

A. HATHAWAY.

SCREW-PRESS.

No. 170,950.

Patented Dec. 14, 1875.

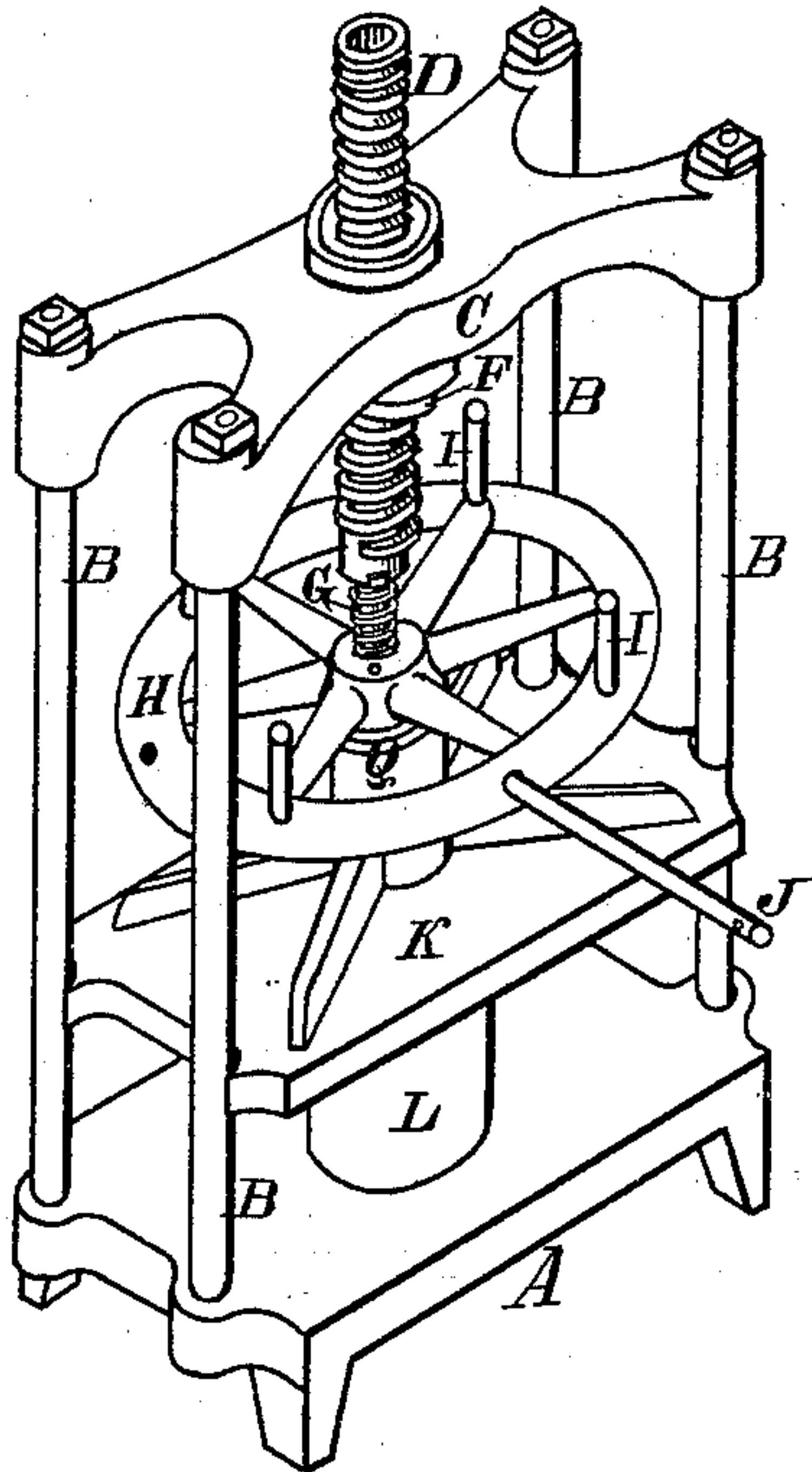


Fig. 1.

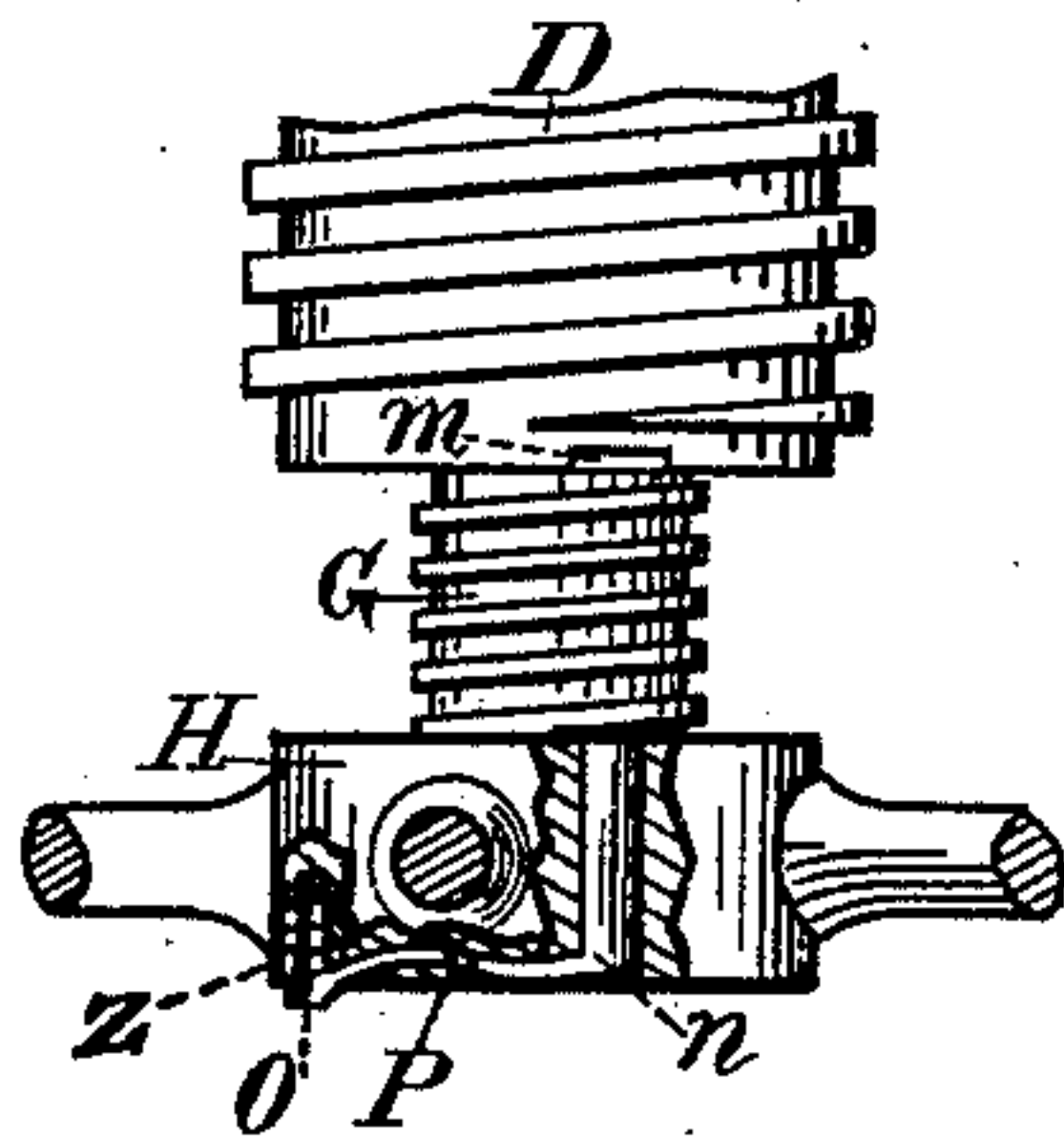


Fig. 2.

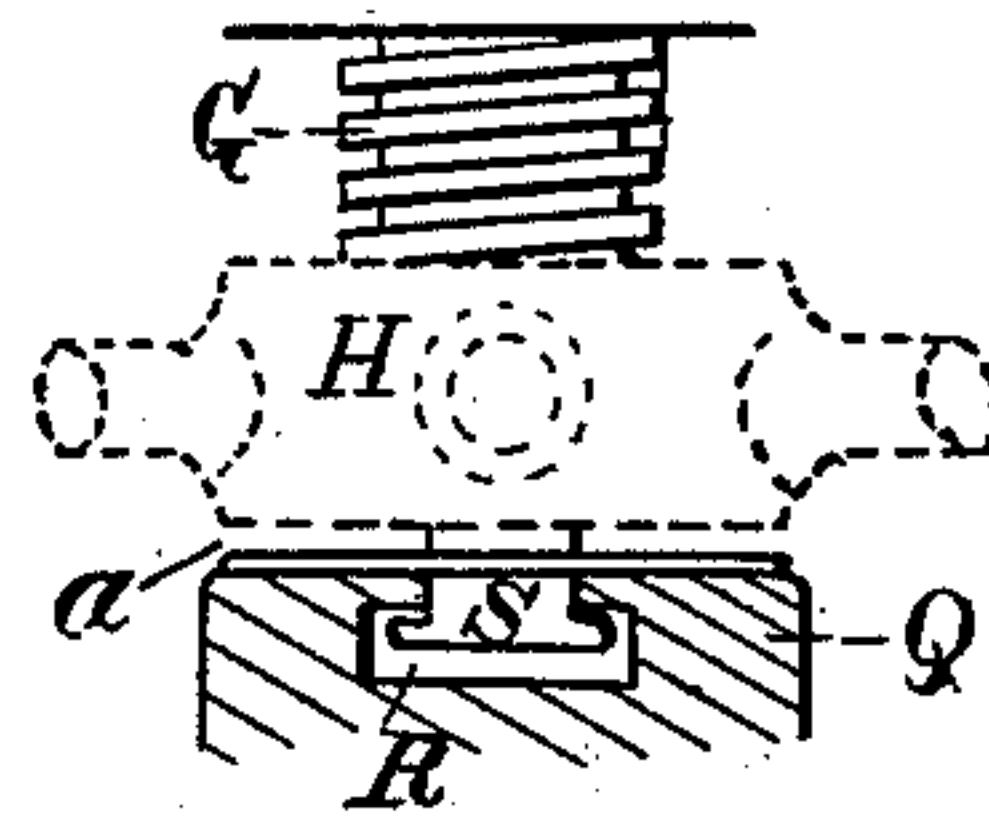


Fig. 3.

Witnesses;
Sam. C. Oliver
H. E. Metcalf,

Inventor;
Alfred Hathaway,
Per C. A. Shaw,
Att'y.

UNITED STATES PATENT OFFICE.

ALFRED HATHAWAY, OF FREETOWN, MASSACHUSETTS.

IMPROVEMENT IN SCREW-PRESSES.

Specification forming part of Letters Patent No. **170,950**, dated December 14, 1875; application filed September 23, 1875.

To all whom it may concern:

Be it known that I, ALFRED HATHAWAY, of Freetown, in the county of Bristol, State of Massachusetts, have invented a certain new and useful Improvement in Presses, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view; Fig. 2, a sectional view, showing the auxiliary screw and clutch; and Fig. 3, a sectional view, showing the socket-joint.

Like letters of reference indicate corresponding parts in the different figures of the drawing.

My invention relates more especially to that class of presses which are designed for use by hand in copying letters, &c., but is well adapted to presses for other purposes; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more rapid and effective article is produced than is now in ordinary use.

The nature and operation of my invention will be readily obvious to all conversant with such matters from the following description:

In the drawing, A represents the bed-piece, B the uprights, and C the head or cap. A bolt, D, threaded with a coarse or "quick" screw, is fitted to work vertically in a nut disposed in the head C, and working in a nut in the lower end of this bolt there is a fine or "slow" screw-bolt, G, also acting vertically. A follower, K, is fitted to slide vertically between the uprights B, and centrally disposed on the upper side of the same there is a hub, Q, provided with an aperture, R, into which the lower end of the auxiliary screw-bolt G extends. This portion of the bolt is without threads, and is headed, as shown at S, being prevented from escaping from the aperture by the plate *a*, which is firmly attached to the upper end of the hub, and provided with a hole, through which the bolt passes. The aperture has a depth considerably greater than the thickness of the head S, thus form-

ing a socket-joint, in which the lower end of the bolt can rotate freely, and rise and fall quite a distance without moving the follower. A wheel, H, provided with the haft-pins I, is firmly secured in a horizontal position to the bolt G, a short distance above the hub Q. The hub of this wheel is provided with a hole, in which a dowel or clutch pin, *n*, works vertically, as best shown in Fig. 2. This pin has an arm or lever at its lower end, which is centrally pivoted in the hub of the wheel at P, the end of the arm opposite the pin being bent downwardly below the hub, as shown at O, and provided with a coiled spring, *z*, which acts expansively, to force the pin *n* above the plane of the hub. The screw-bolt G should work in its nut in the bolt D with such friction that when the wheel H is revolved, and there is no resistance to the follower K, the screw D will also be revolved; but as the diameter of the bolt D is much greater than that of the bolt G, when the follower strikes an obstruction, and an upward pressure is exerted on both bolts, the friction on the larger bolt will be greatest, thus giving it a tendency to stop while the smaller bolt advances.

In the use of presses of this general character, it is desirable to have the follower traverse as rapidly as possible, and to accomplish this quick screws have been employed, or those having a coarse thread with a very sharp pitch; but as such screws lose in power what they gain in speed, a defect has existed in that respect.

My invention is designed to obviate this difficulty, and to that end I make use of two screws, as described—one designed for speed, and the other for power.

To insure the proper conjoint action of the screws the clutch is provided, its operation being as follows: The upper end of the pin *n* being forced, by the spring *z*, into the notch *m*, provided for that purpose in the lower end of the bolt D, if now the wheel H is rotated, both screws, being interlocked by the clutch-pin, will be turned without regard to the degree of friction between them, and if turned in a direction to bring the follower K into contact with the object L on the bed A, the follower will be stopped. The screws continuing to advance, the head S will pass into the

aperture R, and the end of the lever O be brought into contact with the plate *a*, forcing the lever upwardly, compressing the spring *z*, and withdrawing the pin *n* from the notch *m*. The screws being now uncoupled, and the lower side of the hub of the wheel H coming into contact with the plate *a*, pressure will be exerted on the screw D, causing it to stop, while the screw G, being forced to revolve by the wheel H, will advance and perform its work. If, now, the motion of the wheel H be reversed, the spring *z* will act to force the pin *n* upwardly, and again couple or interlock the screws, in a manner which will be readily apparent without a more explicit description.

Having thus explained my invention, what I claim is—

1. In a press, substantially such as described, the screw-bolts D G, combined to operate with the follower K, substantially as set forth and specified.

2. In a press, substantially such as described, the clutch *n*, arranged to operate in coupling the screw-bolts D G, substantially as specified.

3. In a press, substantially such as described, the follower K, provided with the socket R, in combination with the head S, wheel H, clutch *n*, and bolts D G, substantially as set forth and specified.

ALFRED HATHAWAY.

Witnesses:

C. A. SHAW,
H. E. METCALF.