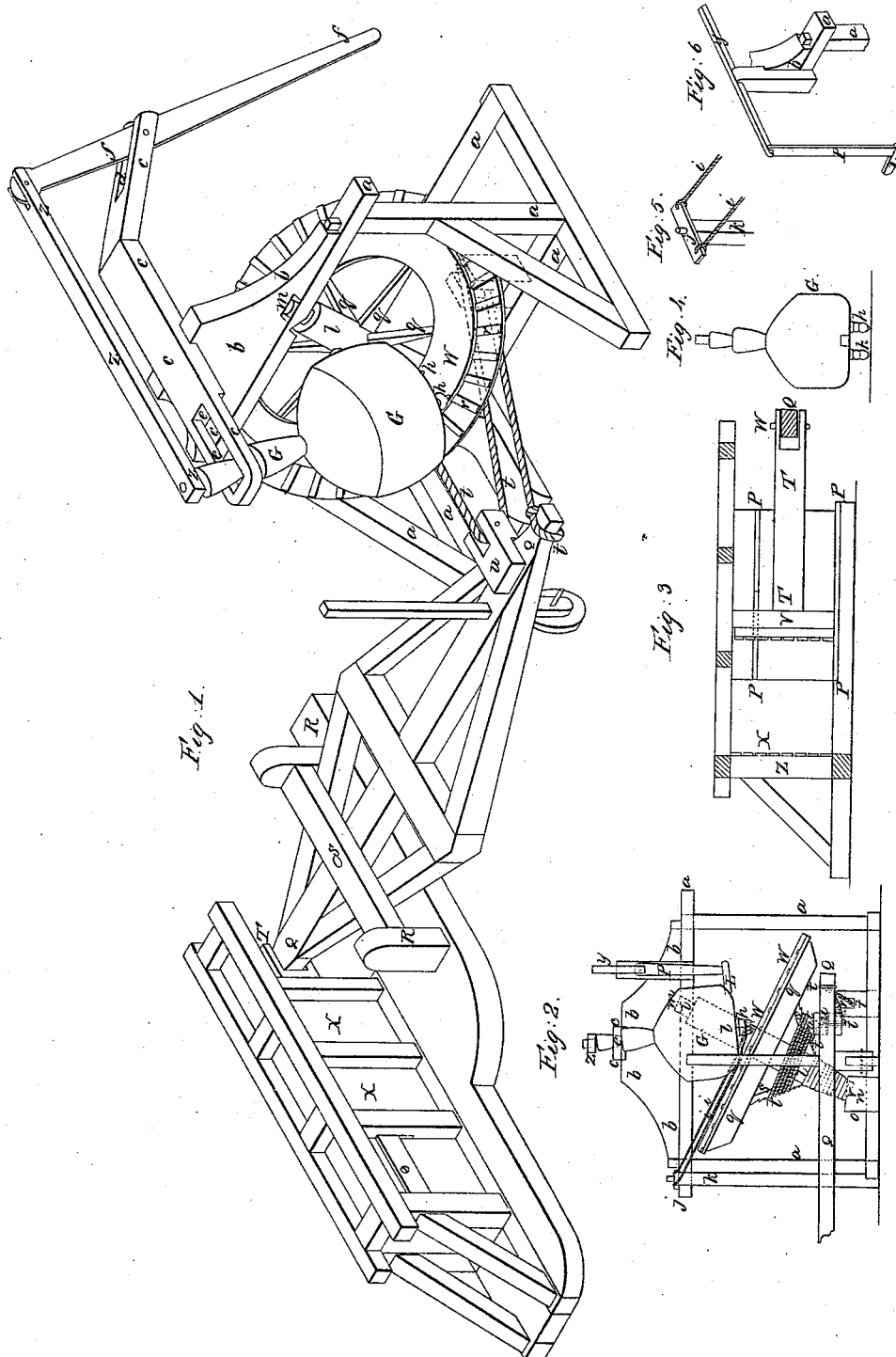


J. R. Remington.

Hay Press.

No. 3,061.

Patented Apr. 15, 1843.



UNITED STATES PATENT OFFICE.

JOHN R. REMINGTON, OF LOWNDES COUNTY, ALABAMA.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 2,051, dated April 15, 1843.

To all whom it may concern:

Be it known that I, JOHN R. REMINGTON, of the county of Lowndes and State of Alabama, have invented a new and useful Press for Packing or Compressing Cotton and other Substances; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

Figure 1 is an isometrical projection of the said press, representing all the parts of said press that can be visible at one view, excepting an upright post with a vibrating beam and two ropes leading therefrom, and attached to the effigy G, hereinafter described, which portion of the machine was omitted to avoid confusion in the lines, and is represented in geometrical elevation in Fig. 2. In this drawing are shown such parts of the machine as could not well be exhibited in Fig. 1. Fig. 3 is a vertical section of the press-box, hereinafter described; and Fig. 4 is an elevation of the effigy or motive weight G.

This invention consists of a series of levers whose combined action produces any amount of force which may be required for the purposes of pressing cotton, tobacco, or any other substance requiring great pressure, for extracting by pressure oil from any substance containing it, or the juice from apples, corn-stalks, or sugar-cane, or any other purposes for which screw-and-lever presses have been heretofore used, operating by the simple application of manual force to the first lever of the series now to be described.

Upon an upright framing of timber *a a* the saddle-piece *b b* is supported. On this saddle-piece *b b*, at right angles to it, is secured a beam, *c c c*, (which, for the sake of distinction, I shall term the "first fulcrum,") having at each end a slot or opening, *d* and *E*.

In slot *d* is placed the first lever, *f*, connected by a connecting-rod, *z*, to the head of the second lever, effigy, or motive weight, G, which head plays freely in the slot *E* when manual power is applied to the first lever, *f*. The second lever, effigy, or motive weight (composed either of wood or iron, or other metal) stands upon the inclined surface of a large wheel, W, near the periphery of said wheel, and supported on two legs, *h h*, of wood or metal, armed with points of iron that prevent its

slipping on the said inclined surface of the wheel, which stands at an angle of thirty degrees, or thereabout, with the horizon. Attached to each leg of the effigy G is a line or rope, *i i*, connected to each end of a movable vibrating beam, *j*, Figs. 2 and 5, turning horizontally upon the top of a perpendicular beam, *k*. The inclined wheel W, aforesaid, has its shaft *l* journaled into the cross-tie of the upright frame *a* at the upper end, *m*, the lower end turning on a point, *n*, supported by a block of wood, *o*, or metal secured to the cross-sill of the frame *a*, the inclined plane surface of the wheel W connected with arms *q q* radiating from the shaft *l* thereof, and these arms are strengthened by spur-braces *s s*, whose lower ends are toed into the said shaft *l*. The under edge or surface of the spur-braces *s s* is notched or scored to receive and retain in position a rope, *t t*, wound spirally round or about them by the motion of the wheel W, and this rope *t t* is connected to the third or main lever, Q, by passing first through the pulley *u*, next through the pulley *v*, and then its end made fast to the extremity of the third or main lever, Q, which rests in a horizontal position upon the frame R, having a horizontal motion upon its vertical fulcrum or center, S, and its shorter arm secured to the beam T by a pin, W, Fig. 3. The beam T is attached as a fixture to the pressing-block V, which block has a horizontal motion by sliding in the grooves *p p*, and is inclosed in the press-box X, whose sides are secured and strengthened by strong framing, as shown in the model and annexed drawings. These several levers are put in operation by manual power applied to the first lever, *f*, which, by its connecting-rod, communicates the motion to the effigy G, which is thus tripped or thrown off its center, and resting upon one leg its whole weight and the full power of the first lever, *f*, is thus made to act upon the inclined wheel W and cause it to rotate, which movement gradually winds the rope *t t* about the spur-braces *s s*, Fig. 2, (in the same manner as the chain is wound upon the fuzee of a watch,) and thus causes the requisite motion in the main lever Q. The motion of the first lever, *f*, being reversed, a similar effect is produced, the effigy G being thus thrown upon its other leg, and its weight, combined with the effect of lever *f*, causes rotary motion in

the wheel W, as before stated. A reciprocating motion of lever *f* being continued, the effigy G acting in the manner before stated upon the inclined wheel W, a steady rotation is obtained, as desired. The rope *t t* winds on a spiral wheel or notched arms, and may be supposed to wind upon the grooved surface of an inverted cone, commencing near the base when speed is required, and gradually gaining power at the expense of speed as increased power becomes necessary.

Attached to the saddle-piece of the upright frame *a a* is a detached lever, Y, Fig. 6, which is armed with a projecting hook at its shorter extremity, serves the purpose of raising the effigy off the surface of the inclined wheel W when it is desired to slack up and overhaul the rope by unwinding it from the wheel W. On the inclined plane surfaces of the wheel W, aforesaid, outside the path of effigy G, and nearer the edge or periphery of said wheel, are placed foot-cleats *r r* or projections for the following purpose: When the press is to be put into operation, the effigy G is raised from the surface of the wheel W by the detached lever *y*. The rope *t t* is then overhauled, the main lever Q moved horizontally, so as to withdraw the pressing-block V in the box X, leaving a sufficient space between said block V and the end of the press-box X at *z* to introduce whatever substance is to undergo the operation of pressing therein. The press being now ready for action, a man mounts upon the surface of the inclined plane of the wheel W, and poising himself against the effigy G or against a part of the frame *a*, by treading successively upon the foot-cleats *r r* causes the inclined wheel W to rotate rapidly, and thus to wind up rapidly the slack rope, and also communicates the first pressure to whatever has been placed in the box X. An additional force of one or two men can thus be put to work on the wheel W until a very considerable pressure is induced by its rotation. The

detached lever Y is then released and the effigy is put down on the inclined wheel W, and is caused to operate and complete the pressing, as above described.

This press can be applied to the purpose of pressing cotton, hay, tobacco, or anything else which requires compression by great power. It can also be applied to the purpose of crushing sugar-cane, apples, cornstalks, and such other substances as are pressed for their juice, and by its great power to the purpose of compressing the juice from them without previously crushing or mashing them, as has heretofore been found necessary before pressing them.

I am aware that an inclined wheel has been operated with the view of multiplying power by means of a stepping-weight; but in such cases the steppers, or, as they may be called, the "legs," have been attached to the weight by joints, and the stepping has been effected by the working of these joints. I do not therefore simply claim the use of a stepping-weight on an inclined wheel; but

What I do claim as my invention is—

1. The employment, in the manner described, of a stepping-weight, with permanent legs, operating with certainty and effect in stepping upon the inclined wheel by a slight reciprocating motion communicated to its upper end or head.

2. The combined stepping-weight and inclined wheel, in combination with the lever *f*, and also with the slot *e*, in which the upper end of the weight slides and communicates its motion to the wheel, as herein described.

3. The combined stepping-weight and inclined wheel, in combination with the spiral on which the rope from the main lever Q winds, as described.

JOHN R. REMINGTON.

Witnesses:

CHS. M. KELLER,
DIXON H. LEWIS.