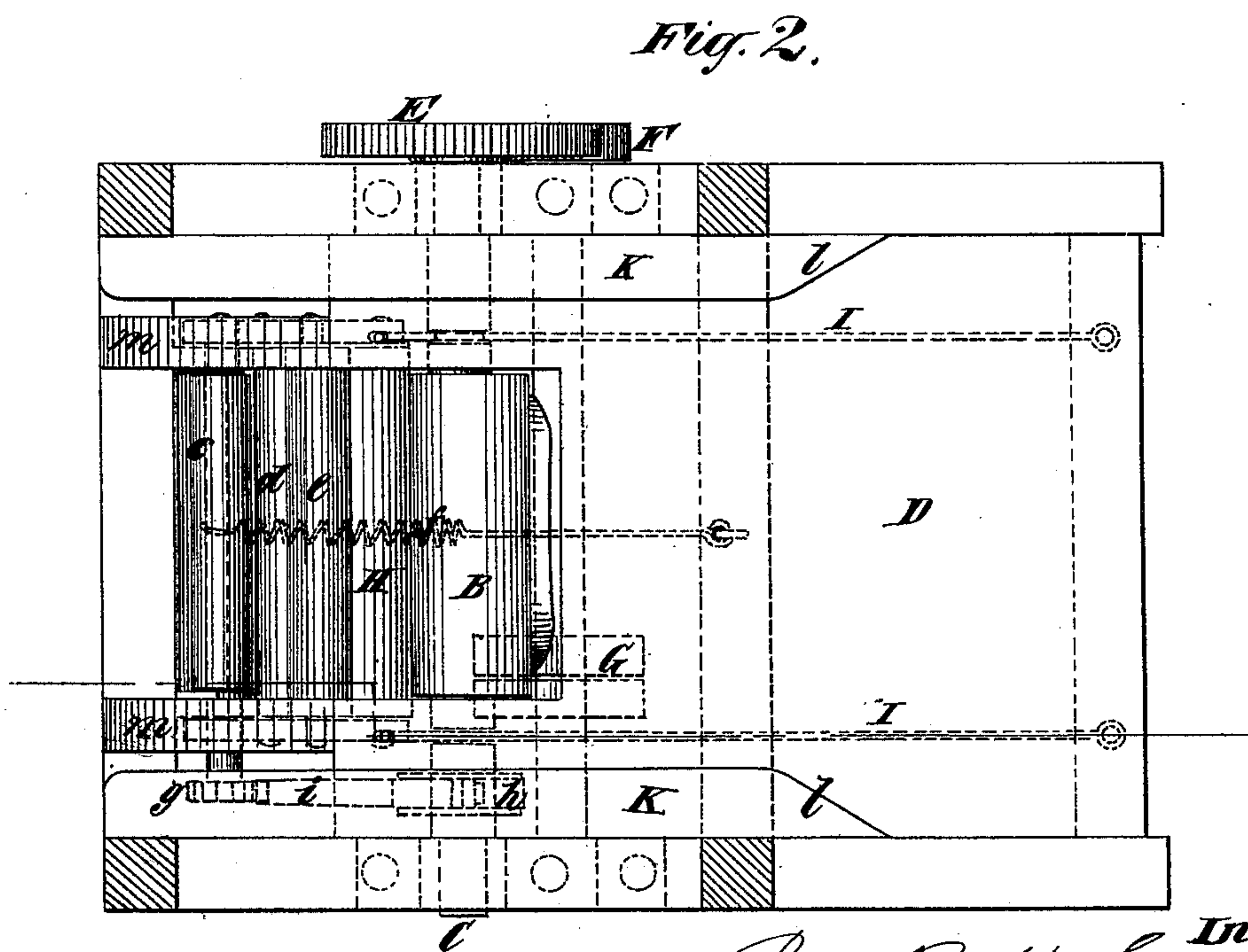
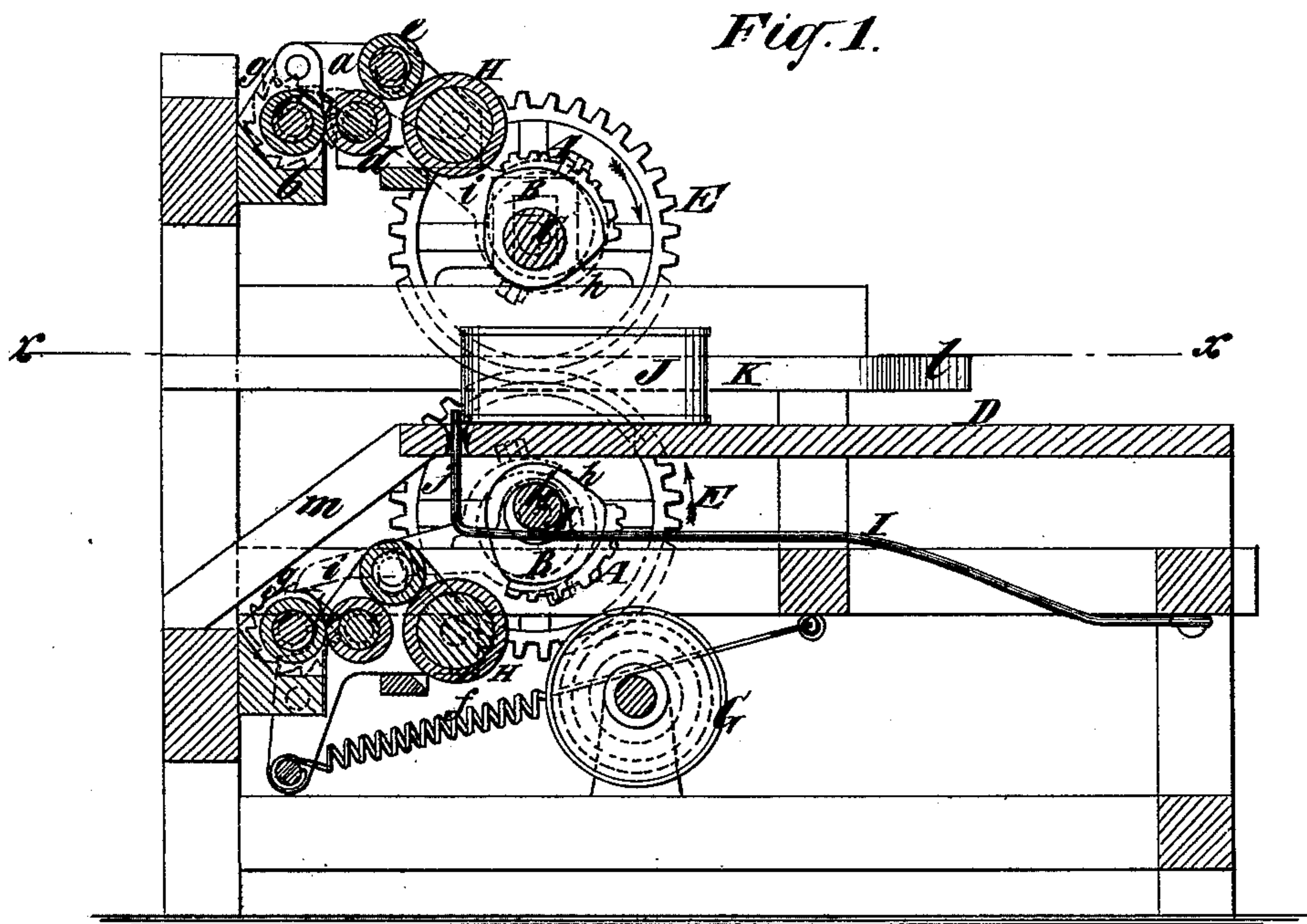


P. B. H. SMITH.
Box-Printing Machine.

No. 222,320.

Patented Dec. 2, 1879.



Witnesses
John Becker
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Inventor
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UNITED STATES PATENT OFFICE.

PEREZ B. H. SMITH, OF GREEN POINT, BROOKLYN, NEW YORK, ASSIGNOR
TO EDWARD C. SMITH, OF SAME PLACE.

IMPROVEMENT IN BOX-PRINTING MACHINES.

Specification forming part of Letters Patent No. **222,320**, dated December 2, 1879; application filed
June 17, 1879.

To all whom it may concern:

Be it known that I, PEREZ B. H. SMITH, of Green Point, in the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Machines for Printing Boxes, of which the following is a specification.

The principal object of my invention is to provide a machine for printing wooden packing-boxes upon opposite sides simultaneously.

My invention consists in the combination, in a machine for printing boxes, with a bed or table and two rotary drums or segments having type-forms upon their peripheries, between which the boxes pass, of stops projecting through the bed or table back of said drums or segments and forming guides or gages, by means of which the boxes may be placed between the said drums or segments in proper position to be grasped by the type-forms as the drums or segments rotate, and mechanism for depressing said stops or gages, to permit the boxes to be moved forward when grasped by said drums or segments.

In the accompanying drawings, Figure 1 represents a longitudinal section of a machine embodying my invention; and Fig. 2 is a horizontal section on the line *x x*, Fig. 1.

Similar letters of reference designate corresponding parts in both figures.

A designates the forms by which the printing is effected. These forms are affixed to the peripheries of drums or segments thereof, B, which are secured to rotary shafts C, and said shafts are shown as arranged one above the other, at a sufficient distance apart to allow the box to be printed to pass between the forms. One of the shafts C may be arranged in bearings capable of vertical adjustment, so that it may be adjusted to suit boxes of different sizes and to compensate for slight variations in size.

In order to compensate for slight variations in boxes the type-forms A are made of some elastic material, such as india-rubber.

D designates a bed or table, over which boxes are fed to the rotary forms in proper position to be grasped by them. The shafts C are provided with gear-wheels E, of equal size, engaging one with another, and motion may

be imparted to them by means of a pinion, F, and pulley G. H designates the inking-rollers, by which printing forms A are inked. They are shown as supported in bearings in the brackets *a*, and are arranged in such position that as the shafts C rotate the forms A come in contact with the said inking-rollers, and, passing over their surface, receive ink from them. *b* designates the ink-trough. *c* designates a fountain-roller rotating therein; and *d e* designate distributing-rollers for carrying ink to the surface of the inking-rollers H. The distributing-rollers are all supported in bearings in the brackets *a*, and the several rollers may be covered with cloth for retaining the ink upon their surfaces.

The upper inking-roller is raised slightly by the form as it passes over it, and returns by its weight to its normal position. The lower inking-roller is depressed slightly by the lower form as it passes over it, and is then returned to its position by a spring, *f*.

For the purpose of rotating the rollers *c* in the ink-trough *b*, I place upon the shafts thereof ratchet-wheels *g*, and provide the shafts C with eccentrics *h*, which operate pawls *i*, and thereby impart motion to the said rollers *c* without the intervention of any intermediate mechanism.

In order to form gages to insure placing the box to be operated on in proper position to be grasped between the rotary forms, I employ stops, consisting of rods I, having their ends *j* bent upward and projecting through holes in the bed or table D. The position of these stops is clearly represented in Fig. 1; and J designates a box placed in proper position for the forms to grasp it as they rotate. Before the box is grasped by the said forms it is necessary that the stops *j* should be depressed below the level of the bed or table D, and this is here shown as effected by means of cams *k* on the lower shaft C. The said cams are placed on said shaft in advance of the form A, so that said stops are depressed before the forms begin to carry the box forward.

When not depressed by the cams *k*, the rods I and stops *j* are maintained in their elevated position by the elasticity of the said rods.

K designates guides secured to the sides of

the frame-work of the machine, and serving to guide the boxes laterally as they pass to the printing-forms. To facilitate the introduction of boxes between the guides the latter are made outwardly flaring at their ends *l*.

Boxes may be placed upon the bed or table one after another, and as they are printed they pass down an incline, *m*, and others are moved forward against the stops *j* to take their place.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a machine for printing boxes, with a bed or table and two rotary drums or segments provided with type-forms upon their peripheries, between which the boxes pass, of stops projecting through the bed or table back of said drums or segments, and forming guides or gages, by means of which the box may be placed between the drums or segments in proper position to be

grasped by the type-forms as the drums or segments rotate, and mechanism for depressing said stops or gages to permit the boxes to be moved forward when grasped by said drums or segments, substantially as specified.

2. The combination of the drums or segments *B*, the bed or table *D*, the spring-rods *I*, having their ends bent upward and projecting through the bed or table back of said drums or segments, forming stops or gages for placing the boxes in proper position between the drums or segments to be grasped thereby, the shaft *C*, and cams *k*, for depressing said stops or gages, substantially as specified.

P. B. H. SMITH.

Witnesses:

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