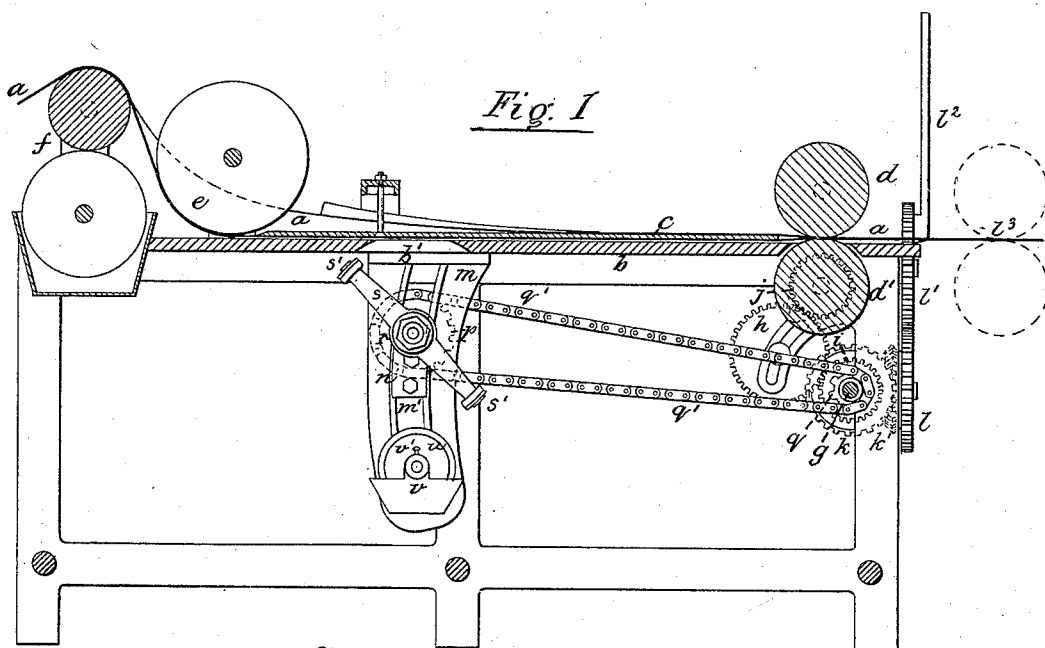
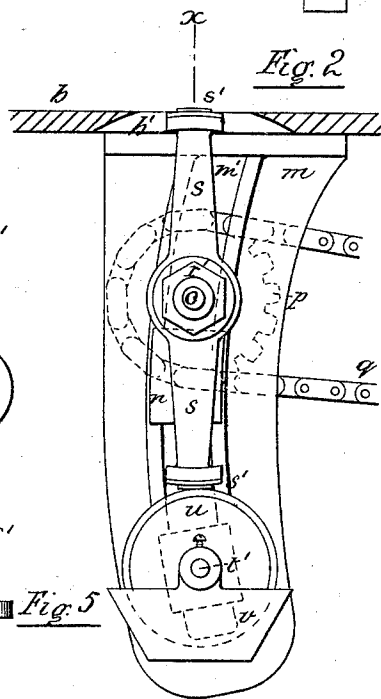
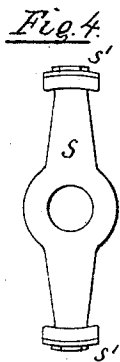
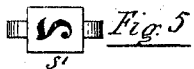
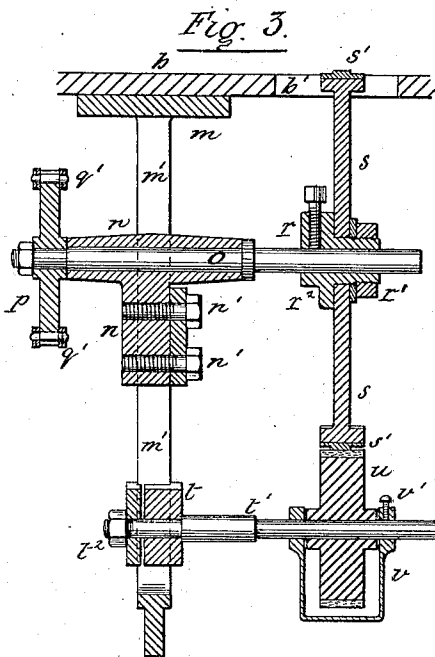


(No Model.)

A. SHEDLOCK.
PRINTING DEVICE.

No. 369,886.

Patented Sept. 13, 1887.



Witnesses.

H. D. Williams

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UNITED STATES PATENT OFFICE.

ALFRED SHEDLOCK, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO JOHN CROTTY, OF BROOKLYN, NEW YORK.

PRINTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 369,886, dated September 13, 1887.

Application filed May 16, 1887. Serial No. 238,326. (No model.)

To all whom it may concern:

Be it known that I, ALFRED SHEDLOCK, a citizen of the United States, residing at Jersey City, county of Hudson, State of New Jersey, have invented a certain new and Improved Printing Device, of which the following is a specification.

The object of this invention is to supply means for printing or impressing figures or characters on paper at equal distances throughout its length while it is being continuously fed forward.

My invention, when applied to a paper-bag machine, consists of a simple rotating printing device arranged to impress the paper as it is fed to the folding apparatus, or while the paper is being formed into a tube, and actuated from any part of the machine working in unison with a device which determines the length of the bag or of the paper required to form a bag.

Paper-bag machines in which the paper from a roll is primarily folded into a tubular form, or machines for making tubes and cutting them into lengths to be afterward completed as bags by other machines or by hand-labor, are generally made adjustable, so that different sizes of bags or lengths of tubes may be made on one machine. To adapt my improved printing device to such a machine, a type-carrying arm is provided for each length of tube that can be made on the machine, the circumferences of the circles through which the types travel, or parts thereof, if more than one impression per revolution be made, being equal to the lengths of the tubes they are respectively designed to print. The shaft carrying these arms always rotates in unison with the device which determines the length of the bag, and is adjustable relatively to the table or former over which the paper travels, and the arms are adjustably connected thereto, so that the impression may be made to occupy the proper positions on the bags or pieces severed from the tube. An ink-roller is provided, carried by an adjustable shaft and set in right position for the type to take ink therefrom between the impressions.

By reference to the accompanying drawings and the following description thereof the construction and operation of my improved printing device will be fully ascertained.

Figure 1 is a longitudinal section of a paper-tubing machine with my printing device applied thereto. Fig. 2 is an enlarged view of the printing device. Fig. 3 is a sectional view of the same, cut on the line *xx*. Fig. 4 is a view of one of the type-arms detached, and Fig. 5 is an end view of the same.

In the main view, Fig. 1, only so much of the tubing-machine is shown as will clearly illustrate the application of my printing device thereto. The paper, *a*, is drawn over the table *b* and former *c* by means of the feed-rollers *d d'*, the disk *e* creasing the paper where it is to be folded and the paste-wheel *f* applying paste to one of the edges. The shaft *g*, laterally arranged under the table *b*, is connected to the feed-roller *d'* by the intermediate gear, *h*, which meshes into the gear-wheel *i* on the shaft *g* and the gear-wheel *j* on the shaft of the roller *d'*. A miter-wheel, *k*, on the shaft *g* meshes into a similar wheel, *k'*, on a shaft arranged longitudinally to the table, which also carries the spur-wheel *l*, driving a similar spur-wheel, *l'*, to the side of which is secured the knife *l'*, which severs the lengths from the tube of paper, *a*. The dotted circles *l'* represent a pair of rollers which discharge the lengths of tube from the machine after they have been cut off by the knife *l'*. By this arrangement it is evident that the shaft *g* always makes one full revolution for each complete action of the knife *l'*, and that its speed in relation to that of the feed-rollers *d d'* is governed by the relative sizes of the gear-wheels *i* and *j*. To change this relation a different size of gear-wheel for each length of paper to be cut is substituted for the wheel *j*, the intermediate wheel, *h*, being adjustable, as shown.

All the mechanism so far described is old and gives a fair idea of the machine to which my printing device is to be applied, whether it be taken as a complete tubing-machine or the tube-forming part of a paper-bag machine.

Through the table *b*, at any convenient distance from the feed-rollers *d d'*, is formed the opening *b'*, and at one side of this opening, under the table, is secured the pendent bracket *m*, having a circular slot, *m'*, formed through it concentric with the shaft *g*. In this slot the block *n* is clamped by means of the bolts *n'*, and the shaft *o* is fitted to rotate in the bearing formed in the block *n*. On one

end of the shaft *o* is secured the chain-wheel *p*, which is driven from the chain-wheel *q*, secured to the shaft *g* by means of the chain *q'*. On the other end of the shaft *o*, which extends
 5 some distance from the block *n*, is adjustably secured the collar *r*, provided with a nut, *r'*, between which and the flange *r''* of the collar is clamped the arm *s*, carrying the type *s'*.

Fitted to slide in the curved slot *m'*, below
 10 the block *n*, is another block, *t*, from which projects the rod *t'*, said block being clamped in any required position on the bracket *m* by the nut *t''*. The ink-roller *u*, which may be made of wood or other suitable material and covered
 15 with felt, is fitted to rotate freely on the rod *t'*, and is held in any desired position thereon by means of the box *v*, which has two lugs perforated to fit upon the rod *t'*, one of which has a set-screw, *v'*, passing through it for securely
 20 fastening the box to the rod *t'*. The ink-roller *u*, it will be observed, is free to rotate on the rod *t'* between the lugs of the box *v*, this box acting simply as a frame to hold the roller *u* upon the rod. The box *v* may be used to retain
 25 a supply of ink for the roller; but under ordinary circumstances this is not necessary, as the felt covering of the roller will generally hold sufficient ink for all practical purposes.

At Figs. 4 and 5 is shown a detached type-
 30 carrying arm, *s*, smaller than the one shown attached in operative position in the other views, and designed to print a shorter length of paper or tubes formed on the machine. Double arms *s* are shown diametrically ar-
 35 ranged and each provided with a type *s'*, and the chain-wheel *p* is twice the size of the chain-wheel *q*, so that one of the types comes in contact with the paper, as the paper is drawn forward by the rollers *d d'*, at equal speed there-
 40 with, for each revolution of the shaft *g* and each action of the knife on the paper. This arrangement may be varied without departing from the spirit of my invention—as, for instance, three equidistant type-arms may be
 45 used and the wheels *p* and *q* made in the proportion of three to one, or one type used and the wheels *p* and *q* made equal. This latter plan is adopted when printing the larger sizes of tubes.

To adjust this printing device, the collar *r* is so set upon the shaft *o* that the type *s'* will impress the paper or tube centrally. The block *n* is set and clamped rigidly in the slot *w'* of the bracket in such position that the type
 50 *s'* will just touch the under side of the paper, *a*. The ink-roller *u* is then set on its shaft *t'* so as to be in the plane of motion of the type, and the shaft is vertically adjusted by shifting the block *t* in the slot *w'* to bring the surface
 55 of the felt covering of the ink-roller into position to be touched by the type. The arm *s* is then set on the collar *r* so as to impress the parts of the paper that are near the cuts made by the knife, or any desired parts relatively
 60 thereto.

It will be understood that any positively-

acting connection may be substituted for the chain *q'* to impart motion from the shaft *g* to the shaft *o*.

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

1. In a rotating printing device, in combination, a shaft positively rotated in an adjustable bearing, a type-arm carried by the shaft
 75 and longitudinally and angularly adjustable thereon, and an ink-roller fitted to rotate on a rod or shaft arranged parallel to the type-arm shaft and adjustable to and from the same, substantially as set forth.

2. The combination, with a machine for tubing paper, of a printing device consisting of a rotating type-arm carried by and adjustably
 80 connected to a shaft running in a bearing adapted to be moved to and from the paper, an ink-roller adjustably held in position relatively to the type-arms, and a positive-acting gearing connecting the type-carrying shaft to a shaft of the tubing-machine, which governs
 85 or works in unison with a device determining the lengths of tube made, substantially as set forth.

3. In a printing device for impressing paper as it is fed from a roll, in combination, a shaft
 90 of the machine working in unison with the feeding device, a frame or bracket provided with a curved slot formed concentric with the shaft, a sliding block held in the curved slot, a shaft carried by the sliding block, type-arms
 95 adjustably connected to this shaft, positive-acting means connecting this type-arm shaft to the shaft of the paper-feeding machine, and an inking device for applying ink to the type, substantially as set forth.

4. In a printing device, in combination, a
 100 shaft fitted to rotate in an adjustable bearing, a collar provided with a flange and nut and clamped upon the shaft, and a type-arm held between the flange and nut of the collar, substantially as set forth.

5. In a printing device for impressing paper as it is fed from a roll, in combination, a shaft
 105 of the machine working in unison with the feeding device, a frame or bracket provided with a curved slot formed concentric with the shaft, a sliding block held in the curved slot, a shaft carried by the sliding block, type-arms
 110 adjustably connected to this shaft, positive-acting means connecting this type-arm shaft to the shaft of the paper-feeding machine, an ink-roller fitted to rotate on a rod arranged
 115 parallel to the type-arm shaft and adjustable in relation thereto, and a box or frame having lugs fitted on the rod, between which the ink-roller is held on any desired part of the rod,
 120 substantially as set forth.

Signed at New York, county and State of New York, this 12th day of May, 1887.

ALFRED SHEDLOCK.

Witnesses:

H. D. WILLIAMS,
 WM. H. MERSEREAU.