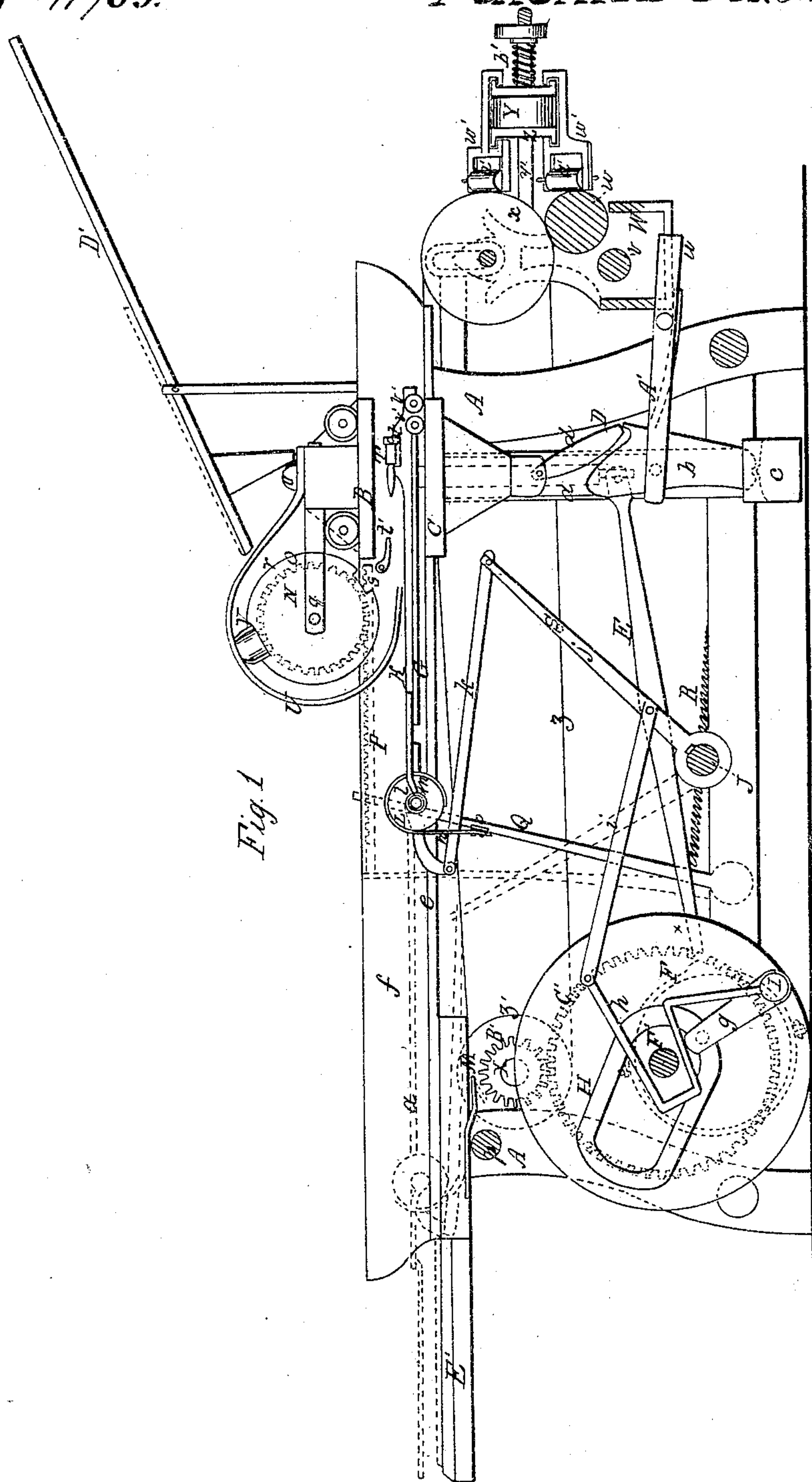


*E. B. Trinn. Sheet 1. 2 Sheets.*  
*Printing Press.*

*Nº 11765.*

*Patented Oct. 3. 1854.*



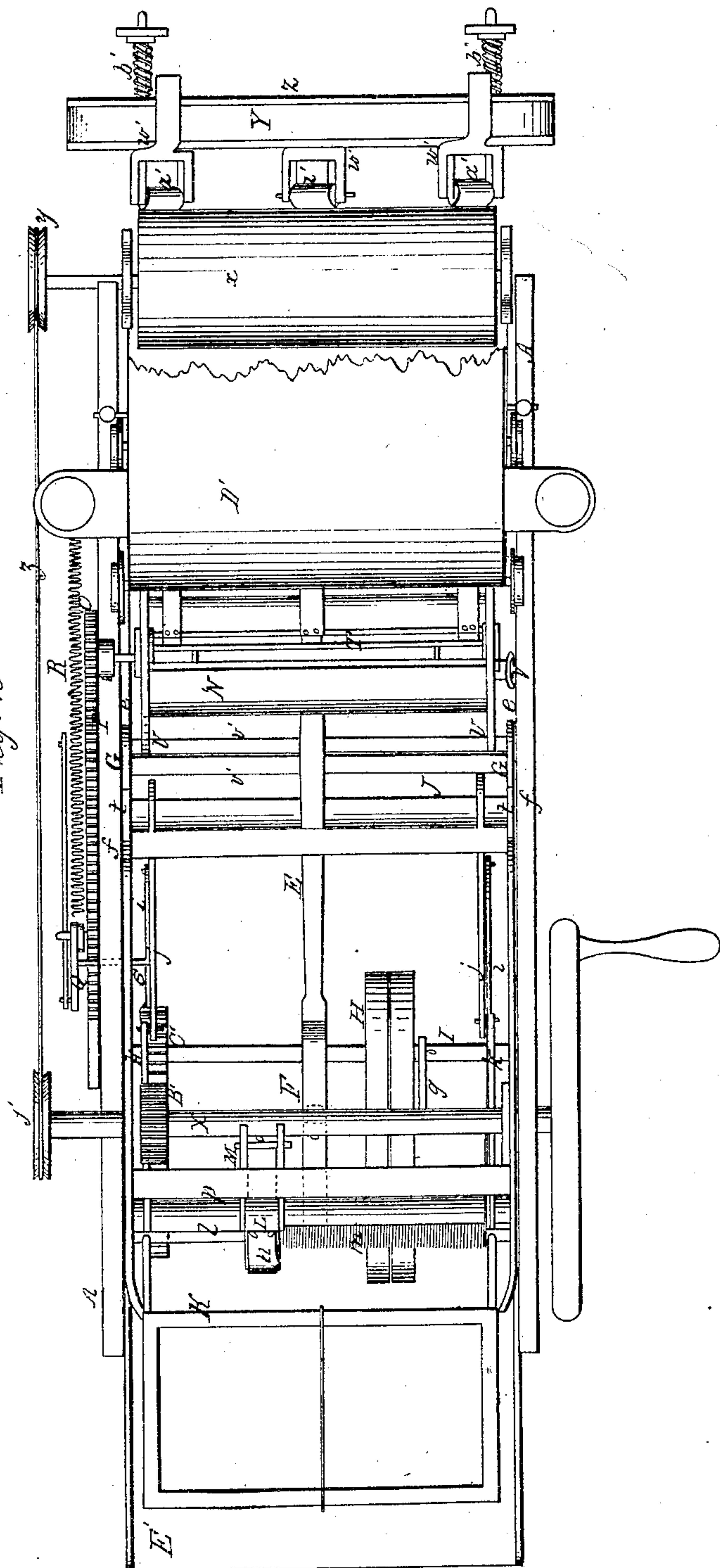
*Fig. 1*

*E. B. Tripp. Sheet 2. 2 Sheets.*  
*Printing Press*

*N<sup>o</sup> 11765.*

*Patented Oct. 3. 1854.*

*Fig. 2*





# UNITED STATES PATENT OFFICE.

ERVIN B. TRIPP, OF CONCORD, NEW HAMPSHIRE.

## IMPROVED PRINTING-PRESS.

Specification forming part of Letters Patent No. 11,765, dated October 3, 1854.

*To all whom it may concern:*

Be it known that I, ERVIN B. TRIPP, of Concord, in the county of Merrimac and State of New Hampshire, have invented a new and Improved Printing-Press; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my improved press, the side of the frame nearest the eye being removed. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a new and improved printing-press; and it consists, first, in the peculiar means employed for feeding the sheets to the form to be printed and removing them therefrom after being printed, and, second, in an improved device for inking the form, which will be fully described hereinafter.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A is a frame of rectangular form, on the upper part of which a transverse bed-plate B is secured in any proper manner.

C, Fig. 1, is a platen directly underneath the bed-plate B. The platen works between ways *a* at the sides of the frame A. One way is shown by dotted lines in Fig. 1.

D is a toggle, the lower lever or arm *b* of which is stepped in a cross-piece *c* at the bottom of the frame A, and the upper arm *d* is attached to the under surface of the platen C.

E is a connecting-rod, one end of which is attached to the lower arm or lever *b* of the toggle D and the opposite end to an eccentric F, which is on a transverse shaft F' at the lower part of the frame.

G is a tympan, which runs on ways *e e* on the upper side pieces *f f* of the frame A.

H is a cam on the shaft F, in the groove of which the end of a lever *g* fits, said lever *g* being attached to a shaft I, to which are connected bent levers *h h*, one at each end of the shaft. One of these levers is clearly shown in Fig. 1. At the ends of these bent levers *h h* are rods *i i*, which are connected to arms *j j*, the lower ends of which are connected to a shaft J. The upper ends of the arms *j j* are connected to rods *k k*, which are secured to

the outer end of the tympan G. On the upper part of the tympan there is a frisket K, secured to the outer end of a tympan by a rod *l*, which has a spiral spring *m* around it. (Shown clearly in Fig. 1.) On the rod *l* there is a pulley L, to which is attached a strap *n*, having a button *o* at its end.

M is a crotch or fork secured to a transverse brace *p* at one end of the frame A just below the ways *e e*.

N is a cylinder, the axis of which runs in proper bearings *q q* at the upper part of the frame A. At one end of the axis of the cylinder there is a toothed wheel O, which gears in a rack P at the side of the frame A.

Q is a lever, the upper end of which is attached to the outer end of the rack P. The lower end of this lever is secured by a pivot to the lower part of the frame A.

R is a spiral spring attached to the lever Q and frame A.

S is a pin or rod attached to one of the arms *j* and projecting a short distance beyond the lever Q.

The cylinder N is provided with a head *r* at each end, which are somewhat larger in diameter than the cylinder, and each head has a rectangular recess *s* cut in it, as shown in Fig. 1.

In the outer end of the tympan there are recesses *t t*, one at each side, in which a nipper-bar T fits. (See Fig. 1.)

U U are curved guides, which pass around a portion of the heads *r r* of the cylinder N, spaces being left between the guides and heads, as shown in Fig. 1.

V is an action-block or stationary cam secured to one of the guides U.

W, Fig. 1, is an ink-fountain secured at the ends of levers *u u*, attached to the sides of the frame A. One lever *u* is shown in Fig. 1. The ink-fountain has a roller *v* within it, which is in contact with a roller *w* above it, the roller *w* being in contact with a large roller *x*. The axis of the large roller *x* has a band-wheel *y* upon it, around which band-wheel a belt *z* passes, said belt also passing around a pulley *z'* at one end of the driving-shaft X of the press. On the inner end of the tympan are small ink-rollers *v' v'*.

Y is an endless belt, which works around rollers in a frame *z*, attached to the frame of the ink-fountain W by arms *y'*. The endless belt has a series of forked arms *w'* at-



tached to it in an inclined or oblique manner, and rollers  $a'$  are fitted within the forks and consequently have an oblique or inclined position. The rollers  $a'$  bear against the large ink-roller  $x$  and the small roller  $w$ . (See Fig. 1.)

The frame  $Z$ , containing the endless belt  $Y$ , is allowed to work freely on the arms  $y'$ , and is kept toward the ink-rollers by spiral springs  $b' b'$ , the rollers  $a'$  being thus made to bear against the ink-rollers  $x w$ .

$A'$  is an arm attached to the lower lever or arm  $b$  of the toggle  $D$ . The outer end of the arm  $A'$  projects underneath the ink-fountain, as shown in Fig. 1.

$B'$  is a pinion on the driving-shaft  $X$ . Said pinion gears into a toothed wheel  $C'$  on the shaft  $F'$ .

$D'$  is the feed-board, on which the imprinted sheets are piled.

$E'$  is the fly-board, upon which the printed sheets are piled as they are taken from the form.

At the lower ends of the guides  $U U$ , at one side of the frame  $A$ , there is a pawl  $t'$ . (See Fig. 1.) The use of this will be presently shown.

The sheets to be printed are placed upon the feed-board  $D'$ , and motion being communicated to the driving-shaft  $X$ , the cam  $H$  and levers  $g h$ , rods  $i$ , and arms  $j$  give a reciprocating motion to the tympan  $G$ , and the eccentric  $F$  and toggle  $D$  raise and lower the platen  $C$ , the platen being raised when the tympan is over it and depressed when the tympan is withdrawn from it. The ink-fountain  $W$  is raised by the arm  $A'$  when the lower arm  $b$  of the toggle  $D$  is raised inward by the eccentric  $F$ , and the small ink-rollers  $v' v'$  on the tympan  $G$  come in contact with the large ink-roller  $x$  and receive ink therefrom and distribute it over the form when the tympan is moved back, the form being placed upon the platen  $C$ . The endless belt  $Y$  has motion communicated to it from the ink-rollers  $w x$ , against which the oblique rollers  $a'$  on the belt press, the obliquity of the rollers  $a'$  producing the motion. The rollers  $a'$  keep the ink evenly distributed upon the rollers  $w x$  as they traverse over its surface. Upon the backward motion of the tympan  $G$  motion is given the cylinder  $N$  by means of the rack  $P$  and toothed wheel  $O$ , the pin or rod  $S$  acting against the lever  $Q$ . As the cylinder moves, the recesses  $s s$  in the heads  $r r$  of the cylinder catch the nipper-bar and draw it from recesses  $t t$  in the tympan and carry it around the cylinder  $N$  between the guides  $U U$ , and the heads and the nippers are opened by the pawl  $t'$  and closed by the action-block or

stationary cam  $V$  and catch the edge of a sheet of paper upon the feed-board  $D'$ , and upon the return motion of the cylinder, this sheet is carried around and deposited upon the upper surface of the frisket  $K$ , which at that time is about passing underneath the cylinder, the nipper-block passing into the recesses  $t t$  in the tympan. When the sheet is printed by the upward pressure of the platen  $C$  and the tympan has moved back a certain distance, so that the frisket is from underneath the cylinder  $N$ , the button  $o$  catches into the fork  $M$ , and the frisket is in consequence thrown over upon the fly-board  $E'$  and the printed sheet deposited thereon. (See Fig. 2 and dotted lines in Fig. 1.) When the button  $o$  catches in the fork  $M$ , the backward motion of the tympan causes the strap  $n$  to which the button is secured, and which also is attached to the pulley  $L$  on the rod  $l$ , to turn the pulley and rod, and thereby throw over the frisket upon the fly-board, the frisket returning to its original position upon the forward motion of the tympan by the action of the spiral spring  $m$ .

By the above invention a rapid feed motion is given the ordinary flat-bed or platen press, which is far superior to the cylinder-press, as much better work can be done thereby, especially wood-cut printing and all fine work. The great objection attending the ordinary platen press is the slow feed motion attending it and the difficulty of devising some proper rapid feed motion. This object I have effected by the above invention.

I do not claim, separately, the nipper-bar with the nippers thereon, for they are old and well known. Neither do I claim any parts of the press irrespective of the means employed for producing the feed motion and the inking device.

What I claim as new, therefore, and desire to secure by Letters Patent, is—

1. Giving the necessary feed motion to the press by means of the reciprocating tympan  $G$  and frisket  $K$ , nipper-bar  $T$ , cylinder  $N$ , and guides  $U U$ , the above parts being constructed, arranged, and operating substantially as herein shown and described.

2. The employment or use of the endless belt  $Y$ , with oblique rollers  $a'$  placed thereon and arranged with the ink-fountain  $W$ , and rollers  $v w x$ , as herein shown, for the purpose of equally distributing the ink upon the rollers  $w x$ .

ERVIN B. TRIPP.

Witnesses:

S. H. WALES,  
J. W. HAMILTON.