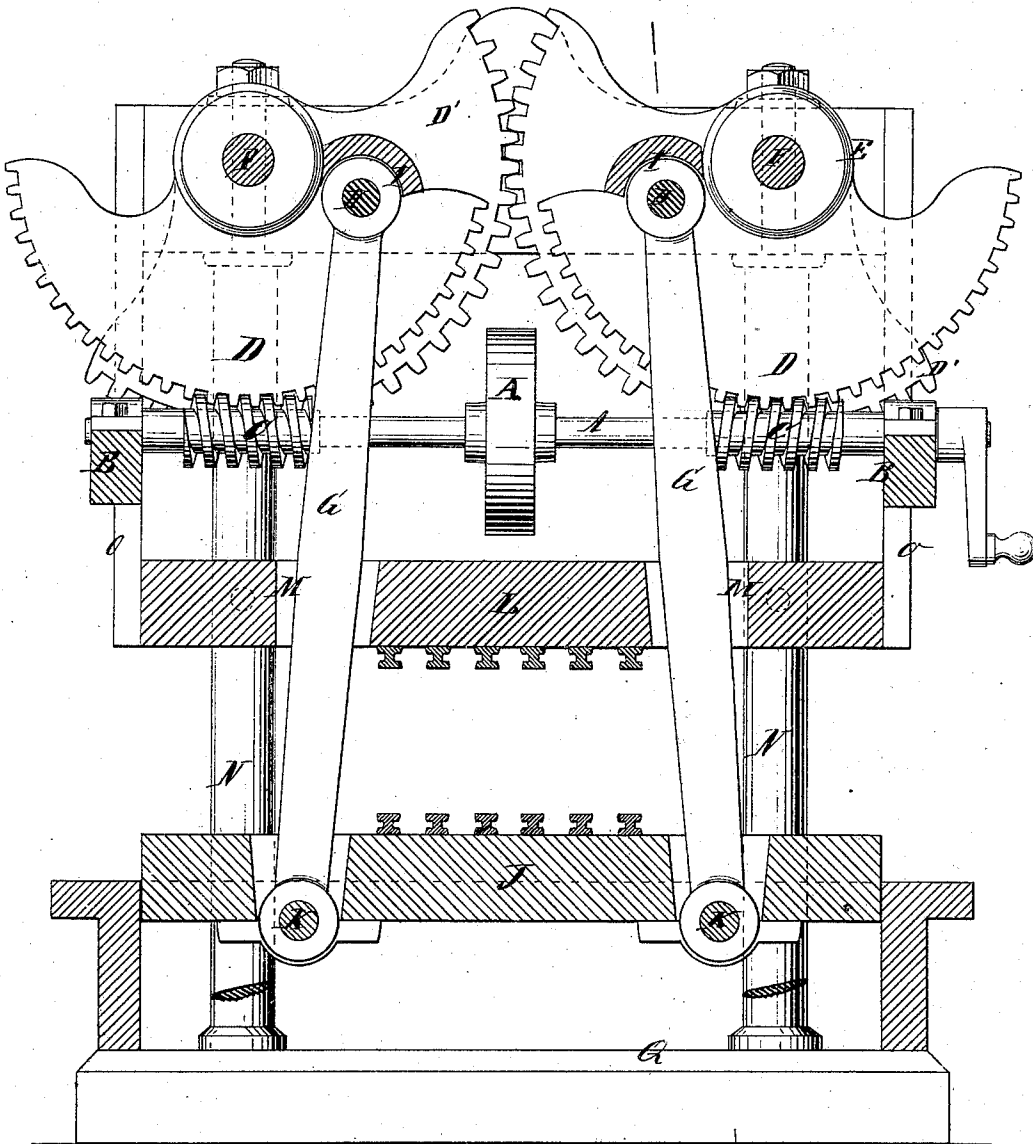


B. G. MARTIN.
POWER-PRESS.

No. 170,179.

Patented Nov. 23, 1875.

Fig. 1.



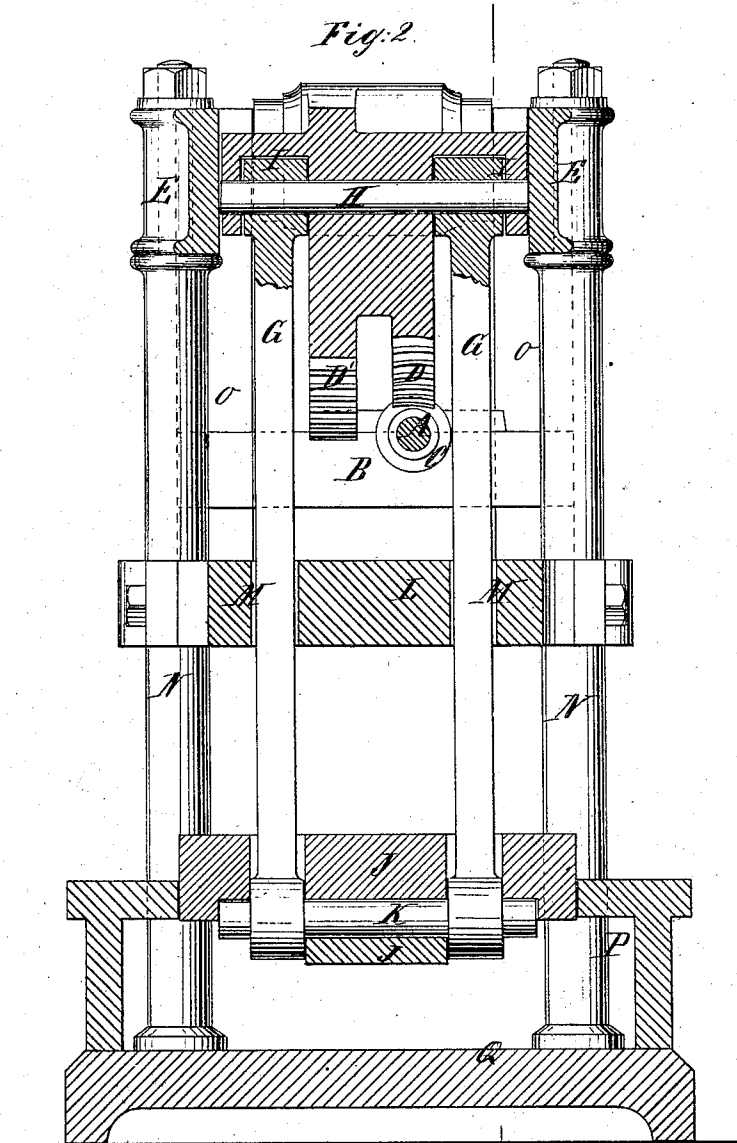
Witnesses:
Otto Hufeland
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Inventor:
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per
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Attors

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UNITED STATES PATENT OFFICE.

BENJAMIN G. MARTIN, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES POWER-PRESS COMPANY.

IMPROVEMENT IN POWER-PRESSES.

Specification forming part of Letters Patent No. **170,179**, dated November 23, 1875; application filed May 12, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN G. MARTIN, of the city, county, and State of New York, have invented a new and useful Improvement in Power-Presses, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 shows a longitudinal section. Fig. 2 is a cross-section.

Similar letters indicate corresponding parts.

This invention relates to presses for pressing cotton and other materials; and consists, essentially, in the combination of two worms, one threaded right and the other left, and mounted on a common shaft, with segments of worm-wheels and cog-wheels mounted in the head of the press, the cog-wheels being made to engage with each other and with rods affixed eccentrically to the sides of the segments, and forming the support of the follower, in such a manner that when motion is imparted to the worms, such motion is transmitted to the segments and to the rods, by which means the follower is caused to travel up or down, while by means of the cog-wheels an even distribution of the strain on the worm and the worm-wheels takes place. The follower is guided between two or more standards, extending from the base to the head of the press, while at a suitable point between the base and the head is arranged a resisting-block, in such a manner that the follower is adapted to press in an upward direction. The base of the press has the form of a well, which is adapted to be sunken into the floor of the place where the press is put up, in such a manner that the surface of the follower which receives the bale of cotton or other material to be pressed may be brought even with the floor, and the bale may be rolled on or off the follower with facility.

In the drawing, the letter A designates a horizontal shaft, on which are mounted right and left hand worms C C. These worms are arranged to engage, respectively, with segments of worm-wheels D D, mounted in the head E of the press. On one or both the sides of the segments D D are located segments D' D' of cog-wheels, which are formed with or secured to the worm-wheel segments

D D. The cog-wheel segments D' D' are so arranged that they gear with each other, and the object thereof is to form a protection to the worm, and to prevent any uneven strain when the worms are put in motion, as herein-after described. The head E is divided into two parts, between which the segments D D D' D' are arranged, and which form the bearings for rock-shafts F F, on which the segments are mounted. To the respective sides of the segments D D are connected the upper ends of lifting-rods G, through the medium of eccentric wheels or wrist-pins H, which pass through the rods or round the eccentric wheels. The upper ends of the rods G have a covering, I, formed on the sides of the segments, while the lower ends of the rods are fitted in recesses formed in the follower J, and are connected to the latter by means of pivots K, which pass through the rods and through lugs J', formed on the under surface of the follower.

When the worm-shaft A is turned the several segments D D D' D' are caused to swing round on the shafts F F in one or the other direction, and by the rods G G this movement is communicated to the follower J, which thus is made to ascend or descend, as the case may be. In order to impart motion to the shaft A I mount on the same a pinion, A', which may be connected with any suitable driving-power; or, in lieu of the pinion A', the shaft may be provided with a worm-wheel, engaging with a worm mounted on a counter-shaft, which carries different-sized pulleys, so that different speeds may be given to the follower. About midway between the head E and the base Q of my press is placed a resisting-block, L, which is fastened to vertical posts or standards N by means of bolts, or by any other suitable means.

Thus, when a bale of cotton or any other material or substance is placed on the upper surface of the follower J, and the latter is lifted by the action of the rods G G, the material is compressed between the follower and the resisting-block L.

It is obvious that the follower J may be made to press downward, or against the base Q, with equal facility as against the intermediate block L. The lifting-rods G G pass

through openings M M, formed in the resisting-block, or they may be made to extend on the outside thereof. The standards N form the connection of the head E and the base Q, and form guides for the follower in its up-and-down movement. The standards N furthermore serve to hold the two parts of the head E in proper relation to each other. In addition to being fastened to the standards N, the resisting-block L is connected to the head E by side straps O, or by means of suitable columns, so that the block is capable of great resistance. To the straps O are affixed cross-pieces B, which carry suitable boxes, and form bearings for the worm-shaft A. The follower J works in a well, P, formed in or on the base Q, before referred to. In putting up my press this well P is let into the floor of the place where the press is stationed, or into the earth. This arrangement admits of bringing the upper surface of the follower J on a level with the floor, so that the bale of cotton or other article to be pressed may be readily placed on the follower, or removed therefrom.

It may be remarked that, instead of the segments D D D' D', complete wheels may be used without departing from my invention.

By the within-described means I obtain a press the several parts of which preserve the proper relation to each other at all times, and which is capable of exerting a large amount of power.

The lifting-rods G G may, if desired, be connected to the rock-shafts F F, respectively, by means of eccentric mounted on the shafts, instead of to the segments.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a press for cotton and other articles, of the worms C C, their shaft A, segments D D D' D', lifting-rods G, and follower J, substantially as described.

2. The combination of the resisting-block L with the follower J, lifting-rods G, segments D D D' D', shaft A, and worms C C, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 5th day of March, 1875.

B. G. MARTIN. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.