

H. B. Denny
Printing Press

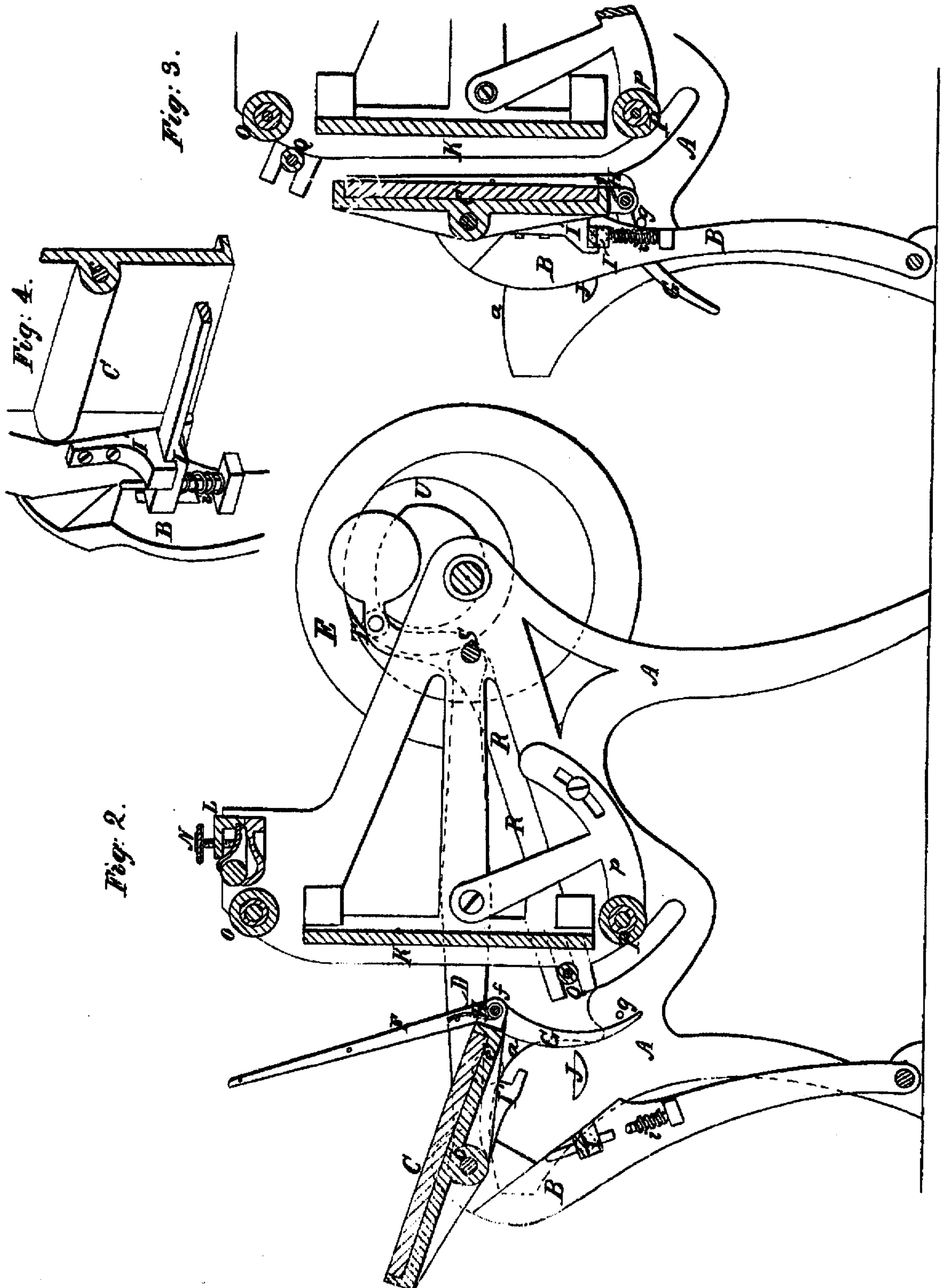
Patented Jan. 5, 1869.



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No. 85,515.

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HERVEY B. DENNY, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 85,515, dated January 5, 1869.

IMPROVEMENT IN PRINTING-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:—

Be it known that I, HERVEY B. DENNY, of the city and county of Washington, and District of Columbia, have invented certain new and useful Improvements in Printing-Presses; and I do hereby declare that the following is a sufficiently full, clear, and exact description thereof, to enable one skilled in the art to which my said invention appertains, to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My improvements consist—

First, in a device for turning the platen from a vertical to a horizontal position, and *vice versa*.

Second, in a device for bracing the platen rigidly on its supporting-arms while taking an impression.

Third, in providing the lower cylinder with horizontal adjustment, so that it may be placed out of action when not required.

Fourth, in a device for supporting and operating the inking-roller or rollers.

Fifth, in the employment of a sectional ink-fountain knife, for the purpose of more freely regulating or varying the supply of ink to different parts of the form.

In the drawings—

Figure 1 represents a plan of a press illustrating my invention.

Figure 2 represents a vertical section in the plane indicated by the line *x x* in fig. 1, showing the platen in position to receive a sheet to be printed.

Figure 3 represents a section, in the same plane, of the front portion of the press, showing the parts in position for taking an impression.

Figure 4 is a perspective view of one lower corner of the platen and its attachments, illustrating the manner of looking it in a vertical position, as hereinafter explained.

A A A represent various parts of the stationary frame.

B B are two upright arms, fulcrumed at their lower ends, and having pivoted to their upper ends the platen O, the trunnions *c c* of which are connected by rods D D to the driving-wheels E E, which are rotated in unison to impart the forward and backward motion to the platen.

Near the lower edge of the platen are studs or rollers *d d*, resting and traversing upon irregular inclined surfaces *a* on the stationary frame, so as to impart the necessary oscillating motion to the platen, to turn it into a nearly horizontal position, as represented in fig. 2, when it is moved back to deliver a printed sheet, and receive a fresh sheet, and permit it to be turned into the vertical position represented in fig. 3, when it is drawn forward to take an impression.

The frisket F is hinged at *f*, and elevated from the platen, as the latter moves back from the form, by means of a lever, G, projecting rigidly from said frisket, and working against a stationary pin, *g*, on the frame A.

A spring, H, serves to press the frisket against the face of the platen, when it is released from the pin *g*,

by the platen moving forward and turning into a vertical position.

I represents a horizontal bar, adapted to slide in vertical slots in the arms B, and pressed upward by springs *i*.

Stationary cams J on the frame A depress the bar I, as the arms B B are drawn forward, and cause it to engage (when released) with lugs I', near the lower edge of the platen, to brace the latter in its vertical position, and resist any excessive pressure which may be applied to its upper part in the act of printing.

K represents the form-bed, to which the chase may be connected in any usual or proper manner.

L represents an ink-fountain.

The ink-fountain knife or regulating-plate is made in a number of separate sections, M M M M, in each of which one or more set-screws, N, are swivelled, so that either section may be drawn up or pressed down independently of the others.

The flow of ink may thus be regulated as required, and varied at different parts, so that a larger or smaller quantity of ink may be applied to different parts of the form.

To insure the more uniform inking of the upper and lower edges of the form, I employ two separate ink-cylinders, O P, over both of which the inking-roller Q is passed at every full stroke of the press.

The lower cylinder P is mounted in hinged brackets *p*, or provided with a horizontal adjustment, in any other suitable way, so that it may be removed from contact with the inking-roller when the upper cylinder only is required to be used.

The inking-roller Q is carried by arms or levers R R', fulcrumed on a transverse shaft, S, and vibrated by a stud and roller, T, upon one or each of the arms R, working in a cam-groove, U, on the inner face of one or each of the driving-wheels E.

These cam-grooves are so formed that while the press is in continuous operation, the inking-roller will rest or dwell for a short time in contact with each of the cylinders O P, so as to change the surfaces which will come in contact with the various parts of the form, and also the contact-surfaces of the cylinders.

The various-rollers may be driven by any suitable mechanism, not necessary to be described.

The inking-roller Q works in longitudinal slots in the free ends of the arms R R', and is drawn inward by springs V, so as to cause it to press with sufficient force against the distributing-rollers O P, and all parts of the form, as it passes over them.

The rearends of the vibrating arms R R' are weighted, as shown, to counterbalance the longer ends, and the inking-roller thereon.

The following may be named among the advantages of my invention:

First, the general construction of the press combines simplicity and cheapness with ease and regularity of movement.

Second, my mode of turning the platen to and from its horizontal position, affords greater length of time

for putting on and taking off the sheets of paper to be printed.

Third, it is sometimes desirable to print a form of type above the centre of the platen. The platen, if not locked firmly at the time of the impression, would tilt up, and not present a fair surface to the type.

Fourth, I provide additional and more effective distribution of ink, by employing a double set of ink-cylinders and distributing-rollers, and locating them both above and below the form.

Fifth, on coarse work, where it is desirable to save power necessary to run the press, or for other reasons, by throwing the lower cylinder out of contact with the ink-rollers, the lower cylinder and its distributing-rollers will be stationary, and the power necessary to run them be saved.

Sixth, by constructing the arms that carry the ink-rollers of one piece of metal, instead of the number usually employed, a saving is made on the original cost of construction, in the power necessary to run the press, and all play in the connections being avoided, the press can be run at a higher speed than the majority can, and much noise and danger of breakage are avoided.

Seventh, by giving the ink-rollers a dwell for the purpose of receiving a charge of ink, both above and below the form, a change is made in the distributing-surface, and the ink spread over a much greater surface. The ink-rollers pass from the top distributing-cylinder down over the type-form, to the lower cylinder, where they stop, redistribute the ink, and again go over the type to the top cylinder.

Eighth, where the ink-knife of the fountain is constructed of one piece, and the set-screws merely press down on the top of it, one screw affects the knife to some

distance on each side. It is sometimes desirable to allow a good supply of ink at a certain point, and but little above and below it. This it is difficult to accomplish by the old style of fountain, for the reason above stated.

Having thus described my invention, the following is what I claim as new, and desire to secure by Letters Patent:

1. In combination with the platen C, pivoted to the rocking arms B B, I claim the inclined surface *a*, employed to turn the said platen from its horizontal position, as described.

2. Locking the platen firmly when in a vertical position, and at the time of taking an impression, between the upright arms, by which it is carried, by means substantially as set forth.

3. Making the lower cylinder adjustable, so that it can, if desired, be moved back out of contact with the inking-rollers.

4. I claim, in combination, the ink-cylinders O and P, above and below the form, the rigid arms R R', fulcrumed intermediately between their ends, and carrying the inking roller Q and the cam U, all arranged substantially as described, to pass the form, and cause it to dwell on the cylinders both above and below.

5. Constructing the ink-fountain knife of two or more pieces, and passing the regulating-screw through the knife, for the purpose of more thoroughly controlling the supply of ink, and rendering the sections of the knife independent in their operation.

H. B. DENNY.

Witnesses:

OCTAVIUS KNIGHT,
WM. H. BRERETON.