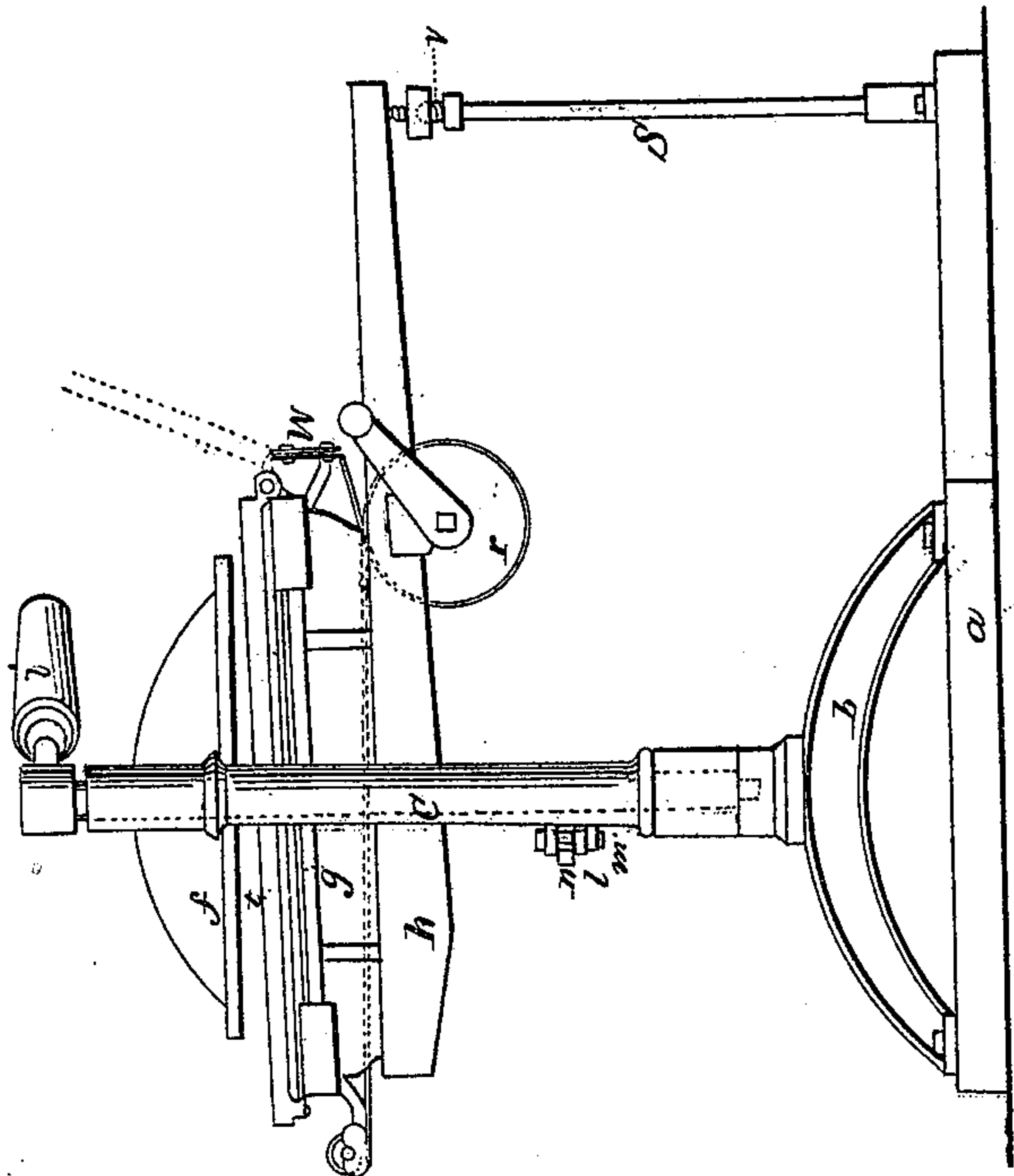


*C. Foster.*  
*Printing Press.*

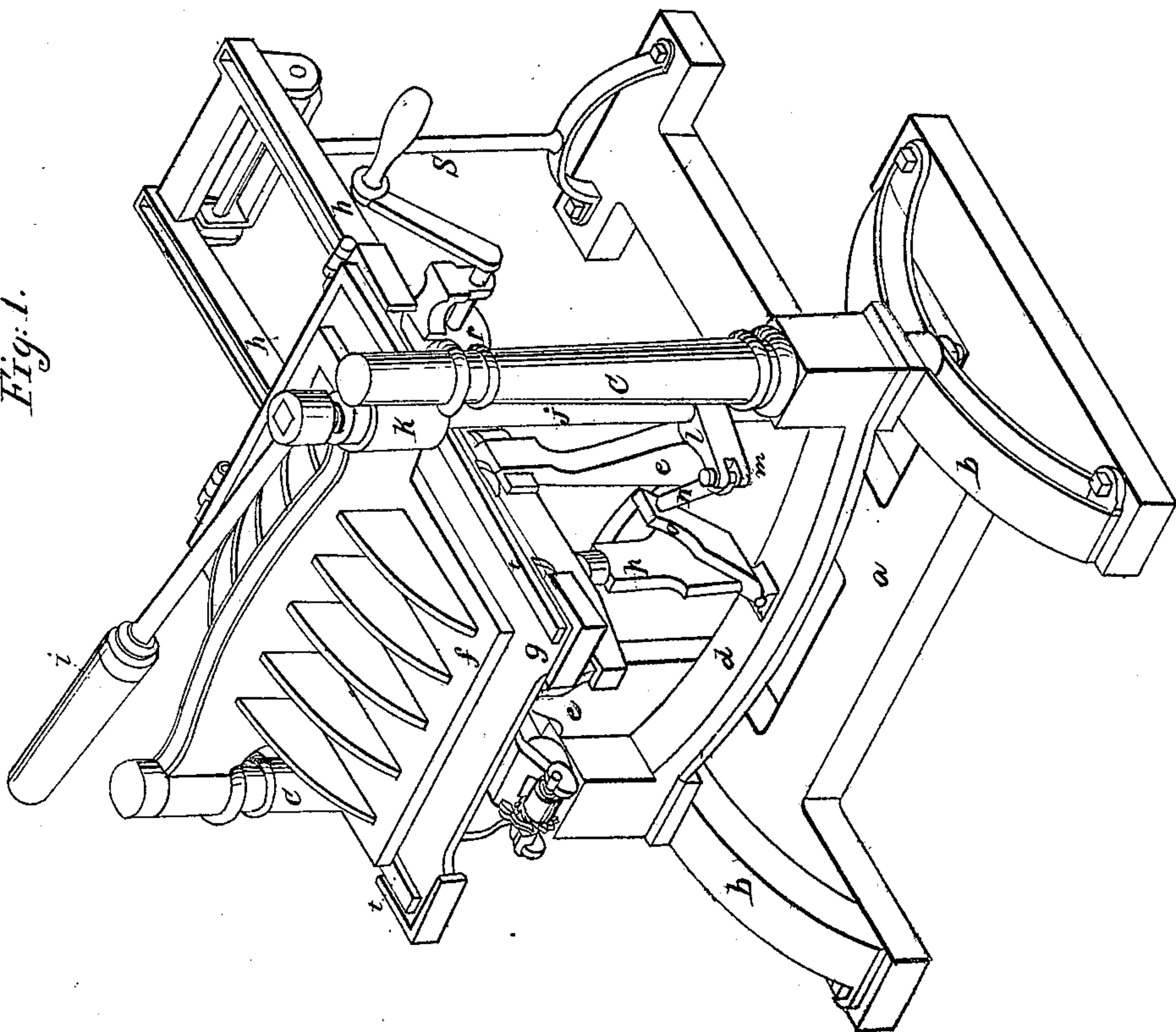
*N<sup>o</sup> 9295.*

*Patented Oct. 5. 1852.*

*Fig. 2.*



*Fig. 1.*





# UNITED STATES PATENT OFFICE.

CHARLES FOSTER, OF CINCINNATI, OHIO.

HAND PRINTING-PRESS.

Specification of Letters Patent No. 9,295, dated October 5, 1852.

*To all whom it may concern:*

Be it known that I, CHARLES FOSTER, of Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in the Construction of Hand Printing-Presses; and I hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of my invention, reference being had to the annexed drawings, making part of this specification.

My improvements have for their object the greatest possible accuracy of action and ease of operation with a simplicity of construction which enables me to manufacture these important machines at little over half their usual cost.

In the annexed drawings Figure 1 is a perspective view. Fig. 2 is side view of a hand printing press embodying my improvements.

The same letters refer to like parts throughout.

(*b, c, d, e,*) is a framework of iron, and consists of stanchions or columns (*c*) which are strongly united at bottom by a rail or brace (*d*) which is cast in one piece with them. This rail (*d*) affords bearing for the toggle movement. From this rail project upward two lugs (*e*) for the steadying of the guide bars as hereinafter explained. The platen (*f*) is stationary, and is firmly keyed or bolted to the tops of the columns. The impression is given by the upward motion of the guide bars, and with them, the superincumbent bed (*g*). The bars are connected firmly, together at their rear ends by a cross-bar or rail, and rest upon two adjusting screws (*v* Fig. 2) (one hidden behind the other in the drawing) situated in the head of a stand or leg (*S*). Upon these screws as on a fulcrum, vibrate up and down, the guide-bars; and as in the act of giving the impression, the face of the bed must come exactly parallel with that of the platen, it will be seen that the guide-bars will necessarily be inclined slightly downward at their resting or lower position. The tops of the lugs (*e*) are fitted accurately to grooves on the sides of the guide-bars which are thus steadied both longitudinally and transversely by the lugs. A very decided benefit arises from moving the guide-bars with the bed, namely, the extended longitudinal bearings which are thereby afforded to the bed, prevent any

tendency to instability or wobbling and permit the grooves on the bars to be very closely fitted to the lugs, as there is no tendency to bind or hitch, in consequence of the long bearing of the bars, and the same part of the bed may always be brought in opposition to exactly the same part of the platen every time, no exactitude being in this arrangement sacrificed to the amount of play which in the usual slide movement is adopted to avoid binding. The weight of the bed-bars and their appendages being sufficient to return them to the resting position, no springs are necessary. That portion of the bottom of the bed which rests upon the guide-bars and the forward ends of those bars, are inclined slightly upward toward the front, so that in drawing the bed forward under the platen it is in its progress beneath said platen made to rise enough to reduce the necessary lifting action of the toggle one half and thus to allow an increased leverage of toggle at the close of the stroke, and by this means materially to lighten the labor of the pressman, inasmuch that the same hand has been able easily to exceed by one half the number of printed sheets he would ordinarily have thrown off.

The handle (*i*) is attached to a shaft (*j*) which shaft passes down below the bars, in order to communicate action to the toggle movement beneath them.

The shaft (*j*) is journaled vertically to lugs (*k*) on the column (*c*), from this shaft projects an arm (*l*), against a bolt (*m*) in the end of which rests the forked extremity of a pin (*n*), whose opposite end being pointed, sockets near the upper extremity of one limb (*o*) of the tricket toggle (*o, p,*) the other limb (*p*) being socketed to the underside of the bars. It will be observed that the pin (*n*) and bar (*l*) being situated obliquely to each other in the state of rest, constitutes itself a toggle movement, in addition to that presented by the limbs (*o, p*).

The rounce (*r*) is journaled to ears on the guide-bars. The clamp (*w*) which holds the rear rounce-strap is made to serve also the purpose of a rest for the heel of the tympan, when the latter is thrown back, superseding the prop now in use for support of the tympan in that situation.

The frame may stand on and be bolted to a skeleton base-plate (*a*).

Having thus described my improvements in printing presses, what I claim therein as



new, and desire to secure by Letters Patent, are—

1. The arrangement substantially as described in a hand power-press, of guide-  
5 bars resting upon adjusting points, or hinged at their rear ends, and guided at their front ends to a vertical vibration, concentric with said points or hinge, so that the entire bed, guide-bars and their ap-  
10 pendages, shall move bodily upward upon giving the impression, and return by their own weight to the state of rest; whether operated by a shaft (j) extending below the bed, and working a toggle joint beneath the

bed or bars as described, or in any equivalent way. 15

2. I claim in connection with the before described arrangement, the ascending grade at the fore end of the guide-bars, for the purpose of limiting the range of the toggle 20 at the period of giving the impression.

In testimony whereof I have hereunto set my hand, before two subscribing witnesses.

CHAS. FOSTER.

Witnesses:

GEO. H. KNIGHT,  
J. H. GETZENDANER.