Jan. 1, 1935. J. WEIMONT 1,986,655

TAG MARKING MACHINE

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Fig. 1.

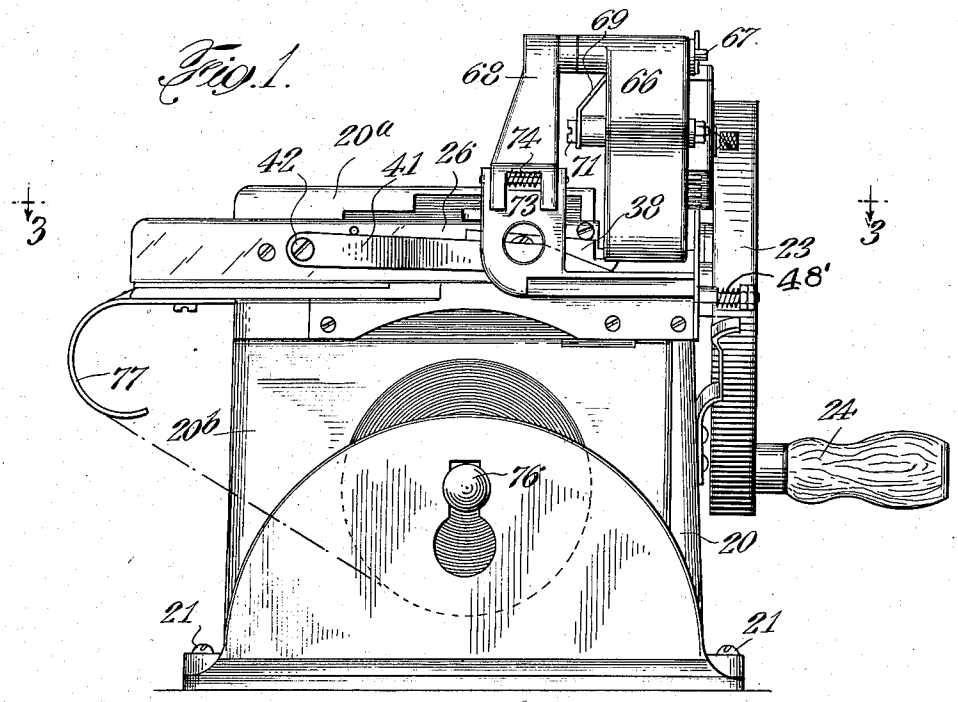
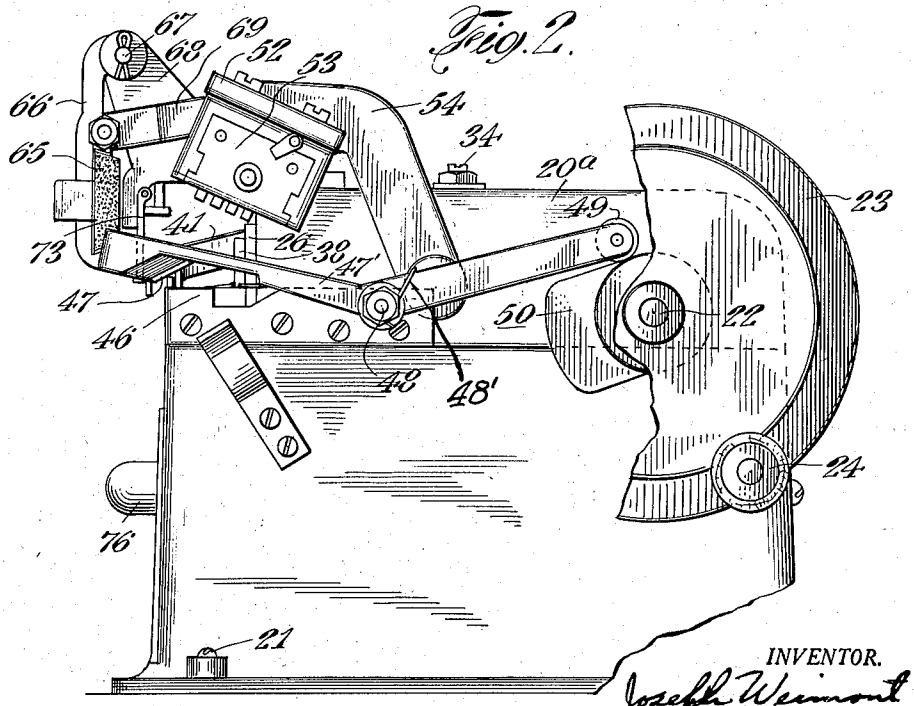


Fig. 2.



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Fig. 3.

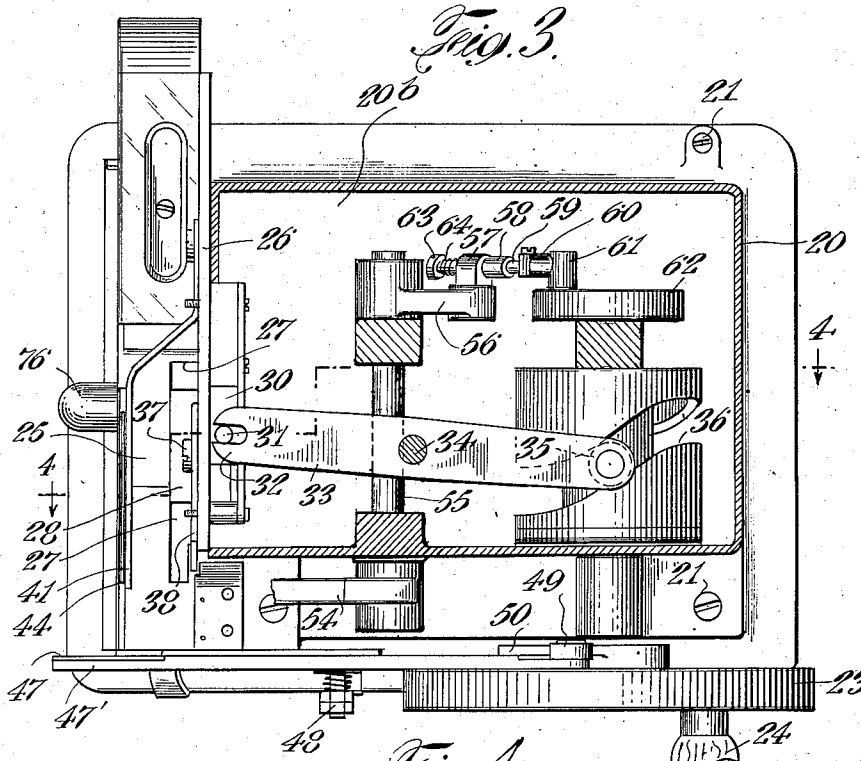
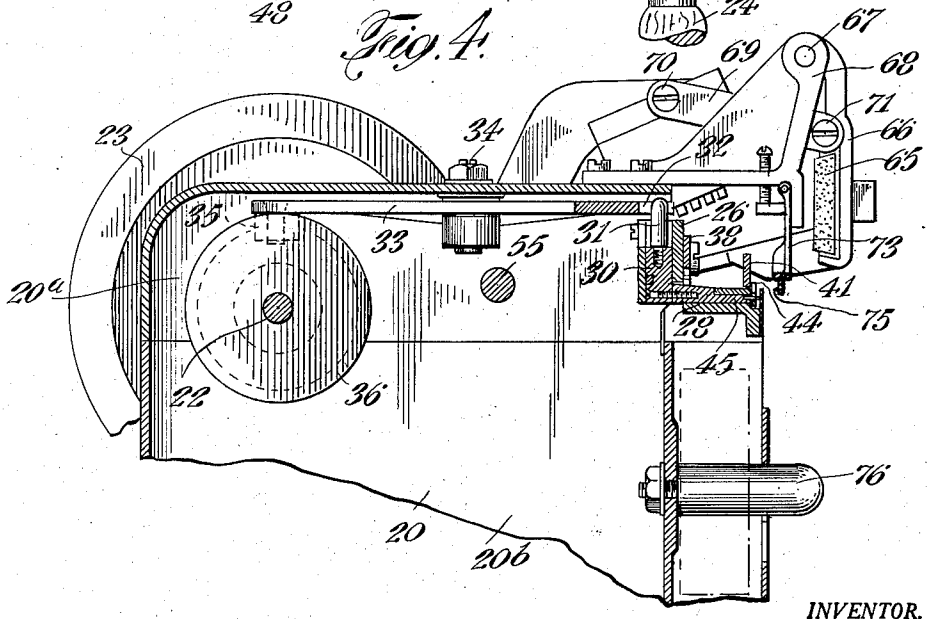


Fig. 4.



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Fig. 5.

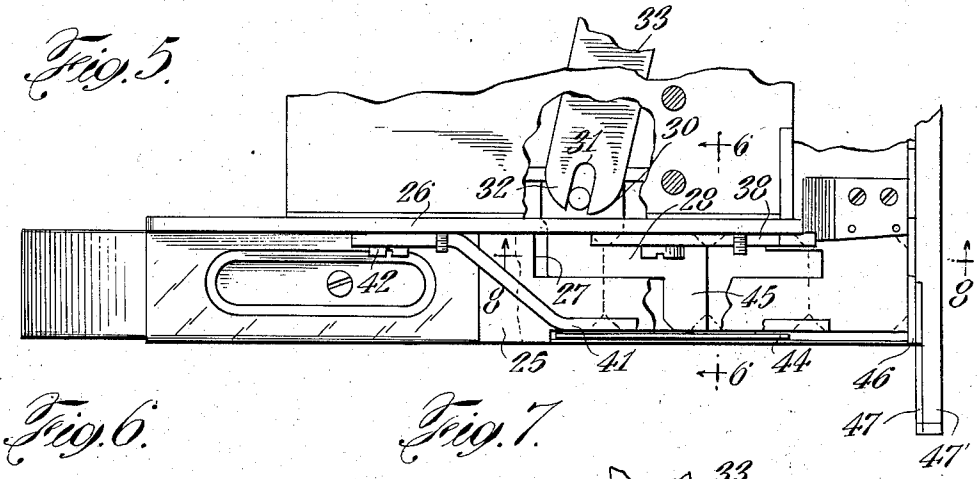


Fig. 6.

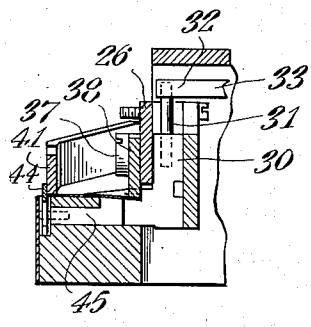


Fig. 7.

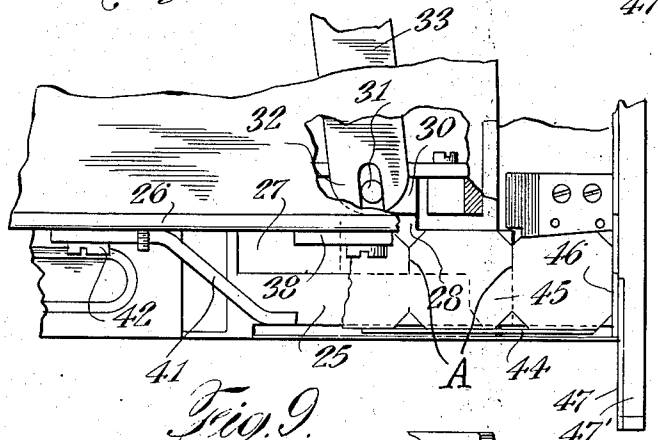


Fig. 8.

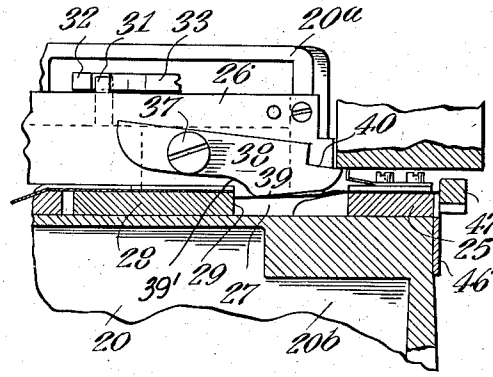
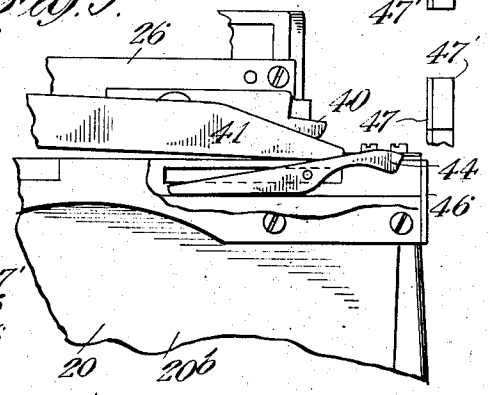


Fig. 9.



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Patented Jan. 1, 1935 1,986,655

UNITED STATES PATENT OFFICE

1,986,655

TAG MARKING MACHINE

Joseph Weimont, Bogota, N. J., assignor to A. Kimball Company, New York, N. Y., a corporation of New York

Application October 6, 1933, Serial No. 692,405

6 Claims. (Cl. 101—291)

This invention relates to apparatus for feeding and printing strips of price tags, pin tickets and the like.

It is an object of the invention to provide improved mechanisms for feeding the strips of tags step by step, one tag width at a time, and to feed the same into accurate register with the printing head.

Other objects and advantages of the invention will appear hereinafter.

A preferred embodiment of the invention selected for purposes of illustration is shown in the accompanying drawings, in which,

Figure 1 is a front elevation.

Figure 2 is an end elevation.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a section on the line 4—4 of Figure 3.

Figure 5 is an enlarged plan view of the feed mechanism with parts removed to disclose the operation of the mechanism.

Figure 6 is a section on the line 6—6 of Figure 5.

Figure 7 is a view similar to Figure 5 showing the parts in a different operative position.

Figure 8 is a section on the line 8—8 of Figure 5.

Figure 9 is an enlarged front elevation with parts removed.

Referring to the drawings, the mechanism is built upon a box-like frame 20 which may be secured to a table or other suitable support by screws 21. All of the moving parts of the machine are carried by the upper portion 20*a* which is secured to the lower portion 20*b* in any suitable manner. A main drive shaft 22 is rotatably mounted toward the rear of the frame 20 and the said shaft may be rotated either by power or by hand, the machine illustrated being intended for hand operation by means of the fly-wheel 23 and handle 24.

Toward the front of the frame is mounted a platen table 25 along which the strips of tags are fed to printing position as hereinafter described. At the back of the platen table 25 and secured to the frame is a vertically disposed guide plate 26 extending transversely across the machine and serving to guide the back edge of the tag strips as they are fed through the machine.

The machine is adapted to feed strips of tags which are partially severed by cuts or slits extending inwardly from one edge of the strip, and the tag edges formed by the said cuts or slits are utilized for feeding purposes in the manner hereinafter described. One form of tag strip suitable for use in such machines is illustrated and described in Laencher Patent No. 1,855,765. Another form is that illustrated in Figures 5 and 7, and known as gum labels, these strips being also partially severed along the lines A between individual tags.

The rear side of the table 25 is cut away to provide an aperture 27 in which is slidably mounted a reciprocating pusher 28 having its upper face substantially flush with the surface of the table, and having a leading edge 29 adapted to engage the edge of the tabs successively in order to feed the strip along the table one tag width at a time. The said pusher 28 is connected to a slide 30 mounted to reciprocate on the frame 21*a* and the said slide is provided with a pin 31 which extends upwardly into engagement with the bifurcated end 32 of a lever 33 which is pivotally mounted at 34. The rear end of the said lever is provided with a roller 35 which cooperates with the cam 36 on the main drive shaft 22, the said cam being shaped to oscillate the lever 33 and thereby to reciprocate the slide 30 and pusher 28.

Means are provided to deflect the edges of the tags successively into the aperture 27 into position for engagement by the pusher 28. Such means include a member 38 mounted on the pivot 37 in such manner as to oscillate freely thereon, said member having a foot 39 adapted to engage the tag strip near its back edge at a point immediately above the aperture 27. The member 38 is made long enough to provide a shoulder 40 extending under the printing head 52 for engagement thereby in the manner and for the purposes hereinafter described.

In order to prevent regression of the tag strip during the return stroke of the pusher 28, means are provided for frictionally engaging the strip to hold it in the position to which it is advanced by the pusher. Such means may preferably comprise a presser foot 41 resting on the tag strips and pivotally mounted on the pivot 42 secured to the plate 26. The weight of the presser foot is sufficient to prevent regression of the tag strip.

As will be observed, the edge 29 of the pusher 28 moves only to a position one tag length from the right-hand edge of the table 25, and it is desirable, therefore, to provide means for ejecting the last tag of a strip of relatively short determinate length from the table. For this purpose, a finger 44 is provided which is pivotally connected to the member 45 which extends beneath the table and is connected to and moves with the pusher 28, the said finger being so located that it engages the trailing edge of the last tag of the strip in order to push the last tag off the table.

With the strips of indeterminate length, such as gum labels, the aforementioned function is not of importance, but with such strips, which are customarily somewhat narrower than the strips of determinate length, the finger 44 may serve an additional function, namely, to guide the front edge of the strip as indicated in Figure 7.

In machines of this type it is desirable to provide a cutting knife to complete the severance of individual tags after the same have been printed. Accordingly, a knife 47 is provided which cooperates with a hardened shear plate 46 attached to the frame. The knife 47 is preferably mounted on a lever 47' pivoted to the frame at 48 and the rear end of the said lever is provided with a roller 49 which cooperates with cam 50 secured to the main drive shaft 22. The said cam is so shaped and timed as to cause the knife to be depressed immediately following the end of the feeding stroke of the pusher, and to permit the knife to rise again prior to the next feeding stroke, the said knife being retracted by the spring 48'.

The printing head 52, carrying the removable type chase 53 is secured to the arm 54 which is secured to the rock shaft 55. In order to oscillate the printing head, an arm 56 is secured to the rock shaft 55 and this arm is connected by lug 57 to sleeve 58 which slides on rod 59. One end of said rod is threaded into a crank pin sleeve 60 mounted on crank pin 61 secured to disk 62 which is secured to the drive shaft 22. The other end of the rod is provided with a head 63 and between this head and the sleeve 58 is mounted a coil spring 64.

This construction provides for resilient movement or give of the parts when the printing head engages a ticket and compensates for different thicknesses of tickets without danger of breaking the operating parts and with approximately the same printing pressure on the tags.

Cooperating with the printing head 52 is a swingable inking pad 65 mounted in the head 66 pivoted on the shaft 67 carried by the bracket 68. The head 66 is operated to cooperate with the printing head by a link 69 which is pivotally connected with the printing head and the head 66 by pivot pins 70 and 71 respectively.

The strips of tags are guided along the table 25 by means of a guide member 73 which is pivotally mounted on the bracket 68 and is biased rearwardly by torsion spring 74. The said guide member 73 is provided with a groove 75 to engage the edge of the strip to hold it in proper feeding position.

In operation, it will be observed that the arrangement of the cam 35 operating the pusher 28 and the crank operating the printer head is such that the pusher and printed head act alternately, that is to say, as the pusher advances to feed the strip, the printer head is being retracted, and as the printer head advances to print the tag which has been fed, the pusher is being retracted to a position for engagement with the strip for the next feeding operation. During the advance of the printing head, therefore, the strip is not moving.

Advantage is taken of these facts in conditioning the strip for each successive feeding operation, for as the printer head advances to printing position, it engages the shoulder 40, thereby depressing the member 38, thus causing the foot 39 to engage the rear edge of the strip to depress the same below the plane of the table 25 and below the upper face of the pusher, in order that the edge of the tag to be fed may be exposed for engagement by the leading edge of the pusher. As retraction of the printer head begins, the shoulder 40 is disengaged by the printer head, but the member 38 remains in engagement with the strip, thus serving to hold it in position for engagement by the pusher as it advances in its feeding stroke. As the pusher advances it engages the member 38 which may be rounded as at 39' to provide a surface in the nature of a cam which causes the member 38 to be lifted as the feeding stroke proceeds.

The machine is adapted to feed strips of tags of relatively short determinate length, as for instance, a strip of twelve tags, and is also adapted to feed longer strips of indeterminate length. In the case of the shorter strips, the operator merely lays the strip on the platen table in position for engagement by the feed mechanism and the strip is fed one tag length at a time as previously described. In the case of the longer strips, these are usually wound in the form of a roll which may be mounted on the axle 76, and the end of the strip may be threaded around the curved guide 77 and through a suitable guide slot into position for engagement by the feed mechanism.

It will be understood that the invention may be variously modified and embodied within the scope of the subjoined claims.

I claim as my invention:

1. Apparatus for printing strips of partially severed tags, comprising, in combination, a table, said table having an opening therein, a reciprocating pusher mounted in said opening, said pusher having its upper surface substantially flush with the surface of said table and having a leading edge adapted to engage said tags to feed the same intermittently, a member pivotally mounted above said opening, a printer head, means for actuating said printer head in timed relation with said pusher so that said printer head advances as said pusher retracts, and retracts as said pusher advances, said member having a portion engaged by said printer head for actuating said member during the advancing stroke of said printer head to thereby cause said member to engage the tag lying over said opening to depress the edge portion of the same below the surface of said table into position for engagement by said pusher, said member also having a portion engaged by said pusher during its advancing stroke to return said member to raised position.

2. Apparatus for printing strips of partially severed tags, comprising, in combination, a table, said table having an opening therein, a reciprocating pusher mounted in said opening, said pusher having its upper surface substantially flush with the surface of said table and having a leading edge adapted to engage said tags to feed the same intermittently, a member pivotally mounted above said opening, a printer head, means for actuating said printer head in timed relation with said pusher so that said printer head advances as said pusher retracts, and retracts as said pusher advances, said member having a portion engaged by said printer head for actuating said member during the advancing stroke of said printer head to thereby cause said member to engage the tag lying over said opening to depress the edge portion of the same below the surface of said table into position for engagement by said pusher.

3. Apparatus for printing strips of partially severed tags, comprising, in combination, a table, said table having an opening therein, a recipro-

cating pusher mounted in said opening, said pusher having its upper surface substantially flush with the surface of said table and having a leading edge adapted to engage said tags to feed the same intermittently, a printer head, and means actuated by said printer head for engaging the tag lying over said opening to depress the edge portion of the tag below the surface of said table into position for engagement by said pusher.

4. Apparatus for printing strips of partially severed tags, comprising, in combination, a table, said table having an opening therein, means for feeding said strips intermittently along said table, a member pivotally mounted above said opening, a printer head, means for operating said printer head in timed relation with said feeding means, said member being engaged by said printer head to depress the edge portion of a tag into said opening into position for engagement by said feeding means.

5. Apparatus for printing strips of partially severed tags, comprising, in combination, a table, said table having an opening therein, means for feeding said strips intermittently along said table, a printer head, and means operated by said printer head for engaging the edge portion of a tag above said opening to depress the same into position for engagement by said feeding means.

6. Apparatus for printing strips of partially severed tags, comprising, in combination, a table, means for feeding said strips intermittently along said table, a printer head, means for operating said printer head in timed relation with said feeding means, and means operated by said printer head for deflecting the edge portion of one tag out of the plane of the strip and into position for engagement by said feeding means.

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