2 Sheets—Sheet 1.

W. P. KIDDER.

PRINTING-PRESS.

No. 184,083. Patented Nov. 7, 1876.

Fig. 1.

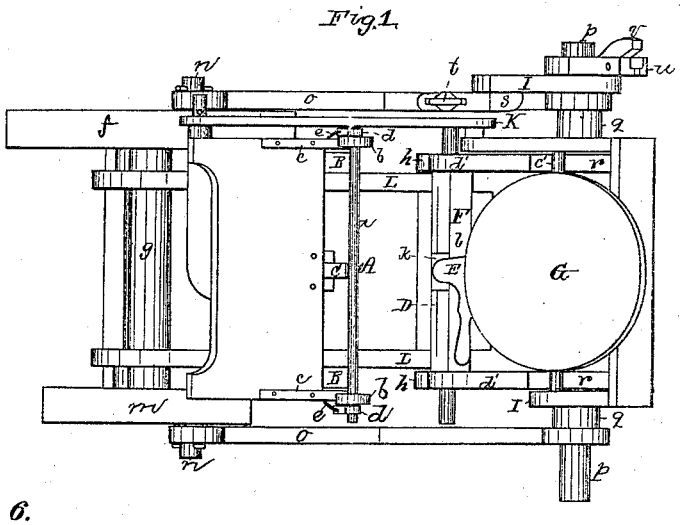


Fig. 6.

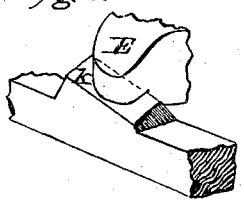


Fig. 2.

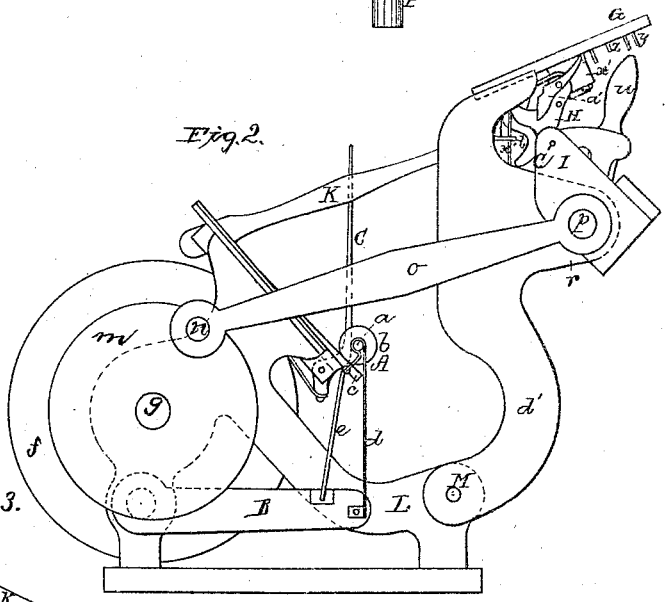
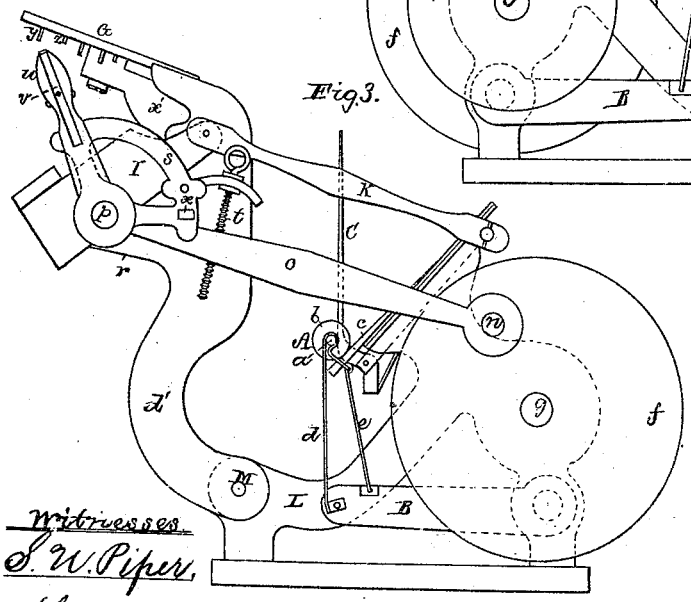


Fig. 3.



Witnesses.
S. W. Piper,
L. W. Möller

Webbington P. Kidder.
by his attorney
R. H. Eddy

2 Sheets—Sheet 2.

W. P. KIDDER.

PRINTING-PRESS.

No. 184,083. Patented Nov. 7, 1876.

Fig. 4.

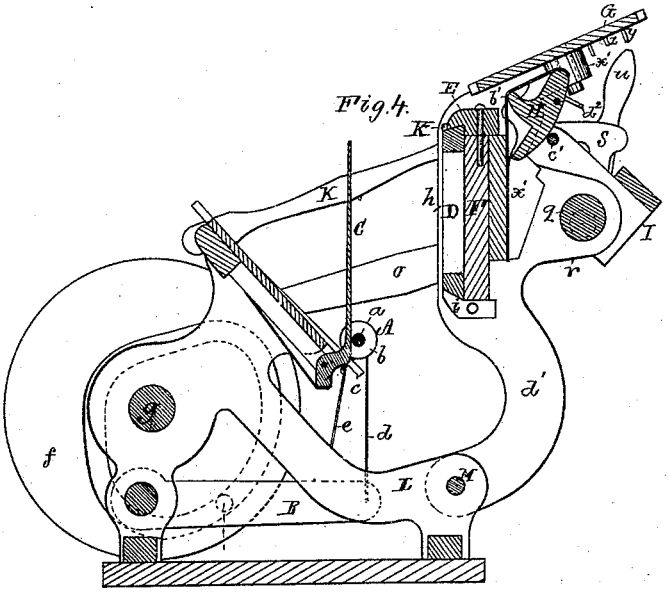
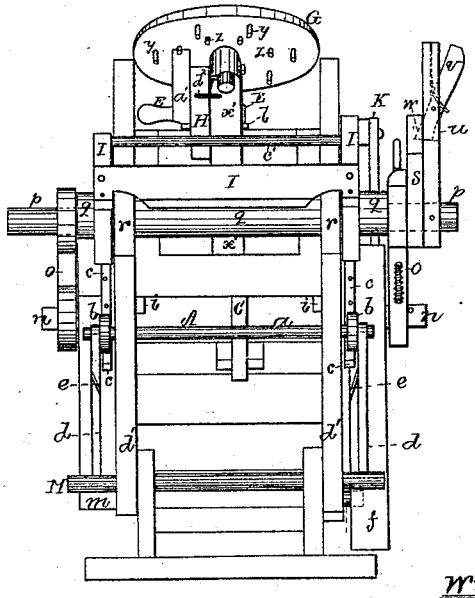


Fig. 5.



Witnesses.

S. W. Piper.

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Willington P. Kidder

by his attorney

R. K. Eddy

UNITED STATES PATENT OFFICE.

WELLINGTON P. KIDDER, OF MALDEN, MASSACHUSETTS.

IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. **184,083**, dated November 7, 1876; application filed March 20, 1876.

To all whom it may concern:

Be it known that I, WELLINGTON P. KIDDER, of Malden, of the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Printing-Presses, and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Figs. 2 and 3 opposite side elevations, Fig. 4 a longitudinal section, and Fig. 5 a front end elevation, of a press embodying my invention, the bed, with its chase, being represented in said figures as in or about in a vertical position. Fig. 6 is a perspective view, on an enlarged scale, of the lever-latch, and the projection on the chase with which it co-operates to hold the chase in place.

My invention has reference to mechanism for operating the fender of the platen; also, to mechanism for supporting the chase and holding it in connection with the bed; also, to mechanism for effecting the adjustment of the bed for varying the strength of the impression; also, to mechanism for operating the inking table or disk.

In the press, the platen-fender, for preventing the fingers of an attendant from being pinched between the platen and bed, is shown at A, as composed of a rod or shaft, *a*, provided with two wheels, *b b*, arranged, with their periphery, in contact with the inner face of the platen, the said platen being furnished with two rails, *c c*, arranged and extending from it, as shown.

The fender A turns freely in the supporting-arms *d d*, (each of which is an elastic spring,) and is drawn toward the platen by other springs, *e e*, connected to such arms, and the levers B B, to which such arms are pivoted. From one of said arms a stud projects into the groove of a cam-wheel, F, fixed on a shaft, *g*.

In Letters Patent No. 160,333, dated March 2, 1875, and granted to me, I have claimed a sliding or reciprocating fender, combined with a printing-press, or its bed and platen, such fender operating simply in a plane parallel to the platen. It could not be forced away from the face of the platen, as can the fender A, hereinbefore described, which, on being moved in contact with the hand of an attendant, will not rigidly impinge against it, so as to injure it or strike it with a blow, but will gently touch or push it, and give way or ride upon it, without doing injury or giving pain to it. Besides, such fender, when the bed is in a vertical position, admits of the sheet-holder C being moved forward to, or nearly to, the form of type on the bed from under the pressure of the said holder, while the latter is being so advanced the fender will move forward with it. Thus, the fender, by being supported by yielding arms provided with springs, (all as described,) becomes what may be termed a yielding pressure-fender, that can yield or give way to an obstacle or pressure tending to either force it downward parallel to the platen, or upward or away from the face of the platen. The supporting-arms of the fender may be inelastic, but I prefer to have them elastic, or capable of being bent in an arched or bow form, in order that the fender may yield or give way when pressed in a direction down the platen and parallel thereto.

The chase D, (see Figs. 1 and 4,) placed between and against parallel ledges or flanges *h h*, rests near each end of its lower edge on a hooked or inclined support, *i*. At the middle of its upper edge the chase is provided with a projection, *k*, whose face or upper surface slopes both longitudinally and transversely, in order that it may, with a lever-latch, E, pivoted to the bed, operate to hold the chase in place, or up to such bed. The said lever-latch has its shorter arm arranged to lap upon the face of the projection, and is provided with a spring, *l*, to draw it up to the said projection, and in close contact with it. By taking hold of the handle of the lever-latch, and moving the latch aside against its spring, the chase may be easily removed from the bed.

The driving-shaft *g* has fixed on it a crank-wheel, *m*. From wrists or crank-pins *n n* extending from the said wheel *m*, and the cam-wheel *f*, two connecting-rods, *o o*, lead to, and are pivoted on, the journals *p p* of a shaft, *q*, which turns in bearings in arms *r r*, extending back from the bed F. The said journals *p p* have their axes arranged eccentrically to

the axis of the shaft. On one of such journals there is arranged, loosely, a sector, *s*, provided with an adjusting-screw, *t*, which screws into the next adjacent connecting-rod *o*, all being as shown. Furthermore, there is fixed to the said journal a radial arm, *u*, provided with a latch, *v*, to engage with the sector, or enter either of two recesses, *w x*, made therein over the ends of its arc.

By taking hold of the radial arm and moving it from the upper toward the lower of the recesses *w x*, the shaft 2 will be partially revolved, and, by reason of the eccentricity of the said shaft to its journals, such shaft, while so revolving, will force the bed forward a short distance toward the platen. When, however, the radial arm is latched to the sector, the turning of the shaft *q* may be effected and regulated by the adjusting-screw *t*. By the said screw the strength of the impression of the type may be increased or diminished from time to time, as may be required. By throwing back the radial arm to its rearmost position on the sector, the bed may be moved so far back as to cause the type of the chase to effect no imprint of a sheet of paper then on the platen.

From the rear of the bed F a standard or bracket, *x'*, projects upward, and has pivoted to it, and arranged as shown, an inking-disk, G, having two concentric rows of pins, *y z*, extending from its under surface. Pivoted to one side of the bracket *x'* is a tri-armed lever, H, which has jointed to its upper arm an impelling-pawl, *a'*, to act with the inner range of pins *z* in order to revolve the inking table or disk. An elastic band or spring, *b'*, is fastened at its lower end to the bed, and at its upper end to the upper arm of the lever H, and is arranged directly in front of the middle arm of the lever. Furthermore, there is applied to the shaft *q* a rocker-frame, I, provided with a rung or bar, *c'*, extending across it in rear of the lower arm of the lever H. A connection-rod, K, is pivoted to the platen and the said rocker-frame, and arranged as shown.

From the above it will be seen that during the retreat of the bed (which bed, by means of arms *d' d'* extending down from it, is pivoted to the frame L of the press, the pivotal shaft being shown at M) the rocker-frame rung *c'* will be caused to move against the longer arm of the lever H, and will move the lever in a manner to cause its pawl to partially revolve the inking-disk. In the meantime the middle arm of the lever will be raised up into the outer row of pins of the inking-disk, one of which pieces, by bringing up against the arm, will arrest the disk, or prevent it revolving more than it should under the impetus given it by the pawl. The spring *b'* serves to move the tri-armed lever in a manner to draw back its impelling-pawl at the proper times, the extent of rearward movement of the pawl being determined by the lever bringing up against a stud, d^2, projecting from the bracket, as shown. The disk is to supply ink to the inking-rollers of the press, which are not represented in the drawings. They, at suitable periods, are moved upward against, and along, the upper surface of the disk, and distribute the ink over it and upon themselves, after which they descend and pass over or across the form of type, and ink it preparatory to an imprint being made.

In the above-described printing-press I claim as of my invention as follows, viz:

1. The fender A, provided with wheels or rollers for supporting it upon the platen.

2. The fender A, supported by the arms *d d*, and provided with the springs *e e* for drawing it toward the face of the platen, all being substantially as specified.

3. In combination with the fender A, the platen, provided with the extensions or rails *c c* to operate with and support the fender, when depressed below the platen, as set forth.

4. The chase D provided with the projection *k* doubly inclined on its face, as described, in combination with the bed provided with the ledges *h h*, supporters *i i*, and a latching-lever, E, doubly inclined reversely to projection *k*, to operate with such projection *k*, all being essentially as specified.

5. The combination, substantially as described, for effecting the adjustment of the bed, such consisting of the shaft *q*, notched sector *s*, adjusting-screw *t*, radial arm *u*, and its latch *v*, all arranged with, and applied to, the bed, and one of its operative connecting-rods, as explained.

6. The combination, substantially as described, for effecting the intermittent rotary motion of the inking-disk G, such consisting of the connecting-rod K, rocker-frame I, bar *c'*, three armed lever H, spring *b'*, impelling-pawl *a'*, and the pins *y z*, all being arranged with, and applied to, the disk, its bracket, the shaft *q*, and the platen, essentially as set forth.

WELLINGTON P. KIDDER.

Witnesses:

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J. R. SNOW.