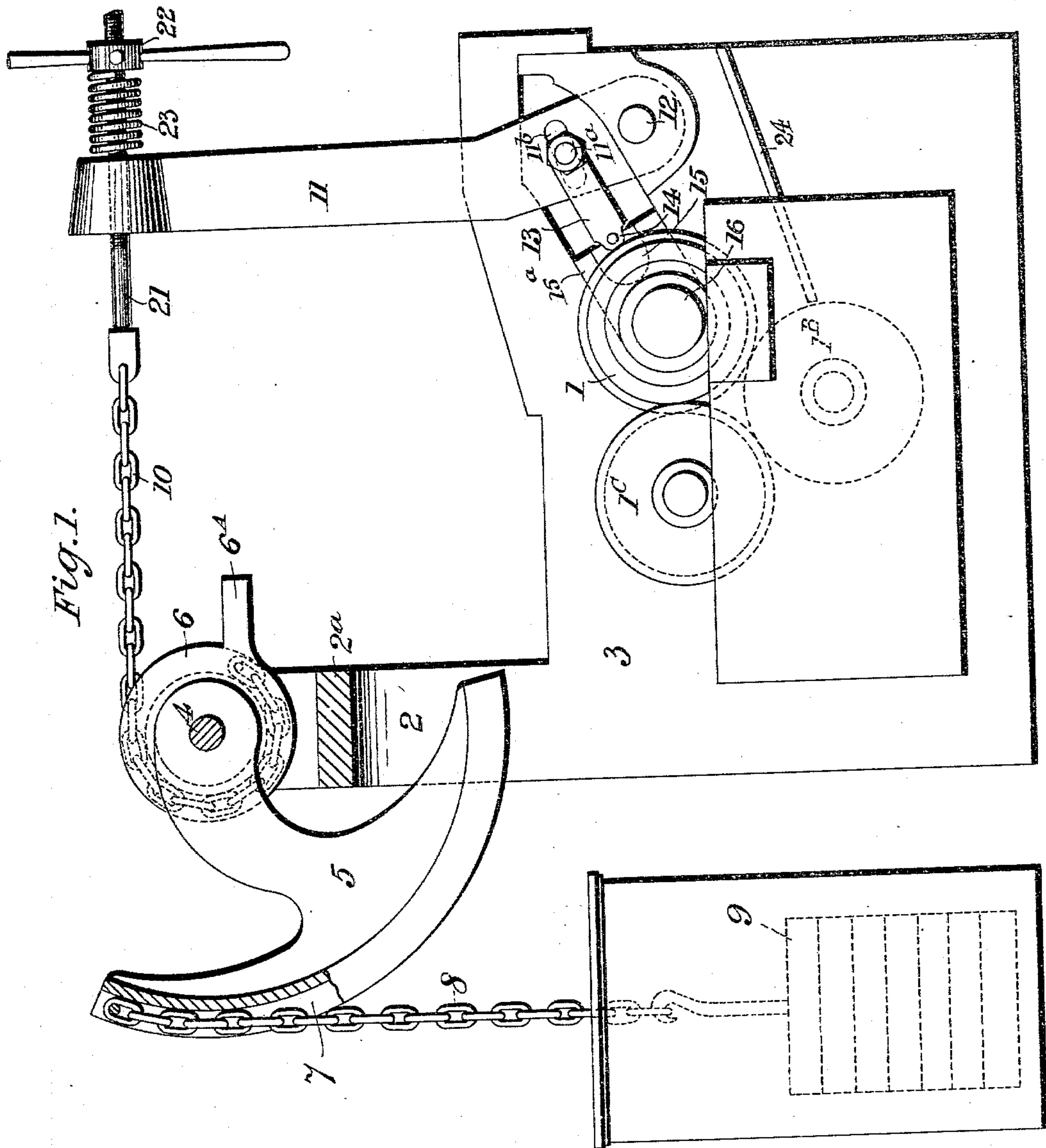


(No Model.)

3 Sheets—Sheet 1.

J., L. & M. JEFFERSON.
ROLLER ADJUSTING MECHANISM FOR WASHING MACHINES.
No. 559,710. Patented May 5, 1896.



WITNESSES.

John Thomas Simpson
Fred. Harry Moore

INVENTORS.

Joseph Jefferson
Gazarius Jefferson
Mordcai Jefferson

(No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

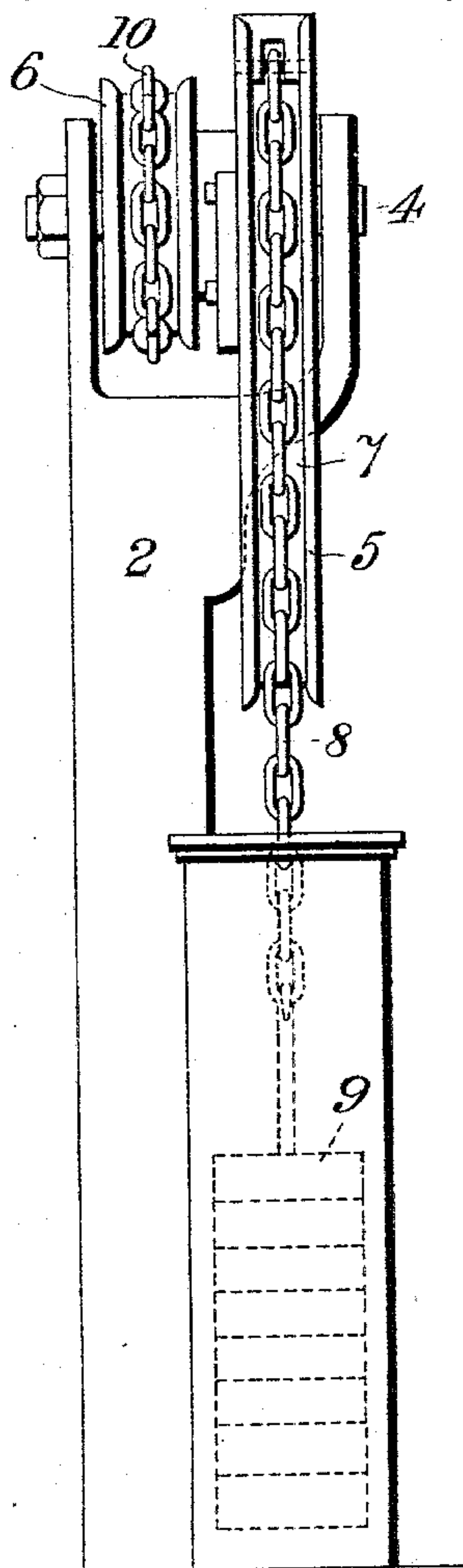
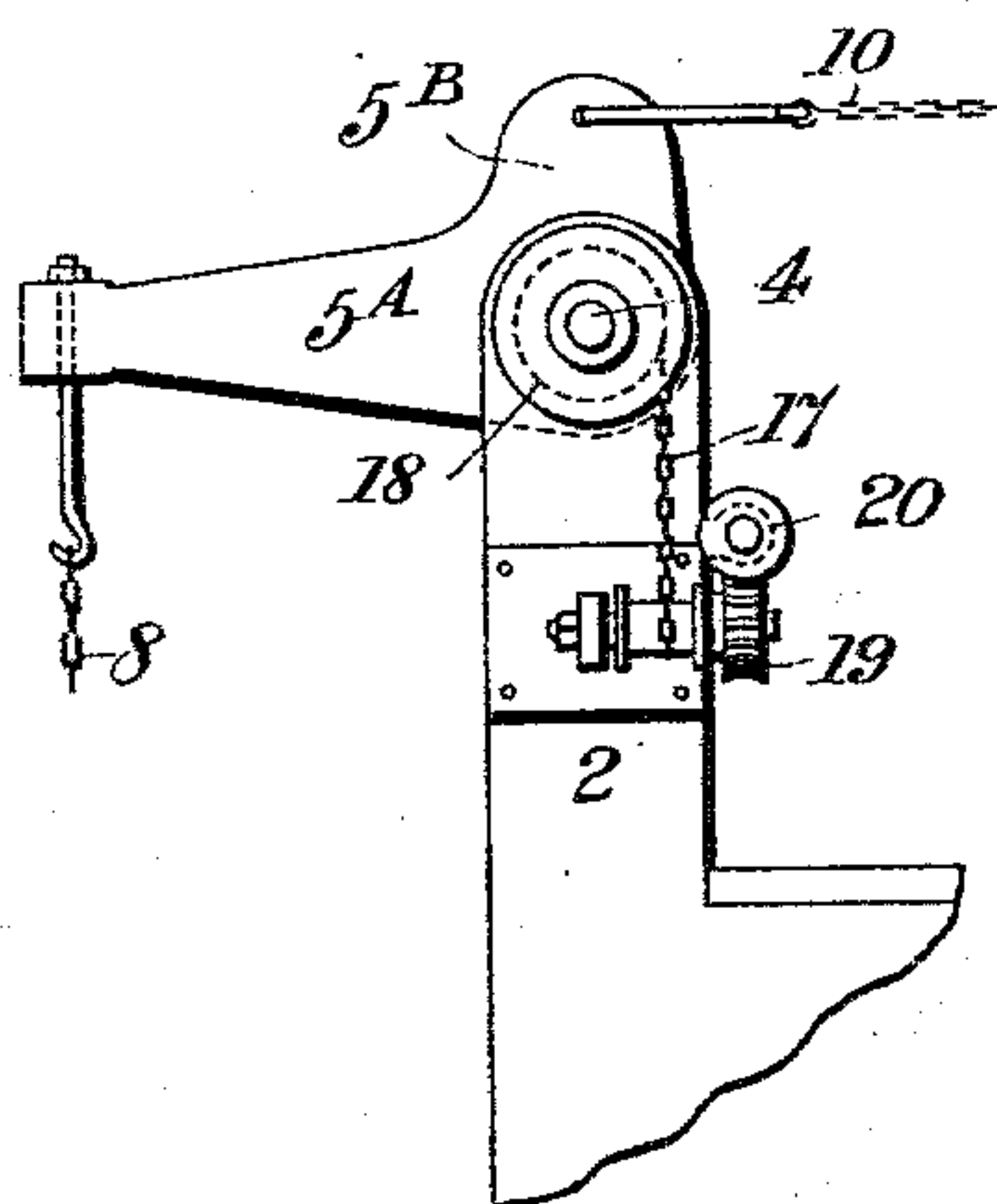


Fig. 4.



WITNESSES.

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(No Model.)

3 Sheets—Sheet 3.

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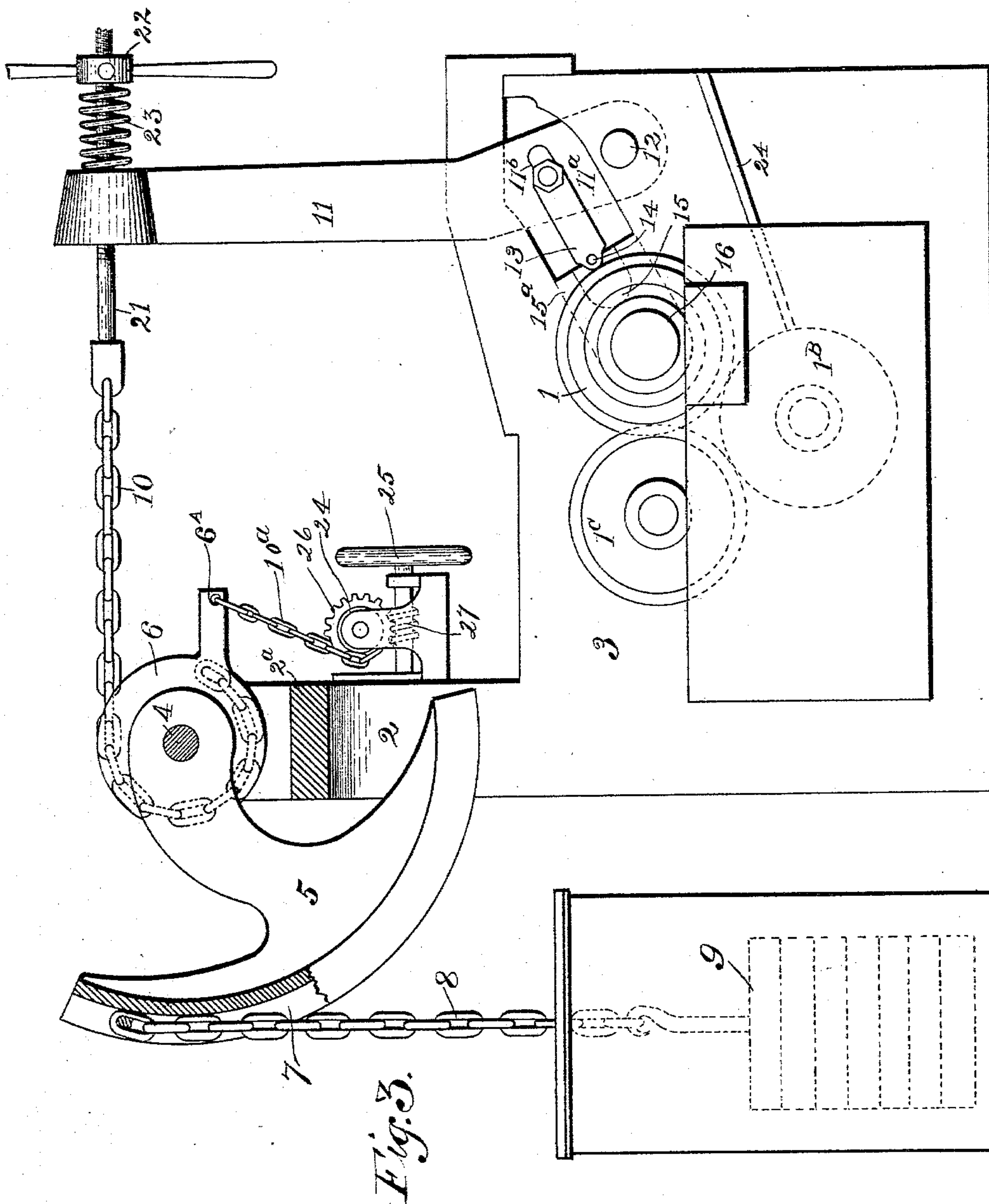


Fig. 3.

Witnesses

L. H. Koltz

L. H. Blakelock

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Lazara Jefferson
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Attorneys.

UNITED STATES PATENT OFFICE.

JOSEPH JEFFERSON, LAZARUS JEFFERSON, AND MORDECAI JEFFERSON, OF
BRADFORD, ENGLAND.

ROLLER-ADJUSTING MECHANISM FOR WASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 559,710, dated May 5, 1896.

Application filed December 27, 1895. Serial No. 573,543. (No model.) Patented in England October 26, 1893, No. 20,197.

To all whom it may concern:

Be it known that we, JOSEPH JEFFERSON, LAZARUS JEFFERSON, and MORDECAI JEFFERSON, subjects of Her Majesty the Queen of Great Britain, residing at Bradford, in the county of York, England, have invented a certain new and useful Improvement in Adjusting the Rollers of Wool-Washing and other Machines, (for which we have obtained Letters Patent in Great Britain, No. 20,197, dated October 26, 1893,) of which the following is a specification.

Our invention relates to an improvement in the means for weighting, regulating, or adjusting the nipping-rolls of wool-washing machinery, though the invention is applicable also to nipping-rolls of other machinery where it is desirable to put pressure upon one or more of the rolls of a pair or set.

Referring to the accompanying drawings, Figure 1 is a side elevation, partly in section, of the improved device for applying weight to the squeezing-rollers. Fig. 2 is an end view of Fig. 1, one side of the frame only being shown. Fig. 3 represents, in side elevation and partly in section, the device provided with means for lifting the weights. Fig. 4 represents a detached view, in side elevation, of another form of lever-arm adapted to take the place of the quadrant-lever shown in the preceding figure and also provided with means for lifting the weights.

According to our invention the rollers $1^a 1^b 1^c$ are carried between side frames 3, provided with upright portions or standards 2. The standards 2 each carry a cross-shaft, or it may be a short shaft 4, as shown, on which are two quadrant-levers 5, one on each side of the machine. Each quadrant-lever 5 has a flanged boss or pulley 6 attached thereto and carried by the shaft 4. The outer radius or arc 7 of each quadrant 5 has attached to it a chain 8 and weight 9, and to the flanged boss or pulley 6 is attached one end of a chain 10, the latter passing partly around the boss 6, thence extending and being attached to the upper end of an upright lever 11, the fulcrum 12 of which is at its lower end and preferably at a point slightly above the nip of the squeezing-rollers $1^a 1^b 1^c$, so that the lap-roller 1

presses harder on the finishing-roller 1^c than on the roller 1^b .

Above the fulcrum 12 of the upright lever 11 and attached thereto, preferably by means of a bolt 11^a , adjustable in a slot 11^b , is a link 13, the outer rounded or convex end 14 of which is received in a block 15, carried in the bearing 15^a , which receives one of the journals 16 of the movable roller 1, the convex surfaces 14 and its seat, which is concave, constituting a toggle-joint, so that the thrust of the upright lever is at all times directly on the axis of said roller 1. The link 13 for this purpose is free to turn on the bolt 11^a .

In order to easily raise the weight 9, thereby lessening the pressure between the rollers, a device is provided consisting of the worm-wheel 26, worm 27, cylinder 24, hand-wheel 25, and chain 10^a , which chain may be attached to the lug 6^a , cast on the back of the quadrant 6, and when so desired the said chain may be unhooked from the said lug or arm 6^a . By turning the hand-wheel 25 the weight may be either raised or lowered. If preferable to lift the weight by hand and not employ the above means, it may be abolished, as shown in Figs. 1 and 2, in which case the lug 6^a simply acts as a means to prevent the quadrant 5 from turning over backward.

In some cases instead of the quadrant-levers 5 a cranked lever 5^a (see Fig. 3) may be employed, in which case the chains 8 and weights 9 are attached to the horizontal arm 5^a and the chain 10 from the vertical arm 5^b is attached to the upright toggle or pressure-lever 11 already described.

In the above modification the means for raising the weights 9 consist of a chain 17, pulley 18, worm 19, and worm-wheel 20, which wheel may be turned by hand-wheel, screw-key, or other device.

The chain 10 in either form is attached to a screwed rod 21, which passes through a hole or eye in the upright lever 11, and a winged nut 22 on the end of the rod 21 allows of the weight or pressure put upon the squeezing-rollers $1^a 1^b 1^c$ being readily adjusted and regulated. A spring 23 is preferably interposed between the winged nut 22 and the upright lever 11.

At 6^a in Fig. 1 is a lug cast to the back of the quadrant 5, which lug, coming into contact with the forked part 2^a of the standard 2, prevents the quadrant 5 turning over backward and may also be used as a substitute for the pulley 18 in Fig. 3, the chain 17 being attached to its outer end. The inclined table is employed for feeding the material to the rolls and may be in connection with the open end of a wool-washing tank or otherwise.

What we claim is—

1. The combination of a fixed and a movable roller, a frame on which the same are mounted, movable bearings for the movable roller, upright pivoted levers, link connections between the said levers and the movable bearings, a shaft mounted on the said frame, pulleys carried by the said shaft, quadrant-levers connected to the pulleys, flexible connections between the upright levers and the said pulleys, flexible connections attached to the quadrant-levers, weights carried by the said connections, and means for raising the weights and adjusting the pressure between the rollers aforesaid, substantially as described.

2. The combination of a fixed and a movable roller with a frame on which the said

rollers are mounted, movable bearings for the movable roller, upright pivoted levers, link connection between said levers and the movable bearings, a horizontal shaft carried by the aforesaid frame, pulleys carried by the said shaft, weighted quadrant-levers connected to the said pulleys and mounted on the same shaft, flexible connection between the said pulleys and the upright levers, resilient bearing between the upright lever and its connection with the pulleys, means for regulating the tension of said connection, weights connected to the said quadrant-levers, means for raising the said weights consisting of a cylinder connected to the aforesaid pulley by flexible connection, a worm-wheel and worm-shaft for operating the same, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

JOSEPH JEFFERSON.
LAZARUS JEFFERSON.
MORDECAI JEFFERSON.

Witnesses:

JOHN THOMAS SIMPSON,
FRED. HARRY MOORE.