(No Model.)

H. SWAIN.

PRINTING PRESS.

No. 463,997. Patented Nov. 24, 1891.

Fig. 1.

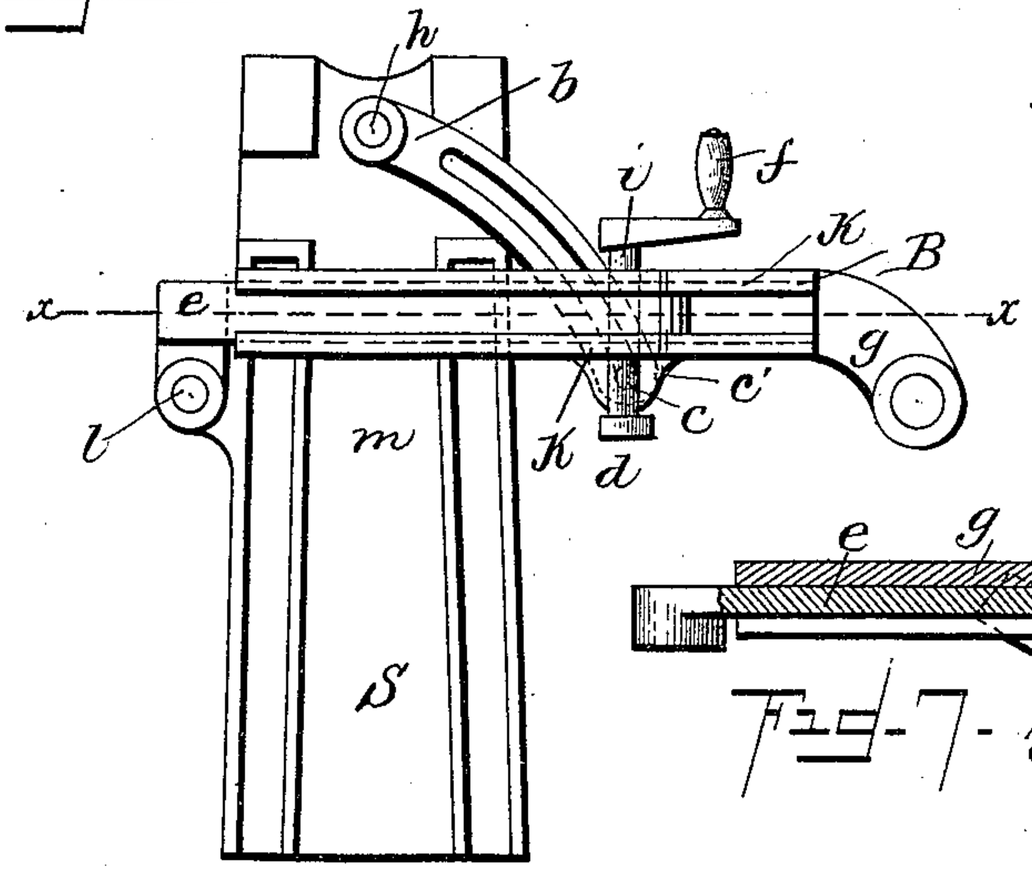


Fig. 2.

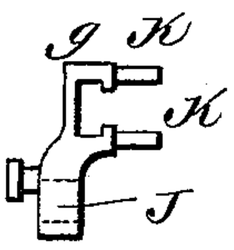


Fig. 7.

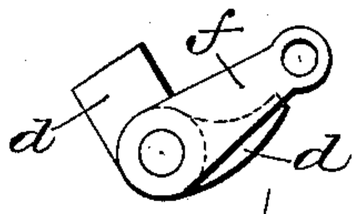


Fig. 3.

Fig. 4.

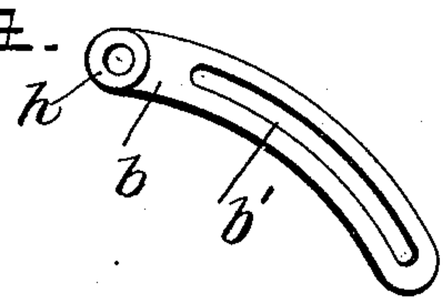
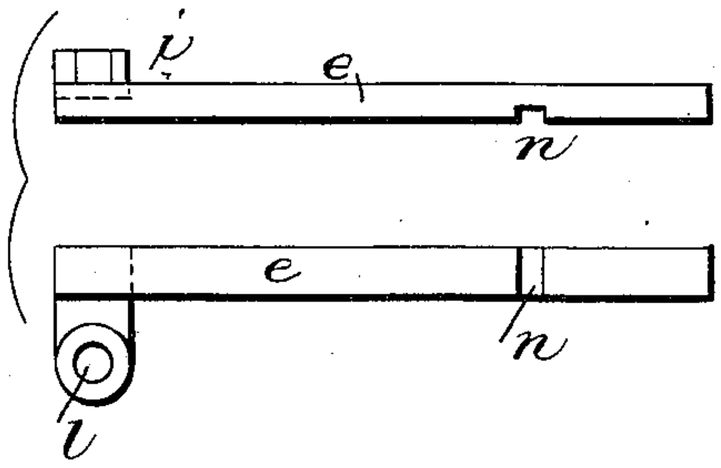


Fig. 5.

Fig. 6.



WITNESSES

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HADWEN SWAIN, OF SAN FRANCISCO, CALIFORNIA.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 463,997, dated November 24, 1891.

Application filed April 8, 1890. Serial No. 347,159. (No model.)

To all whom it may concern:

Be it known that I, HADWEN SWAIN, a citizen of the United States of America, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to the inking apparatus of job-printing presses in which the bed or platen, or both, have movement toward and from each other to make the impression; but it is designed more especially for application to machines of which the Gordon presses are a well-known type. In this class of presses the arm or frame at each side of the press, carrying the inking-rollers, is mounted on a shaft supported on the frame of the type-bed. To this arm is pivoted one end of a side bar, the other end of which is pivoted to some movable part of the press if the bed be stationary, or to a fixed part of the frame if the bed be movable. By this means the roller-carrying arms are rocked to and fro, so as to move the inking rollers alternately down over the type-form on the bed and up over the ink-distributing plate or cylinder arranged above the bed at every revolution of the main shaft of the machine. It is often desirable that this revolution and the consequent general motion of the machine shall take place without bringing the inking-rollers into contact with the form, and this can be accomplished only by removing the form or the rollers. It is also often desired that the rollers shall have motion for the distribution of the ink, during which they shall not touch the form, and the form must therefore be removed.

The object of my invention is to provide improved means whereby while the action of the press continues the rollers shall be prevented from reaching the type-form on the bed, but shall at the same time have ample motion for the distribution of ink. I accomplish this object by the mechanism substantially as hereinafter described, and shown in the drawings, in which—

Figure 1 is a side view of a roller arm or "saddle" with my improved compound side bar and stop-motion applied thereto. Fig. 2 is an end view of the side bar; Fig. 3, a top view of handle, pawl, and stop attachment; Fig. 4, a side view of the slotted connecting-link; Fig. 5, a view of the pawl; and Fig. 6, top and side view of the sliding extension of the side bar. Fig. 7 is a sectional view on line *x x* of Fig. 1, with the pawl *a* engaged in the notch *n* of bar *e*.

Similar letters of reference indicate like parts in the drawings.

The roller arm or saddle *s*, as will be well understood, is mounted on a shaft *m*, supported in the frame of the type-bed. Motion is imparted to this saddle by a side bar arranged substantially as hereinbefore described; but in my improvement this side bar B is composed of two parts having a sort of telescoping relation to each other. The main part *g* of the bar has overhanging flanges on its two edges, forming a T groove or way on its side, Fig. 2. In this recess is placed the body of the other part *e* of the bar, so that the two are free to slide upon one another when they are not locked together, as hereinafter set forth. An arm on the outer end of the part *e* is pivoted on a lug *l* on the saddle near the shaft *m*, on which the saddle rocks. The other end of the compound bar, a projection on the outer end of the part *g*, is connected by a pivot-bearing *j* to a movable or a fixed part of the machine according to the circumstances of its construction and operation, as hereinbefore referred to.

The devices forming my stop-motion are carried by the main part of the side bar. In bearings *k* on the side of said part *g* is mounted a vertical shaft *i*, which is provided on its upper end with a crank-handle *f*, by which it is rocked at will by the pressman. On the shaft at a point opposite the open part of the groove in the bar *g* is secured a dog or pawl *a*, and on the lower end of the shaft is formed or secured a stop-arm *d*. In a lug *c'* on the bar *g* is fixed a pin *c*, which enters a slot *b'* in a curved link *b*. This link swings from a pivot *h* on the roller-arm or saddle at a distance from the shaft *m*, on which the saddle rocks, considerably greater than the pivot at *l*. In the outer side of the bar *e* is cut a notch *n*, which in one position of the handle *f* is engaged by the dog *a*, which thereby locks together the bars *g* and *e* and prevents any

movement of the one on the other. When the pawl is in this position, the stop *d* is turned aside from the link *b*, which will then slide idly on the pin *c;* but when the handle *f* is turned to throw the dog out from the notch *n*, releasing the sliding bar *e* by the same movement, the stop *d* is brought under the end of link *b*, which is thereby locked to the pin *c* as a pivot. The link *b* is curved, as shown, so that when it is sliding loosely over the pin *c* it will not strike the pivot in the bearing *j*.

In the operation of the machine to which my improvement is applied, the normal position of the parts is as shown in Fig. 7, with the compound side bar in its contracted condition, the dog or pawl *a* seated in the notch *n* and locking its parts together. Then as the bed and platen are separated the saddle is given its extreme movement, carrying the inking-rollers from the distributer-plate down over the type-form, and as the bed and platen move toward an impression the rollers are carried back over the form to the distributer. In this latter action the rear end of the bar *g* comes against the arm of bar *e*, forming a solid shoulder, to thrust the inking-rollers up to the distributer-plate, while to draw the rollers down the grip of the dog in the notch *n* is sufficiently strong. Now whenever it is desired to give the inking-rollers extra distribution or for other reason to have the motion of the press continue without allowing the rollers to reach the form, the pressman, by turning the handle *f*, throws the dog out from the notch *n*, and by that motion of the shaft *i* the stop *d* is brought under the lower end of the link *b* and prevents any longitudinal movement of the link on the pin *c*, as shown in Fig. 1. Then, as the motion of the machine continues the saddle receives its motion through the link *b*, which is thus locked to the bar *g*, which latter slides over the bar *e*, and the pivot *h* attaching the link to the saddle being much farther than the pivot *l* from the shaft *m*, the regular motion of the machine will give a much less motion than before to the saddle and the inking-rollers carried thereby are drawn back and forth over the distributer-plate and cannot descend over the form. A reverse motion of the crank-handle will simultaneously release the link *b* and, locking together the bars *g* and *e*, re-establish the normal operation of the inking apparatus.

I am aware that sundry constructions have been made with a similar object in view, as the employment of movable bearers at the sides of the form; but I regard these as more complicated and costly constructions, and not so well adapted for application to existing machines of the several forms hereinbefore mentioned. To this end this invention is eminently fitted.

Having thus described my invention, I do not wish to be limited to the precise construction set forth, as it is obvious that sundry modifications thereof may be made not outside the scope of my invention. If a simple throw-off for the inking-roller be desired, the link *b* and its coacting devices may be dispensed with, in which case the simple unlocking of the dog *a* from the notch *n* will allow the bars *g* and *e* to slide upon one another, and little or no motion will be given to the inking-rollers while the general operation of the machine continues.

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

1. In an inking apparatus, the combination, with the inking-roller saddle, of a compound side bar in two parts adapted to slide upon one another, and means, substantially as described, for locking the parts together, as set forth.

2. In an inking apparatus, the combination, with the inking-roller saddle, of the compound side bar, and a stop-motion whereby the rollers may be prevented from reaching the form, substantially as described.

3. In an inking apparatus, the combination, with the inking-roller saddle, of a compound side bar in two parts adapted to slide upon one another, and a dog or pawl locking and unlocking the parts, substantially as described.

4. In an inking apparatus, the combination, with the inking-roller saddle, of a compound side bar pivoted to the saddle near its supporting-shaft, the link pivoted to the saddle farther from said shaft, and means, substantially as described, for locking and unlocking the parts, as set forth.

5. In an inking apparatus, the combination, with the inking-roller saddle and the compound side bar carrying the cranked shaft and its dog and stop, of the link slotted to engage a pin on said bar, substantially as described.

6. In an inking apparatus, the combination, with the inking-roller saddle, of the bar *g*, having an open T-groove in its side, the bar *e*, pivoted to said saddle and seated in said groove, and the dog mounted on the bar *g* and adapted to engage a notch *n* in the bar *e*, substantially as described.

7. In an inking apparatus, the combination, with the inking-roller saddle, the compound side bar, and the stop-motion carried thereby, of the link pivoted to said saddle and slotted and curved, as described, so as to slide over the pin in said bar and free of the pivot thereof, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HADWEN SWAIN.

Witnesses:
PAUL SCHMITZ,
G. M. STOLZ.