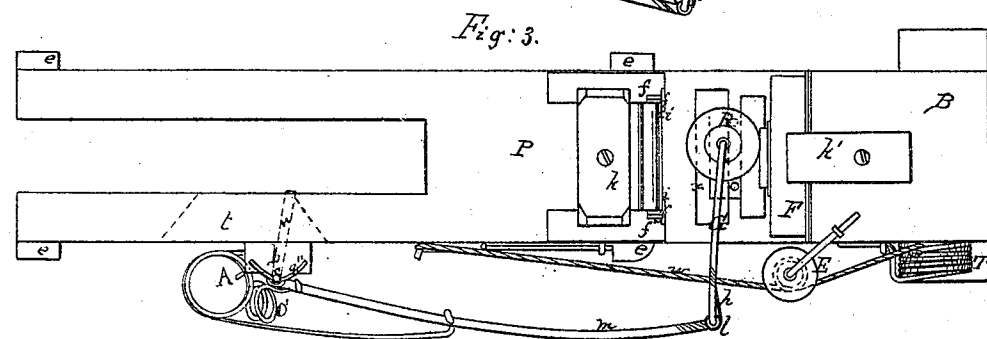
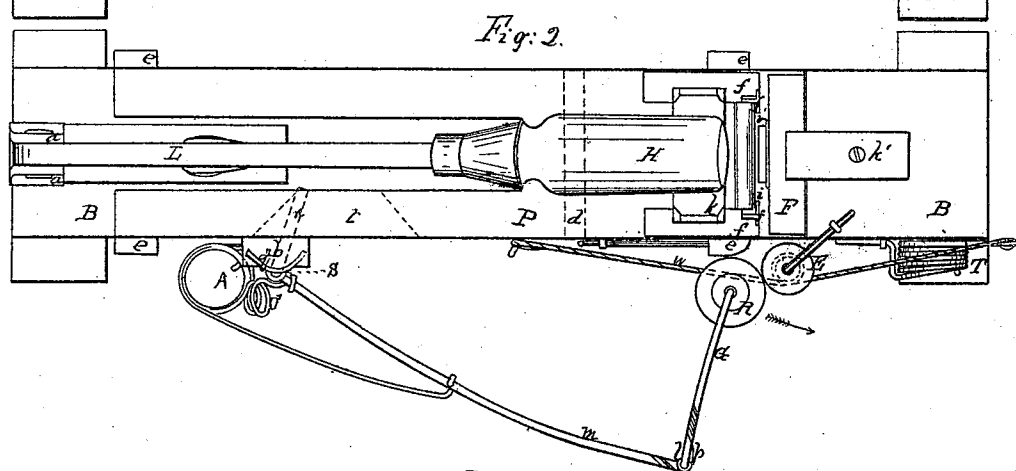
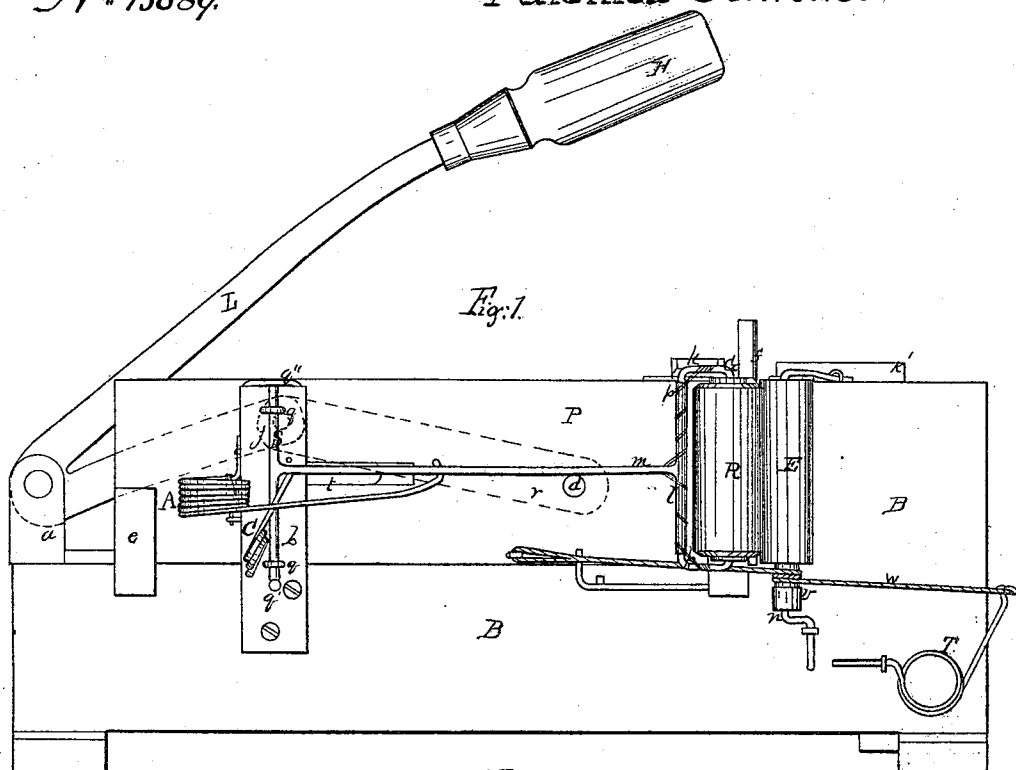


D. K. Winden
Inking Apparatus for Printing Press.
N^o 13689. Patented Oct. 16. 1855



UNITED STATES PATENT OFFICE.

DANIEL K. WINDER, OF CINCINNATI, OHIO.

APPARATUS FOR CARD-PRINTING PRESSES.

Specification of Letters Patent No. 13,689, dated October 16, 1855.

To all whom it may concern:

Be it known that I, DANIEL K. WINDER, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Inking Apparatus of Card-Printing Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a side elevation of press showing inking roller withdrawn from the form. Fig. 2 is a top view of press in position shown by Fig. 1. Fig. 3 is a similar view showing operation of inking the form.

Similar characters of reference in the several figures denote the same part of the press.

The nature of my invention consists in the construction of a self acting inking apparatus, composed of a double armed rock shaft attached to the bed, and capable of being turned alternately in opposite directions, by the platen in its backward movement acting on one arm, and a coiled spring acting on the other arm, during the forward motion of the platen, the arm acted on by the aforesaid spring carrying an inking roller, capable of an independent motion about its attachment to the extremity of said arm, and whose suspension frame has a constant outward tendency, by reason of a spring connection between it and the arm of the rock shaft, the effect of this construction being such that the backward motion of the platen shall throw the inking roller between the platen and form, and the coiled spring withdraw the roller as the platen moves forward, the outward tendency of said roller causing it to press upon the form during its travel to and fro between the form and platen, the roller being inked at the time of printing and at commencement of the back motion of the platen by revolving in contact with a second roller to which an alternate opposite rotation is communicated by the retraction of the platen and the action of a coiled spring.

The details of construction and operation will readily be understood from the following description and reference to the drawing, where the several parts are thus represented.

B bed, to which are secured the standards *a* and *b*, the former serving for the attach-

ment of operating lever *L*, and the latter supporting the rock shaft *S*. A portion of this bed is horizontal for the movement of the platen *P*; and a portion vertical to which is attached the form *F*.

P platen, movable longitudinally upon bed *B* by reason of the toggle joint *j* formed by lever *L* connected with bed, and rod *r* connected with platen by horizontal bolt *d*. The guides *e* keep the platen upon the bed during its movement. The cards to be printed are inserted from the top into the grooves *i* behind the strips *f*, so as to rest against the forward vertical face of the platen. The strips *f* are adjusted to accommodate cards of different sizes, by removing the pressure of the clamp *k* from the horizontal ends of said strips to admit of their movement laterally. One side of the platen is slotted to receive the short arm of the rock shaft *S*.

F form, attached to vertical face of bed by clamp *K'*.

L double branched lever connected with bed and platen as shown in Fig. 1, so that the lifting of the handle *H* will move the platen backward, and the depression of the same carries the platen forward, and by reason of the powerful action of the toggle joint *j* formed by the short branch of lever *L*, and the rod *r* forces the vertical face of the platen against the form with sufficient pressure to perform the operation of printing.

R inking roller, supported upon, and movable about one of the vertical sides of the frame *G*; the other vertical side of said frame being held by and movable in the tube *l*, rigidly secured to the extremity of arm *m* of rock shaft *S*. The horizontal portions of the frame *G* are connected with the tube *l* by the springs *p*, so coiled that the frame *G* has a constant tendency to motion in direction indicated by arrow 1.

S rock shaft, supported upon standard *b* of bed *B* and movable under straps *q*. It is held vertically by the seat *q'* and prevented from rising by the cap *q''*. This shaft has two horizontal arms *m* and *n*—the former outside and the latter passing through the standard *b* into the slot *t* formed in the side of platen *P*. The front extremity of this solt is so regulated that on the backward movement of the platen it will press against the arm *n*, and by rotating the shaft throw the arm *m* toward the side of the

press. Upon the standard *b* are the coiled springs *A* and *C*, their free extremities grasping the arm *m*, and giving it a tendency to move outward, so that, when by the forward motion of the platen the above specified pressure is removed from the arm *n* these springs move the arm *m* outward and rotate the shaft *S* in the opposite direction, causing therefore an alternate inward and outward motion of arm *m* each time the platen is moved backward and forward.

E supply roller, supported upon bed *B* so as to be movable around its vertical shaft *n'*. Upon its lower portion is a pulley *v*, around which is passed a cord *w*, having one end fastened to the free extremity of a coiled spring *T* secured to bed *B*, and the other end attached to the platen, so that as the platen moves backward the said spring will be contracted and the roller rotated by the cord, and as the platen moves forward the retraction of the spring rotates the roller in the opposite direction.

The combined operation of the several parts above described is as follows: The backward movement of the platen throws the roller *R* between the platen and bed, and the outward motion of arm *m*, which takes place as the platen moves forward, withdraws said roller, the springs *p* keeping the roller upon the form *F* during this movement and causing it to impart ink to the type. On the withdrawal of the roller *R* from between the platen and bed, which is accomplished before the platen has half completed its forward course, it immediately comes in contact with the supply roller *E*, then revolving by the action of spring *T*. This contact induces a rotation of roller *R* and enables supply roller *E* to impart to it a sufficient quantity of ink before the platen reaches the termination of its course, when inking roller *R* again passes over the form

as the platen is withdrawn and the operation proceeds as before.

The cards are fed singly, by hand, or, any suitable automatic feeder may be used. The finished cards drop through the opening *x* in the bed. This portion of the press constituting no part of the subject matter of this invention need not be here dwelt upon.

In the construction of this inking apparatus, the various parts entering into the combination require to be suitably regulated and adjusted so that their several functions may be performed at the proper times and in a suitable manner to insure the harmonious working of the whole.

It will be seen that the rollers *R* and *E* revolve in contact at the commencement of the back movement of the platen, thus causing the surface of the roller *R* to pass twice over the supply roller, and leave it at the instant of entering between platen and form.

Having described my invention and the operation of the same, I claim the following as new and of my own invention—

1. The double armed rock-shaft *S* and outward pressing roller frame *G*, or their equivalents, in combination with the platen and the springs actuating the arm *m* of said rock shaft, constructed, arranged, and operating substantially as and for the purposes specified.

2. The above mechanism for operating the inking roller, combined with the supply roller *E*, actuated by the movement of the platen, substantially as specified.

In testimony whereof, I have hereunto signed my name before two subscribing witnesses.

D. K. WINDER.

Witnesses:

GEO. PATTEN,
JAS. D. CLARY.