(No Model.)

J. CHASE.

PRESS.

No. 263,020. Patented Aug. 22, 1882

Fig1.

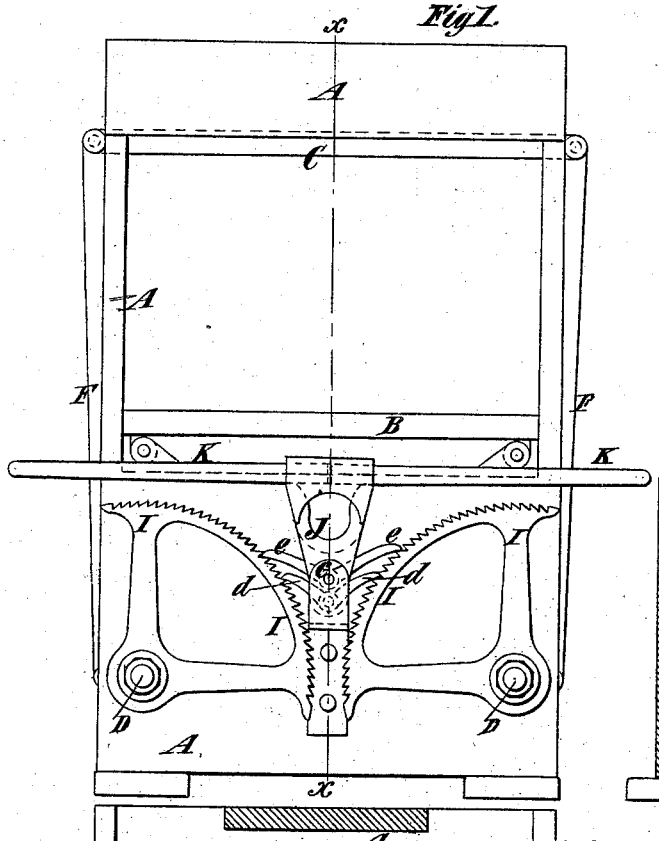


Fig3.

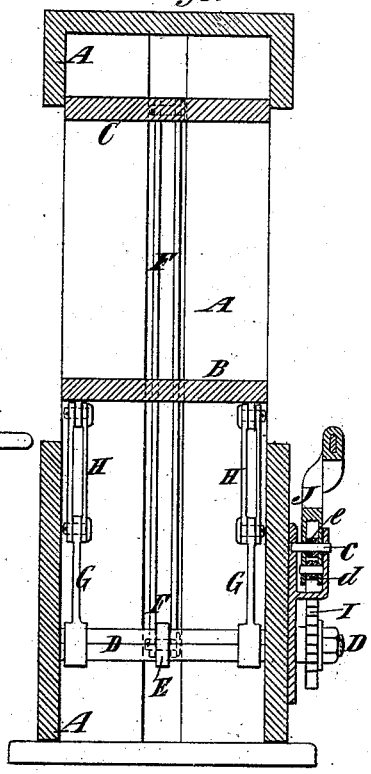


Fig2.

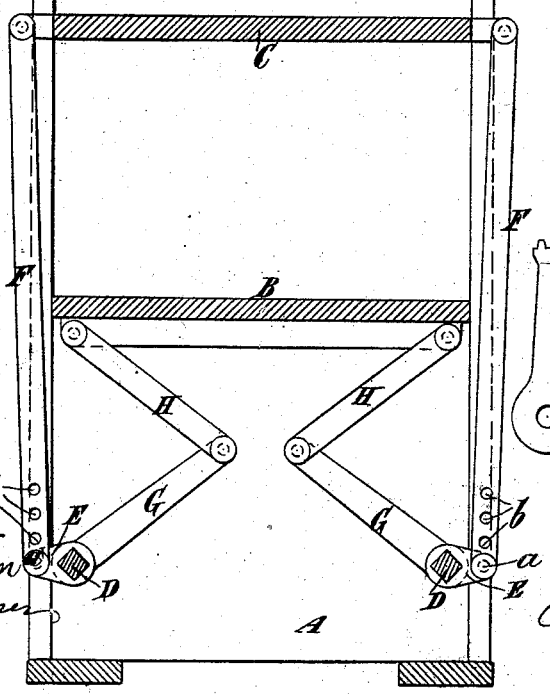
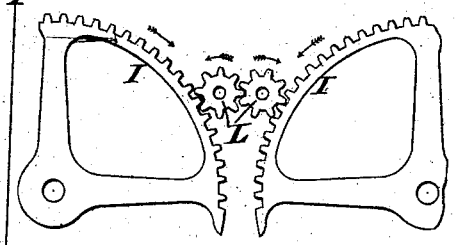


Fig4.



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UNITED STATES PATENT OFFICE.

JOHN CHASE, OF PATERSON, NEW JERSEY.

PRESS.

SPECIFICATION forming part of Letters Patent No. 263,020, dated August 22, 1882.

Application filed May 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN CHASE, of Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Presses, of which the following is a specification.

The object of my invention is to provide a simple and effective press for baling and other purposes, and which may be adapted to be worked by hand.

The invention consists in the combination, with the lower platen of a press, of two rock-shafts provided with arms connected with said platen, ratchet-toothed sectors upon said shafts, a lever fulcrumed between said sectors and adapted to be operated by hand levers or brakes, and carrying pawls for engaging with and actuating said sectors and stop-pawls for holding said sectors.

The invention also consists in the combination, with the upper platen of a press, of two rock-shafts provided with arms connected with said platen, ratchet-toothed sectors upon said shafts, a lever fulcrumed between said sectors and adapted to be operated by hand bars or brakes, and carrying pawls engaging with and actuating said sectors and stop-pawls for holding said sectors against backward movement.

The invention also consists in details of construction and combinations of parts hereinafter particularly described and claimed.

In the accompanying drawings, Figure 1 represents an elevation of a press embodying my invention and adapted to be operated by hand. Fig. 2 represents a vertical section thereof in a plane transverse to the rock-shafts. Fig. 3 represents a vertical section on the dotted line *x x*, Fig. 1; and Fig. 4 represents an elevation of the two sectors and pinions for operating them by power.

Similar letters of reference designate corresponding parts in all the figures.

A designates the frame of the press, which may be constructed in any way to secure the necessary strength and rigidity.

B C designate respectively the lower and upper platens between which the pressing is performed, and which are adapted to move toward and from each other in suitable guides provided in the frames.

D designates rock-shafts, of which two are employed, and which are mounted in suitable bearings in the frame A, in which they may be turned in either direction.

Upon the rock-shafts D are secured arms E, which are connected by rods F with the upper platen, C, and upon each rock-shaft are secured two arms, G, which are connected each by a pair of links or rods, H, with the lower platen, B, as shown in Figs. 2 and 3, thus supported and acting upon the lower platen, B, at four points. It will be observed that each arm G and the links or rods H, whereby it is connected with the platen B, form toggle-levers for operating the platen.

From the above description it will be clearly seen that when the rock-shafts D are turned in directions from each other—that is, the right-hand shaft toward the right and the left-hand shaft toward the left—the lower platen, B, will be raised and the upper platen, C, will be lowered, thereby compressing any material placed between them; but when the shafts are turned each in an opposite direction to that just described the platens will be moved away from each other and the bale or pressed material released.

The rods F, which operate the upper platen, C, are connected by pins *a* with the arms E, and said rods are provided with holes *b*, in any one of which the pins *a* may be inserted, whereby provision is afforded for shortening or lengthening the connection between said arms and the upper platen, and thereby diminishing or increasing the capacity of the press.

If desired, the rock-shafts D might be provided with offsets on their outer sides, so that the rods F, when drawn down to their fullest extent, would enter said offsets, and thus bring the center of the pins *a*, the centers of the shafts D, and the connections between the rods and the upper platen, C, all in line or nearly in line, thus producing great power as the platen approaches the end of its movement, and holding the said platen without any liability of the shafts D turning.

When the platen B is moved up to its fullest extent the arms G and links or rods H are in line, and hence great power is obtained, and the downward pressure of the platen does not tend to turn the shafts D.

It will also be observed that where the upper and lower movable platens are both used there is no great strain on the frame of the

press, as there is where a movable platen works in conjunction with a fixed head.

Upon the outer ends of the shafts D, beyond the side of the press, are sectors I, which are provided with ratchet-teeth, and between and above the sectors is a lever, J, which is fulcrumed upon a pin, *c*, and is adapted to be rocked or swung upon its fulcrum by hand bars or brakes K, inserted in sockets in said lever. The lever J carries pawls *d*, pivoted to it below its fulcrum *c*, and as the hand bars or brakes K are worked up and down the lever J is thereby rocked back and forth to cause its pawls *d* to operate alternately upon the sectors I. By this means the two platens are moved step by step at opposite ends alternately.

In order to hold the sectors I against backward movement, I provide stop-pawls *e*, which are pivoted upon the fulcrum-pin *c* and rest upon the sectors I; and when it is desired to move the platens apart or away from each other the pawls *d* and *e* may be raised from the sectors, and the latter, with the rock-shafts, to which they are attached, may then move toward each other, and thus move the platens away from each other.

If it is desired to work the press by power, I may provide the sectors with spur-gear teeth, as shown in Fig. 4, instead of ratchet-teeth, and operate them by two intermeshing pinions, L, which engage one with each sector, and in such case power may be transmitted to the shaft of one of the pinions. This construction, however, forms no part of my invention.

In the present example of my invention the relative length of the arms E and G is such that the lower platen has a much greater length of movement than has the upper platen; but by proportioning said arms differently any length of movement desired may be obtained for either platen.

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

1. The combination, with the lower platen of a press, of two rock-shafts provided with arms connected with said platen, ratchet-toothed sectors upon said shafts, a lever fulcrumed between said sectors and adapted to be operated by hand bars or brakes, and carrying pawls for engaging with and actuating said sectors, and stop-pawls for holding said sectors, substantially as described.

2. The combination, with the upper platen of a press, of two rock-shafts provided with arms connected with said platen, ratchet-toothed sectors upon said shafts, a lever fulcrumed between said sectors and adapted to be operated by hand bars or brakes, and carrying pawls for operating said sectors and stop-pawls for holding said sectors against backward movement, substantially as described.

3. The combination of the lower platen, B, rock-shafts D, arms G, and links or rods H, ratchet-toothed sectors I, lever J, actuating-pawls *d*, stop-pawls *e*, and hand bars or brakes K, substantially as described.

4. The combination of the upper and lower platens, B and C, rock-shafts D, provided with arms E and G, rods F, links H, ratchet-toothed sectors I, lever J, actuating-pawls *d*, stop-pawls *e*, and hand bars or brakes K, substantially as described.

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Witnesses:
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