(No Model.)

A. RODGERS.

PRESSER ROLLER FOR GANG SAW MILLS.

No. 257,979. Patented May 16, 1882.

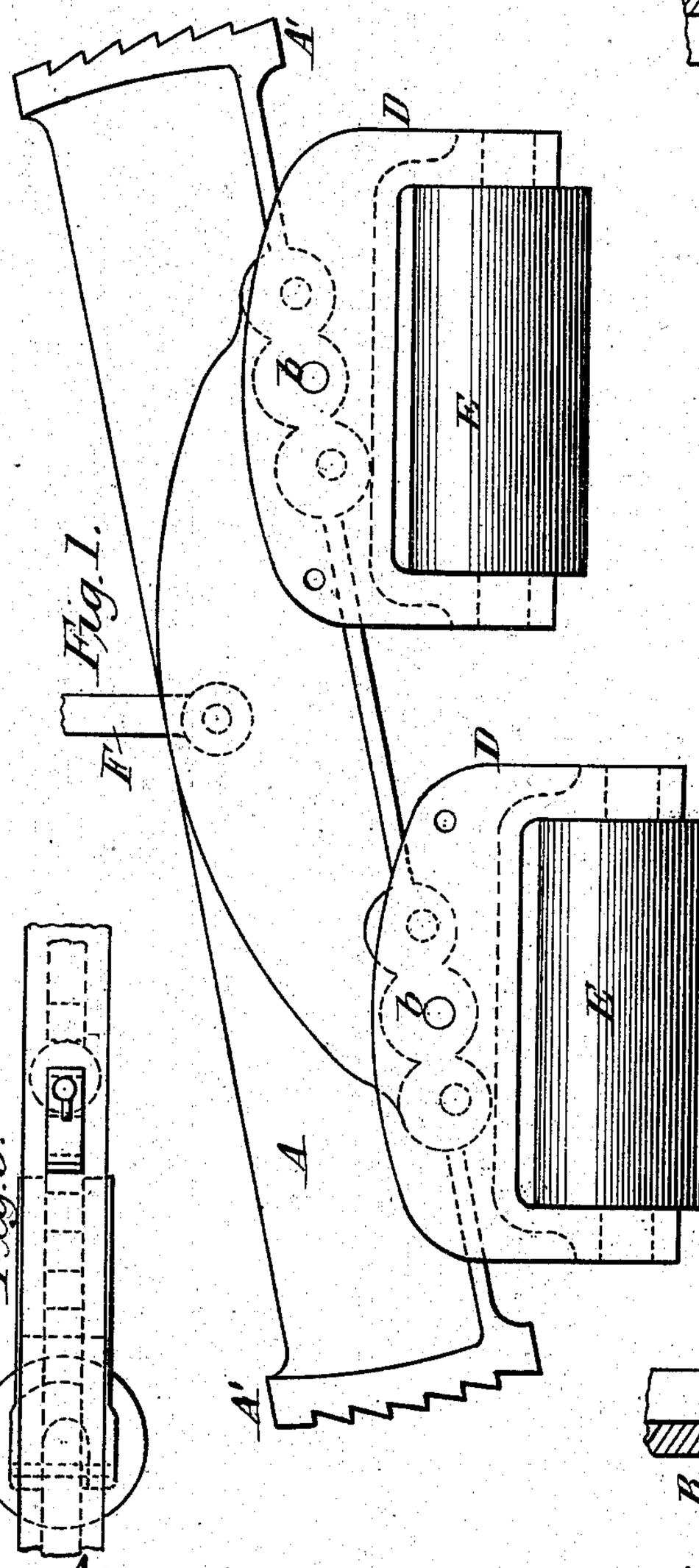

Fig. 1.

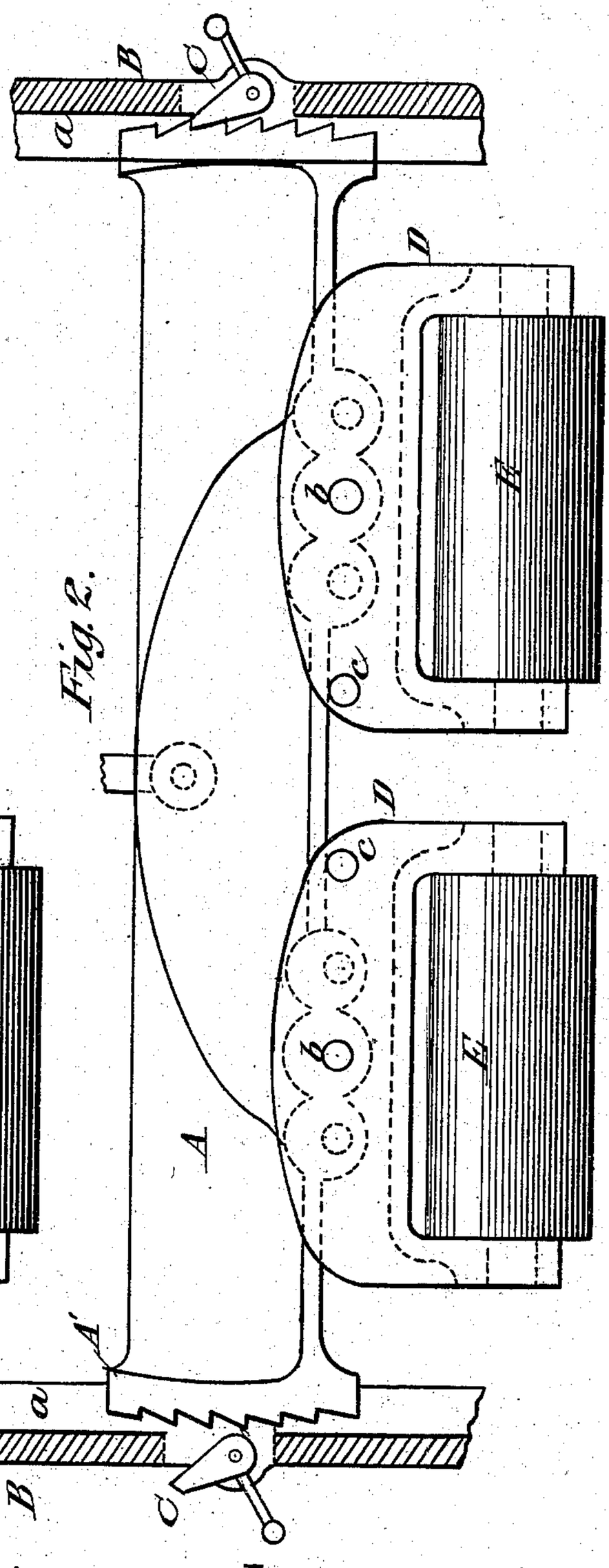

Fig. 2.

Fig. 3.

Attest

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ALEXANDER RODGERS, OF MUSKEGON, MICHIGAN.

PRESSER-ROLLER FOR GANG-SAW MILLS.

SPECIFICATION forming part of Letters Patent No. 257,979, dated May 16, 1882.

Application filed February 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER RODGERS, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Binder-Rollers for Gang-Saw Mills, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in binder-rollers for gang-saw mills. The stocks or logs which are sawed in these mills are frequently so small that more than one can be passed through the gang at the same time, in which case two are allowed to pass simultaneously side by side. As these may be of different thicknesses, it becomes necessary to have the binder-roller in two parts, each part moving vertically, so that the log or stock having the least thickness may be held down as firmly as the thickest one. It is also necessary that these rollers should be as close to the saws as possible, for it is at the point of contact of the saw-teeth with the log that the lifting power of the saws is exerted. In order to accomplish this result in a practical manner, I have devised the plan of connecting the two rollers with the opposite ends of an equilibrium or equalizing beam in such a manner that they may move in opposite directions vertically, thus allowing them to accommodate themselves automatically to variations in the thickness of the stocks passing under them.

Heretofore these binding-rollers have been constructed either in a single piece, requiring the stocks to be all brought to an even thickness, or in two pieces, each having an independent vertical movement and requiring separate adjustment. An attempt has also been made to give an automatic adjustment to the rollers by placing them on a double-cranked axle; but this placed one of the rollers at such a distance from the saws that it was inoperative at a time when its services were most needed—that is, when the end of a stock was passing through the saws. It has not therefore gone into extensive use.

By my improvement I have overcome the difficulties above enumerated and am able to pass stocks of varying thickness through the gang promiscuously and without any special attention to the adjustment of the separate rollers.

In the accompanying drawings, Figure 1 shows the rollers in the position they occupy while stocks of different thickness are passing under them. Fig. 2 shows them arranged for a single stock or two of even thickness. Fig. 3 is an end view of the rollers and a portion of one of the guides by which they are partially supported.

The equalizing-beam A is preferably of cast-iron, and formed, as shown, with arc-shaped ratcheted ends A′, which enter longitudinal grooves *a* in the guides B B. Mortises in these guides contain pawls C, which are provided with weighted handles, so that when they are thrown back the pawls will be held out of engagement with the ratchet-teeth on the ends of the beam A, but when turned in the opposite direction will engage with said teeth and hold the beam rigidly in any position in which it may be placed.

D D are the roller-frames, each of which is pivoted to the equalizing-beam by a pin, *b*, which passes through a centrally-located hole in the upper part of the frame and one of a series of holes (shown in dotted lines) in the beam. This series of holes in the beam is intended to allow a lateral adjustment of the rollers and their frames upon the beam, as when a single stock is passing through they need to be closer together than when two are operated upon at the same time.

The rollers E E are journaled in the frames D D and revolve freely therein. When it is desired to use the binder upon a single stock or two of even thickness the beam is brought into a horizontal position and the pins *c c* inserted through holes in the roller-frames near their inner ends. These pins pass beneath the lower edge of the beam and lock the frames D D rigidly in such a position that the lower side of both rollers will be in the same horizontal line, as shown in Fig. 2. Attached to the middle of the beam A by a pivotal joint is the suspension-bar F, by means of which the beam and its attached frames and rollers are raised and lowered as a whole. In order to accomplish this result, the upper end of the bar F may be provided with a screw-thread operated upon by a suitable revolving nut, or it may be

carried by a system of levers, or any other of the many well-known mechanical devices in use for raising and lowering weights may be employed, the selection being governed by the judgment of the artisan who constructs the apparatus.

The operation of the device is simple. When two stocks of different thicknesses are ready to enter the gang the equilibrium-beam is lowered. The roll upon one side first comes in contact with the thickest stock, but as the beam is lowered it turns upon its suspension-pivot until the other roller comes in contact with the thinnest stock, when both rolls will rest with even pressure upon their respective stocks; and as the stocks pass through the gang, should the thickness of either vary, the rollers will readily adjust themselves automatically to the change, retaining all the while an equable pressure upon both stocks, and when running single stocks or double stocks of even thickness the whole is readily converted in effect to a single rigid roll, bearing equally across the upper surface of the stock or stocks.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. As an improvement in binder-rollers for gang-saw mills, the combination, with two separate rollers and their adjustable frames, of a swinging equalizing-beam and vertical guides for the ends of the same, all arranged substantially as and for the purpose specified.

2. In binder-rollers for gang-saw mills, the combination, with an equalizing-beam provided with ratcheted ends, of grooved guides having pawls for sustaining said beam in a stationary position when desired and adjustable roller-frames attached to said beam, substantially as and for the purpose described.

3. The combination of the equalizing-beam, the roller-frames and rollers pivoted thereto, with the pins *c*, for the purpose of converting said rollers and roller-frames from swinging attachments to said bar to rigid fixture thereto, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER RODGERS.

Witnesses:
ROBT. E. BUNKER,
H. L. DELANO.