(No Model.)

J. F. ALLEN.

PRESS.

No. 377,132. Patented Jan. 31, 1888.

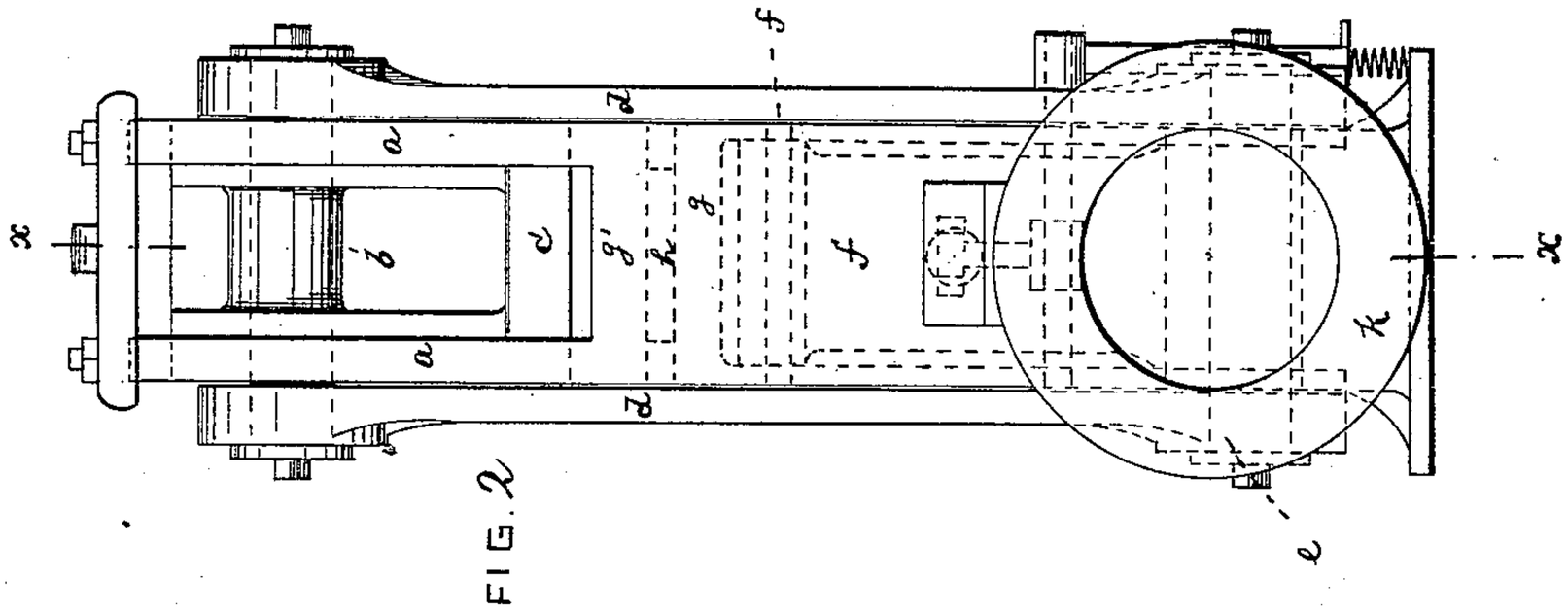

FIG. 2

FIG. 1

WITNESSES

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JOHN F. ALLEN, OF NEW YORK, N. Y.

PRESS.

SPECIFICATION forming part of Letters Patent No. 377,132, dated January 31, 1888.

Application filed August 25, 1887. Serial No. 247,805. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. ALLEN, of the city of New York, county and State of New York, have invented a new and Improved Press, of which the following is a specification.

This invention relates to a press constructed to exert a great amount of force, and designed for embossing metals and for other purposes.

The invention consists in the various features of improvement, more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical central section of my improved press on the line *x x*, Fig. 2. Fig. 2 is an end view of the same.

The letters *a a* represent the uprights of the supporting-frame, the same being slotted at their upper ends to form bearings for a vertically-movable transverse shaft, *b*, to which the upper or movable platen, *c*, of the press is secured. The two ends of the shaft *b* project beyond the uprights *a* and are embraced by the eyed upper ends of a pair of rods, *d d*. The lower ends of the rods *d* embrace the ends of a pin, *e*. Between the rods *d* there is secured to pin *e* a central strut, *f*, which is perforated near its lower end for the admission of the pin. The strut *f* projects upwardly between the uprights *a* and is hung upon a pivot, *f'*. The upper edge of the strut *f* is rounded from end to end—that is, the edge of the strut forms a semicircle in cross-section. Above the strut *f* there is secured to the uprights *a* the lower or fixed platen, *g*, of the press. This platen is made with a transverse groove from end to end in its lower face, that fits over and accommodates the upper rounded edge of strut *f*, thus forming what may be termed a "knuckle-joint," as shown in Fig. 1.

I prefer to make the lower platen in two parts—viz., the platen proper *g*, and a superposed platen, *g'*. The face of one of these platens should be slanting, and the platens are separated by a wedge, *h*, adapted to be moved backward and forward by a set-screw, *h'*. Thus the upper portion, *g'*, may be raised or lowered, and in this way the play of the press may be changed at pleasure.

The lower end of strut *f* is connected by a strut, *i*, to a trunk-piston, *j*, reciprocating in cylinder *k*. The slide-valve *l* of the cylinder is operated by a foot-lever, *m*, held down by a spring, *n*. When upward pressure is applied to this lever by spring *n*, steam is admitted at the front of the piston, and the piston will be drawn into the cylinder. The piston will thus partially revolve strut *f* around pivot *f'*. Thus the pin *e* will be elevated into the position shown in dotted lines, Fig. 1, and it will raise the shaft *b* and upper platen, *c*, by means of the rods *d*, to open the press.

When the foot-lever *m* is pressed down, the piston will revolve strut *f* until it occupies a vertical position, thus bringing the rods *d* also down into a vertical position, as shown in full lines, Fig. 1. In this way the rods *d* will draw the shaft *b* and platen *c* down with great force to close the press.

It will be seen that this press is so constructed that the power is increased in the ratio in which the press is closed.

An important feature of the press is the construction of the joint between strut *f* and lower platen, *g*. It will be seen that when the press is closing the upper rounded edge of the strut will revolve within the groove of the platen. Thus the great power acting upon the strut will not operate to break pivot-pin *f'*, but the power will be transferred to the platen *g*, and tend to hold the platen up as against the pressure exerted upon the upper face of the platen. A double advantage will thus result—that is, the pivot will be relieved and the lower platen will be supported. The function of the pivot will therefore be to merely support the weight of the strut itself.

I claim as my invention—

1. The combination, in a press, of the following elements: uprights with slotted bearings, an upper vertically-movable shaft carrying upper platen, a pair of connecting-rods, a lower pin, a pivoted strut connected to said pin between the rods, and a lower platen, substantially as specified.

2. The combination of uprights *a*, movable platen *c*, and shaft *b* with rods *d*, pin *e*, and with pivoted strut *f*, having upper rounded edge, and with lower platen, *g*, having a grooved face to accommodate such rounded edge, substantially as specified.

3. The combination of slotted uprights *a*

with the vertically-movable shaft *b*, carrying platen *c*, and with the rods *d*, connecting shaft *b* with pin *e* and with strut *f*, platen *g*, and strut *i*, that connects the strut *f* with trunk-piston *j*, and with lever *m*, for operating the piston, substantially as specified.

4. The combination of uprights *a* with shaft *b*, movable platen *c*, rods *d*, pin *e*, strut *f*, and with the platens *g g'* and interposed wedge *h*, having set-screw *h'*, substantially as specified.

JOHN F. ALLEN.

Witnesses:
F. v. BRIESEN,
ALFRED JONGHMANS.