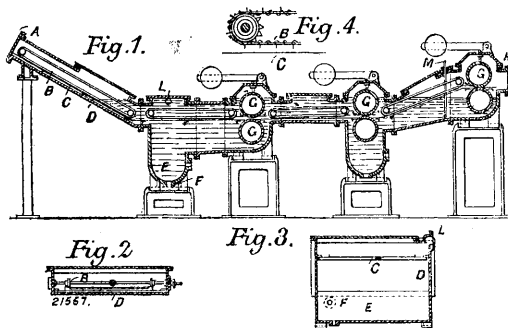


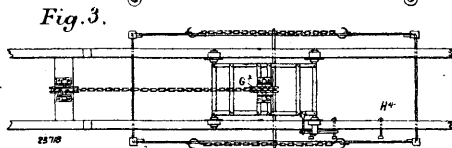
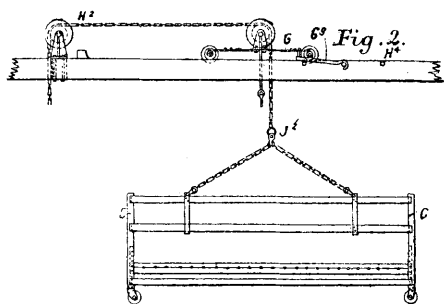
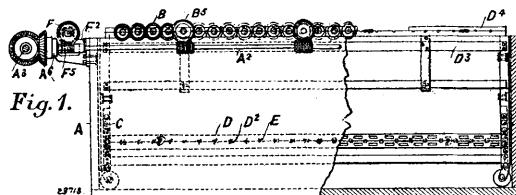
TEXTILE MACHINERY.

**21,557. R. B. Hardman, Bury, Lancs. Apparatus for Clearing Fibres from Grease, &c.** [5 Figs.] September 29, 1896.—This invention relates to apparatus for clearing fibres, such as wool or cotton-waste from grease and impurities. For this purpose the fibres, in form of a thick sliver, are passed through petroleum spirit, carbon bisulphide, or other suitable solvent contained in a closed tank, the sliver being moved along the floor of the tank by travelling chains or bands with scrapers bearing on its upper surface. The travelling chains or bands are arranged with the pulleys round which they pass in sections, between each pair of which is arranged an adjustable pair of pressing rollers through which the sliver is passed. Where the pressing rollers occur the tank is deepened so as to provide recesses in which collect solid impurities squeezed out of the sliver. The sliver, after passing along the tank, issues between a final pair of pressing rollers, and may be then led to suitable drying apparatus. Referring to the figures, the sliver of fibre to be cleansed being



fed at A is carried onwards by the spiked travelling chains B over a perforated floor C through the spirit in the tank D, which has deep places E for deposit of impurities, these deep places having openings F for emptying them, provided with suitable cocks or valves not shown. The sliver in its course passes between pairs of pressing rollers G, and finally issues from the tank at H, and is conveyed to a heated chamber where the spirit is evaporated from it and led to a condenser to be recovered. In a modification, instead of the chains for moving the sliver, pairs of endless travelling pervious aprons are employed, the sliver being carried between them. The solvent is introduced into the apparatus at M near to the last pair of pressing rollers, and overflows at L back to a retort, carrying with it the greasy matters which have been extracted from the material passed through the machine. The solvent is then evaporated, and after being condensed returns to the supply pipe M, a constant circulation of solvent being thus maintained. (Accepted September 29, 1897.)

**23,718. H. Bentley, Bradford, Yorks. Apparatus for Scouring and Dyeing Hanks of Yarn or Fibrous Material.** [3 Figs.] October 26, 1896.—The vat A has a shaft A<sup>2</sup> mounted on one side of it in brackets A<sup>1</sup> fixed outside of the vat. The shaft A<sup>2</sup> is driven by the countershaft A<sup>3</sup>, and bevel wheels A<sup>4</sup> and A<sup>5</sup>, the latter of which is connected to the shaft A<sup>2</sup> by the cone clutch A<sup>6</sup>. Along the top of the vat a number of pinions B geared together are provided. The arbors B<sup>2</sup> of these pinions are mounted in bearings fixed to the top of the vat. A few of the pinions B have wormwheels B<sup>3</sup> connected to them, by which they are driven. These wormwheels are driven by worms A<sup>7</sup> on the shaft A<sup>2</sup>. The framework C is made to lift in and out of the vat and is provided with vertically adjustable lower rails D, along each side in which bearings D<sup>2</sup> are formed for the



ends of the lower sticks or rollers E round which the hanks pass. When the hanks are placed on the sticks E<sup>2</sup> the latter are supported by the upper rails D<sup>3</sup> and D<sup>4</sup>, and after the framework is placed in the vat the sockets are each slipped on to the square ends of the arbors, and consequently when the latter revolve the sticks E<sup>2</sup> are rotated. The other ends E<sup>3</sup> of the sticks F<sup>2</sup> are made cylindrical and fit the bearings D<sup>5</sup> formed in the rail D<sup>4</sup>. The lifting mechanism consists of a windlass barrel F mounted in brackets F<sup>2</sup> on the end of the vat. A wormwheel F<sup>3</sup> is fixed on the barrel shaft F<sup>4</sup>, and this wormwheel is driven by the worm F<sup>5</sup> on the short shaft F<sup>6</sup>, mounted in the bracket F<sup>7</sup>. The short shaft F<sup>6</sup> is driven by the mitre wheel F<sup>8</sup> fixed on its outer end and engaging the two mitre wheels N loosely mounted on the counter shaft A<sup>3</sup>. A double friction clutch A<sup>9</sup> is mounted on the shaft A<sup>3</sup>, by which either of

the wheels N may be made to revolve with the shaft according to the direction it is required to drive the barrel F. The chain J passes from the barrel F over the pulley H<sup>2</sup>, then over the pulley G<sup>2</sup> on the trolley G and is connected below to the framework C. Whilst the framework is being lifted or lowered the trolley is fixed by the hook G<sup>3</sup> to one of a series of studs H<sup>4</sup> on one of the rails H. When the framework is lifted high enough to clear the vat, the fixed hook G<sup>4</sup> on the trolley is hooked into the link J<sup>2</sup> of the chain J, then the chain above is slackened to permit of the trolley being moved along the rails H, H to carry the framework to any required place. (Accepted September 15, 1897.)