

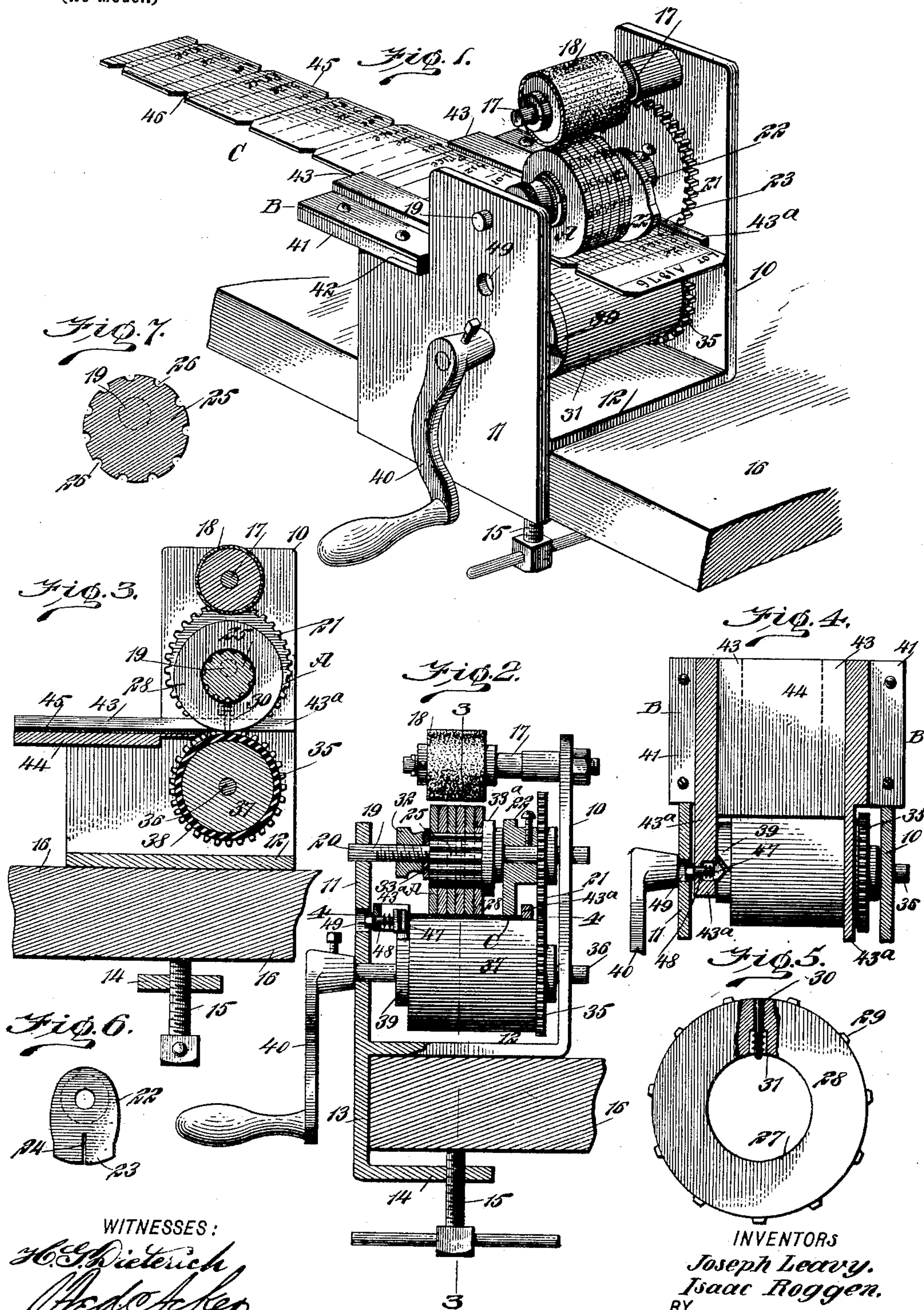
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Patented July 30, 1901.

J. LEAVY & I. ROGGEN.
PRINTING MECHANISM FOR LABELS OR TICKETS.

(Application filed June 2, 1900.)

(No Model.)



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PRINTING MECHANISM FOR LABELS OR TICKETS.

SPECIFICATION forming part of Letters Patent No. 679,627, dated July 30, 1901.

Application filed June 2, 1900. Serial No. 18,833. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH LEAVY, a resident of the city of New York, (New Brighton,) borough of Richmond, in the county of Richmond, and ISAAC ROGGEN, a resident of the city of New York, borough of Manhattan, in the county of New York, State of New York, citizens of the United States, have invented a new and Improved Printing Mechanism for Labels or Tickets, of which the following is a full, clear, and exact description.

One purpose of the invention is to simplify the construction of machines for printing numerals, words, or characters upon labels or tickets and to provide means whereby individual tickets and labels of a strip will be automatically held one after the other in position to be printed upon and after the impression has been made be fed forward a distance about equal to the width of the tickets or labels, suitably-operated mechanism being provided to withdraw the locking devices from the tickets just prior to their forward feed.

A further purpose of the invention is to provide an inking-roller concentrically mounted upon a stationary support, and, further, to eccentrically mount the printing-head upon a shaft, which also carries a feed-cam, which cam acts upon the labels or tickets just prior to the act of impression, holding the labels stationary, and, further, acts to feed the printed label forward or from the printing-head just after the impression is made. The object of mounting the printing-head eccentrically and the printing-roller concentrically is to prevent any portion of the printing-head touching the inking-roller except that surface which is farthest from the axis of the head, at which surface the matter to be impressed or printed is arranged in proper order.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improved machine. Fig. 2 is a transverse section through the frame of the machine, its

support, the printing-head, feed-cam, locking device, and a ticket or label, the inking-roller and supporting-roller being shown in front elevation. Fig. 3 is a longitudinal section taken substantially on the line 33 of Fig. 2. Fig. 4 is a horizontal section taken practically on the line 44 of Fig. 2. Fig. 5 is a detail view of one of the disks or rings of the printing-head, a portion thereof being broken away. Fig. 6 is a face view of the feed-cam, and Fig. 7 is a transverse section through the hub or central portion of the printing-head.

The frame of the machine as illustrated consists of two sides 10 and 11, the side 10 extending up beyond the side 11, and the two sides are connected by a bottom plate 12, and an auxiliary side piece 13 constitutes a continuation of the shorter side 11 and is carried below the bottom plate 12 to form a bottom support 14, and the table 16 or other support upon which the frame is to be placed is received between the bottom plate 12 and the bottom support 14. A set-screw 15 or equivalent device is carried by the bottom 14 and is arranged for engagement with the under side of the support 16, as shown in Figs. 1, 2, and 3. A shaft 17 is secured at one end in the upper portion of the longer side 10 of the frame, and on this shaft 17 an inking-roller 18 is loosely mounted, being supplied with ink by hand or in any approved manner.

A shaft 19 is mounted to turn in the upper portion of the shorter side 11 and in a corresponding part or portion of the opposing side 10. This shaft 19 is provided with a thread 20, preferably at that end nearest the shorter side 11 of the frame, as shown in Fig. 2. Within the frame near the opposite end of the shaft a gear-wheel 21 is secured to said shaft, and adjacent to this gear-wheel a cam 22 is fixed on the shaft by a set-screw or equivalent device. This cam is a feed-cam and is illustrated in detail in Fig. 6, in which the working surface 23 of the cam is semi-circular, and the said cam at the central portion of its working surface is provided with a longitudinal slot 24 for a purpose to be hereinafter stated.

A printing-head A is located on the shaft 19 adjacent to the feed-cam 22. This head preferably consists of a hub-section 25, which is secured eccentrically upon the shaft 19 in

said hub is provided with a series of exterior longitudinal grooves 26, the grooves being preferably of segmental shape, as illustrated in Fig. 7. These grooves are also preferably at equal distances apart. The construction of the printing-head is completed by the addition of a series of disks 28, having central openings 27, adapted to receive the hub 25, and type numerals or characters 29 are produced at equal distances apart on the periphery of each disk, and said type numerals or characters may be embossed or in intaglio, as desired. A pin 30 is mounted to slide in each of the disks 28, and each pin extends usually from the periphery of the disk into the central opening 27, being held in this position by a suitably-placed spring 31. The disks are held in position on the hub 25 of the printing-head by reason of the inner projecting ends of the pins 30 of said disks entering the grooves 26 in the hub, as shown in Fig. 3, and the position of the disks on the hub of the printing-head may be changed by forcing the disks around and causing the pins 30 to pass from one groove 26 to the other in the hub. The printing-head is placed between two washers 33 and 33^a, and the said head is just below the inking-roller 18. The head is held in position on the shaft 19 and its disk members crowded closely together and prevented from moving after having been set by means of a suitable nut 32, located on the threaded portion 20 of the shaft 19, as is best shown in Fig. 2.

The gear 21 is in mesh with a gear 35, which gear is secured on a shaft 36, journaled in the lower portions of the side sections 10 and 11 of the frame. A supporting or bed roller 37 is secured on the shaft 36, and this roller is usually provided with a covering 38, of rubber or other soft material, as shown in Fig. 3. At the end of the bed-roller 37 adjacent to the shorter side section 11 of the frame a cam 39 is either secured to the shaft or to the end of the roller, and this cam is adapted to operate a locking device, to be hereinafter described. The shaft 36 may be turned by power, if desired; but usually a hand-crank 40 is provided for such purpose, and the shaft 36, which may be considered a drive-shaft, communicates motion to the shaft 19.

The numbers or characters to be printed are alined at that portion of the head which is farthest from the axis of the shaft and in alinement with the slot 24 in the feed-cam 22, which slot serves in the capacity of a guide to set the numbers or characters on the head.

A guide B is located at each side of the frame near its upper portion, and each guide consists of a horizontal plate 41, which is secured in any suitable or approved manner upon the bottom wall of an angular recess 42, made in the upper rear portions of the side sections 10 and 11 of the frame, together with angular extensions 43 at the inner and longitudinal edges of said plates 41, the horizontal

members of which angular extensions are carried in the direction of each other. Each guide B is provided with a single horizontal arm 43^a, extending from the inner edge of its plate member 41, and these arms 43^a are carried to the forward vertical edges of the sides 10 and 11. A table 44 is located below the plates 41, being secured to the side sections of the frame, and the forward edge of the table is carried as near as possible to the space between the printing-head A and the bed-roller 37.

The tickets or labels 45 are preferably made in the form of a strip C, said strip being composed of any desired number of tickets or labels. The tickets or labels of a strip are separated from each other at their side edges by recesses or cuts 46, which recesses or cuts are shown V-shaped; but they may be otherwise shaped, if desired. The strip is placed upon the table 44 and is passed between the table and the inner projecting portions 43 of the guides B. As the strip is fed forward it passes between the guide-arms 43^a, which prevent the strip from having lateral movement. When a ticket or label is in position to be printed upon by the printing-head, the head 47 of a spring-controlled locking-pin 48 enters one of the side cuts or recesses 46 and prevents the strip C from moving while a label is being printed. The locking-pin 48 is located in one of the guide-arms 43^a, as shown in Figs. 2 and 4, and is capable of moving out through an opening 49 in the side section 11 of the frame. After an impression has been made on a label or ticket the cam 39 on the drive-shaft 36 engages with the head 47 of the locking-pin and forces it back, while at the same time the cam 22 will have positive bearing on the printed label or ticket and as the shaft 19 revolves will feed the same forward until a second ticket or label is drawn into position to be printed upon, whereupon the head 47 of the locking-pin 48 will fall into another notch and will hold the strip again stationary. As the shaft revolves, carrying the printing-head from engagement with a ticket, the head gradually approaches the printing-roller until the number which is to be printed comes uppermost on the head, whereupon the head engages with the inking-roller and receives a proper supply of ink. As the printing-head further revolves and just before the number to be printed is brought into printing position over the ticket or label the feed-cam 22 will engage with the ticket or label and will tend to assist the locking-pin 48 in holding the ticket against transverse or longitudinal movement.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a printing mechanism for labels and tickets, the combination with an inking-roller, and a supporting-roller, of a printing-head eccentrically mounted between the inking and supporting rollers, said head comprising a hub and type-disks adjustably

mounted thereon, and a feed-cam secured to the shaft of the printing-head and provided with a longitudinal slot, substantially as and for the purpose set forth.

5 2. A printing mechanism for labels and tickets, comprising a frame having two spaced members of unequal length and connected together by a bottom plate, the shorter member having below the bottom plate an angular extension provided with a set-screw, an
10 inking-roller mounted in the upper end of the longer member of the frame, a shaft mounted between the members of the frame below the inking-roller and provided with a gear-wheel
15 at one end, a printing-head eccentrically mounted on the shaft, a feed-cam secured to the said shaft adjacent to the printing-head and occupying a corresponding position to that of the printing-head, said cam serving to feed

the ticket or label forward and assisting in holding the same from movement during the printing, a second shaft below the first shaft and provided with a gear-wheel meshing with the gear-wheel of the said first shaft, a supporting-roller on the second shaft below the printing-head and feed-cam, and means for locking the strip while it is being printed upon, substantially as herein shown and described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOSEPH LEAVY.
ISAAC ROGGEN.

Witnesses:

SAMUEL Z. CASHMAN,
LOUIS HARRIS.