhode Island, U.S.A.*)

For calendering muslin, print cloths, etc., the rolls are formed of cotton and corn husks, which are compressed together upon a head by a hydraulic press. They are afterwards turned and finished in a lathe. 8½d. *Drawings.*

12,051. July 30, 1889. **Spinning.** W. P. THOMPSON, 6, Lord-street, Liverpool.—(*Ranken and McDonald Spinning Company, Springfield, Massachusetts, U.S.A.*)



Driving Spindles.—A tension regulating device for the driving band, consisting of a loose pulley 7, carried by a spring arm 6, and engaging with a slack portion of the band, which extends between the two end wharves of the series and beneath the other portion of the band. The arm 6 is preferably carried by a sleeve 5, and operated by a spiral spring. 8½d.

12,078. July 30, 1889. **Knitting machines.** G. STIBBE, 25, Jamacia-street, Glasgow.—(*E. Dubied and Company, Couvet, Switzerland.*)

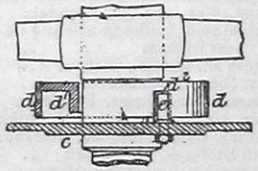
Latch-openers, formed of brushes, are used instead of, or together with, ordinary latch-openers. 6½d. *Drawings.*

12,079. July 30, 1889. **Loom.** J. W. GREEN, Junior, and G. C. MOORE, both of Easthampton, Massachusetts, U.S.A.

A loom for narrow fabrics, and particularly for elastic goring for gaiters or boots, is described. 1s. 4d. *Drawings.*

12,131. July 31, 1889. **Spinning.** W. RHODES, Tetchen-on-Elbe, Bohemia, Austria.

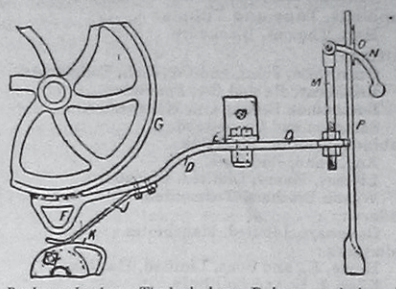
Scutchers, etc.—In order to prevent the raising of the beater cover during the operation of the machine the end *c* of the cover is provided with a stud *e* which, when the cover is in position, takes into an annular groove *d*1 in the pulley *d* on the beater shaft. The flange of the pulley is slotted at *d*2 for the passage of the stud, when the cover is raised or lowered. 6½d.



12,159. July 31, 1889. **Knitting.** J. HEARTH, W. HEARTH, and W. H. WILLIS, Church Gate, Leicester.

Circular machines.—Ribbed stockings and other articles are thickened by making tuck stitches on alternate machine or frame needles in alternate courses. For this purpose alternate jacks are notched in different planes, to engage with cams connected to horizontal levers, which are oscillated by stops or cam-plates. Several plain courses may be knitted between the tuck courses to serve the purpose of a garter. 8½d. *Drawings.*

12,208. August 1, 1889. **Looms.** H. RATCLIFFE, 3, Bedford-square, Leigh, near Manchester, and P. RATCLIFFE, 41, Bedford-square, Leigh.



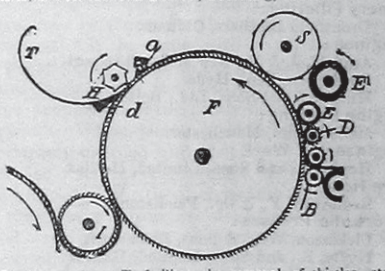
Brake mechanism.—The brake lever D is operated through link and lever connections M, N from the spring handle P, and turns on a stud E into a position beneath the brake-wheel G. A cam K acts on a spring or adjustable arm J and presses the shoe F against the brake-wheel, and then releases the lever, so that the loom may be worked by hand. The cam K is adjustable on the tappet shaft, as described in the next paragraph. A piece O is formed with an angled slot, in the horizontal part of which the lever N may be placed to move the shoe F clear of the brake-wheel; the lever falls into the vertical part when the loom is started.

Cam.—The cam proper is mounted adjustably on a disc on the cam shaft by means of nuts and bolts passing through slots in the cam. The cam and disc may be serrated to prevent slipping 8½d.

12,222. August 1, 1889. **Looms.** K. KOTTMANN, Lauboentoe, East Coast of Sumatra.

A loom is described for weaving together, at one end, bundles of straw or long grass to form mats for roofing houses and barns. The attendants, from suitable seats, feed the bundles into cells formed in a rotating drum, from which they are delivered, in succession, to a hopper leading to the "shuttle" or carrier. The latter is of special form, and is moved through the shed by a cam-worked lever, the tip of the bundle being then held by a pressing hammer on a bed fixed to the framing. The lay and certain "thrower-out" levers then beat up the bundle, a table supporting the part projecting from the loom. The lay consists of two feet mounted on an axle, and continued to form a reed, which is formed with three slots for the warp cords. The latter are let off from braked warp beams, and are shed by healds consisting of a framework of beams carrying eyed rods for the warp threads; the healds are moved vertically in guides by cam-worked levers, and are coupled by cords to ensure positive action. Other details are described. 1s. 4d. *Drawings.*

12,246. August 1, 1889. **Spinning.** A. RIVRET, Roubaix, France, and H. HONORE-COLSON, Tourcoing, France.



Carding engines.—To facilitate the removal of thistles, etc., from wool, a reciprocating comb or a series of combs fixed upon a revolving drum S are mounted above the cylinder F, the fibre and thistles being removed from the combs by a brush E1, and the fibre returned again to the cylinder by the rollers E D. Immediately in front of the heaters H usually employed for removing thistles, etc., is fixed a brush *a* by which the fibres are pressed into the teeth of the cylinder, F, leaving the thistles, etc. exposed on the surface to be removed by the blade *d*. The fibre is transferred from the cylinder F to the main cylinder of the carding engine by the roller I. 8½d.

12,265. August 2, 1889. **Looms.** C. THOMPSON, Otley-road, Baildon, near Bradford,

Shuttle guard.—A bar of wood 2, of triangle-section, is hinged at its ends to the hand-rail 1, and to it are attached cords 3, 6, 10, 11, passing round guide-pulleys, 5, 7, and a pulley 12 on a bracket 13. The cords are operated by a lever 14 from another lever connected with starting handle, so that the guard is held up out of the way, as shewn, or is brought down into working position. In some cases the guard may be moved one way by a spring. A modification is described, in which the guard is hinged so as to move with a parallel motion to and from the hand-rail.

Warp beams, attaching threads to.—The warp beam rod is held in the looped ends of two metal strips, which are fixed to and wound round the beams.

Brake mechanism.—The Provisional Specification describes arrangements for easing the strain on the brake mechanism of Specification No. 3,249, A.D. 1882. 1s.