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APPARATUS FOR PRINTING LISTS.

(Application filed Sept. 25, 1899.)

3 Sheets—Sheet 2.

Fig. 2.

Witnesses:

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3 Sheets—Sheet 3.

Fig. 3.

Fig. 4.

Fig. 5.

Inventor
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Witnesses
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To all whom it may concern:

Be it known that I, LATIMER H. STUDEBAKER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Printing Directory-Lists, &c.; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in printing devices, and especially to an apparatus whereby a directory-list of merchants or tradesmen may be automatically printed by the simple manipulation of a push-button, which causes the particular roller bearing the type to print the list to come into proper position to make an impression upon a coil of paper as the latter is pulled out by the operator.

More specifically, the present invention resides in the provision of a printing apparatus consisting of a series of rollers mounted on radiating arms carried by a central axis, each roller having the list which is desired to be printed on the coil of paper which is fed against the roller to receive the impression, means being provided to rotate the axis to bring the particular roller into proper position to make an impression on the paper and to arrest the roller and retain same in place while the printing is being done.

To these ends and to such others as the invention may pertain the same consists, further, in the novel construction, combination, and adaptation of parts, as will be hereinafter more fully described, and then specifically defined in the appended claims.

My invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is an end view of my improved apparatus with the end of the casing removed. Fig. 2 is a top plan view with the casing removed. Fig. 3 is a side elevation of the dial and the casing surrounding the dial. Fig. 4 is a vertical central section through the dial. Fig. 5 is an enlarged detail view of the push-lever, and Fig. 6 is a detail view showing the manner of holding the axis stationary while the printing is being done.

Reference now being had to the details of the drawings by letter, A designates the casing of the apparatus, which has a hinged top A' and a hinged door B at one side, whereby access may be had conveniently to the mechanism within. At each end of the casing are mounted the vertical strips C, in which are mounted, near their lower ends, the shaft D, on which is reeled the roll of paper D'. In order to allow the shaft D to be conveniently removed from the casing, a removable block E is provided, which may be withdrawn from the recess leading into the bearing portion of said shaft.

Near the upper ends of the strips C are elongated slots F, and mounted loosely in said slots is the shaft G. Radiating from this shaft are the arms H, each of which has journaled at its end one end of a type-roller I, and each of said rollers has a flattened portion I', as clearly seen in Fig. 1 of the drawings. On the circumferences of these rollers are arranged the type—as, for instance, upon one roller will be a directory-list of druggists and on another a list of doctors, barbers, &c. Each roller I has a portion of its circumference weighted, as at J, which provision is made for returning the roller to its starting position after the roller has made a rotation in the act of printing its list.

Mounted in the spring-actuated blocks K in the apertures K' in said strips C is a spindle K', on which the impression-roller L is mounted and against which impression-roller the type on the type-wheels presses the roll of paper.

M is a blotter-roller under which the printed paper passes before passing out of the casing. A metallic shelf N is seated in the front wall of the casing, on which shelf the printed paper rests, and a metallic cutting edge N' is secured to the wall of the casing and with its free edge adjacent to said shelf, whereby the list, after being printed and pulled out, may be severed from the roll in the usual manner of severing a piece of wrap-
ping-paper from a roll over a cutting edge. This cutting edge is notched, but which notch is not shown, for convenience of the operator's catching hold of the end of the paper to draw it over the cutting edge.

An inkling-pad O is provided and against which the type rollers are caused to contact as they rotate in succession toward the impression-roller. To cause the type to be inked from the beginning of the list, a bracket P is secured to the top of the casing and its free end extending into the path of the ink P'. Each of the type-rollers contains a lug P', which catches on said bracket in the manner illustrated in Fig. 1 of the drawings.

Mounted horizontally in the casing is the rack Q for raising the axis G. This rack has a cross-piece Q', between which and the inner wall of the casing and cover are disposed coiled springs Q2. A push-button R is provided on this rack, whereby the latter may be pushed in under the tension of the springs Q2, which springs are provided to return the rack to its starting position. The inner end of the rack is provided with the slotted arms R', which are slightly downwardly inclined. Each end (inner end) of said rack is provided with similar arms, which when the rack is pushed in, engage on either side of the central axis G, which latter is caused to be raised slightly as the under side of the shaft strikes the inclined edges of the under arms. By this movement the rollers are all lifted slightly, so that neither roller will contact with the impression-roller as they are rotated adjacent thereto.

The axis G has a keyway or otherwise secured thereto a geared wheel G1, the teeth of which are designed to be brought into mesh with the teeth of a geared wheel G2, as the wheel G1 is raised by an inward thrust of the push-button. Said rack has a second set of arms Q3, each of which is recessed or apertured, as at q1, and loosely mounted in these apertures is a shaft q', on which the geared wheel G3 is mounted. This shaft q' also has keyway thereto a ratchet-wheel q2, and a dog q3, secured to one of the strips C, engages with the ratchet-wheel q2. The outer end of the shaft G is squared, so that a key may be placed over same to wind up the spring G0, which has one end secured to the shaft q' and its other end made fast to the side of the rack Q. On the inner end of the aperture q in the arms Q1 is a lug Q1, provided to normally engage with the teeth of the ratchet-wheel q2, but to be released therefrom as the rack is pushed in, as will be readily understood. As the rack is pushed in and the notch or lug Q1 is released from the ratchet-wheel the geared wheel G2 is caused to rotate under the influence of the coiled spring contained within same. As the push-rack is forced in the axis G is raised, and with it the geared wheel G1, and the teeth of the latter are brought into engagement with the teeth of the geared wheel G2 and wheel G' will rotate and the type-rollers will be brought successively in contact with the impression-roller.

The dial S has a series of words, as "Doctors," "Barbers," "Grocers," &c., arranged therein to indicate the various rolls on which are arranged the type of the different professions or trades. This dial is secured to the end of the axis G and is adapted to be raised therewith. Secured to the dial is a disk T, and this disk and dial are mounted within the rim T1, which is fastened to the outer wall of the casing. Mounted on the disk T is a series of slides T2, corresponding to the number of type-rollers, and on the inner periphery of the rim is a stop T3, which is directly over the impression-roller and against which said slide is designed to strike when the slide has been previously pushed down by the operator while the axis is at its highest throw, so that as the dial is rotated it will come in contact with the stop to indicate that the particular type-roller from which it is desired to print has been brought to a position adjacent to the impression-roller. For holding each slide as it is pushed down in proper position to come in contact with the stop, a spring V is provided, as seen in Fig. 4 of the drawings.

Each of the type-rollers has a flattened portion, as described, so as to allow the paper from the reel to pull through between the type-roller and the impression-roller after the printing has been finished. As each type-roller is brought adjacent to the impression-roller and the impression is made by the type of the roller a lug W contacts with a lug P' and holds the roller with its flattened portion adjacent to the impression-roller, which will allow the paper to be drawn through without further printing. When another impression is to be made the operator raises roller W by pushing it on the rack, which will raise the dial and cause the type-rollers to rotate freely.

From the foregoing it will be observed that after each type-wheel has passed the impression-roller the weighted portions J will by gravity be at the lowest or under side of the type-roller and in positions to cause each list to be printed from the beginning. For holding the axis stationary while one of the type-wheels is printing, I provide a block X, Fig. 6, octagonal in outline, which is seated in a slot X', with parallel edges, when the axis is at its lowest limit. When the axis is to be rotated, the latter is lifted slightly, after which it can rotate freely.

This invention may be used equally in printing of any description, for advertising, &c.

What I claim is:

1. A device for printing directory-lists, &c., consisting of a loosely-mounted axis, a series of radiating arms carried thereby, type-rollers journaled in the ends of said arms, an impression-roller and means for raising the type-
rollers out of contact with the impression-roller, and for automatically rotating the axis, as set forth.

2. In a device for printing lists, &c., consisting of a casing, a loosely-mounted shaft mounted in vertical slots in the casing, a series of radiating arms on said shaft, type-rollers journaled in the ends of said arms, a spring-actuated impression-roller against which the rollers are designed to contact successively, a gear-wheel keyed to said shaft, a stationary and spring-actuated geared wheel adapted to be thrown into mesh with the latter, as set forth.

3. In a device for printing lists, &c., comprising the loosely-mounted axis or shaft, the radiating arms secured thereto, the type-rollers journaled in the ends of said arms, the gear-wheel on said axis, the spring-actuated geared wheel, an impression-roller, and a push-rack for throwing the geared wheels into mesh, and for releasing the spring-actuated gear-wheel to allow same to rotate, as set forth.

4. A device for printing advertising-lists, &c., comprising in combination, the casing, the loosely-mounted axis, the type-rollers mounted thereon, the gear-wheel rotating with the axis, the stationary spring-actuated geared wheel, the push-rack having bifurcated arms whereby, as the latter are thrust inward, said arms will engage with and raise the axis and bring the geared wheels into mesh, and release the spring-actuated geared wheel, to cause the type-rollers to rotate, as set forth.

5. In a device for printing lists, &c., the combination of the casing, the axis, the type-wheels, the gear-wheel keyed to said axis, the push-rack having bifurcated arms, and apertured arms, the spring-actuated geared wheel and shaft on which same is mounted, the ratchet-wheel and dog engaging therewith, the lug on the apertured arm of the push-rack normally engaging with the teeth of said ratchet-wheel, the impression-roller and the inking-pad, as shown and described.

6. In combination with the casing, the rollers mounted as set forth, the ink-pad, the lugs on the rollers, the bracket secured to the casing and against which said lugs contact, as shown and described.

7. In combination with the axis, the dial secured thereto a disk having a series of slides mounted thereon, springs bearing against said slides, and a stop against which said slides strike to limit the rotary movement of the axis, as set forth.

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

LATIMER H. STUDEBAKER.

Witnesses:
John B. Brooks,
Paul A. Benson.