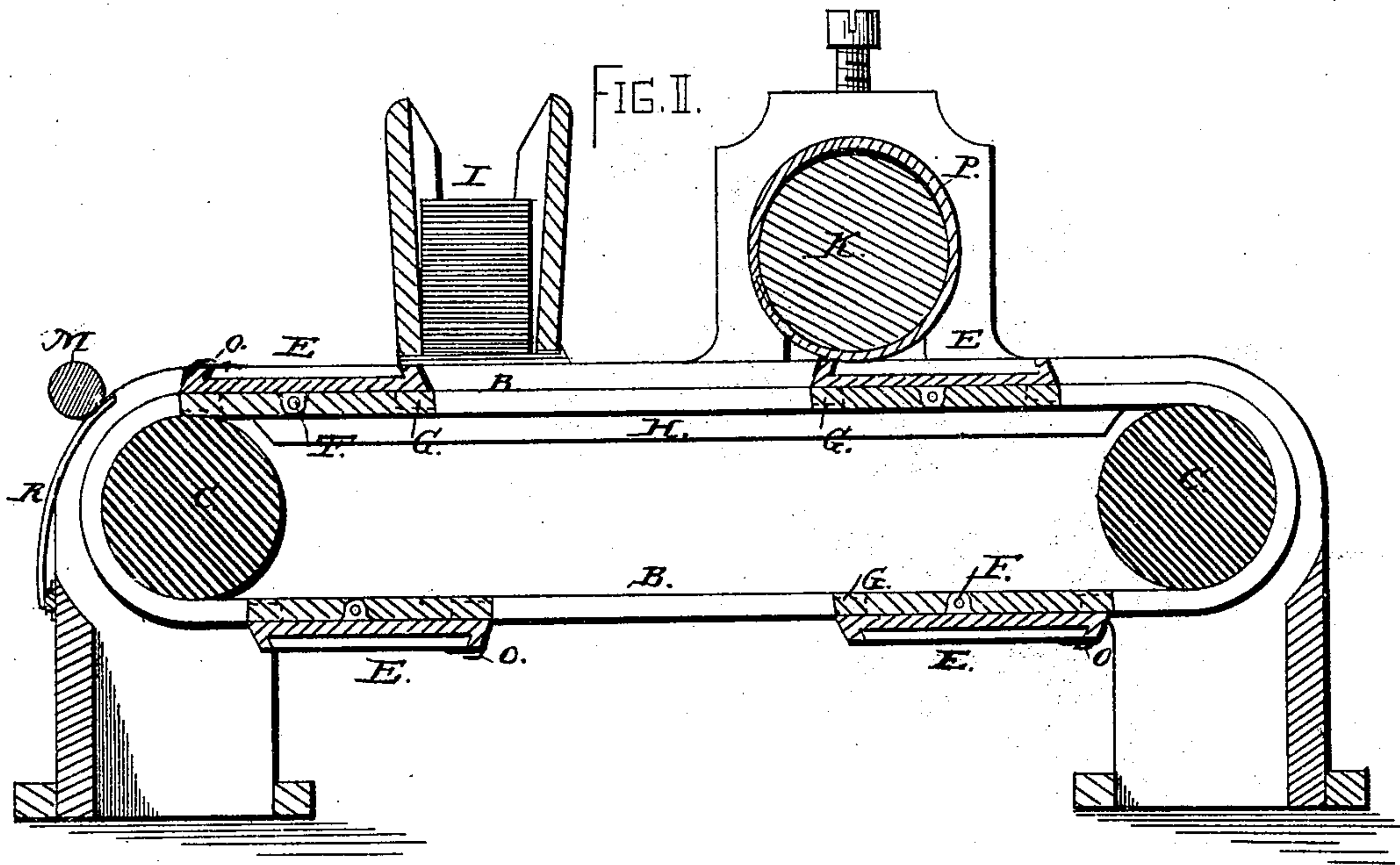
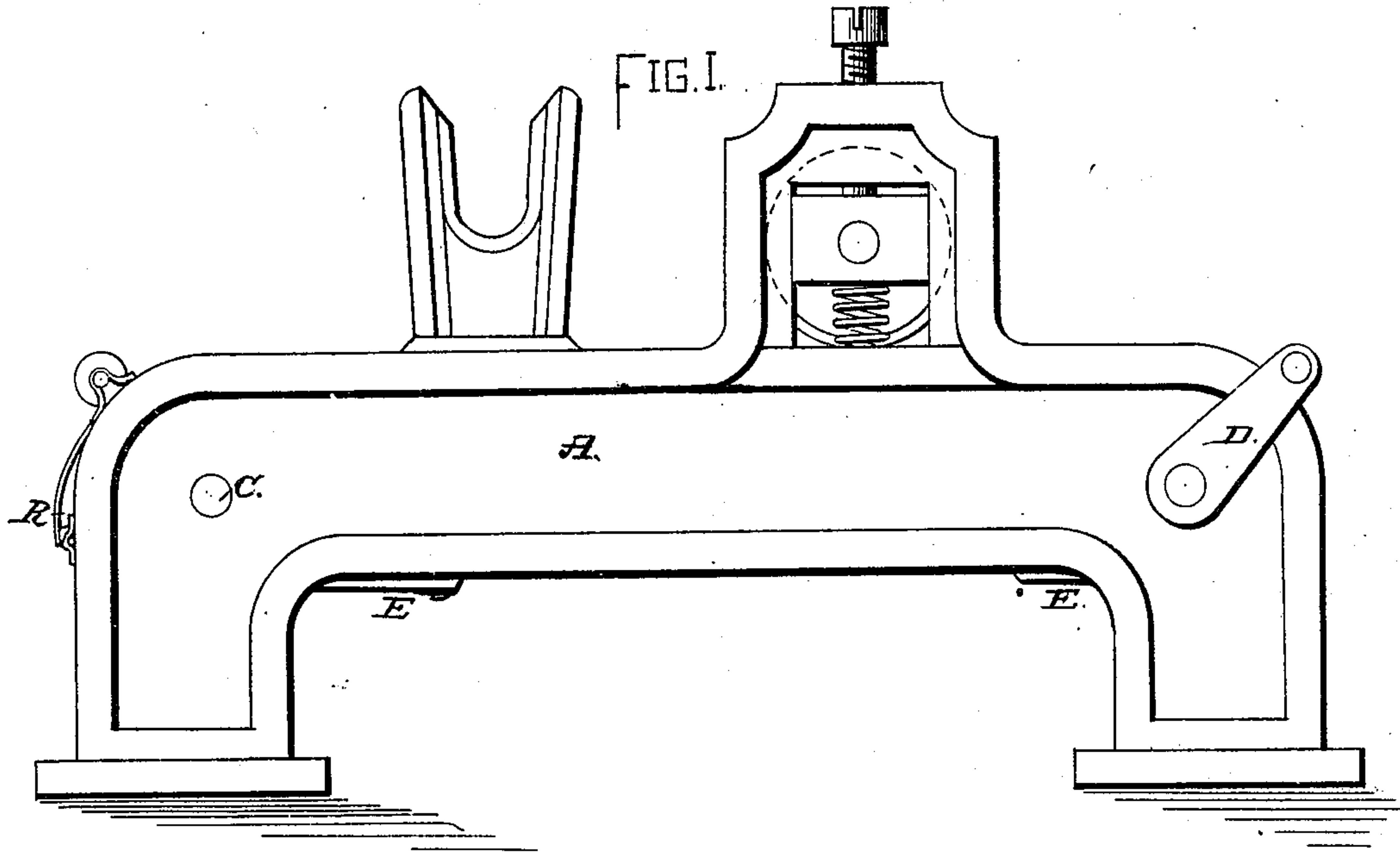


A. E. REDSTONE.  
Printing-Press.

No. 167,787.

Patented Sept. 14, 1875.



WITNESSES.  
E. M. Gallaher,  
Geo. H. Graham

INVENTOR.  
Albert E. Redstone.

# UNITED STATES PATENT OFFICE.

ALBERT E. REDSTONE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
TO HIMSELF AND DANIEL BREED, OF SAME PLACE.

## IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. **167,787**, dated September 14, 1875; application filed  
April 24, 1875.

*To all whom it may concern:*

Be it known that I, ALBERT E. REDSTONE, of Washington, in the District of Columbia, have invented an Improvement in Printing-Presses, of which the following is a specification:

My invention consists of an endless belt carrying forms, having fingers or card-separators, in combination with a card hopper or trough and other devices, which will be fully described in the following specification.

In the accompanying drawings, Figure 1 is a side view of my printing-press. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a detached view of the finger which feeds the card or paper forward to the impression-roller and type.

The frame of my printing-press may be made as shown at A, Fig. 1, or in any other suitable manner. The endless toggle-belts B are supported upon and moved by the rollers C, one of which is provided with a hand-crank, D, or may be moved by power, if desired.

A series of press-beds, E, are attached to and move with the endless apron or toggle-belt B. They are held in place by means of ears F, which rock on a pivot in passing around the rollers C. These press-beds are provided with feet G, which slide upon the ways H, and thus give a firm support for the press-beds and forms while printing, as will now be explained.

The printing is done by the impression-roller K, which has adjustable bearings to regulate the amount of pressure in the usual manner. This roller is provided with a cylinder-tympan, P, of vulcanized india-rubber, or other suitable material. The interior diameter of this tympan is considerably greater than the diameter of the roller K, so that the tympan forms a loose sleeve, the rotation of which is regulated by the speed of the endless belt B carrying press-beds and type. By this arrangement the impression-roller K is relieved from lateral friction or tendency to slide upon the type, and the roller thus gives only the direct downward pressure, and leaves a clear impression in printing.

The cards or sheets of paper to be printed are placed in the feed-hopper I, and the press-

beds E are provided with fingers O, which, in passing under the hopper, seize the lowest or bottom card or sheet, and carry the same forward under the impression-roller K to be printed, and finally drop the card or sheet before going down over the roller C. The longer finger passes under the card, while the shorter one, which is lance-pointed, comes on the top of the card, and thus separates the lowest or bottom card from the next one above, and these fingers work with great accuracy. By careful adjustment they will separate thin sheets of French paper. A hinged shield, R, protects these fingers from being soiled by ink in passing under the ink-roller M, and thus prevents them from soiling the next card.

The type are supplied with ink by means of the ink-roller M, which is provided with a fountain in the usual manner.

The number of press-beds upon the belt may be increased at pleasure, so as to print any number of impressions at each complete revolution of the belt. The better way is to make a large number of stereotype-plates, and attach them to the belt.

By this plan the amount of work done by the press may be multiplied to an indefinite extent, especially in printing cards and circulars, which, being small, are more certainly carried forward by the fingers without sliding upon the type, and thus blurring the impression.

Having thus described my invention, what I claim is—

1. The endless apron or belt B, having forms E attached thereto, in combination with the ink-roller M, the impression roller or cylinder K, and the card trough or hopper I, substantially in the manner and for the purposes set forth.

2. The automatic feed-fingers or card-separators O, in combination with the shields R, to protect them from ink in passing the ink-roller, substantially as set forth.

ALBERT E. REDSTONE.

Witnesses:

DANIEL BREED,  
LAFAYETTE BINGHAM.