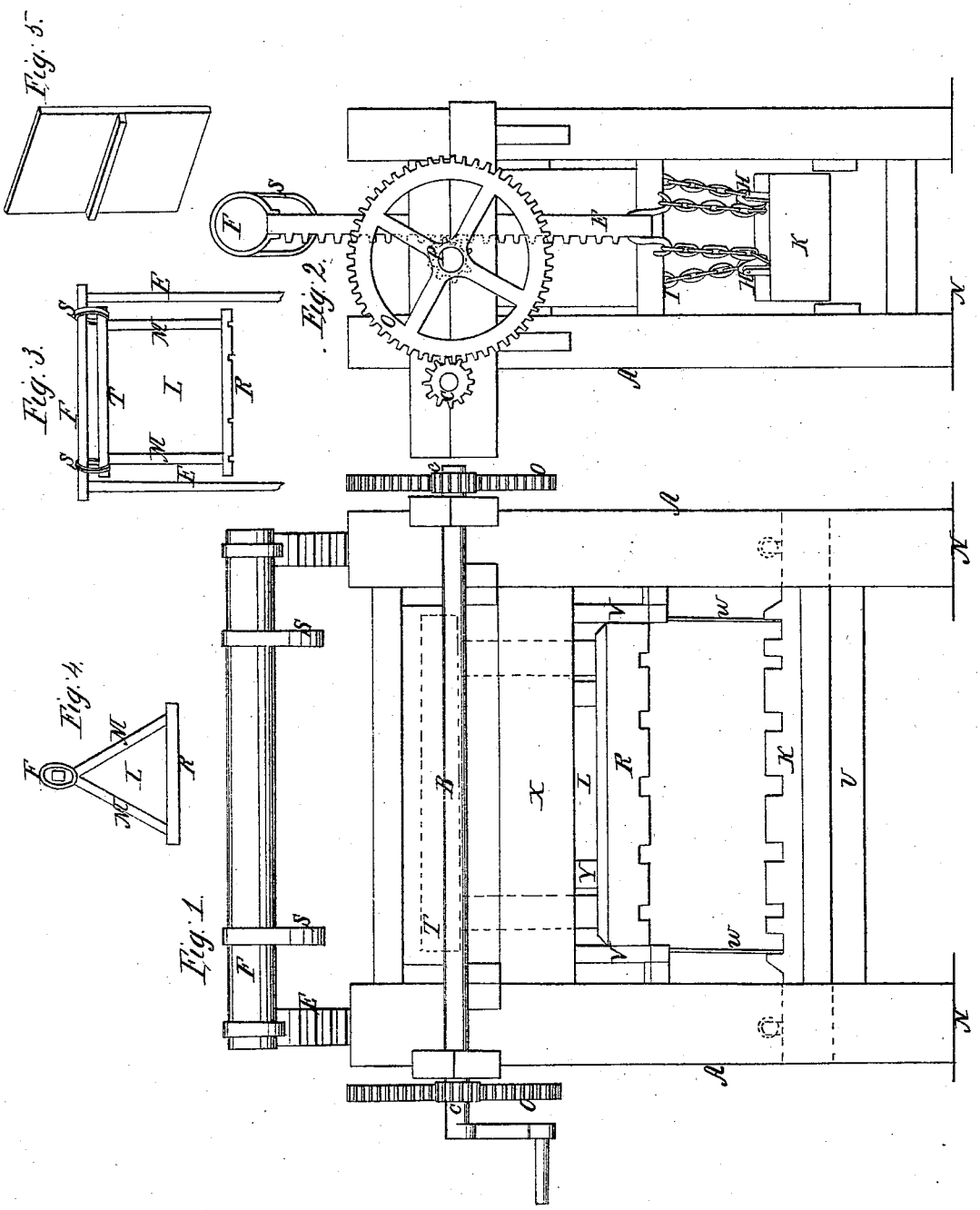
O. Whitney,

Cotton Press,

No. 3,006, Patented Mar. 17, 1843.



UNITED STATES PATENT OFFICE.

OTIS WHITNEY, OF AUGUSTA, MAINE, ASSIGNOR IN PART TO CLAY, HOLMES & ROBBINS.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **3,006,** dated March 17, 1843.

To all whom it may concern:

Be it known that I, OTIS WHITNEY, of Augusta, in the county of Kennebec and State of Maine, have invented a new and useful improvement in the machine for pressing hay, cotton, hops, tobacco, or any other substance requiring pressing; and I hereby declare that the following is a full and exact description or specification of the same—viz., reference being had to the accompanying drawings.

Figure 1 represents a front elevation. Fig. 2 represents an end elevation.

N N are the sills on which the machine is placed, which are of requisite size, say one foot square and about seven feet in length. A A are the posts, one foot square and eight feet long. B is an iron shaft. C C are pinions attached to each end of B. These pinions mesh into two large cog-wheels, O O, say four feet in diameter. The shafts of the wheels O O rest upon cross-bars on each side of the frame. On these shafts are attached pinions P P. (Shown in Fig. 2.) These pinions mesh into upright or vertical racks E E. On the top or heads of these racks is strapped a strong round piece of timber, F, Figs. 1 and 2. On this stick of timber F is hung loosely two rings or straps of iron, S S. In these rings is hung loosely the frame-work of the upper piston-driver or plateau, which is more clearly shown in Fig. 3, where T is a cross-piece of wood, the ends of which are slipped into the rings S S and thereby suspended. Into this cross-piece T are framed arms—two at each end—M M. (Shown more clearly in Fig. 4, which gives an end view of them.) At the bottom of the arms M M is attached the piston or driver R, which is a plank sufficiently large to fill the area or opening of the box and yet move freely up and down, according as the crank on the shaft B is turned one way or the other. On the lower surface of this plank are cut square channels or grooves, in which or through which the straps or ropes are put which are to bind the bale when pressed. Sometimes these grooves are made by nailing strips of board at the requisite distances from each other.

The box into which the substances to be pressed are put is shown by V V in Fig. 1, *v v* representing the sides thereof. This box extends from the top of the machine down to within a foot of the sills N N, on which lies another piston or plateau made of strong heavy timber. (Represented by K, Figs. 1 and 2.) This lower piston or plat lies between the posts, its ends being flush with them, and is of sufficient width to fill the space between them and yet slide freely up and down. When in use for pressure, at each end is fixed one or more pulleys, which are grooved to receive a chain. This chain and pulley or pulleys are represented by H and I, Fig. 2. One end of each chain is made fast to the under side of a girt at I, then passes down under the pulley, and up to a hook on the lower part of the rack E. While filling the box with hay or cotton, a couple of boards are put in between the bottom of the box and the lower piston, K, as represented by *w w*, Fig. 1. These prevent the substance from crowding out at the ends over the pulleys H H. Each side of the box or machine is closed by a strong movable door, which is held in its place by a strong bar of wood, in the following manner: A cleat of board, *a*, Fig. 5, is nailed to the door about midway. On this cleat the bar rests, one end being placed in a slot made in one post and the other end resting against the other post, and secured by a key which passes through a mortise made through the post immediately above it. The lower part of the door fits into a groove in the girt U, Fig. 1, upon which it stands.

Operation: The drawings represent the machine as it would be when a bale has been pressed. We will, however, commence with filling the machine. For this purpose turn the crank so as to raise the racks E E and elevate the upper piston, R, which is suspended by the rings S S. When it is up so as to swing clear of the box, turn it out of the way so as to leave the mouth of the box unobstructed. The doors are shut and barred, the boards *w w* put in their places. The cotton or hay is then stowed into the box until it is full. The piston R is swung back over the mouth; then turn the crank so as to depress the piston until it reaches the bottom of the box or top of the boards *w w*. We then unbar the doors, take them out and lay them aside, and put the bars into the space between a strong beam and

the piston, as shown in Fig. 1, where X represents the beam and Y Y the bars slid in to retain the piston R in its place. We then slip the cross-piece T, Fig. 3, out of the rings S S and hook the chains I H, Fig. 2, to the rack E. We slip the boards *w w* from their place between the pistons, and then reverse the motion of the crank and raise the racks E E. This pulls up the lower piston or plateau, K, which gives it a strong and final pressure. The bale is then secured in the usual way by straps or ropes. Then reverse the motion of the crank, the lower piston sinks down, the chains become loose and are unhooked, and the bale tumbled out. The cross-piece T is slipped into the rings, the bars taken out from the space L, the doors put in their place and barred, the upper piston drawn up and swung aside, and the press is then ready for another charge.

What I claim as my improvement, and for which I ask an exclusive right, is—

The movable bed-piece K, connected to the frame and to the racks by the chain and pulley I H, in combination with the swinging driver, piston or plateau T L R, and racks E E, the whole being constructed and operating as above described.

In testimony that the above is a true specification of my improvement as above described I have hereunto set my hand this 27th day of October, A. D. 1842.

OTIS WHITNEY. [L. S.]

In presence of—

E. HOLMES,

PHILIP C. HOLMES.