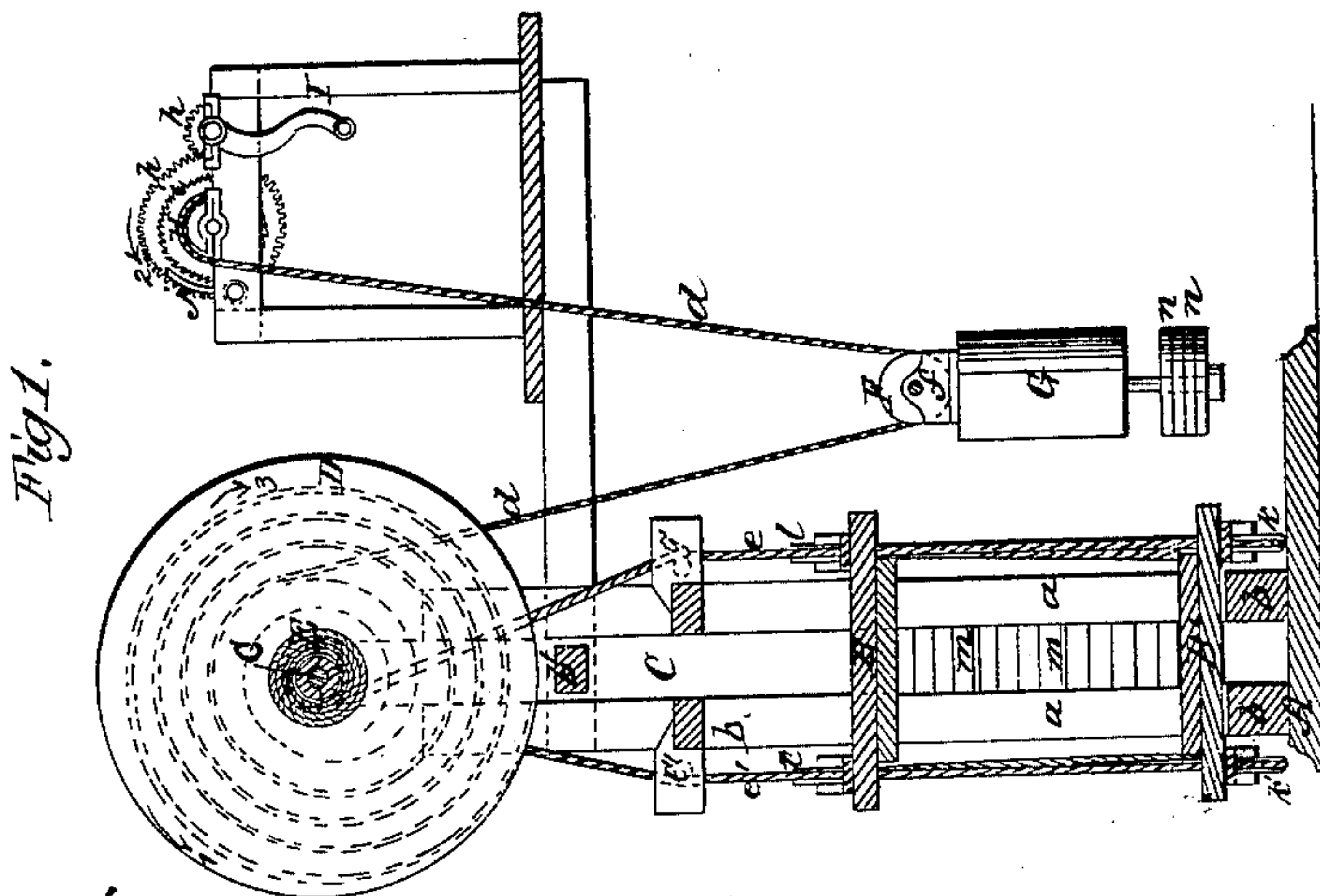
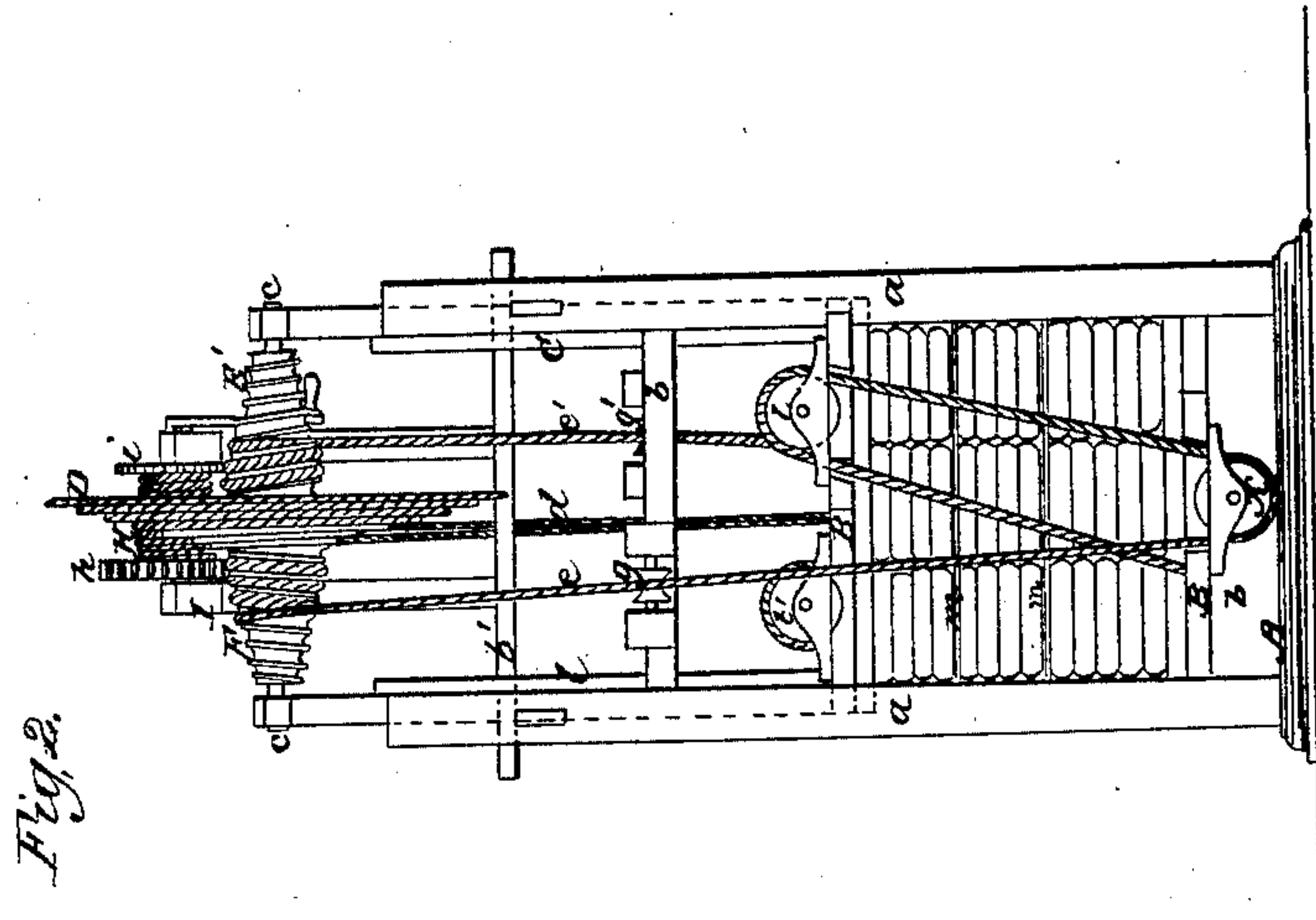


W. & R. Skene,

Cotton Press.

N^o 24,584.

Patented June 28, 1859.



Witnesses.

H. Clay Anderson.
David Reid.

Inventors.

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UNITED STATES PATENT OFFICE.

WILLIAM SKENE AND ROBERT SKENE, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN POWER-PULLEY PRESSES.

Specification forming part of Letters Patent No. **24,584**, dated June 28, 1859.

To all whom it may concern:

Be it known that we, WILLIAM SKENE and ROBERT SKENE, both of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Progressive Power-Pulley Press; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of our invention. Fig. 2 is a front elevation of the same.

Similar letters of reference in both figures refer to corresponding parts.

This invention consists in arranging a scroll with a conical right-and-left-hand-screw windlass in such relation to the follower of a press that a weight attached to a rope which runs over the scroll acts by means of ropes running from one follower over a series of pulleys to the other follower and to the conical windlass with continually-increasing power, so that a substance placed between the two followers of the press is subjected to a long-continuing and ever-increasing pressure, and the scroll, together with the conical windlass, is arranged on a shaft which has its bearings on slides attached to the upper follower, so that the weight of those parts assists in doing the work.

To enable those skilled in the art to fully understand, make, and use our invention, we will proceed to describe its construction and operation.

A represents a frame, which is constructed of four upright beams, *a*, united by suitable cross-braces, *b*. The beams *a* form the guides for the followers B B', and between these two followers the substance is placed which is to be pressed.

Rigidly attached to the upper follower, B, are the slides C, which are united by a cross-bar, *b'*, which move up and down between the beams *a*, and the upper ends of which form the bearings for a horizontal shaft, *c*, which in its middle bears the scroll D, and on the sides of the same the conical windlasses E E'. The scroll D is arranged similar to the fusee of a watch, and a rope, *d*, is secured to its largest circumference, so that by turning the scroll in the direction of arrow 1 the rope winds up on the same, following the turns on its circum-

ference from the largest part down to the smallest. The end of this rope is drawn through a roller, F, which works in a forked bearing, *f*, which bears a weight, G, and said rope extends to a windlass, H, which is mounted on a separate frame, I, and which is operated by means of gear-wheels *h h*. A ratchet-wheel, *i*, is secured to the shaft of the windlass H, and this ratchet-wheel engages with a pawl, *j*, in such a manner that the windlass can be turned in the direction of arrow 2, whereas the pawl opposes its turning in the opposite direction.

The conical windlasses E and E' are provided one with a right-handed and the other with a left-handed screw-thread, and ropes *e e'* extend from the largest ends of these windlasses down over friction-rollers *g g'*, which are attached to the cross-braces *b* on opposite sides of the frame A, and they wind round pulleys *k k'*, which are attached on opposite sides to the lower follower, B', and from these pulleys the ropes extend over pulleys or rollers *l l'*, which are secured to the opposite sides of the upper follower, B, and their ends are secured to the side timbers of the lower follower, B'.

It will be noticed, by referring to Fig. 2, that the pulleys *l l'* are not in the middle of the side timbers of the upper follower, one being arranged near to one, and the other nearer to the other one of the slides C, which guide the motion of the upper follower, B. The ropes *e e'* are secured to the windlasses E E' without tying by drawing their ends through holes cast in the large ends of the windlasses, and when they are passed once around the same the friction prevents their slipping.

The operation is as follows: The upper follower is raised by winding up the rope *d* by means of the windlass H, and the substance to be pressed is placed between the two followers, as indicated by red lines in the drawings. Where a soft substance is to be pressed—such as lard—it is wrapped up into cloth or put into bags, and boards *m* may be placed between the subsequent layers, or at certain distances between the layers, so as to make the pressure more uniform. The scroll D is now turned so that the rope *d* winds up on the same from its largest part down to the smallest, and the ends of the ropes *e e'* are secured to the large ends

of the windlasses E E', as above described. The weight G is now attached to the rope *d*, as clearly represented in Fig. 1, and as the scroll turns in the direction of arrow 3 the two ropes *e e'* begin to wind up on the windlasses E E' from the large ends of the same down toward their small ends, and the two followers B B' are forced together by the strain exerted on the ropes *e e'*. No strain whatever is exerted on the frame A, and the weight of the machinery placed on the top of the upper follower, B, itself assists in increasing the pressure exerted on the substance to be pressed; and as the rope winds off the scroll D from the center toward the circumference the leverage of the weight, and consequently its pressure, increases, and at the same time the diameter of the windlass is growing smaller and smaller as the ropes *e e'* wind up on them from the large ends toward the small ones, so that a further increase of power is obtained; and if it should be found necessary to still further increase the pressure as the work progresses, slip-weights *n* may be added to the large weight G, so that the pressure exerted on the substance between the followers may be increased at pleasure. The weight G, acting on the scroll D, makes this press self-acting to a certain degree, as it will run from three to ten hours without being touched, according to the degree to which the substance has already been pressed, and according to the height from which the weight is suspended, and it requires but very little la-

bor to raise the weight, whenever it should be necessary, by means of the windlass H, so that the whole can be operated quite easily. When done pressing, the ropes *e e'* are taken from the windlasses E E', and the upper follower is raised by winding the rope *d* upon the windlass H, so that the press can be emptied and cleaned, and refilled at leisure.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the scroll D and the conical windlasses E E' to operate in combination with the windlass H and with the two followers B B' or their equivalents, substantially as and for the purpose herein specified.

2. Arranging the scroll D and the windlasses E E' or their equivalents on slides C, which are rigidly attached to the upper follower, B, so that the weight of those parts assists in increasing the pressure on the substance placed between the two followers, substantially as described.

3. The arrangement of the two followers B B', with pulleys *k k'* and *l l'*, to operate in combination with the scroll D, the cone-windlasses E E', and the ropes *d* and *e e'*, substantially as and for the purpose set forth.

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Witnesses:

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