

under the style of Samuel Sutcliffe and Son. The first subscribers are:—  
 Shares.  
 F. Sutcliffe, Valley Mill, Bradford ..... 1  
 R. Sutcliffe, Valley Mill, Bradford ..... 1  
 A. Schofield, 41, Shipley Field-road, Frizinghall ..... 1  
 G. P. Norton, Huddersfield ..... 1  
 F. Sykes, Huddersfield ..... 1  
 J. H. Stephenson, Leeds ..... 1  
 Mrs. Sutcliffe, Eldershorpe, Shipley ..... 1  
 There shall not be less than two nor more than seven directors. The first are F. Sutcliffe, and A. Sutcliffe. Qualification, £500. Remuneration to be determined in general meeting.

THE RYECROFT MILLS COMPANY, LIMITED.  
 Registered by R. Jordan, 120, Chancery-lane, W.C., with a capital of £50,000, in £5 shares. Object, to acquire the Ryecroft Mills, Ashton-under-Lyne, and to carry on business as cotton spinners, &c., &c. The first subscribers are:—  
 Shares.  
 J. Ashworth, Dukinfield ..... 1  
 A. M. Fletcher, Dukinfield ..... 1  
 J. Fletcher, Gladbrook, Fairfield ..... 1  
 T. Hallam, Oldham-road, Ashton-under-Lyne ..... 1  
 D. G. Isherwood, Oldham-road, Ashton-under-Lyne ..... 1  
 C. E. Redfern, Rosemont Villa, Ashton-under-Lyne ..... 1  
 S. Smethurst, Ashton-under-Lyne ..... 1  
 W. Moss, Ashton-under-Lyne ..... 1  
 A. Buckley, Ashton-under-Lyne ..... 1  
 Registered without articles of association 1

THE FULLER'S EARTH UNION, LIMITED.  
 Registered by Le Brasseur and Oakley, 12, New-court, Lincoln's-inn, with a capital of £105,125, in £1 shares. Object, to acquire certain fuller's earth mines and fuller's earth works situate at Nutfield, Surrey, and at Bath, and the property held therewith, and certain contracts relating to the supply of Fuller's earth. The first seven subscribers are:—  
 Fndrs. Shares.

A. G. D. Moyer, Bath ..... 3  
 W. Blewitt, Wanstead ..... 1  
 Earl Kilmorey, Carlton Club ..... 1  
 E. G. Bulter, J.P., Combe Hay, Bath ..... 1  
 C. W. Cawley, Nutfield ..... 1  
 A. J. King, 13, Queen-square, Bath ..... 1  
 R. le Brasseur, 12, New-court, Lincoln's-inn ..... 1  
 There shall not be less than three nor more than nine directors. The first are A. G. D. Moyer (chairman), W. Blewitt (vice-chairman), Earl Kilmorey, W. Wainwright, and C. W. Cawley. Qualification, £500. The directors shall receive no remuneration until the ordinary shareholders shall have received 8 per cent., but in each year in which such dividend be paid their remuneration shall be, chairman, £800; deputy-chairman, £225; other directors, £150 each.

## Gazette News.

### ADJUDICATIONS.

Joshua Taylor, Spen-in-Gomersal and Hemsworth Mills, Birstall, Yorkshire, cloth manufacturer and dyer.

Enos G. Davis, Altycafan Factory, near Llandyssul, Carmarthenshire, woollen manufacturer.

### RECEIVING ORDERS.

Joshua Taylor, Birstall, cloth manufacturer; Bradford.

Alfred Nelmes, East-street, Bedminster, Bristol, cloth manufacturer; Bradford.

Neville Hunt and William Rumsey, Faulkner-street, Manchester, merchants; Manchester.

James Ashton and Edward Williams, late George-street, Manchester, merchants; Manchester.

### PARTNERSHIPS DISSOLVED.

Speyer and Morris, Golden-square, wool and commission merchants.

Hyde and Grimshaw, Clough Mill, Ludworth, near Marple, wadding manufacturers and bleachers.

Gadd and Moore, Erskine-street, Leicester, hosiery machinists.

Hurst, Beall, and Bowter, Nottingham and Hincley, manufacturers of vests, shirts, and pants.

Schofield and Pratt, Elm-street shed, Burnley, and Marble-street, Manchester, cotton manufacturers.

Archibald Turner and Company, Bow Bridge Works, Leicester, manufacturer of pile fabrics; James M. Padmore retiring.

### NOTICES OF DIVIDENDS.

F. Spiegel (trading as F. Spiegel and Co.), residing at 4, Lindum-terrace, and trading at 9 and 11, Peckover-street, both in Bradford, Yorkshire, formerly trading in partnership with Rudolph Theodor Gerhard Wege, as Wege, Spiegel, and Co., woollen merchants; 2s. 6d., first.

## 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.

#### 17TH MARCH.

4,110. G. HARTLEY, 8, Quality-court, London. Self-acting mules.

4,128. J. C. WALKER and J. E. STEPHENSON, trading as JOHN PERRY, 20, Charles-street, Bradford. Back washing and analogous machines for treating wool, &c.

4,130. G. GEISSLER, Market-place, Huddersfield. Manufacture of sealskin, velvet, and other pile fabrics, whereby coloured spots, stripes, and other designs are produced on the face thereof.

4,157. R. WALLWORK, 5, Market-street, Manchester. Machinery for finishing felt hats.

4,159. J. STEIGER-MEYER, 6, Bream's-buildings, Chancery-lane. Producing open-work embroidery.

4,160. J. STEIGER-MEYER, 6, Bream's-buildings, Chancery-lane. Manufacturing scalloped edgings.

4,161. J. STEIGER-MEYER, 6, Bream's-buildings, Chancery-lane. Preparing ornamental fabrics for the market.

4,177. E. DYSON, 6, Bank-street, Manchester. Cloths for cleaning, scouring, polishing, and similar purposes.

#### 18TH MARCH.

4,196. A. B. and H. BARLOW, 17, St. Ann's-square, Manchester. Jacquard harness and lingoes for the same.

4,205. W. G. GASS, Atlas Foundry, Great Lever, Bolton. Apparatus for automatic marking of cloth.

4,209. H. SMITH and E. SUTTON, 8, Quality-court, London. Apparatus for cutting cloth, &c.

4,238. I. ETRICH, 46, Lincoln's-inn-fields, London. Footstep bearing for spindles.

4,259. W. P. THOMPSON, 6, Lord-street, Liverpool. Covers for ring throistles. (*H. Koldt, Austria.*)

#### 19TH MARCH.

4,274. R. CRAWSHAW, 8, Quality-court, London. Setting-on lever for looms.\*

4,277. W. JOWETT, 70, Market-street, Manchester. Packing and making-up cotton-wool, &c.

4,281. H. E. D., and H. D. SMITH, Sunbridge-chambers, Bradford, Yorkshire. Washing wool and other fibres.

4,285. J. D. BARBOUR and W. IRELAND, 62, St. Vincent-street, Glasgow. Fishing and other nets and machinery for their manufacture.

4,327. F. TONNAR, 45, Southampton-buildings, London. Manufacturing plush fabrics.\*

#### 20TH MARCH.

4,333. J. LINDSAY and R. ALLEN, 87, St. Vincent-street, Glasgow. Whip rails of looms.

4,334. J. LINDSAY and R. LINDSAY, 87, St. Vincent-street, Glasgow. Let-off mechanism of looms.

4,361. R. ARMITAGE, 20, Charles-street, Bradford. Dressing and winding yarn from the warp.

4,382. B. WILCOX, 247, Lincoln's-Inn-Fields, London. New derivatives of phenyl-amido-acetic acid. (*Farbenfabriken vormals F. Bayer and Co., Germany.*)

#### 21ST MARCH.

4,409. J. O. MULLER and C. O. WEBER, 17, St. Ann's-square, Manchester. Dyeing vegetable and certain animal fibres a fast aniline black, either in the loose or manufactured state.

4,411. L. DIENST, 17, St. Ann's-square, Manchester. Shuttle guard for looms.\*

4,416. J. HADDOW, 7, Barlow-terrace, Levenshulme, Manchester. Improving the finish on materials, in connection with friction calenders.

4,424. A. WATSON, 149A, Great Hampton-row, Birmingham. Lace curtains and similar articles.

4,438. J. A. HART and D. C. BAYNES, 47, Lincoln's-Inn-Fields, London. Blowing, beating, or cleaning cotton or other textiles.

4,450. W. TURNBULL, W. STOCKDALE, and G. DUERB, 6, Bank-street, Manchester. Mordanting cotton or other vegetable fibrous materials.

4,452. H. A. LOWE, 6, Bank-street, Manchester. Materials from cotton or other cellulosic fibres.

4,453. A. J. BOULT, 323, High Holborn, Middlesex. Coloured net-lace or tulle for curtains and the like. (*E. Knappe and W. Kasten, Saxony.*)\*

4,463. S. G. PACKER, 166, Fleet-street, London. Producing two-sided spots upon lace and like fabrics.

4,465. J. H. KIRK, 45, Southampton-buildings, London. Welt stop motion for looms.

4,475. C. H. LAY and E. T. OWEN, 34, St. Southampton-buildings, London. Manufacture of ropes and cords, and machinery for such purposes.

#### 22ND MARCH.

4,495. J. M. HETHERINGTON, 1, St. James'-square, Manchester. Yarn thread of roving guides for spinning and doubling machinery.

4,517. J. A. BARFOOT and J. LANGHAM, 323, High Holborn, London. Straight bar knitting machines for the manufacture of ribbed fabrics.

### SPECIFICATIONS PUBLISHED.

#### 1889.

2,084. PLANT. Knitting frames. 8d.  
 4,539. EISENMANN and ARCHE. Picric acid. 4d.  
 5,420. MACILWRAITH and others. Looms. 1s. 1d.  
 5,590. BENTZ and others. Scouring, etc., textile fabrics. 8d.

5,702. LINDLEY. Stretching, etc., lace. 8d.  
 6,434. IMRAY. (*Farbwaerke v. Meister Lucius and Brumig.*) Colouring matters, 6d.

6,778. BEDFORD. Colouring matters. 6d.  
 6,905. BRIMELOW. Sizing machines. 8d.  
 7,021. HUNTER. Spinning frames. 6d.  
 7,024. ISITT. Carding engines. 6d.

7,067. Pitt (*Cassella and Co.*) Dye stuffs. 6d.  
 7,123. DODD. Spinning cotton, etc. 8d.  
 7,328. JAGGER. Looms. 8d.

7,399. HARTLEY. Looms. 8d.  
 7,821. CROSLAND. Looms. 6d.  
 8,153. OATES and others. Spinning machinery. 6d.

8,154. OATES and others. Lubricating spinning, etc., machinery. 6d.

9,442. WILLIAMS and ASCOUGH. Blue. 4d.  
 10,864. SMITH and others. Looms. 6d.  
 13,872. PARSONS. Heating and ventilating factories. 6d.

20,325. CLEGG. Self-acting mules. 6d.

#### 1890.

1,135. FAIRWEATHER. Fringing machines. 6d.  
 1,436. TURNER. Looms. 6d.  
 1,446. MADDOX. Fabric for belting. 6d.  
 1,752. RIEDLER. Valves for blowing machines, etc. 6d.

### ABSTRACTS OF SPECIFICATIONS.

13,741. Sept. 22, 1888. Rag-engines, etc. H. SCHULTZ, 6, Ploessgasse, Vienna.

*Rag-engines.*—The stuff is disintegrated by a rotating horizontal disc, made of stone or metal, and working in combination with one or two fixed discs. The disc is open at the centre, and has curved arms, which help to circulate the stuff from an outer compartment to an inner. The latter has an adjustable extension ring, counterbalanced by weights, and a solid or hollow conical breathing. The fixed discs have pockets or recesses, and the rotary disc has large grooves in addition to the disintegrating grooves to allow the stuff to circulate more easily. For washing purposes the waste water passes off through inclined sieves at the side.

*Wringing and bleaching chests.*—The inner compartment is fixed and the extension ring dispensed with. The disintegrator is also replaced by a wheel with vanes, or a stone disc with large grooves may be used. [11d. Drawings.]

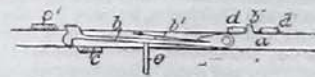
13,767. Sept. 24, 1888. Diamido-compounds; Dyes. T. R. SHILLITO, 89, Chancery-lane, London.—(*J. R. Geigy, Switzerland.*)

Relates to the preparation of unsymmetrical paradiamines by the action of substituted amines upon nitro-compounds, or of amines on substituted nitro-compounds, and to the preparation of colouring matter therefrom. For example, nitrobenzene and ortho-toluidine are heated together in presence of caustic alkali until the odour of nitro-benzene disappears. The product is boiled with zinc-dust and water until discoloured, whereby the azo and azoxy compounds first obtained are reduced to hydrazo compounds. The filtered solution is then boiled with concentrated hydrochloric acid, and the diamido-phenyl-tolyl produced is precipitated by addition of Glauber salts. The diamido-compound is employed in the production of azo-colouring matters, which dye cotton without a mordant, by converting it into its tetrazo compound and combining one molecule of this body with two molecules of an amine, phenol, or of a sulphonic or carbonic or sulpho-carbonic acid thereof. Or the tetrazo compound may be combined first with one molecule of one of the above compounds and then with one molecule of another. [8d.]

13,770. Sept. 24, 1888. Knitting. F. and W. E. WHITE, Loughborough, and J. WHITWORTH, Kirk Hill, Shepshed, both in Leicestershire.

The needles are so arranged that the number of alternate machine needles is greater than that of consecutive frame needles. The fabric produced consists of broad stripes or ribs formed by the alternate frame and machine needles, and narrower plain stripes formed by the consecutive frame needles. [8d. Drawings.]

13,771. Sept. 24, 1888. Looms. W. P. THOMPSON, 6, Lord-street, Liverpool.—(*J. Huggenmacher, Zurich, Switzerland.*)



*Jacquards.*—In jacquards of looms with vertical or horizontal warps a series of "stickers" pass through needles acted on by the card cylinder. Those stickers which are selected and operated by the needles are pushed longitudinally by a rocking elbow lever whilst the others pass through perforations in the lever and remain at rest. The lifting bars carry double spring pivoted hooks *b*, which are acted on by the knife or lifting blade *c* for the lower shed, or by the oppositely moving knife *c* for the upper shed, according as they are pushed against by the stickers *a* or not. The bars *a* are returned by oppositely reciprocating blades *d*, acting on tappets *e*. The cylinder-lifting blades and elbow levers are cam shaft being rotated through a crank and treadle or equivalent. [11d.]



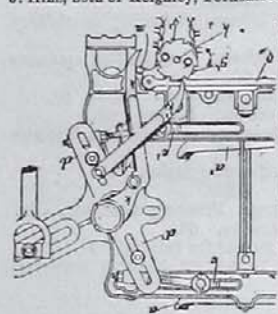
**13,793.** Sept. 24, 1888. **Dyes.** O. IMRAY, 28, Southampton Buildings, London.—(G. C. Zimmer, Mannheim, Germany.)

Relates to the preparation of colouring matters which dye cotton in a soap bath, from beta-naphthylphenylamine mono-sulpho acid. Consists in combining the said sulpho acid with the tetrazo compound obtained in the usual manner from benzidine or from toluidine, equal molecular proportions being employed. The insoluble intermediate product thus obtained is then combined with either an amine or phenol, or a sulpho or carbo acid thereof, and the dye-stuff thus formed is salted out. The dye obtained when beta-naphthylphenylamine mono-sulpho acid only is employed dyes cotton a crimson tint. When the intermediate compound is acted on by naphthionic acid, a bluish red dye is obtained; similarly, salicylic acid gives an orange red, beta-naphthol disulpho acid, a bluish violet, and alpha-naphthol-alpha-sulpho acid, a bluish shade. [6d.]

**13,827.** Sept. 25, 1888. **Knitting.** H. H. HUMPHREY, Detroit, Michigan, U.S.A.

**Parallel motion.**—The wing cam has tongues to slide in grooves in the cam plate, and are adjusted by set screws passing through slots to the front of the cam-plate. The middle cam, which is also provided with a tongue to slide in a groove, is held to the cam-plate by a screw and a spring washer and is operated by cam-stops acting upon a pin. The shifting yarn-guide, which feeds the yarn into the hooks of the needles, is mounted by a sliding box on an longitudinal guide bar, and is operated by a lever from a friction sleeve on the rear guide bar of the cam carriage. The cam carriage is provided with four legs to engage with the guide bars, which are situated at some distance below the needle bed. The tension yarn guide is formed at the free end of the lever, which is removably secured to the rocking arm. [8d. Drawings.]

**13,859.** Sept. 26, 1888. **Looms.** R. L. HATTERSLEY and J. HILL, both of Keighley, Yorkshire.



**Dobbies.**—The draw-hooks *a, a'* of the "Hattersley dobby" are made of gradually increasing length from one side of the dobby to the other, the knives or draw-bars *c, c'* being arranged obliquely to correspond, and being coupled, to their levers *d*, in such a way as to move further at one end than at the other. A more even shed is thus produced. To admit of lagging-back, when lags each having two rows of pegs are employed, an additional ratchet wheel *g* is mounted on the cylinder shaft *h*, and is operated when required by a pawl *k*. This pawl may be held out of action by a pin *m* on a lever worked by hand through a rod *o*, and when it is allowed to fall into gear the pin lifts the ordinary pawl *l* out of action. Various arrangements for operating the pawls and for putting them in or out of action are described; in some cases the two ratchet wheels may be replaced by one formed to be operated either way. To produce a "shut shed" when required, the lower knife may be so connected with its operating lever as to move only half as far as the upper knife, or the said lever may be mounted, at a point away from its middle, on its shaft for the same purpose. The crank operating the lever is made to work at double speed. All the lower draw-hooks are arranged to engage always with the lower knife. [1s. 2d.]

**13,863.** Sept. 28, 1888. **Winding yarns.** J. D. WHYTE, 8, South Parade, Manchester.

**Traverse mechanism.**—For winding yarn into cops the thread guide is oscillated and also traversed by means of a cam which is embraced by fingers on the thread guide and is slid longitudinally upon the rotating shaft by means of a bracket carried by a half nut, which is engaged by a screw-wash driven by means of a pulley and plate wheel, the pulley being adjustable on its shaft so as to regulate the speed of the traverse for different counts of yarn, etc. In order that a shorter traverse may be employed, and that the same may be lengthened principally in one direction during the formation of the cop bottom, a slotted rod in which slides the end of the thread guide is bent forwards at its lower part so that the fingers on the thread guide are caused to embrace a different part of the cam and so alter the traverse, the pivot of the thread guide being hinged to the half nut to allow of this movement. If desired the thread guide may be fixed and the spindle, etc.

on which the yarn is wound to be traversed. If the yarn is wound on to bobbins and the thread guides are required to have a continually decreasing traverse, the end of the thread guide is caused to rest upon the bobbin, and as the latter is filled and the end of the thread guide is raised the fingers of the latter are caused to embrace a different part of the cam by which it is operated. *Stop motions* are also described. [8d. Drawings.]

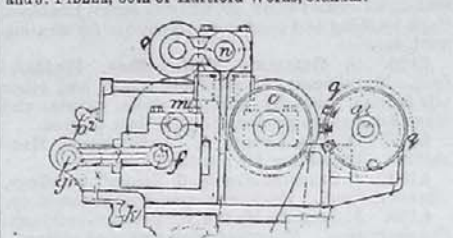
**13,867.** Sept. 26, 1888. **Warp knitting machines.** A. PAGER, Radmoor, Loughborough.

The apparatus of Page's warp knitting machine for pressing, and forming fringe or long loops, is described. [2s. 2d. Drawings.]

**18,869.** Sept. 26, 1888. **Spinning, etc.** S. B. BANKS, 6, Haldsworth-terrace, Halifax.—(R. Gill; 123, Jackson-street, Lawrence, Mass., U.S.A.)

**Wiper spindles.**—Improvements on the invention described in the Specification No. 11,101, A.D. 1887. [8d. Drawings.]

**13,901.** Sept. 27, 1888. **Carding engines.** J. E. PLATT and J. FIDLER, both of Hartford Works, Oldham.



**Grinding rollers.**—The grooves and ridges on the grinding roller are arranged in parallel plains inclined to the axis of the roller, or they may be of a corrugated or other suitable form situated as a whole in plains, inclined to the axis of the roller. A machine is described for coating in the desired manner with a mixture of glue and emery, or other suitable material, rollers provided with grooves and ridges of the desired form, plain rollers or cloth filleting to be afterwards applied to the surface of a roller. The roller *m* to be coated is mounted in sliding brackets *f*, which may be adjusted towards or from the moulding roller *c* by means of eccentrics *g* operated through worm gearing by a hand wheel *k*. The rollers *c* and *m* are of about the same diameter, and are geared together so as to rotate at the same velocity. *o* is a plain roller for giving to the plastic material on the roller *m* a perfectly even surface. It is carried by arms from a shaft *n*, which may be rotated slightly by means of worm gearing and a hand wheel *p* so that it may be put into or out of gear with the roller *m*, the two rollers being geared together so as to rotate at the same surface velocity; *q* is a roller covered preferably with wire cards for cleaning the moulding roller *m*. When the plastic material is sufficiently set, the roller is removed to a stove, etc., to be dried. Cloth filleting is wound upon a roller in a spiral fashion and coated in the manner above described, and when the plastic material is sufficiently dried, the filleting is removed and may be subsequently applied to the surface of a plain roller for grinding purposes. [8d.]

**13,902.** Sept. 27, 1888. **Carding engines, etc.** W. H. GREENWOOD and F. FARHAM, both of Upper Castle-street, Bradford.

**Feeding machines.**—The oscillating comb is automatically cleaned at each up stroke by means of a fine comb carried by an adjustable arm mounted on a sleeve on the shaft. [6d. Drawings.]

**13,903.** Sept. 27, 1888. **Combing machines.** W. H. GREENWOOD and F. FARHAM, both of Upper Castle-street, Bradford.

**Feeding apparatus.**—In place of the feed knife being vertically adjustable as usual, it is arranged to move horizontally towards and from the incline, the tension of the fibres tending to draw the knife towards a higher point of the incline against the force of a spring, etc. The knife may be mounted variously. The knife may be provided with notches to increase the hold of the fibres. [8d. Drawings.]

**13,920.** Sept. 27, 1888. **Dyes.** T. R. SHILLITO, 89, Chancery-lane, London.—(J. R. Geigy; Basel, Switzerland.)

Relates to the production of yellow, orange, and brown colouring matters of alizarine-like properties. Consists in acting upon the azo compounds obtained by combining aromatic oxyacids with diazotised aromatic amines. For example, the diazo compound of aniline, toluidine, or naphthylamine, prepared in the usual manner, is run into an alkaline solu-

tion of salicylic acid, or of cresotic acid, oxynaphthols acid, or resorcin carbonic acid. The product is then dissolved in sulphuric acid, and a mixture of nitric and sulphuric acids is gradually added. The liquid is subsequently poured into water, and the colouring matter is collected in a filter, washed, and prepared as a paste. [4d.]

**13,940.** Sept. 27, 1888. **Knitting machines.** C. H. ALDRIDGE, Pinfold Gate, Loughborough.

In order to enable tuock or mispressed work in various forms or patterns, such as diamonds, squares, vertical stripes, etc., to be produced on flat or rotary machines, one or more movable presser bars are mounted in a groove along the edge of the sinker bar. They are formed with notches along their acting edge wherever mispressings are to be produced, and are shifted endwise by levers from a cam or pattern surface. [8d. Drawings.]

**13,941.** Sept. 27, 1888. **Burring wool.** K. L. OEFER-MANN, Leipziger Wollkammerei, Leipzig.

The fleece is led over the edge of a curved bar, and while partially held by a slowly rotating roller the burrs are torn by a rapidly rotating roller. The rollers are pressed towards each other by spiral springs and weighted levers, and the rapid roller is also adjustable towards or from the bar by means of a wedge piece, and may be withdrawn to some distance when no burrs are passing; a guide bar is provided for separating the fleece from the roller. The apparatus may be used in connection with carding engines and drawing frames. [11d. Drawings.]

**13,971.** Sept. 28, 1888. **Waterproof fabrics.** D. NICOLL, National Liberal Club, Whitehall.

The fabric is made by coating woven fabrics with a plastic mixture of anthracene, purified pitch (Epurée of Trinidad), and cotton footsplech. In the Provisional Specification the following additional ingredients are specified:—A-phal<sup>1</sup>, bitumen, paraffin, caoutchouc, gutta-percha, gait-pitch, sand, resinous oil, mica, chalk, tar, and petroleum. A fabric may be built up with one or more layers of woven fabric, or of the plastic composition. The waterproof fabric is applicable for preventing decay, oxidation, loss of electricity, leakage in ships, boats, troughs, or tubes, also for making huts, rafts, pontoons, targets, fishing boats, tennis shoes, buoyant ropes, life buoys, mattresses, trunks, capes, knapsacks, tarpaulins, coverings for walls, ceilings, and floors, separators for electrical accumulators, and a substratum for wooden pavements. [6d. No Drawings.]

**COTTON MILL FOR SALE,** at Little Rock, Arkansas, U.S.A. (Population 40,000). Product: Rope, Twines, Yarns, Warp, Batting. For particulars address *The Arkansas Press*, Little Rock, Arkansas, U.S.A.

**INDEX and TITLE PAGE to Vol. I.** (April-December, 1890) of *The Textile Mercury* may be obtained of the Publishers, post free [d. Foreign Subscribers *gratis*—Marsden and Co., 23, Strutt-street, Manchester.

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## INDEX TO ADVERTISERS' NAMES.

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Bell, Geo., and Sons, London: front of cover.\*  
Blackman Ventilating Co., Limited: cover iv.  
Blezard, James, and Sons, Burnley: viii. Mar. 8th.  
Bosshardt & Co., Manchester: front of cover.\*  
Bransby Foundry and Engineering Co. London: i. of cover.  
Broadbent, Thomas and Sons, Huddersfield: i.  
Butterworth and Dickinson, Burnley: x. Mar. 8th.  
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Hetherington, John, and Sons, Manchester: ii.  
Horrocks, John, and Son, Manchester: vii.  
Holden, G. H., and Co., Manchester: iv. Mar. 15th.  
Howard and Bullough, Accorington: viii.  
Hoyle, E., and Sons, Limited, Halifax: xiii.  
Hurst, Wm. & Co., Rochdale: v.\*  
Hutchinson, Hollingworth & Co., Dobcross, near Oldham: iii. Mar. 8th.  
Jagger, E., and Co., Oldham: xiv.  
Kay, John, Rochdale: 216. March 22nd.  
Lanoacet and Tonge, Pendleton: front of cover.\*  
Lees, Asa, and Co., Limited, Oldham: iii.  
Livesey, Henry, Limited, Blackburn: xvi.  
Lord Brothers, Todmorden, iii. of cover.\*  
McMurdo, James, Manchester: v. March 22nd.  
Makinon, E. & W. G., Preston: front of cover. Mar. 1st.  
Matthews & Yates, Manchester: iv. of cover. Feb. 15th.  
Meredith-Jones, J., and Sons, Wrexham: i. of cover.\*  
Musgrave and Sons, Ltd., Bolton: xiii.  
Orme, G., and Co., Oldham: iv. of cover.

Pemberton and Co., Burnley, x. Mar. 15th.  
Pickles, Robert, Burnley: xiv.  
Platt Brothers and Co., Ltd., Oldham: iii. Mar. 1st.  
Reddaway, F., and Co., Pendleton: front of cover.  
Rossendale Belting Co., Manchester: iv. of cover.  
Rothwell, John, Farnworth: xiv.  
Rushton, Edward, and Son, Blackburn, and Manchester: 232.  
Salisbury and Hamer, Blackburn and Manchester: 232.  
Sampson and Co., Stroud: x. March 22nd.  
Shawfield and Kirk, Huddersfield: v.  
Shoff, Wright, Stockport: ix.  
Smith Patents Co., Sheffield: xv.  
Stone and Burnett, Preston: xiii.  
Stubbs, Joseph, Manchester: vii.\*  
Sykes, John, and Sons, Huddersfield: iv. of cover.  
Tatham, John, and Sons, Limited, Rochdale: xii.  
Taylor, Lang, and Co., Ltd., Stalybridge: iv.  
Thomas, G., and Co., Manchester: ix. Nov. 2nd.  
Unsworth, Geo., Manchester: ix. Mar. 15th.  
Wallwork, Henry, and Co., Manchester: iii. of cover.  
Walton and Halstead, Hebden Bridge: iv. of cover. March 22nd.  
Wilson, Bros., Cornholme, Todmorden: ix.\*

\* This advertisement appeared last week, March 22nd; it will appear again next week, April 5th.