

(No Model.)

2 Sheets—Sheet 1.

H. ROWE.
APPARATUS FOR BLEACHING, &c.

No. 576,620.

Patented Feb. 9, 1897.

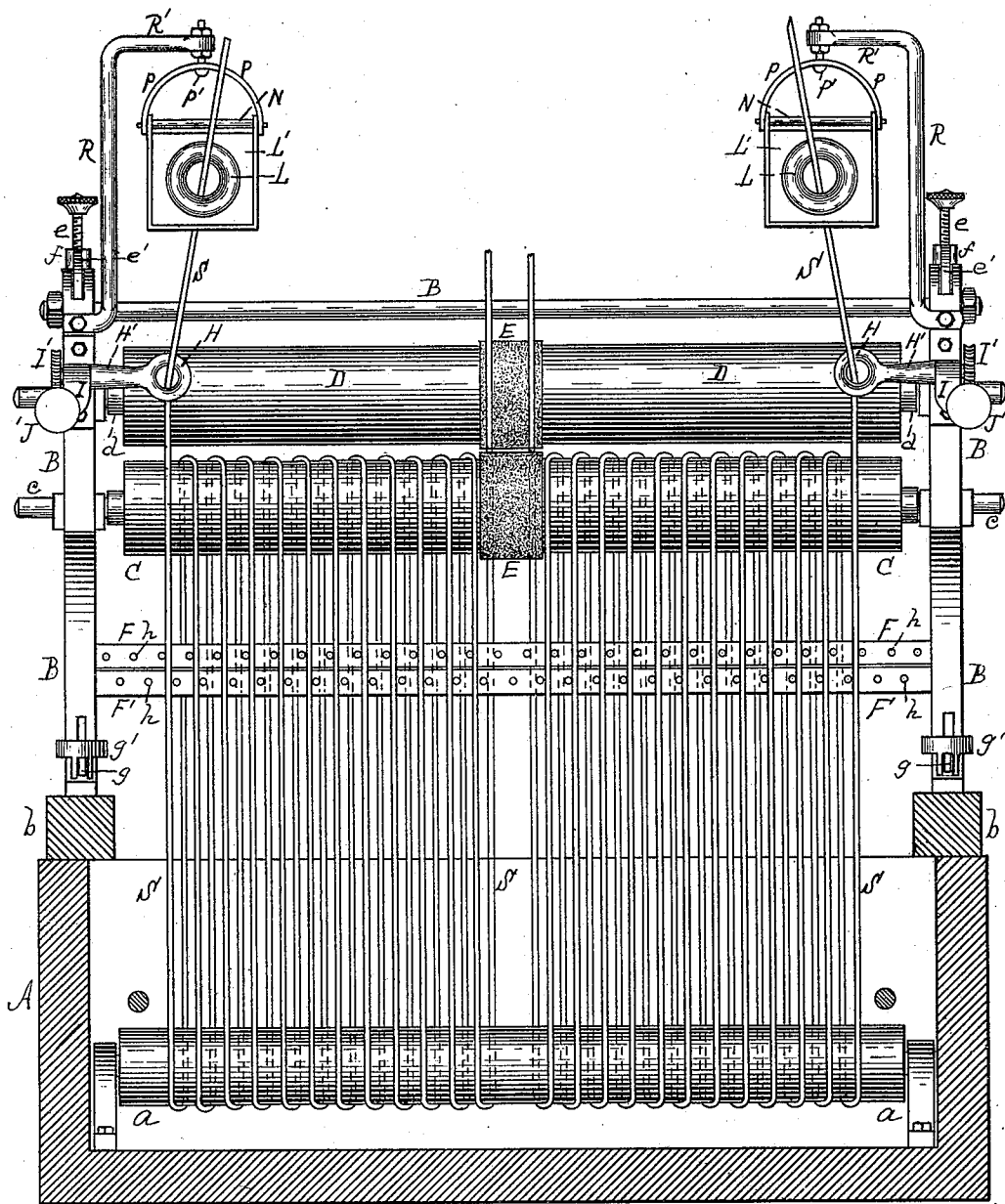


Fig. 1.

WITNESSES

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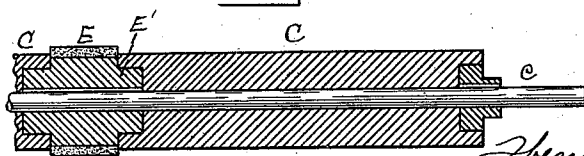
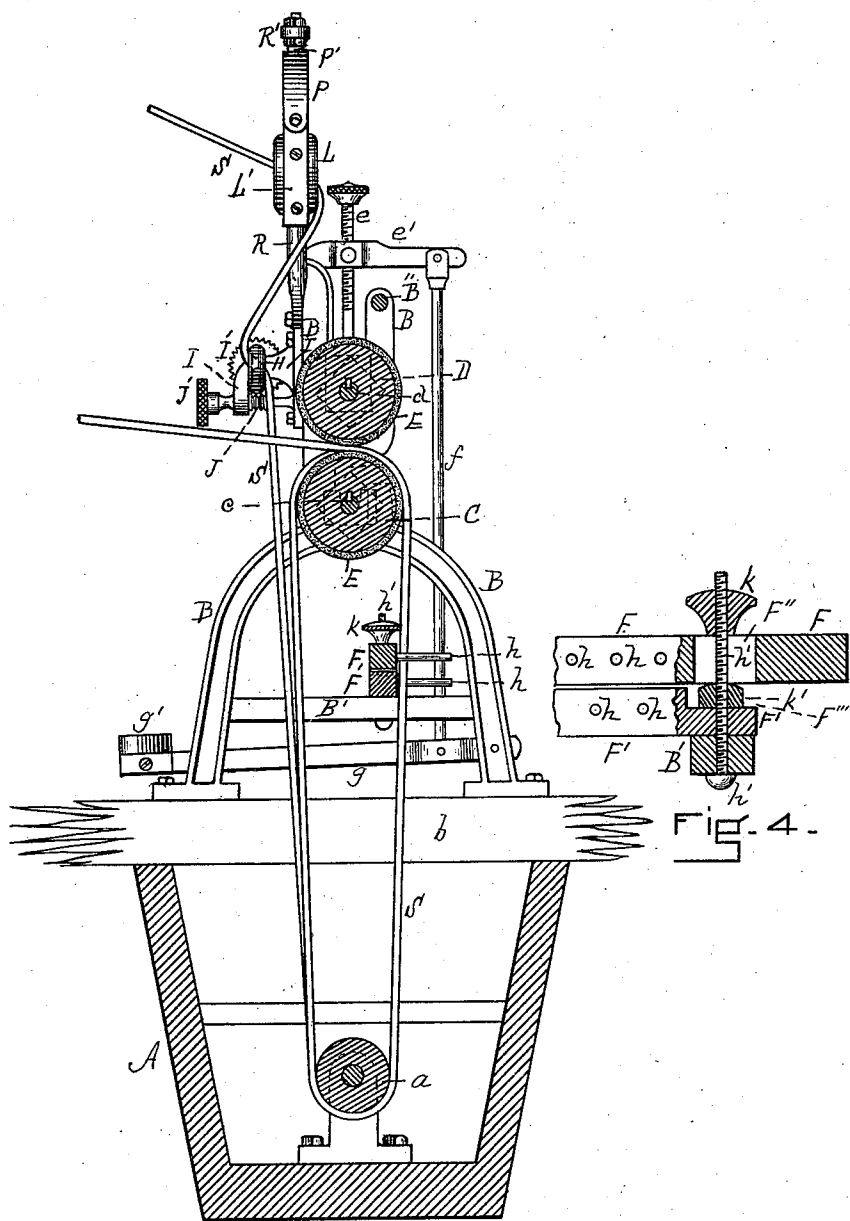
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WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY ROWE, OF LEWISTON, MAINE.

APPARATUS FOR BLEACHING, &c.

SPECIFICATION forming part of Letters Patent No. 576,620, dated February 9, 1897.

Application filed November 25, 1896. Serial No. 613,401. (No model.)

To all whom it may concern:

Be it known that I, HENRY ROWE, a subject of the Queen of Great Britain, residing in Lewiston, in the county of Androscoggin and State of Maine, have invented new and useful Improvements in Bleachery Washing-Machines, of which the following is a specification.

This invention relates to an improved washing-machine for bleacheries, and particularly to the novel construction and arrangement of parts hereinafter described, whereby improved squeezing-rolls are embodied in the machine, a double rail, each part provided with relatively adjustable guide-pegs, more completely adjustable "guiding-eyes" are applied, and other improvements employed in the mechanism.

The nature of the invention in detail is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved combined bleachery washing and squeezing machine, the water-trough being shown in section. Fig. 2 is a central transverse vertical section of the same. Fig. 3 is a longitudinal section in detail of a portion of one of the squeezing-rolls. Fig. 4 is a view in detail, partly in front elevation and partly in section, of one end of the rails.

Similar letters of reference indicate corresponding parts.

A represents the water-trough, supporting within it near its lower end the roll *a*. Upon the opposite ends of this trough are rigidly secured bases *b*, which support the opposite ends of a frame B, connected by the rod B".

Supported in this frame are the opposite ends of the shaft *c*, upon which is splined (see Fig. 3) the lower squeezing-roll C.

D is the upper squeezing-roll, similarly disposed upon the shaft *d*, whose ends are supported adjustably vertically within the frame B, and are adapted to be raised and lowered by the screws *e*, extending down into engagement with said shaft from levers *e'*, hinged to the upper ends of the frame and connected by rods *f* with arms or levers *g*, hinged to the lower portions of the frame and provided with suitable weights *g'*. These parts *e*, *e'*, *f*, *g*, and *g'* are not new in this invention.

The squeezing-rolls C D are provided cen-

trally with the rubber bands E, said bands being disposed on the periphery of a central block or roller E', which is made fast centrally within the roller D, said roller being divided and having its inner adjacent ends formed to receive the block or roller E'. The lower roll C is formed in the same manner and provided with an exactly similar elastic band E. FF are respectively upper and lower rails, from which extend horizontally the guide-pegs *h*. The lower rail F' is supported at its opposite ends upon the cross-bars B', sustained by the frame, and the upper rail is longitudinally slotted near its opposite ends at F'' and connected to the lower rail by a bolt *h'*, which bolt also serves to secure the two rails to the cross-piece B'. (See Fig. 4.) A nut *k'* secures the lower rail F' to the cross-piece B', said rail being chambered out at F''' for the purpose, while a nut *k* holds the upper rail down upon the lower rail, but by being loosened enables the upper rail to be adjusted horizontally with relation to the lower. The cloth, which has its ends secured together in chain form in the ordinary manner and is represented by the letter S, passes between the guide-pegs in both rails. It is evident, therefore, that the two rails adjustable with relation to each other enable me to provide more guide-pegs and hence accommodate more winds of cloth and also to adjust the rows of pegs to different widths and thicknesses of cloth, so that a broader or narrower clear vertical passage for the cloth between an upper and a lower peg may be provided. The fabric enters the machine through guide-eyes and "straining-eyes" (below described) at the opposite ends, thence passes down around the lower roll *a*, thence up between the guide-pegs and around the lower squeezing-roll C, beginning with the outer ends, as usual, and finally reaching the center of the roll, where the moisture is squeezed out of it by the elastic bands E on the two rolls C D, at which point the fabric leaves the machine. Thus the squeezing-rolls make a part of the washing-machine, and the squeezing is done only at the center of said rolls just before the fabric leaves the machine.

H H are straining-eyes, which, instead of being located at some distance from or above the machine, are supported by the frame at opposite ends thereof. The shanks H' of

these eyes are each supported and have their bearings in a bracket I, secured to the frame, and the outer end of each shank is formed into a gear-wheel I', which is engaged by a worm J, supported by said bracket and operated by the hand-wheel J'. By turning the hand-wheels the eyes are rotated and their angles changed so as to regulate the tension of the strands of fabric passing through them to the trough.

Before the strands reach the straining-eyes they are passed through guide-eyes supported by the frame. These eyes consist of rings L, fixed in substantially rectangular frames L', which are hung by means of horizontal rods N in the lower ends of bails P, which are centrally swiveled, so as to rotate on a horizontal plane at P' to the horizontal arms R' of substantially vertical rods R, extending up from the frame, as shown. The bails P being capable of a rotative movement and the frames L swinging therefrom, these guide-eyes will yield in almost any direction in case of contact with bunches or kinks in the strands of fabric. This gives the operator time to stop the machine and thereby prevent damage.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a bleachery washing-machine, a water-trough; a frame supported thereby; a horizontal roll supported by and within the trough; a pair of parallel squeezing-rolls supported by the frame above and substantially parallel with the roll in the trough, said squeezing-rolls being provided centrally with elastic bands E for pressing the moisture from the fabric before it leaves the machine; and suitable means for introducing the strands of fabric to the trough and guiding them to the squeezing-rolls, substantially as described.

2. In an apparatus of the character described, the combination with the frame, lower

roll within the trough and squeezing-rolls supported by the frame; of a pair of substantially horizontal rails supported by the frame between the squeezing-rolls and the trough, both provided with horizontally-extending guide-pegs between which the strands of fabric pass, and the upper of said rails being arranged to be adjusted longitudinally and horizontally with relation to the lower rail, substantially as set forth.

3. In an apparatus of the character described, the frame; supporting-rods R extending from opposite ends thereof and bent into substantially horizontal portions R'; the bails P swiveled to said portions R' so as to rotate horizontally; and frames swung from the lower ends of said bails and provided with guide-eyes through which the strands of fabric pass to the apparatus, substantially as described.

4. In an apparatus of the character described, the frame; supporting-standards extending therefrom; swiveled supports depending from said standards and adapted to be rotated in a horizontal plane; and frames supporting guide-eyes through which the strands of fabric are introduced to the apparatus, said frame swinging vertically from said swiveled supports, substantially as set forth.

5. In an apparatus of the character described, the combination with the frame; of the horizontal brackets I, the worm J supported thereby, and the straining-eyes H provided with shanks H' rotatively supported by the brackets and having their outer ends formed with gear-wheels which are engaged by said worms, substantially as described.

HENRY ROWE.

Witnesses:

FRANK AYLING,
JAMES GRAY.