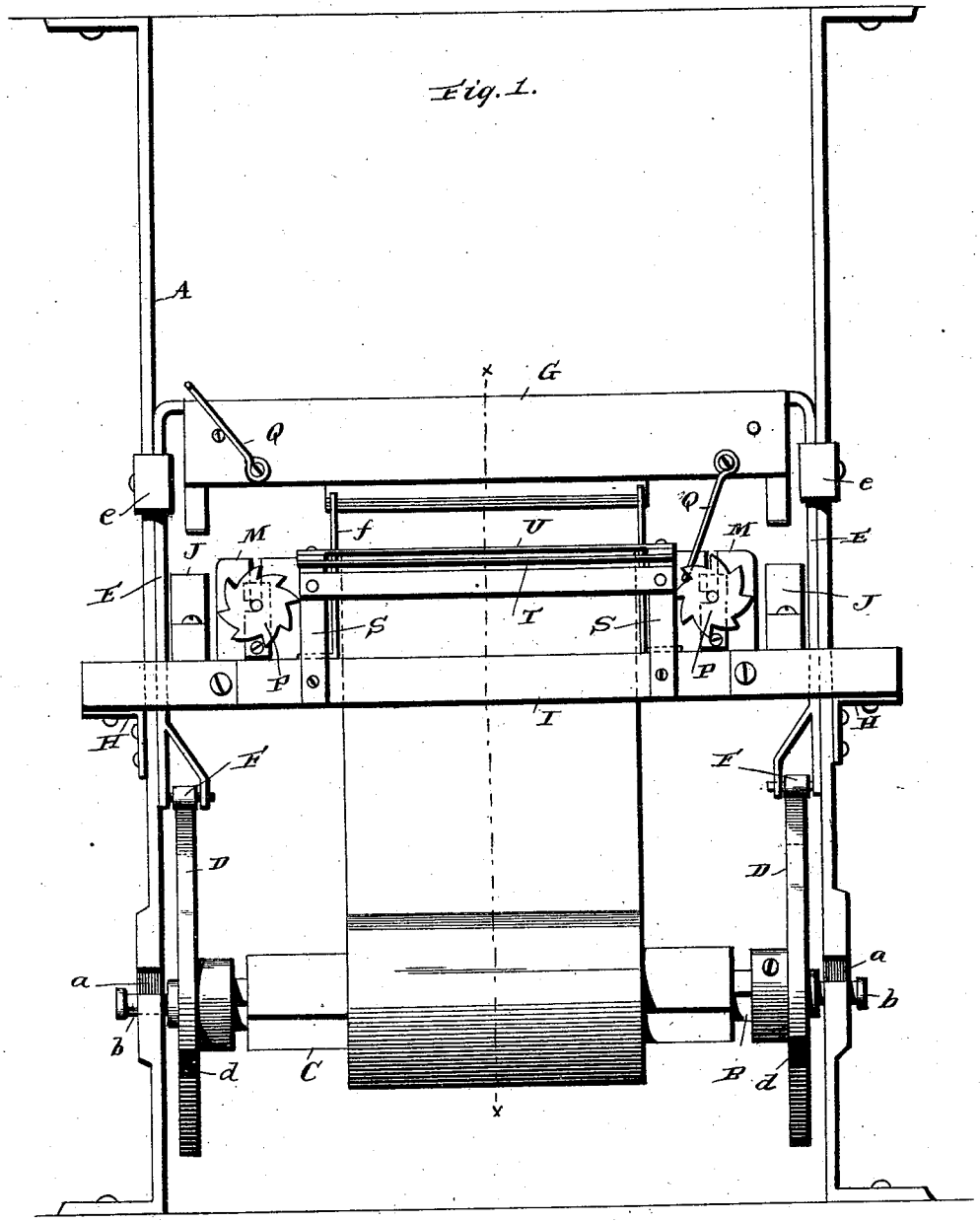
(No Model.) S. K. GIMBEL. 2 Sheets—Sheet 1.

COMBINED PAPER HOLDER AND CUTTING AND PRINTING DEVICE.

No. 456,330. Patented July 21, 1891.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

S. K. GIMBEL.

COMBINED PAPER HOLDER AND CUTTING AND PRINTING DEVICE.

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Fig. 2.

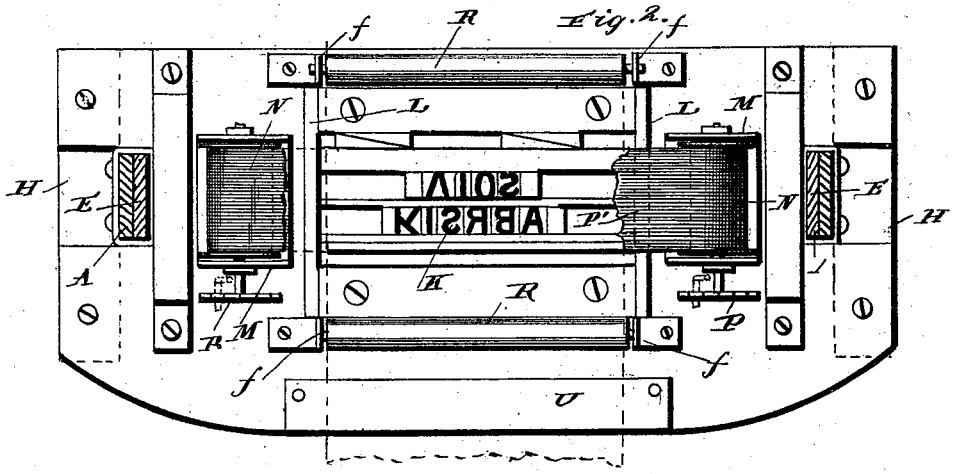
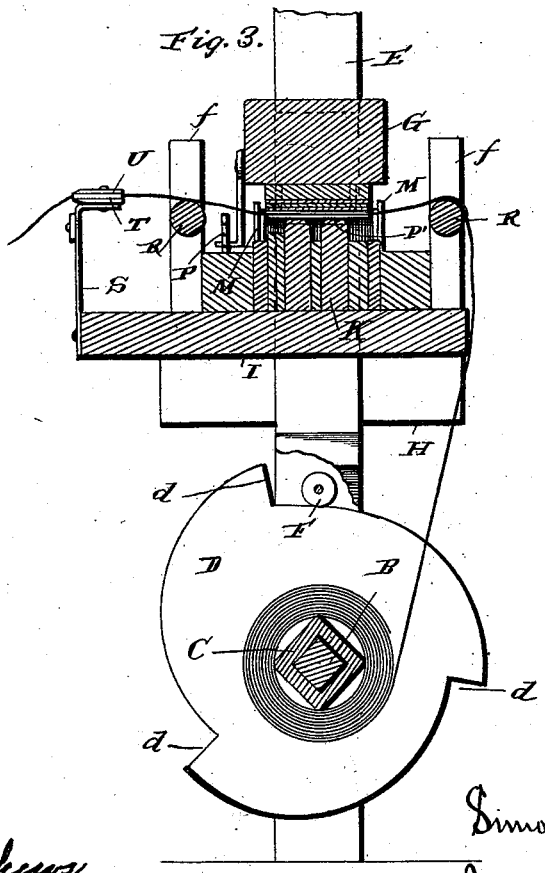


Fig. 3.



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UNITED STATES PATENT OFFICE.

SIMON K. GIMBEL, OF VINCENNES, INDIANA.

COMBINED PAPER-HOLDER AND CUTTING AND PRINTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 456,330, dated July 21, 1891.

Application filed March 9, 1891. Serial No. 384,310. (No model.)

To all whom it may concern:

Be it known that I, SIMON K. GIMBEL, a citizen of the United States, residing at Vincennes, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Combined Paper-Holder and Cutting and Printing Device; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to a combined paper-holder and cutting and printing device; and the novelty will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a front elevation of my improved machine with the transverse stamping-beam in a raised position. Fig. 2 is a top plan view of the same with the transverse stamping-beam removed and the inking-ribbon broken away to illustrate the type-bed. Fig. 3 is a vertical transverse section taken on the line *x x* of Fig. 1, with the stamping-beam in its lowered position.

In the said drawings similar letters of designation indicate corresponding parts throughout the several views, referring to which—

A indicates the vertical uprights or standards of my improved machine, which are preferably formed of flat metal and are fixed at their lower ends upon a suitable base or stand, and in some instances their upper ends are connected by a cross-bar; but I do not desire to be confined to this construction, as it forms no part of my invention. At a suitable elevation in the standards A, I form angular bearing-slots *a*, designed to receive a transverse shaft B, which is rectangular in cross-section for the greater part of its length, but is provided at its ends with reduced journals *b*, which bear in the angular slots before mentioned.

In practice I prefer to fix upon the shaft B a rectangular wood shaft or sleeve C, which is of the proportional length shown and is designed to receive the roll of paper.

D indicates cam-wheels, one of which is preferably fixed in a rigid manner upon the shaft B, adjacent to one end thereof, while the other is removably fixed upon said shaft adjacent to its opposite end by a binding-screw, which takes through a collar formed on said cam. Thus it will be seen that when it is necessary to place a new roll upon the shaft one of the cams may be readily removed and replaced. The cams D, which are of the approximate form shown, are provided at suitable equidistant points in their irregular periphery with steps *d*, which are of a sufficient depth to afford a drop of sufficient force for a stamp-beam, whereby the printing is effected, as will be presently described. Where it is desired to print the paper but once to each revolution of the cams, it is obvious that but one step *d* need be employed.

Secured in a suitable manner, as by bands *e*, to the standards A, and moving in said bands, are the vertical plungers E, which have their lower ends forked or provided with an angular branch to receive a friction-roller F, which bears upon the periphery of the cam-wheels before described.

The upper ends of the plungers E are preferably bent laterally and inwardly, as shown, and are attached in an approved manner to the upper side of the horizontal stamping-beam G, which is preferably weighted or made of heavy material and is provided on its under side with a pad of suitable material, which, when the beam is dropped, bears against the type-bed and serves to make the impression upon the paper, as will be presently set forth.

Attached in a suitable manner to the standards A at a suitable elevation are two horizontal arms H, which are arranged at right angles to the plane of said standards and are of an angular form in cross-section, as illustrated, whereby brackets are afforded for the support of the bed-plate I of the machine, which bed-plate is slotted or recessed at its ends to enable it to straddle the standards A.

Mounted upon the bed-plate I, adjacent to the standards A and extending at right angles to the length of said plate are two blocks J, which are of a suitable height and are designed to afford a stop for the downward movement of the stamping-beam.

K indicates the bed of type, which is suitably blocked into a form L, which may be of any preferred construction, and may be attached to the bed I in any approved manner.

Although I have illustrated set type as one embodiment of my invention, yet it is obvious that in practice stereotype forms might be employed; but in either case it will be seen that the matter may be readily removed and replaced without the aid of skilled labor.

Journaled in the notched standards M, which rise from the bed-plate at the sides of the form of type, are the ribbon-winding spools N, which are of a suitable size and are preferably provided with the ordinary flanges at their ends. Upon the forward ends of the shafts of the spools N, which shafts extend in advance of their respective bearings, are fixed ratchet-wheels P, which have their teeth pitched in opposite directions, as illustrated, for a purpose which will be presently set forth.

P' indicates the inking-ribbon, which may be of any approved character suitable to the attainment of the purposes of my invention.

Pivotally attached to the forward side of the beam G, at suitable points with respect to the ratchet-wheels P, are depending pawls Q, which are provided at their free ends with forwardly-extending lateral branches designed and adapted to engage the teeth of the pawls to move the ink-ribbon. As better illustrated in Fig. 1 of the drawings, only one of these pawls is designed to be employed at once, the other one being thrown up out of engagement, whereby it will be seen that the ribbon is wound upon the spool whose ratchet is engaged by the pawl, while the other spool is free to unwind and feed the ribbon. However, when the ribbon has run off the spool the pawl is disengaged from the ratchet of the other spool and is thrown up out of engagement, while the pawl of the empty spool is thrown into engagement and the direction of the ribbbon is reversed.

The respective pawls described being connected to the beam G in the manner described, it will be readily obvious that at each upward movement of the beam the pawl which is in operation will engage its respective ratchet and slightly turn the same, thus presenting a different ribbon-surface to the type at each operation.

Journaled in standards *f* at the front and rear of the form of type are horizontal friction-rollers R, which are of a length slightly greater than the width of paper employed, and are designed to provide suitable tension mediums between the roll of paper and the type-form and between the type-form and the cutting-knives presently to be described. As better illustrated in Fig. 1 of the drawings, the said standards *f* extend above the rollers R, whereby the paper is guided, as is obvious.

Rising from the front edge of the bed-plate I are two spring-arms S, which are arranged at a suitable distance apart and have angular branches at their upper ends for the attachment of a horizontal knife-bar T, the cutting-edge of which is the front edge, and connected to the knife-bar T, which is preferably provided adjacent to its ends with shoulders, is another knife-bar U, which is sharpened on its forward edge and is also designed to cut the paper.

As is obvious, the space between the cutting-blades T and U is sufficiently wide to admit of the introduction of the paper therethrough, and by the provision of the two knives it will be seen that the paper may be cut by pulling either down or up upon the same, and the edge thereof will remain between the blades T and U and may be readily grasped by the operator by simply pressing the arms S toward the form of type.

In practice I design placing a transverse strip upon the spring-arms S, whereby the same may be readily pressed back, as described; but I do not desire to be confined to such construction.

In operation the paper from the roll upon the shaft C takes up and over the rear friction-roller R, thence over the type-bed and ribbon, and thence over the forward friction-roller, and its end is introduced between the plates T and U. Now it will be seen that when the operator takes hold of the paper to draw a piece off the roll the cam-wheels D will be rotated and the plungers E and the stamping-beam G will be raised until the step in the cam is reached, when said plungers and beam will suddenly drop and an impression of the type will be made upon the paper.

By this construction and operation it will be seen that whenever a piece of paper of sufficient size is drawn off the roller the same will be stamped and a cheap and novel mode of advertising will be afforded.

Although I have specifically described the construction and arrangement of the several parts of my improved machine, yet I do not desire to be confined to such precise construction and arrangement, as it is obvious that in practice such changes or modifications may be made as fairly fall within the scope of my invention.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a paper holding and printing machine, the combination, with a bed-plate supporting a bed of type and a ribbon adapted to be moved over said type, of the transverse shaft journaled in the standards, supporting the bed-plate and adapted to carry a roll of paper, cam-wheels fixed on said shaft and provided with steps in their periphery, vertical plungers adapted to bear at their lower ends upon the cams and connected at their upper ends to a transverse beam, and the said transverse beam adapted to suddenly fall upon the type, substantially as specified.

2. In a machine of the character described, the combination, with a bed-plate supporting a bed of type and a suitable means for inking said type, of a transverse shaft journaled beneath the bed-plate and adapted to support a roll of paper, a vertically movable horizontal

beam above the type-bed, and devices intermediate of the transverse shaft and the vertically-movable horizontal beam, adapted to raise and suddenly drop the beam when the shaft has been rotated, substantially as specified.

3. In a machine substantially as described, the combination, with a bed-plate supporting a bed of type and a suitable means for inking said type, of a vertically-movable horizontal beam above the said bed-plate, a transverse shaft journaled below the bed-plate and adapted to support a roll of paper, cam-wheels fixed on said shaft and provided in their peripheries with steps, and devices intermediate of the cam-wheels and the horizontal beam, adapted to raise and suddenly drop the beam upon the type-bed, substantially as specified.

4. In a machine substantially as described, the combination, with the bed-plate and the shaft supporting a roll of paper, of the vertical spring-arms attached to and rising from said bed-plate and provided at their upper ends with horizontal branches, the horizontal cutter-blade attached to the said horizontal branches of the arms, and another cutter-blade mounted upon and attached to the lower blade, so as to receive the end of the paper between them, substantially as specified.

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

SIMON K. GIMBEL.

Witnesses:

E. B. HUNTER,

BALTZER MACHINO.