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Patented Feb. 12, 1901.

W. M. CLYMER & S. L. WIEGAND.

MACHINE FOR PRINTING ENVELOPS.

(Application filed July 18, 1900.)

(No Model.)

FIG. 1.

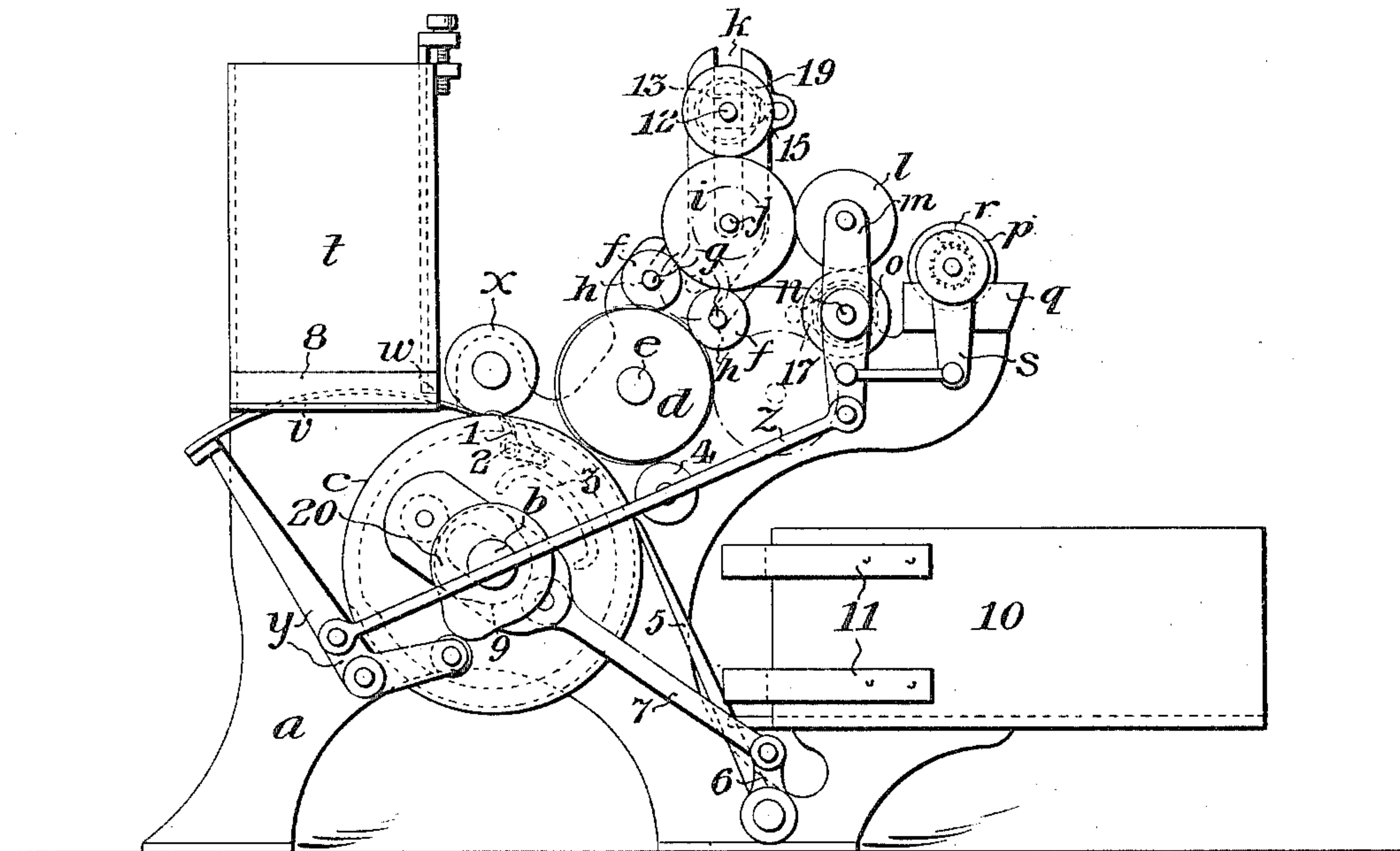
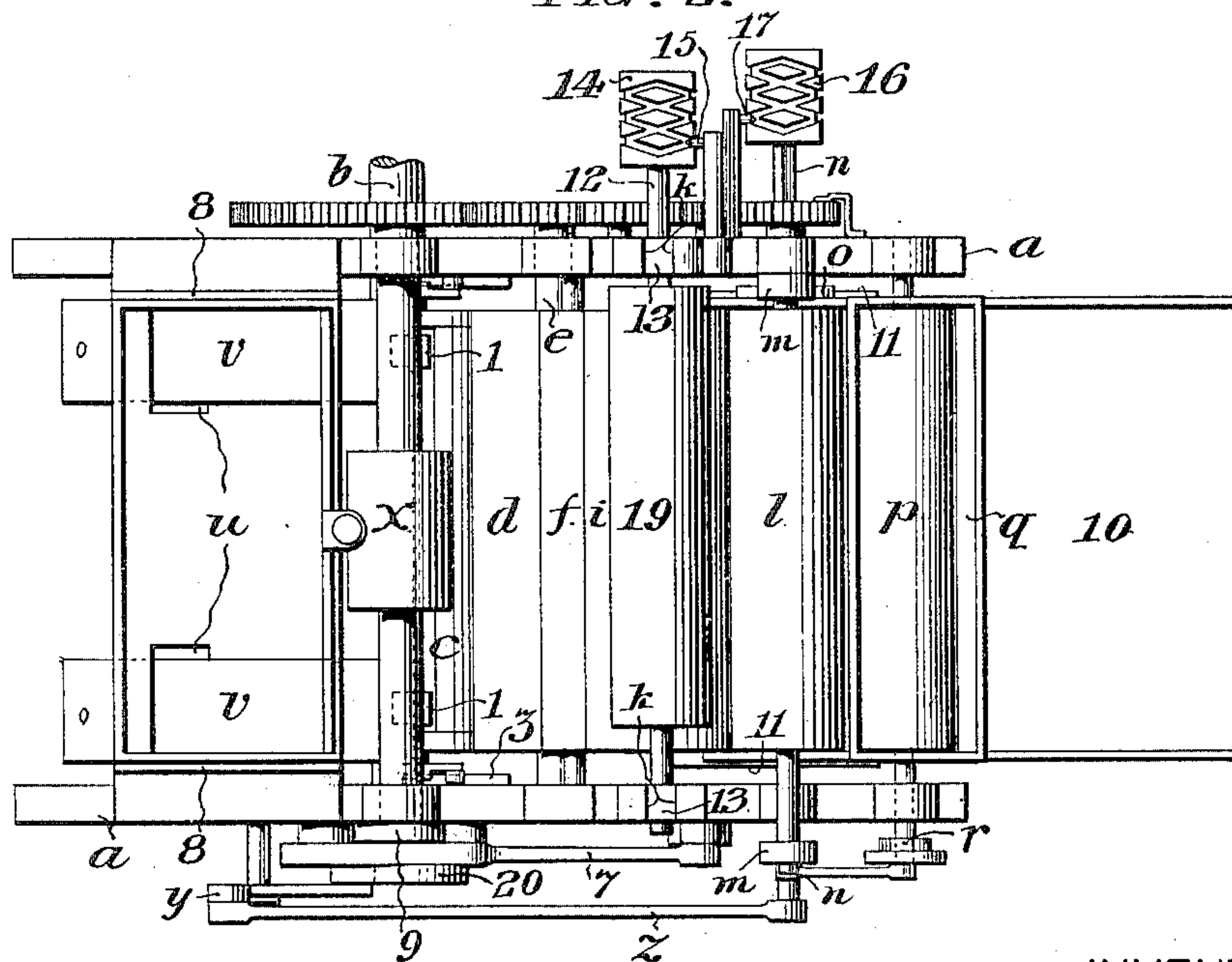


FIG. 2.



WITNESSES:

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MACHINE FOR PRINTING ENVELOPS.

SPECIFICATION forming part of Letters Patent No. 668,035, dated February 12, 1901.

Application filed July 18, 1900. Serial No. 24,024. (No model.)

To all whom it may concern:

Be it known that we, WELLWOOD M. CLYMER and S. LLOYD WIEGAND, citizens of the United States, and residents of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Machines for Printing Envelops, of which the following is a specification.

The objects of this invention are to print envelops with greater celerity and exact register and to deliver them in convenient position for packing as they pass from the machine; and to this end this invention consists in an improvement in feeding mechanism and in the mechanism for discharging them from the machine and in an improved construction of inking devices, as hereinafter described, and shown in the accompanying drawings.

Referring to the drawings, Figure 1 shows a partly-sectional side elevation of a machine embodying this invention with one side frame removed to show the working parts. Fig. 2 shows a plan thereof.

a represents the frame of the machine, and *b* a shaft turning in bearings in the frame *a* and carrying an impression-cylinder *c*.

d is a printing-form cylinder turning with an arbor *e* in bearings in the frame *a* and pressing toward the cylinder *c*.

f f are inking-rollers having journals *g*, resting in bearings *h h* in the frame *a*.

i is an inking-cylinder having journals *j*, held in slots *k* in the frame *a* and bearing upon the rollers *f f*, forcing them into contact with the printing-form on the cylinder *d*. A roller 19, having journals 12 supported in bearings 13 in the slots *k*, vibrates lengthwise and also rolls upon the cylinder *l* to distribute the ink evenly thereon. The vibratory motion is produced by a right and left helically threaded or grooved cam 14 and a vibratory crescent-shaped feather 15 in the usual manner.

l is an ink-distributing cylinder turning in bearings in a frame *m*, vibrating upon the arbor *n* of a roller *o*. The frame *m* is vibrated by a link *g*, connecting it with a lever *y*, hereinafter described. The cylinder *l* in vibrating alternately contacts with the roller

p of an ink-fountain *q* and with the inking-cylinder *i*. The roller *p* of the fountain *q* is turned at intervals by a pawl *r* on a lever *s*, receiving motion from the frame *m*. The roller *o* rotates in contact with the roller *l* and has a reciprocating motion in the direction of its axis controlled in the usual manner by a right and left helically-grooved cam 16 and a vibrating crescent-shaped feather 15.

The envelops to be printed are placed with their lapels downward and toward the cylinder *d* in a skeleton box or frame *t*. There are slots *u* in the bottom of the box *t*, through which reciprocating blades *v* pass and engage the lapel of the lowest envelop and pass it through a slot *w* in the side of the box *t*, close to the bottom, and force it under a roller *x*, pressing against the cylinder *c*. The blades *v* are attached to a lever *y*, which is reciprocated by a cam *z* on the shaft *b*. The motion of the blades *v*, as well as their form, is that of circular arcs. As they enter the box *t* the ends of the blades *v* pass between the lapel and the body of the lowest envelop and as they move toward the slot *w* they raise the envelop and then lower the edge of it, so as to pass out of the slot *w*. At the same time the envelops above are lifted sufficiently to prevent them entering the slot *w*. Upon the blades *v* being retracted the envelops remaining in the box *t* descend and the operation is repeated.

In order to prevent the centrifugal force straightening the blades *v*, they should be made stiff, or else they will fail to enter the slot *w*, or else guides extending laterally beyond the sides of the box *t* should be used to restrain the blades from springing upward.

As soon as the edge of the envelop passes under the roller *x* it acquires the motion and velocity of the cylinder *c* and is clamped to the cylinder *c* by nippers 1 on an arbor 2, controlled and operated by a stationary cam 3. The envelop passes with the cylinder *c* under the cylinder *d* and is thereby printed, and, moving farther, the nippers release it, and it after such release passes under a roller 4, which does not contact with the cylinder *c*, but directs the envelop downwardly in front of a flier 5, vibrated by a lever 6 and rod 7

and cam 8 on the shaft 6. The flier 5 carries the envelop into a trough 10, in which it is held from returning by hooked springs 11, secured to the trough 10, which have diverging ends and spring open as the envelop enters and, closing, retain it in the trough 10, in which it is pushed forward by other envelops following it in like manner.

Having described our invention and the operation thereof, what we claim is—

1. In a machine for printing envelops a skeleton feeding-box, in combination with curved reciprocating blades, a lever actuating the blades, an impression-cylinder provided with nippers, and a roller arranged to press the envelop against the impression-cyl-

inder within the grasp of the nippers as and for the purpose set forth.

2. In a machine for printing envelops an impression-cylinder provided with nippers, means of opening said nippers, a roller arranged to guide the envelop as released from the cylinder and nippers, a discharging-trough provided with springs, a flier arranged to receive the envelop and means of reciprocating the flier to place the envelop in the trough within the grasp of said springs as set forth.

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Witnesses:

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