RECEIVING ORDERS.

Joseph Hardy, Broadway, Tomingham, lace manufacturer; Nottingham.

Henry Martin, Keighley-road, Laneshaw Bridge, Colne, cotton waste bleacher: Burnley.

Henry Blackburn, Providence Mill, Milnrow, flannel manufacturer; Oldham.

William Hardwick and Henry Hardwick, Market-street, Mill, Keighley, worsted spinners; Bradford.

NOTICES OF DIVIDENDS.

Alfred Greenwood, Woodville, Sowerby Bridge, near Halifax, Yorkshire, and Josiah Crowther, Tuel Lane, Sowerby Bridge (trading as Greenwood and Crowther), Sowerby Bridge Mills, Sowerby Bridge, and Mixenden Woollen Mills, Mixenden, near Halifax, woollen manufacturers, 1s. 1½d. (3s. 1½d. on new proofs) second and final.

Herbert Marriott, Hillside, Brownhill, Yorkshire, manufacturer and commission weaver, 3s. first.

PARTNERSHIPS DISSOLVED.

H. N. Kulp and Son, St. Mary's Place, Nottingham, merchants.

Chew, Mills, Emery, and Company, Keynsham, Somerset, emery and glass cloth manufacturers.

Hodgkinson and Arnold, Manchester, merchants, by death of Robert Hodgkinson.

Templeton and Crabtree, Heckmondwike, carpet manufacturers.

Dunnill and Craig, Springfield Lane, Salford, and Kennedy-street, Manchester, bleachers and dyers.

WINDING-UP NOTICE.

The Severn Tweed Company, London.

SCOTCH SEQUESTRATION.

R. Edmond and Sons, finishers, 9, South Bridge-street, Paisley.

Patents.

APPLICATIONS FOR PATENTS.

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

Where Complete Specification accompanies Application an asterisk is suffixed.

5TH MAY.

6,903. J. A. London, 116, Sandyford-street, Newcastle-on-Tyne. Opening-out, teasing, or fibreing peat or other fibres.

6,908. F. Scholes and T. Walkden, 4, St. Ann's-square, Manchester. Shuttlebox motion of looms.

6,931 and 6,932. C. D. Abel, 28, Southampton-buildings, London. Colouring matters.

6,946. S. Pitt, 24, Southampton-buildings, W.C. New basic blue colouring matters. (*L. Cassella and Co.*, Germany.)

6,956. T. M. Pullen, Diss, Norfolk. Machines for manufacture of piled fabrics.

6,981. J. Bridge, Paradise Works, Accrington. Drying textile fabrics with one side of the fabric only coming in contact with the cylinders.

6,982. F. Fleming, Central-chambers, Halifax. Teeth or dents of cards for carding fibres.

7,018. W. Cole, 4, South-street, Finsbury, London. Indigo.

7,024. A. J. Boult, 323, High Holborn, Middlesex. Improved process for making paper, linen, etc., impervious to water. (*D. Macdonald and W. T. Tassie*, Canada.)*

7,029. W. P. Thompson, 6, Lord-street, Liverpool. Tension devices for spinning machinery. (*C. W. Jones*, United States.)*

7,031. R. Weiss, 323, High Holborn. Embroidery machines.

7,049. C. Schuldes, 45, Southampton-buildings, London. Leaf-adjusting device for use in looms.

7,051. H. B. Morris, 24, Southampton-buildings, London. Looms.*

7,052. T. Kiddier, J. Kiddier, and J. W. Kiddier, 24, Southampton-buildings, London. Warp knitting machines.

7,054. R. N. Havers, G. W. Harwin, and L. R. Havers, 24, Southampton-buildings, London. Ornamental or embroidered fabrics.

7TH MAY.

7,088. H. Lees, 8 Quality-court, London. Self-acting feeds for woollen and other fibres.

7,095. W. Westley, 46, Lincoln's Inn, Fields, W.C. Self-contained spindle apparatus of ring spinning and doubling machines.

7,100. I. S. Lodge, and G. Littlewood, 45, Southampton-buildings, W.C. Preventing breakages of picking sticks in looms.

8TH MAY.

7,147. W. Bradbury, 1, Church-terrace, Oldham, Quadrant for self-acting mules.

7,154. J. Wilkinson and T. Wilkinson, 20, Charles-street, Bradford. Jacquard mechanism for looms.

7,198. W. H. Spencer, 53, Chancery-lane, London. Bleaching textile fibres.

7,202. P. Cavailles, 45, Southampton-buildings, London. Process for dyeing wool, and apparatus therefor.

9TH MAY.

7,214. T. Popplewell, High-street, Batley. Rag-breaking machines.

10TH MAY.

7,261. G. N. Milward, Tintern, Cavendish-road, Dudley-road, Birmingham. Compressed wool or felt table mats.

7,274. A. Rivret and H. H. Colson, 115, Cannon-street, London. Carding machines.

7,279. J. W. Shorrock, J. K. Hacking and J. Feilden, 8, Quality-court, London. Looms.

7,310. E. Kaiser, 55, Chancery-lane, London. A hand apparatus for printing or marking designs, patterns, or devices upon fabrics, etc.

7,324. T. Rivett, 18 St. Ann's-street, Manchester. Winding yarns or threads upon spindles, tubes, or bobbins, for gassing or other purposes.

SPECIFICATIONS PUBLISHED.

1889.

6,519. Thompson (*Mahr*). Looms. 6d.

8,107. Schevelin and Mindovsky. Cleaning fibrous substances, etc. 8d.

8,427. Johnson (*The Badische Anilin and Soda Fabrik*). Colouring matter. 4d.

9,566. Pierrard and Pierrard. Combing machines. 11d.

9,836. Heys (*Vandermeirssche*). Dyeing yarns, etc. 8d.

9,883. Wootton. Darning machines. 8d.

9,889. Sunderland and others. Warp balling machines. 8d.

9,957. Hacking. Looms. 11d.

13,755. Walker and Stephenson. Combing machines. 6d.

1890.

3,018. Howard and Geddes. Cutting wool, etc. 8d.

3,095. Leigh (*Williams*). Colouring matters. 6d.

3,668. Foulds. Looms. 6d.

3,686. Lee. Patterns for fabrics. 6d.

4,048. Clegg. Mules and twiners. 6d.

Amended Specification.

1888.

5,394 Mewburn (*La Societie Grosselin pere et fils*). Gig mills. 8d.

Reprints (with alterations).

1888.

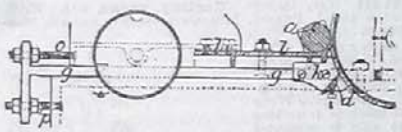
7,969. Johnson. Rotary knitting machines. 11d.

1889.

8,911. Edge. Parcelling colours. 6d.

ABSTRACTS OF SPECIFICATIONS.

16,009. Nov. 6, 1888. **Carding-engines.** J. Thompson and T. Barker, Phœnix Works, Manchester.



The pedestals of the taker-in roller and the knife-brackets *k* are mounted on a slide *g*, operated by a screw *p*, and the feed roller *c* is mounted upon another slide *l*, carried by the first one and operated by the screw *o*. The knives *d* are pivoted on the brackets, and their inclination can be adjusted by means of set screws. The taker-in roller, the feed roller, and the knives *d* can each be adjusted independently, and the whole arrangement can be adjusted with regard to the main cylinder without disturbing the adjustment of the separate parts. [6½d.]

16,010. Nov. 6, 1888. **Looms.** J. F. Ashton, 18, Heywood Grove, Broaklands, Cheshire.

Smallwares loom picking mechanism.—To prevent the pins of the shuttle driving-bar from working loose, they are formed with collars or other projections, and are held in position by a plate or plates secured to the bar. In some cases a space may be left between the plates and the bar, and extra plates added at or near the tops of the pins. [6½d. *Drawings.*]

16,020. Nov. 6, 1888. **Grooving bobbin-carriages for lace-machines.** W. Walker, Scotholme Works, Hyson Green, Nottingham.

The invention is specially applicable for grooving carriages of the kind described in Specification No. 6,763, A.D. 1888. The carriage is fixed upon a movable bed, which is guided by pins sliding in cam grooves. For forming the central part of the groove, the tool-box is partially rotated by a stud upon it engaging with a cam-piece. [6½d. *Drawings.*]

16,038. Nov. 6, 1888. **Dyeing, bleaching, finishing, etc.** W. Bradbury, 44, Cross Bank-street, Oldham, and J. Beason, Hollinwood, Lancashire.

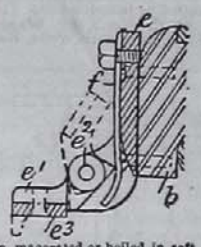
Relates to self-acting stopping motions for bleaching, dyeing, washing, finishing, and analogous machines for the treatment of yarns or fabrics in rope form. Consists in employing two stationary eyes and a third eye, or a slide lever or other equivalent carried with or without a link from a lever fixed to a shaft. On the other side of the shaft is fixed a lever connected by a rod, lever, shaft, bevel wheels, and another shaft and rod, with a friction or other suitable clutch devise on the driving shaft. When the speed of supply of the fabric or yarn begins to diminish in consequence of a knot or entanglement, the eye is moved by the straightening of the loop, and operates the clutch so as to stop the machine. [8½d. *Drawings.*]

16,056. Nov. 6, 1888. **Air, separating dust from.** W. H. Turner, Chell Lodge, Tunstall, Staffordshire.

In order to prevent operatives inhaling dust, etc., where the machine cannot be enclosed in a box, as in the case of a loom, air jets are arranged near the operative to blow any dust that may arise from the dress in the yarn into a box connected with an exhaust pipe at the back of the loom. [6½d. *No Drawings.*]

16,058. Nov. 6, 1888. **Looms.** C. Shepherd and G. H Pilling, Holmes Mill, Bacup.

Shuttle guard.—The guard consists of a bar e_3 carried by parts e_1, which are pivoted at e_2 to brackets *e* on the hand-rail *b*. The guard is held in position by flat springs *f*, but may be turned up out of the way as shown by dotted lines. When the loom is started, the guard turns down into working position. [6½d.]



16,081. Nov. 6, 1888. **Spinning.** S. S. Boyce, 280, Broadway, and P. B. Steele, 940, Resident-street, New York, U.S.A.

Processes.—The material is preferably first crushed and then macerated or boiled in soft water, after which it is rinsed and squeezed. It is next boiled in a greasy or soapy solution, and when washed and dried the fibres are loosened by being passed between plain or fluted rollers. [6½d. *No Drawings.*]

16,101. Nov. 7, 1888. **Looms.** A. Sowden, Spring Field House, Baildon, Yorkshire.

Dobbies.—The jack-levers pass between a series of guide-plates adjustably mounted on screw-bolts, which pass from side to side of the dobby or lever-frame. [6½d. *Drawings.*]

16,115. Nov. 7, 1888. **Spinning, etc.** H. Priestman, Ashfield Mills, Bradford.

The spindles are mounted so as to point towards the nip of the rollers, in order to increase the length of yarn along which the twist is distributed. [8½d. *Drawings to Specification.*]

16,133. Nov. 7, 1888. **Colouring matters.** H. H. Leigh, 22, Southampton Buildings, London.—(*E. G. Williams; Albany, New York, U.S.A.*)

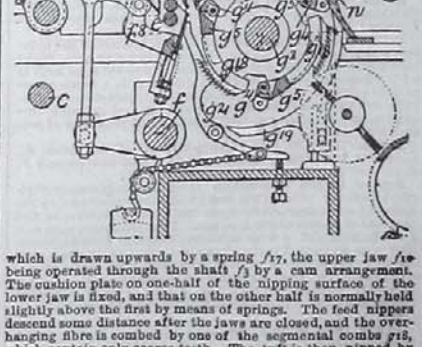
Relates to the preparation of azo colouring matters which are insoluble in dilute acids, but soluble in alkalies or strong sulphuric acid, and dye unmordanted cotton in an alkaline or soap bath. Consists in combining the tetrazo compound of benzidine, tolidine, stilbene, fluorene, or naphthalene with naphthylamine, or one of the known sulpho acids thereof, in the proportion of equal molecules, and in combining this product with a molecular proportion of orcin or its sulpho acids. The colouring matter from benzidine, beta-naphthylamine-monosulphonic acid and orcin, dyes unmordanted cotton bright red, fast to washing. When tolidine is substituted for benzidine the shade is bluer, and Casella's naphthionic acid F, instead of the sulphonic acid above mentioned, yields a still bluer shade. [6½d.]

16,240. Nov. 9, 1888. **Finishing fabrics.** A. W. Kirk, Old-lane Dye Works, and T. W. Stead, Waterside, both in Halifax.

In crabbing, wet-finishing, and like machines for wet-finishing dyed or undyed fabrics, one of the pressing rollers is made hollow and is heated by gas, steam, or other means. [6½d. *Drawings to Specification.*]

16,241. Nov. 9, 1888. **Combing machines.** C. Lever, 40, Brazennose-street, Manchester.—(*H. Lever and R. Redford; Methuen, Massachusetts, U.S.A.*)

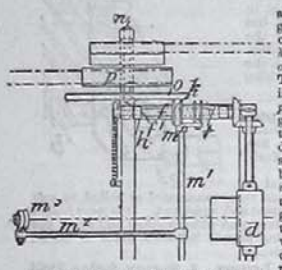
"Heilmann" and like.—The machine is made wide enough for two laps, the material from which passes down the back tin e_{10}, and through the feed rollers *e* into and through the feed nipper, the lower jaw of which is carried by a frame f_3,



which is drawn upwards by a spring f_{17}, the upper jaw f_{16} being operated through the shaft f_3 by a cam arrangement. The cushion plate on one-half of the nipping surface of the lower jaw is fixed, and that on the other half is normally held slightly above the first by means of springs. The feed nippers descend some distance after the jaws are closed, and the overhanging fibre is combed by one of the segmental combs g_{18}, which contain only coarse teeth. The tuft is then nipped by one of the three rotating nippers, and is drawn through the teeth of the top comb c_1, which has been moved downwards for this purpose, the feed rollers having made a slight turn so as to allow a little more fibre to be drawn through. The segmental combs g_{18} project slightly beyond the rotary nippers, and both are mounted on the same shaft g_2. The nippers consist of fixed jaws g_5 and movable jaws g_4, which are operated by means of levers pivoted on the fixed jaws, and themselves actuated by cam surfaces g_{19}, g_{21}, and, when the nipper approaches to the delivery table *n*, by a cam at the upper

part of the circle; the part g_{21} is held in position by means of a weighted chain. When the segmental comb immediately preceding the charged nipper has passed the delivery table n, the delivery plate m_{15} is lifted by means of a lever m_{10}, which actuates the tail piece m_{14} and is itself operated by a stud on the rocking shaft i_1. The plate m_{15} is then caused, by the rocking of the sleeve m_7, with which the bracket m_{16} is connected, to sweep back and press the fibres into an adjustable fine comb, mounted so as to slide on the back of the fixed jaw, and moved forward at the proper time by rotary brushes on the shaft g_{16}. As the fine comb advances it causes the fibres to lean forward over the edge of the table n; then the nipper opens, and the detainer plate m_{15} descends on to the fibres and slides them over the face of the table, drawing that end of the tuft which has been combed only by the coarse teeth of one of the segmental combs to be drawn through the fine comb. The delivery rollers at the same time draw up the slack. The different parts are operated from the main driving shaft C by suitable gearing. [1s. 2d.]

16,475. Nov. 8, 1888. **Warp balling machines.** J. H. Stott, Baron-street Works, Rochdale.



The delivery rollers d are driven through bevel gearing from a shaft f carrying a friction roller k in contact with a disc o on a driving shaft n. The balling mechanism is driven from a pulley p. The roller k is shifted gradually on its shaft as the ball increases in diameter, or as the tension of the yarn varies, by a lever m on a shaft m_{11}, the latter carrying an arm m_2 through a guide eye m_3, on which the yarn passes on its way to the balling mechanism. The latter is provided with a clutch to admit of reversing the motion of the flyer. In a modification, the rollers d are driven uniformly, whilst the balling mechanism is driven at a gradually decreasing speed to compensate for the increasing diameter of the yarn being wound. The parts may be modified. Special guides are described for conducting the warp from section blocks to the delivery rollers. [8½d.]

16,187. Nov. 8, 1888. [Date given under Sec. 103 of the Patents, etc., Act, 1883. April 9, 1888.] **Rugs or mats.** J. Davidson, Pine-street, Mount Holly, New Jersey, U.S.A.

Relates to "cocoa" mats having a central fibrous portion and an ornamental border of wool or other material. A backing warp and weft are employed, combined with a fine warp, for securing a coloured chenille weft for forming the ornamental border. The centre is formed in the ordinary manner. [6½d. *Drawings.*]

16,300. Nov. 10, 1888. **Knitting.** J. Spencer, 85, King Richard's-road, Leicester.

Straight-bar machines.—When making tuck-work, the knocking-over bar has an increased movement given to it in order to knock over effectually the accumulated loops on the needles. This is done automatically by a pattern wheel, which acts upon levers to shift longitudinally the shaft, and through it to shift the bowl to an additional cam, of greater throw than the ordinary knocking-over cam, on the shaft. For making slack courses the falling-bar for actuating the sinkers is shifted in position by levers operated from the pattern-wheel. [8½d. *Drawings.*]

16,301. Nov. 10, 1888. **Knitting.** J. Spencer, 85, King Richard's-road, Leicester.

Gloves.—The arm, wrist, and hand portions of fabric gloves are made in one length on straight-bar rib-top machines. The arm and hand portions are knitted in royal rib, and the wrist in plain rib, and the lengths of the different portions are indicated by marked links on the pattern chain of the striping mechanism, the chain being made long enough for the purpose. The thumb and finger portions are added afterwards in a fingering frame. [8½d. *Drawing to Specification.*]

16,305. Nov. 10, 1888. **Winding yarns, etc.** W. G. Gass, Hesford Foundry, Bolton-le-Moors, Lancashire.

Traverse mechanism.—The thread-guides are mounted directly upon, or are otherwise suitably connected to, one or more bell-crank levers pivoted to the traverse-bar and operated during the traverse by pivoted spring levers, the inclination of which is adjusted according to the amount of yarn wound on to the bobbins by means of a cam, which is connected by a link with the bobbin-cradle. The form in which the yarn is wound on the bobbin will vary according to the position of the point at which the lever is pivoted with regard to the traverse of the block. To reduce the shock produced in quick-traverse winding frames when the direction of motion of the traverse rail is reversed, a pad of india-rubber or other similar material is placed between the actuating cam and the traverse bar. [8½d. *Drawings.*]

16,325. Nov. 10, 1888. **Dyes.** O. Imray, 28, Southampton Buildings, London.—(*Farbwerke vormals Meister, Lucius, and Brüning; Hoechst-am-Main, Germany.*)

Relates to the manufacture of colouring matters of the induline series, soluble in water. Consists in heating the violet blue colouring matter which is formed in the induline melt at a low temperature, with aromatic diamines to a temperature of 150°–190° C. Para-diamines, such as paraphenylenediamine and paratoluylenediamine, yield dyes of greenish blue shades, and the corresponding metadiamines yield dyes of reddish blue shades. [4½d.]

16,333. Nov. 10, 1888. **Sulphones.** B. Willcox, 47, Lincoln's Inn Fields, London.—(*Farbenfabriken vormals F. Bayer and Co.; Elberfeld, Germany.*)

Relates to the preparation of diethyl-sulphone-methyl-ethyl-methane. Consists in first producing a mercaptol by the action of ethyl-mercaptane upon methyl-ethyl-ketone in the presence of hydrochloric acid gas. This product is then oxidised by means of a weak aqueous solution of permanganate. The same compound is also obtained by first producing a mercaptol by the action of ethyl mercaptane upon acetic or propionic aldehyde, then oxidising by permanganate, and alkylising the sulphone produced by means of ethyl or methyl haloid compounds in alkaline, alcohol, or aqueous solution. [6½d.]

16,338. Nov. 10, 1888. **Mosaic fabrics.** F. Walton, 4, Portugal-street, Lincoln's Inn Fields, London.

Relates to the machinery for, and manufacture of, mosaic floor-cloth and other mosaic fabrics. The fabric is built up of coloured tesserae placed on a suitable backing and consolidated by rolling. The tesserae are stamped from sheets of linoleum or oxidized oil compositions rolled preferably between non-metallic rollers, such as polished granite and porphyry, etc., mounted on hollow shafts, so as to be heated by steam. The blanks left after cutting out the tesserae are either worked up again into sheets or are set by hand into forms for use in making other mosaic patterns. [11½d. *Drawings.*]

16,342. Nov. 12, 1888. **Carding engines.** F. Wilkinson, 13, India Buildings, Manchester.

Improvements on the invention described in Specification No. 2,866, A.D. 1886.

Flats, guiding and adjusting.—The flats are supported on metal, etc., rings, which are mounted upon adjustable grooved pulleys or otherwise, and by the weight of the flats revolve with them. If the rings are made of metal they may be covered with layers of paper, etc., as described in the previous Specification. When the main cylinder is supported in adjustable bearings, the rings may be carried by fixed flanges on the bends. As the card teeth become worn the rings may be correspondingly reduced in diameter by means of fine milling cutters, and they may be provided with radially embedded scales to indicate this reduction. [6½d. *Drawings.*]

16,393. Nov. 12, 1888. **Dyes.** C. D. Abel, 28, Southampton Buildings, London.—(*Farbenwerke Vormals Meister, Lucius and Brüning; Hoechst-am-Maine, Germany.*)

Relates to the preparation of colouring matters resembling the indulines, and soluble in water. Consists in heating amidoazo bodies with mono- and di-alkylised aromatic amines at a higher temperature than is employed when primary amines are used. Salts of amidoazobenzol, preferably its hydrochlorate, and mono- and di-ethyl and methyl-anilines, and their hydrochlorates are used, the free bases yielding dyes of a bluish to reddish tint, and their salts yielding dyes of a bluish-grey tint. The reaction takes place at from 95—190 deg. C., but 150 deg. C. is considered most favourable. [6½d.]

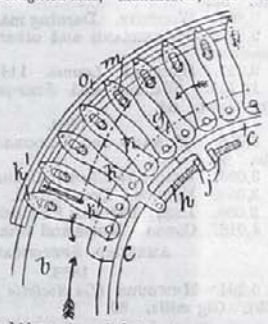
16,420. Nov. 13, 1888. **Lace, etc.** F. H. Bowman, Halifax, Yorkshire.

Wool and other similar animal fibres (excluding silk) are embroidered or woven in a suitable pattern upon a ground of cotton, or other vegetable fibre having a like cellulose basis, and the ground-work is destroyed by the action of an acid and heat. [6½d. *No Drawings.*]

16,450. Nov. 13, 1888. **Spinning.** W. P. Thompson, 6, Lord-street, Liverpool.—(*J. M. Dunham and J. M'Kemmie; Holyoke, Massachusetts, U.S.A.*)

Rollers.—Both the rollers of each pair are grooved longitudinally, the ribs being V-shaped and of greater height than width. The rollers are mounted so that their ribs partially interlock, their distance apart being regulated by means of fixed or removable collars, on the upper roller taking upon corresponding parts of the lower one. [8½d. *Drawings.*]

16,498. Nov. 14, 1888. **Carding-engines.** T. S. Whitworth, 122, Broughton-lane, Manchester, and W. Lord, Canal-street Works, Todmorden, Yorkshire.

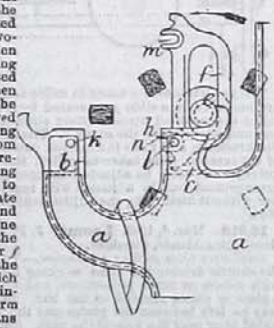


Flats, adjusting. The flexible bend o is connected by a series of levers k to a segmental strip g, which may be moved by a screw and nut arrangement h, j, or otherwise, about the centre. In the drawing it is shewn supported by a flange e; it may, however, be connected by arms to a boss on the axle. Each lever k is pivoted to the strip g, is connected to the fixed bend b by a pin and slot arrangement m, m, and is provided at the end with a pin k_1, which takes into a groove in the flexible bend o. Springs, etc., may be employed to press the bend o towards the centre e, the bend being guided so that it will move in a radial direction only. [8½d.]

16,541. Nov. 14, 1888. **Wood felt for bandages, etc.** G. Walcher, Seestrasse, 44, Stuttgart, Germany.

Wood felt or fibre fabric of a wool-like nature is made by soaking and felting together long woody fibrous material in a suitable quantity of spirit or other easily vapourised liquid. After soaking and pounding almost to a paste, the spirit is drawn off, and the residue dried by heat and compressed between rollers or otherwise. [4½d. *No Drawings.*]

16,551. Nov. 14, 1888. **Reeling yarns, etc.** W. T. Stubbs and J. Heaton, Mill-street Works, Ancoats, Manchester.



Swifts; doffing.—The end e of the axle of the swift may be supported by either arm of a two-armed bracket a. When the machine is working the axle is supported by the arm b, and when the hanks require to be doffed they are removed from the reel and hung upon the bracket, from which they may be removed on transferring the end of the axle to the arm C. To facilitate the transfer of the end of the axle from one arm to the other of the bracket a slotted bar f is used into which the axle takes, and which may be supported indifferently by either arm of the bracket by means of pin and slot arrangements k, l, m, n. To prevent the hanks from becoming soiled with lubricating oil during doffing, the end of the axle may be enclosed in a box or tube in which the lubricant is retained. [8½d.]

16,512. Nov. 14, 1888. **Pile fabrics: looms.** H. Mullers and A. Spindler, Dülken, Germany.

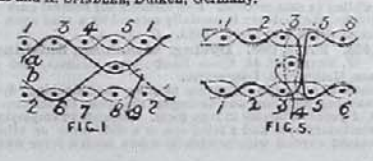
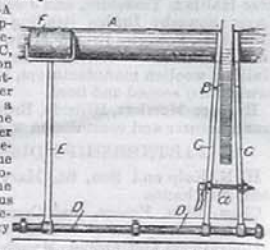


FIG. 1 FIG. 5.

In double pile fabrics a frisé effect is produced by the use of special weft threads or picks 9 (Fig. 1), which are not bound into either of the main tissues, but lie between them, being held by the pile threads a, b as shewn. These threads are removed during or after the weaving. Figure 5 represents figured velvet or plush with frisé effects. When the frisé threads 4 are drawn out the two pieces may be cut as usual, the knife having no action on the frisé knobs. The order of the picks is represented by the figures 1, 2, 3, 4 . . . . , one shuttle only being used in the case of Fig. 1, whilst in that of Fig. 5 three are employed. In the latter case a triple shuttle-box is required, the box being lowered at the required times to bring the upper compartment only, containing the frisé shuttle, opposite the picker. [6½d.]

16,572. Nov. 15, 1888. **Looms.** F. Wilson and A. Towler, 67, Oxford-road, Burnley.

Let-off mechanism.—A disc B on the warp-beam A is clipped between two levers C, which are mounted on a shaft D, and are tightened by a bolt a. A lever E on the shaft carries a roller F, bearing on the warp in such a manner that as the yarn decreases the diameter the levers will be moved towards the centre of the disc B, and will thus exert a decreasing resistance to the delivery of the yarn. [6½d.]



16,581. Nov. 15, 1888. **Rag-tearing machines.** E. F. and W. Machell and F. Lees, all of Dewsbury.

In order to separate the dust from the torn rags in rag-tearing machines, the rags and dust are forced together by a fan into a receiver having double walls, etc., the inner of which are perforated and allow only the dust to pass through, which is drawn off by a fan above into a chamber prepared for it. [6½d. *Drawings to Specification.*]

16,598. Nov. 15, 1888. **Combing machines.** G. Dixon, Meanwood-road, Leeds.

Dabbing apparatus.—The brush slide is connected to a reciprocating spindle connected by means of an eccentric or cam groove in a disc, which is enclosed in a box containing lubricant. If the disc is formed with an eccentric groove the latter is made of V-section, and is fitted with a ring of phosphor bronze, etc., to which is secured the block of the spindle. The axle can be adjusted longitudinally to allow for wear. The box having glass sides, the height of the lubricant within may be seen. [11½d. *Drawings.*]

16,633. Nov. 16, 1888. **Yarn gassing frames.** T. Rivett, Lancashire Hill Mills, Stockport.

The yarn, after leaving the gas flames, is wound upon a bobbin, tube, or spindle mounted on a stud on a frame or arm. The latter is mounted on a bar carried by brackets on the framework of the machine. By the action of a weight the yarn on the spindle is held in contact with a driving drum, by which the winding is effected. The yarn is conducted to the spindle by a trumpet or guide mounted on a traverse rail. The arm may be moved clear of the drum by means of a lever when required. The usual flanged bobbins are dispensed with by the use of these arrangements. [6½d. *Drawings.*]

16,690. Nov. 16, 1888. **Air-moistening.** A. Petit, Fourmies, France.

The apparatus is specially applicable for moistening the atmosphere of spinning mills, but may also be employed for ventilating hospitals, ships, and other places. A rapidly-revolving shaft, driven through a grooved pulley, is mounted in the centre of a casing, formed of fine woollen cloth or other material, and upon it are mounted two sets of vanes, placed at different inclinations, and a helically-formed brush. Water, fed into the top of the casing through a pipe, is atomised by the brush, and serves to moisten the ascending current of air created by the revolving vanes. The surplus water is collected in a receiver, and discharged. An antiseptic or perfumed liquid, contained by a vessel fixed to the end of the shaft, may be distributed on to the brush through a channel and orifice. [6½d. *Drawings.*]

16,707. Nov. 17, 1888. **Loom pickers.** H. Hind, Holm Top Mill, Little Horton, Yorkshire.

The pickers are made from a single hide cutting, of a certain form, which is rolled up until the edges are nearly in contact. The cutting is then blocked in an ordinary press fitted with movable blocks, which are made in parts connected by springs and guide-pins. By this arrangement the only joining required is where the edges come together. The picker is finished by dies or blocks of ordinary construction. [6½d. *Drawings.*]

16,713. Nov. 17, 1888. **Burring wool, etc.**—(E. Nouvelet; 40, Rue Pascal, Paris.)

In roller burring apparatus the rollers are arranged in pairs, one above another, instead of side by side, as is usual. The wool, etc., is fed by an endless apron, and delivered on to a pair of rollers, covered with wire cards or needle points; and these deliver it to the drawing-rollers, whence it passes to the crushing rollers, also covered with india-rubber. The cleaned wool is stripped from the crushing rollers by doffers, and, falling on to a travelling apron, is conveyed to a suitable receptacle; and the crused burrs, etc., are removed from the rollers by scrapers, and fall into troughs, which are emptied from time to time, as required. [8½d. *Drawings.*]

16,730. Nov. 17, 1888. **Ropes and cords.** T. S. McInnes, 56, Waterloo-street, Glasgow.

Made by covering a bundle of wires laid side by side with textile material. A bundle of cords so made may be laid side by side and bound up in a similar way to make a stronger cord. 4½d. [*No Drawings.*]

16,756. Nov. 17, 1888. **Dyeing; scouring.** C. L. Klauder, Philadelphia, U.S.A.

Relates to improvements on the invention described in Specification No. 8,803, A.D. 1887. This invention was described in full in *The Textile Mercury* of November 9th, 1889. [8½d. *Drawings.*]