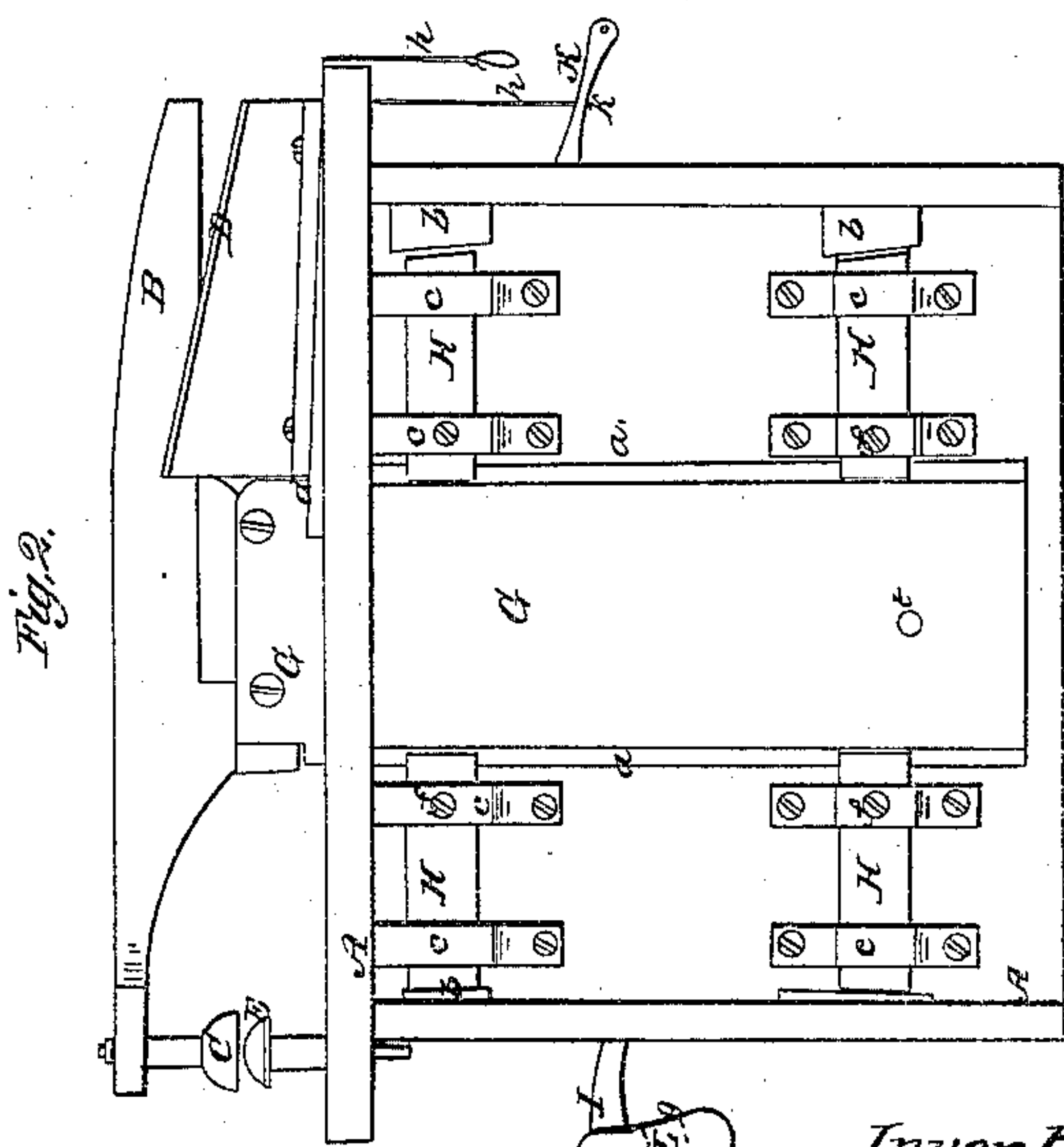
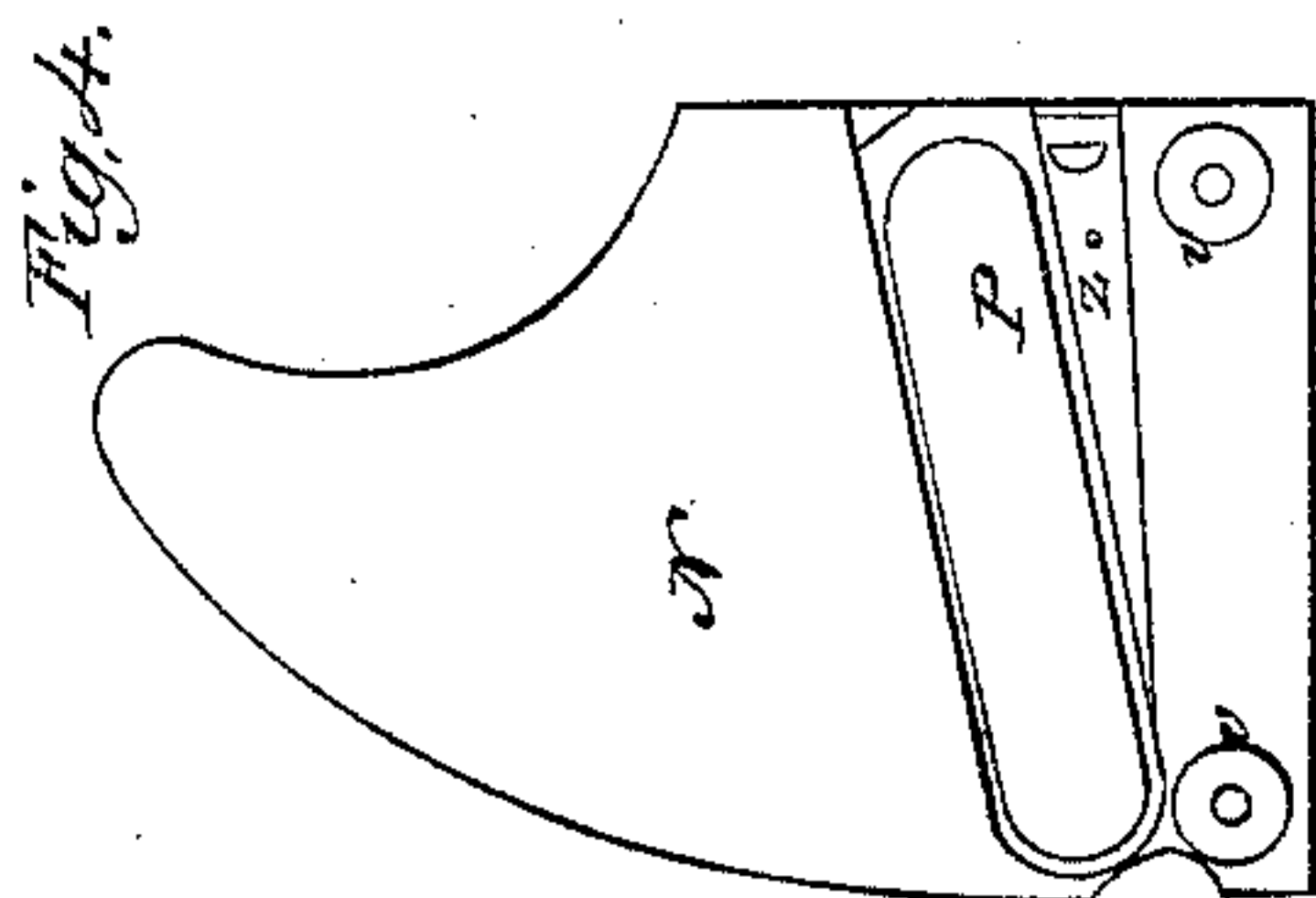
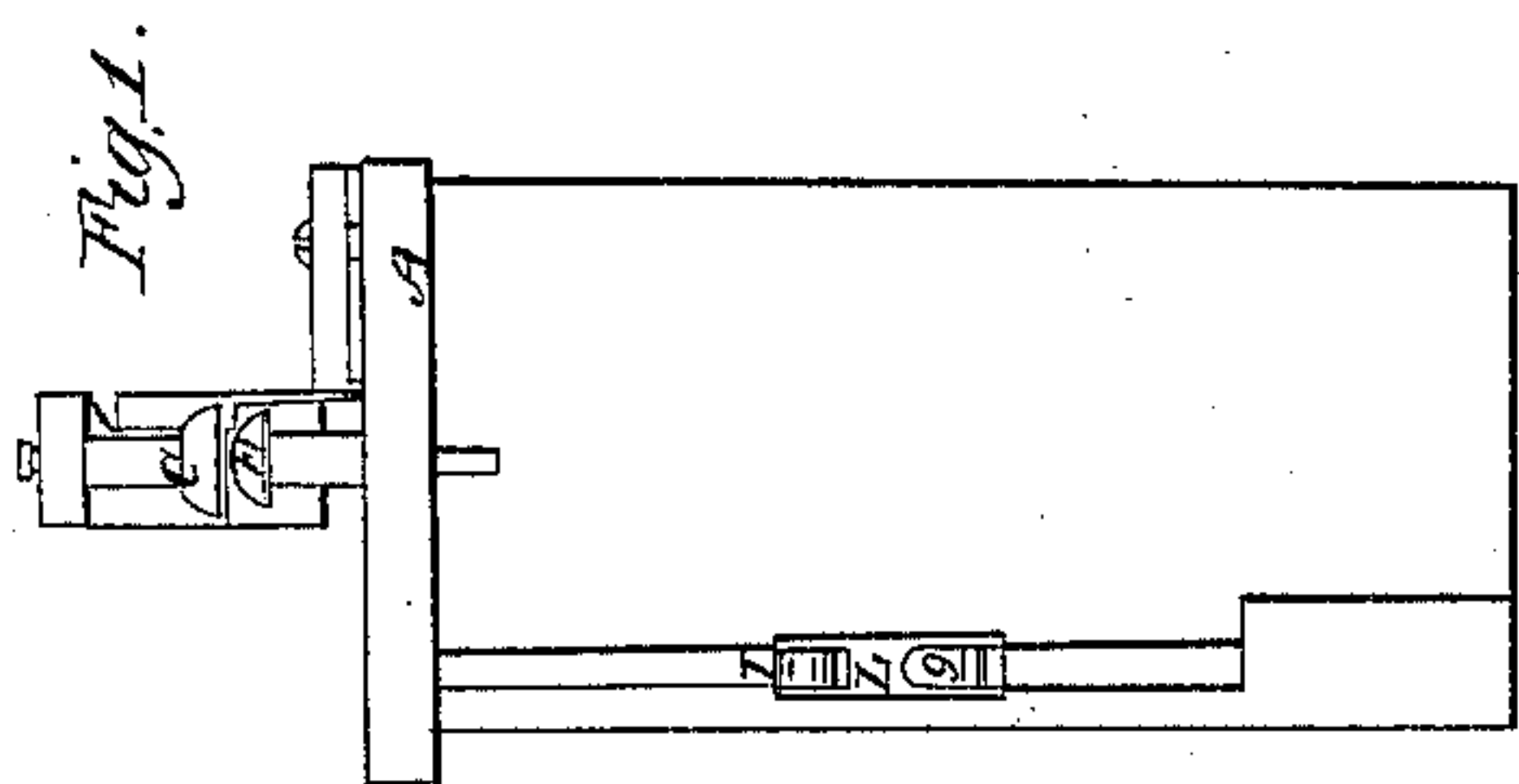
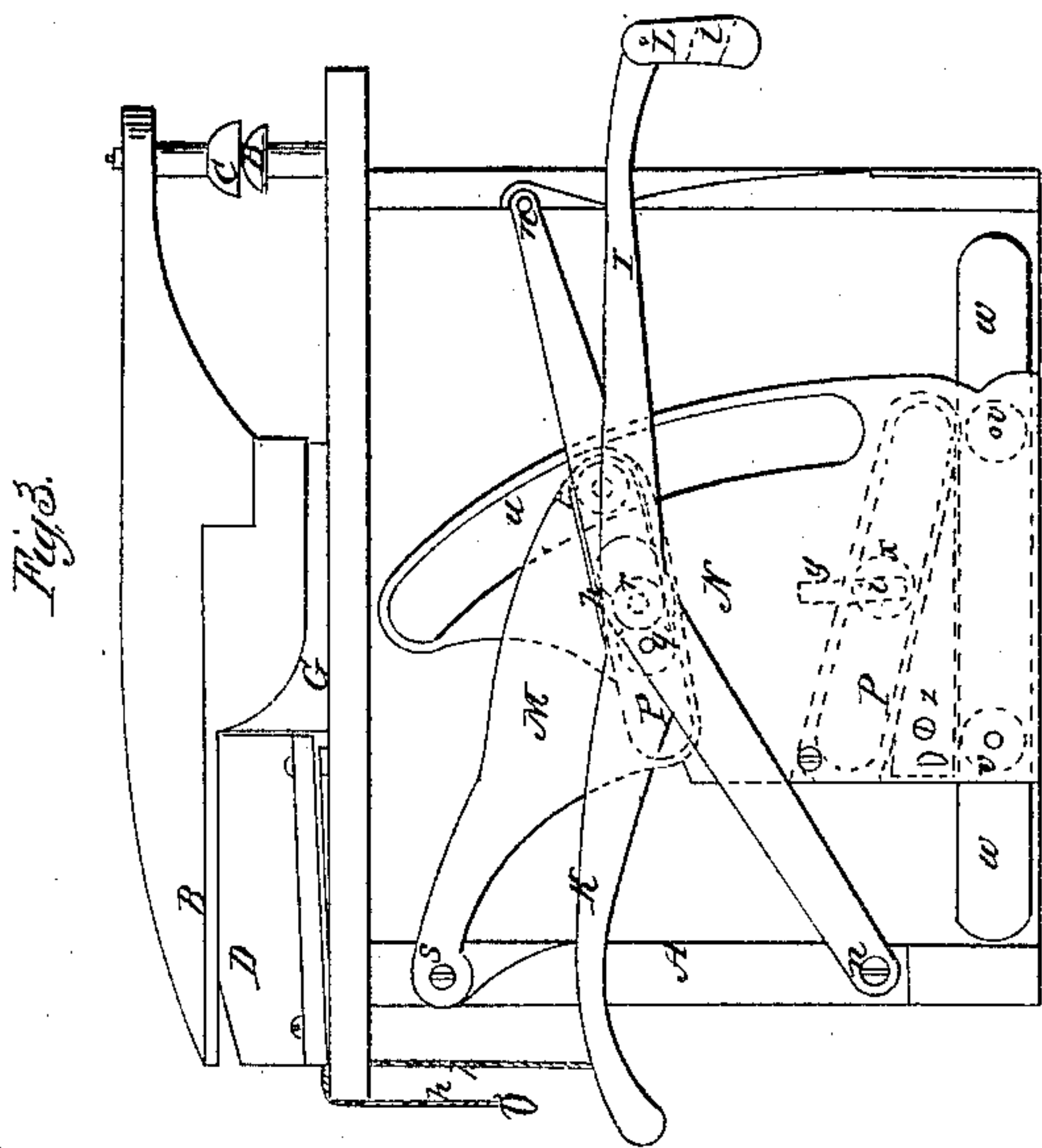


*J. N. Smith,
Cotton Press.*

N^o 59669.

Patented Nov. 13, 1866.



*Witnesses.
S. Brown,
R. D. Smith.*

*Inventor:
J. Nottingham Smith,
By his atty
J. S. Brown.*

UNITED STATES PATENT OFFICE.

J. NOTTINGHAM SMITH, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN FOOT-PRESSES.

Specification forming part of Letters Patent No. 59,669, dated November 13, 1866.

To all whom it may concern:

Be it known that I, JOSEPH NOTTINGHAM SMITH, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Foot-Press for various uses; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being an end view of the press as arranged by me; Fig. 2, a side view thereof; Fig. 3, a view of the opposite side, the covering-plate thereof being removed to show the working parts; Fig. 4, an inner view of a part detached.

Like letters designate corresponding parts in all of the figures.

The leading features of my invention are the production of the power by compound wedge action, by compound leverage combined therewith, by causing both the wedges and levers to act both ways, and in adjusting the angle of the direct-acting wedge so as to vary the power at pleasure.

My invention is represented as applied to shears B D and to beaters or dies C E. A vertical sliding bar, G, receives and applies the power direct. It is moved up and down by a double-surface wedge, P, acting on a pin or stud, *i*, which should properly have a friction-roller, *x*. A slot, *y*, Fig. 3, in the frame A allows the pin *i* to move up and down.

The wedge P is adjustable to different angles by means of an adjusting wedge-piece, *z*, or its equivalent, so as to vary the power of the wedge. This wedge has a horizontal reciprocating movement to produce its action, and to effect this it is attached to a block or plate, N, which has a horizontal sliding movement in a way or groove, *m*, Fig. 3, there being friction-rollers *v v* to diminish the friction.

To give this wedge plate or block its movement, it has a curved double-faced wedge or wedge-groove, *n*, extending in a nearly vertical direction. On this wedge the free end of a vibratory lever, M, works with a pin and friction-roller, *t*. The other end turns on a pivot-pin, *s*, secured to the frame, substantially as shown.

Upon this intermediate lever a foot-lever, K, acts by a pin and friction-roller, *q*, working in a slot, *r*. This foot-lever is pivoted at one end, as at *n*, to the frame, and projects so as to be operated by the foot of the attendant.

When it is desirable to work at either end of the press another foot-lever, L, is employed, being pivoted, as at *m*, to the end of the frame opposite to the pivot of the other end. It is connected by a pin and friction-roller, *o*, and slot *p* in the other foot-lever, or in the intermediate lever, M. Thus both convenience and increased power are the result; and it will be seen that both the levers and wedges act both ways. The foot-levers have at their outer ends foot-stirrups, as at *z*, with a step-socket, *l*, to receive the foot and enable it both to depress and lift the lever. By this arrangement no counter-weight requiring more power to operate the press is employed; but if a counter-weight is ever desired it can be used, as shown at *h*.

The sliding bar G has knife-edges *a a*, which run in notch-grooves in guides H H. These guides are nicely adjustable by wedges *b b*, and are retained in position by screws *f f*.

The stationary lower blade, D, of the shears has its heel adjustable up and down by the wedge-plate *d*, or its equivalent, so as to vary the angle of the blades to suit the occasion. The moving blade B moves directly up and down, so that its cutting action is uniform throughout its whole length.

It is readily seen that such a combination of wedges, or of wedges and levers together, produces immense force with a comparatively small exertion, so that the power of one man applied thus may produce powerful effects.

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

1. The combination of two or more wedge-drivers operating at right angles or transverse to each other, substantially as and for the purpose herein specified.

2. Either simple or compound levers, in combination with two or more wedges acting at right angles or transverse to each other, substantially as herein specified.

3. Such a combination of wedge-powers, or of wedge-powers and lever-powers combined, as to produce the final action in either direction, for the purpose set forth.

4. A wedge or wedges adjustable in direction when applied, substantially as and for the purpose herein specified.

J. NOTTINGHAM SMITH.

Witnesses:

H. A. ESTES,
M. I. SMITH.