(Model.) 2 Sheets—Sheet 1.

A. HITCHON.

APPARATUS FOR PRESSING OR LEVELING YARN ON WEAVERS' BEAMS IN WARP SIZING MACHINES.

No. 294,235. Patented Feb. 26, 1884.

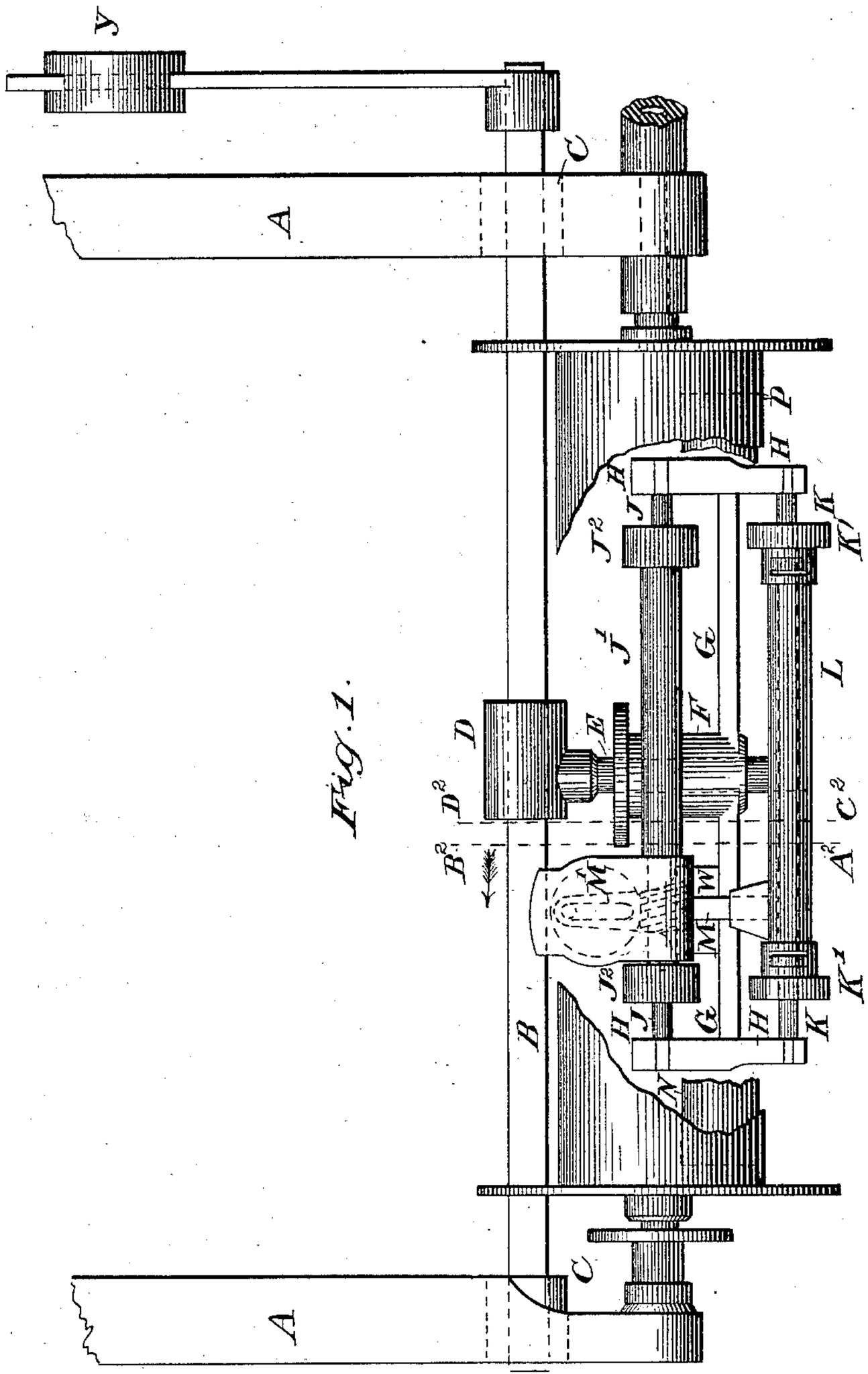

Fig. 1.

Witnesses:
John C. Tunbridge.
John M. Spur.

Inventor:
Alfred Hitchon
by his attorney
A. V. Briesen

(Model.) 2 Sheets—Sheet 2.

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Fig. 5.

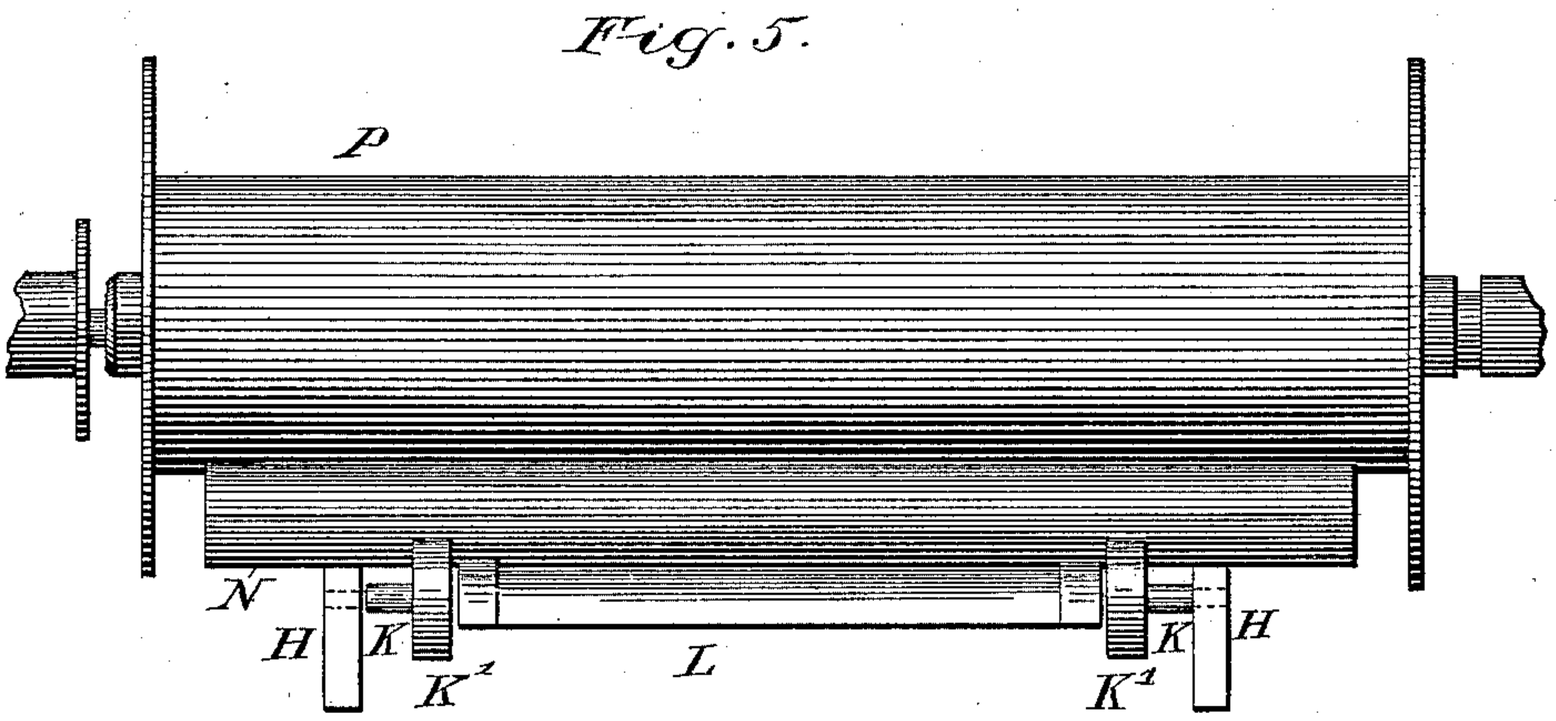


Fig. 2.

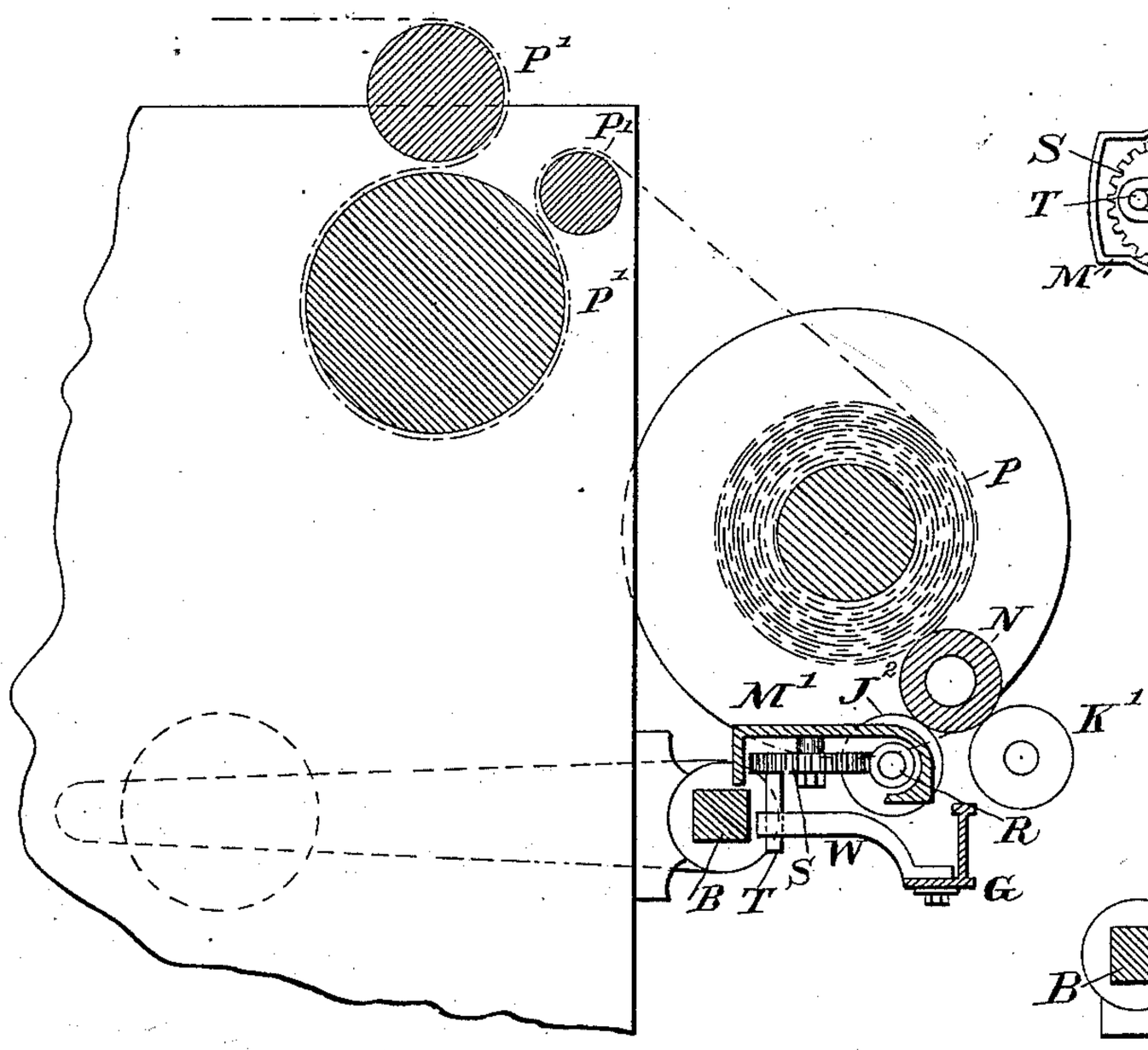


Fig. 3.

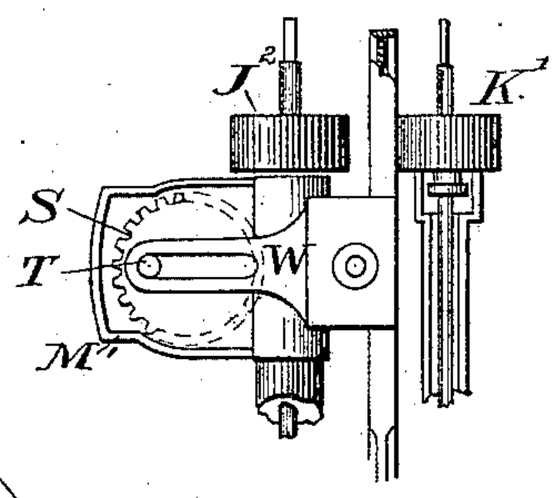
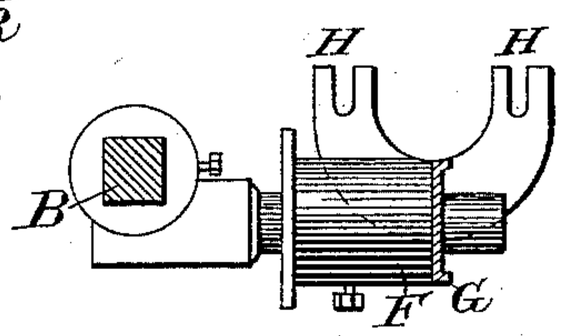


Fig. 4.



Witnesses:
John C. Tunbridge.
John M. Spur.

Inventor:
Alfred Hitchon
by his attorney
A. V. Briesen

UNITED STATES PATENT OFFICE.

ALFRED HITCHON, OF BARROWFORD, NEAR BURNLEY, COUNTY OF LANCASTER, ENGLAND.

APPARATUS FOR PRESSING OR LEVELING YARN ON WEAVERS' BEAMS IN WARP-SIZING MACHINES.

SPECIFICATION forming part of Letters Patent No. 294,235, dated February 26, 1884.

Application filed October 19, 1881. (Model.) Patented in England June 29, 1880, No. 2,661.

To all whom it may concern:

Be it known that I, ALFRED HITCHON, of Barrowford, near Burnley, in the county of Lancaster, England, have invented a new and useful Improvement in Apparatus for Pressing or Leveling Yarn on Weavers' Beams in Warp-Sizing Machines, (for which I have obtained Letters Patent in Great Britain, No. 2,661, bearing date the 29th of June, 1880,) of which the following is a specification, reference being had to the accompanying sheet of drawings, and to the figures and letters marked thereon—that is to say:

This invention consists in the combination of pressure-roller and improved apparatus for traversing such roller between the flanges of the weaver's beam, whereby the whole width of warp is pressed and laid evenly thereon.

It will be understood by persons practically acquainted with the sizing of warps in the "slasher" or sizing-machine that as the warp, when sized, is wound upon the finished or "weaver's-beam" it must during such winding be pressed or rolled, and for such purposes a roller is caused to bear against and press upon the warp; but inasmuch as the "piece" or cloth to be woven is from time to time varied, consequently the width of the warp and distance between the flanges of the beam are in like manner varied, so that as many pressure-rollers of different lengths would be required to suit the different widths of warp, and even then, unless a roller of exactly the same length as the width of the warp and the distance between the flanges of the beam were employed, the outer edges of the warp would not be rolled or pressed. Consequently the piece would, when woven, be slack near its selvages.

Figure 1 is a plan view of an apparatus embodying my invention, the warp-beam and pressing-roller being broken away to show the parts beneath. Fig. 2 is a section of the same, taken on the line A^2 B^2, Fig. 1, looking in the direction of the arrow. Fig. 3 is a bottom view of a portion of the apparatus. Fig. 4 is a sectional elevation through line C^2 D^2 of Fig. 1, showing supports for roller-spindles. Fig. 5 is an elevation of weaver's beam and pressure-roller traversed to left-handed flange.

A A are the side frames of an ordinary slasher sizing-machine, carrying the square shaft B by the bossed brackets C.

At D is a boss to which is cast the shaft E, fitting the socketed boss F, from which extend the arms G G, carrying the bearings H H, in the two slots of which the flat ends of the spindles or axles J and K are received, so as to prevent rotation of these axles.

On the axle J is a long tube, J′, having enlargements J^2 cast thereon.

On the axle K is a cover, L, connected by a projecting tongue-piece, M, with the worm and wheel cover M′, hereinafter described. The axle K also carries disks K′ K′ near its ends.

At N is the ordinary presser-roller, and at P the warp or weaver's beam. The yarn as sized passes thereto by way of the rollers P′ P′ P′, as usual, and the presser-roller N and its carrying apparatus is kept in position in relation to the beams, so that it is pressed more or less tightly against the warp on the beam P by means of the shaft B, arm W, and counterbalance-weight Y.

The action of the apparatus is as follows: The friction of the warp on the revolving beam P causes the roller N to revolve, and the friction of the roller N on the friction-surfaces J^2 J^2 and K′ K′ causes the long collar J′, on which is the worm R, to revolve, and the worm R drives the gear-wheel S, which carries the crank pin or stud T, the latter being received within the slot of the arm W, that projects from the arm G. The worm drives the wheel S and pin T, so that at each revolution of the wheel S, the arm W being stationary, the parts that carry the wheel S—to wit, the collar J′ J^2 J^2—will receive a reciprocating motion, and by the tongue M engaging with the cover M′ and cover L, Fig. 1, impart a like motion to the friction-surfaces K′. The presser-roller N is thus carried from side to side and caused to traverse from flange to flange of warp-beam P, and so press the outer edges and entire width of warp thereon. Where the amount of traverse imparted to the presser-roller N would be greater than the width between the flanges of the beam, the presser-roller, on its ends coming in contact with the inner surface of the flanges, slips upon its bearing-surfaces J^2 J^2 K′ K′, and is thus

kept in position to roll and press the outermost threads of the warp in succession as it passes from flange to flange of the beam.

I make no claim to the presser-roller, nor to the use of friction rollers or surfaces for carrying or supporting such roller; but

I claim as my invention—

The combination of the roller N with the long collar J′, having enlargements J^2 J^2, worm R, wheel S, pin T, arm W, tongue M, cover L, and spindle K, having friction-disks K′ K′, substantially as described and illustrated.

ALFRED HITCHON.

Witnesses:
WALTER BRIERLEY,
HENRY LOMAX.