J. H. SIMONSON.

Cotton-Presses.

No. 152,812. Patented July 7, 1874.

Fig. 1.

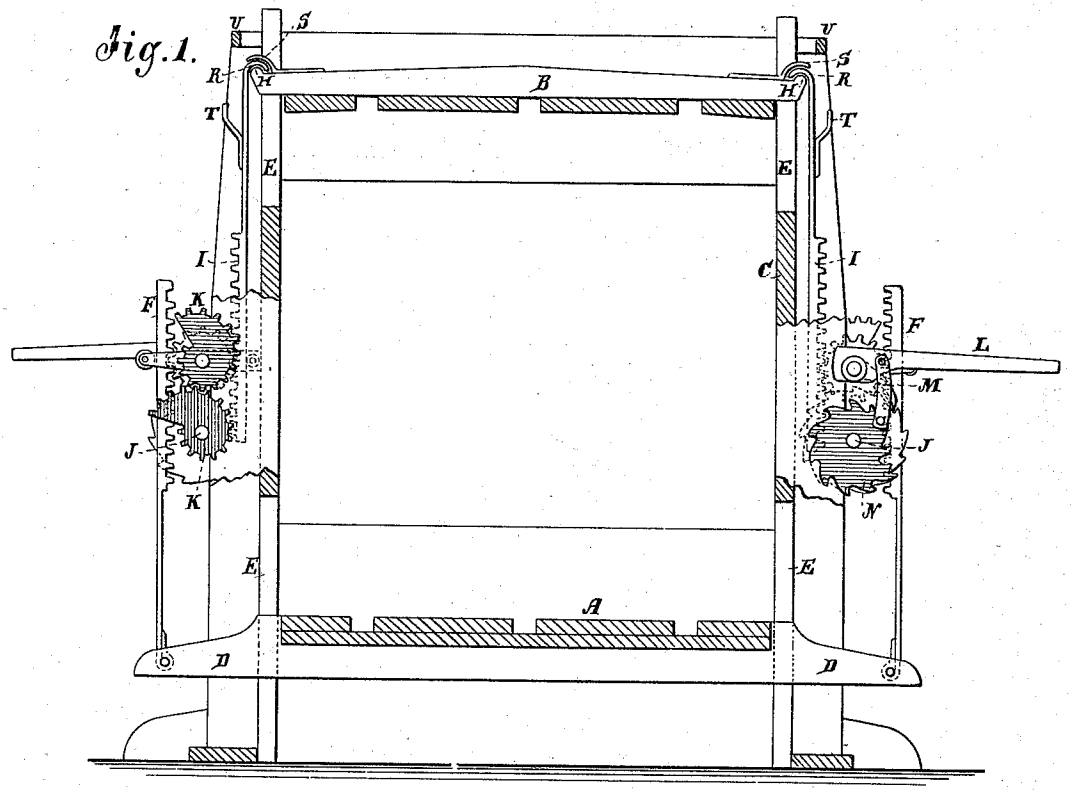


Fig. 3.

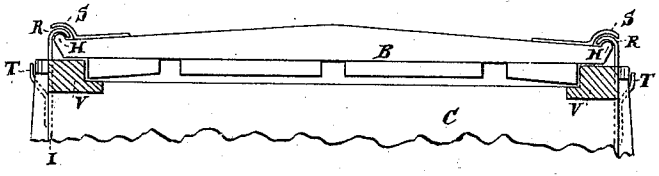
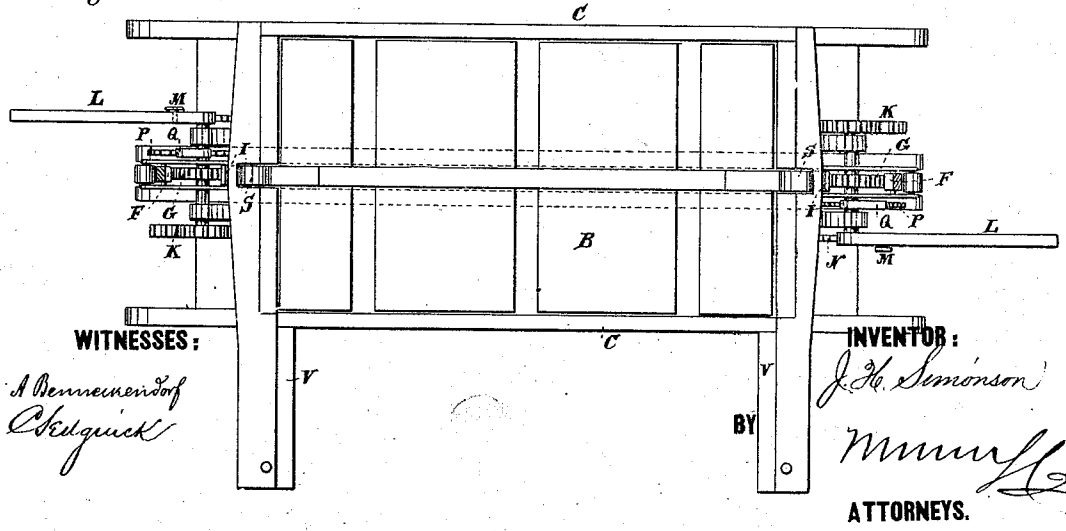


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN H. SIMONSON, OF EAST NORWICH, NEW YORK.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **152,812**, dated July 7, 1874; application filed May 9, 1874.

To all whom it may concern:

Be it known that I, JOHN H. SIMONSON, of East Norwich, in the county of Queens and State of New York, have invented a new and Improved Press for Hay, &c., of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a sectional elevation of my improved press. Fig. 2 is a plan view, and Fig. 3 is a detail in section, showing the positions of the upper head and the connecting-gear, when the head is lifted up to the top of the case to be slid off to open the case.

Similar letters of reference indicate corresponding parts.

A is the bottom head or follower, and B is the upper one. They are fitted to slide up and down inside of the case C, the lower one having the long projections D extending through slots E in the side of the case, to be connected to the racks F, for being raised and lowered by the gears G, and the upper ones having the short projections H extending through slots E, to be connected to racks I, which are also operated by the wheels G, one set of racks being on one side and the other set on the other side of the wheels, so that they move the heads in opposite directions by one and the same movement of the wheels. These wheels are geared with the driving-shafts by a pair of eccentric toothed wheels, K, so adjusted that the leverage of the power increases progressively as the work progresses and the resistance increases, thus making the labor uniform throughout the operation.

The proportion of the increase may be varied to suit the requirements of the case by varying the form of the eccentric wheels.

The driving-shaft is worked by a hand-lever, L, pawl M, and a ratchet-wheel, N. The ratchet-wheel is in this case made eccentric also, to increase the gain of leverage; but this may be done or not, as may be preferred.

In consequence of making the ratchet-wheel eccentric it is necessary to employ a separate ratchet-wheel, P, for the holding-pawls Q, but if not so made, one ratchet will answer for both pawls.

When I use an eccentric ratchet-wheel, N, I provide it with differential teeth, beginning with the shortest at the small diameter, and increasing their length as the diameter increases, by which the same sweep of the hand-lever will always move the pawl the length of one tooth, whereas with teeth of uniform length the lever would have to be moved through a greater range when the pawl was working on the small part of the wheel, and the range would be constantly changing, which would be very awkward for the operators.

The projections H of follower B connect with racks I, by sliding under the hooks R, by which the follower is pulled down, and they have a hook projecting over hooks R, by which the follower is raised when the racks are forced up. The racks also have a hook, T, by which they engage with the cross-bars U when raised up to be held properly for the projections H to engage with them when the follower is moved back over the press when it is filled. V represents the ways on the top of the press on which the follower slides forward and backward.

The two followers will be contrived so as to balance each other, or very nearly so, and thus but little force will be required to move them back after a bale is discharged.

If preferred, the lower one may be enough heavier than the other to cause them to be returned self-actingly by gravity.

The lower follower is, by this arrangement of the operating-gear, allowed to descend to the bottom of the press, so that the press need not be built as high as when some of the gear for working the follower is placed under it.

The cover affords a serviceable table for the one stuffing the press to stand on and receive the hay and stuff it in the case.

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

1. The combination of gear G, rack-bar I, and eccentric ratchet-wheel N, with ratcheted lever and pawl, as and for the purpose set forth.

2. The combination, with a pawl and ratchet-lever, of the eccentric ratchet-wheel having graduated notches, as and for the purpose specified.

3. The upper follower B, detachably connected to the racks I by the projections H and hooks R S, to slide forward and back to open and close the press-case, substantially as described.

4. The combination of hook T and bar U with rack I, substantially as specified.

JOHN H. SIMONSON.

Witnesses:
GEO. S. DOWNING,
JOHN MCGUIRE.