Aug. 29, 1944. J. WEIMONT 2,357,277

MARKING MACHINE

Filed March 21, 1940 3 Sheets-Sheet 1

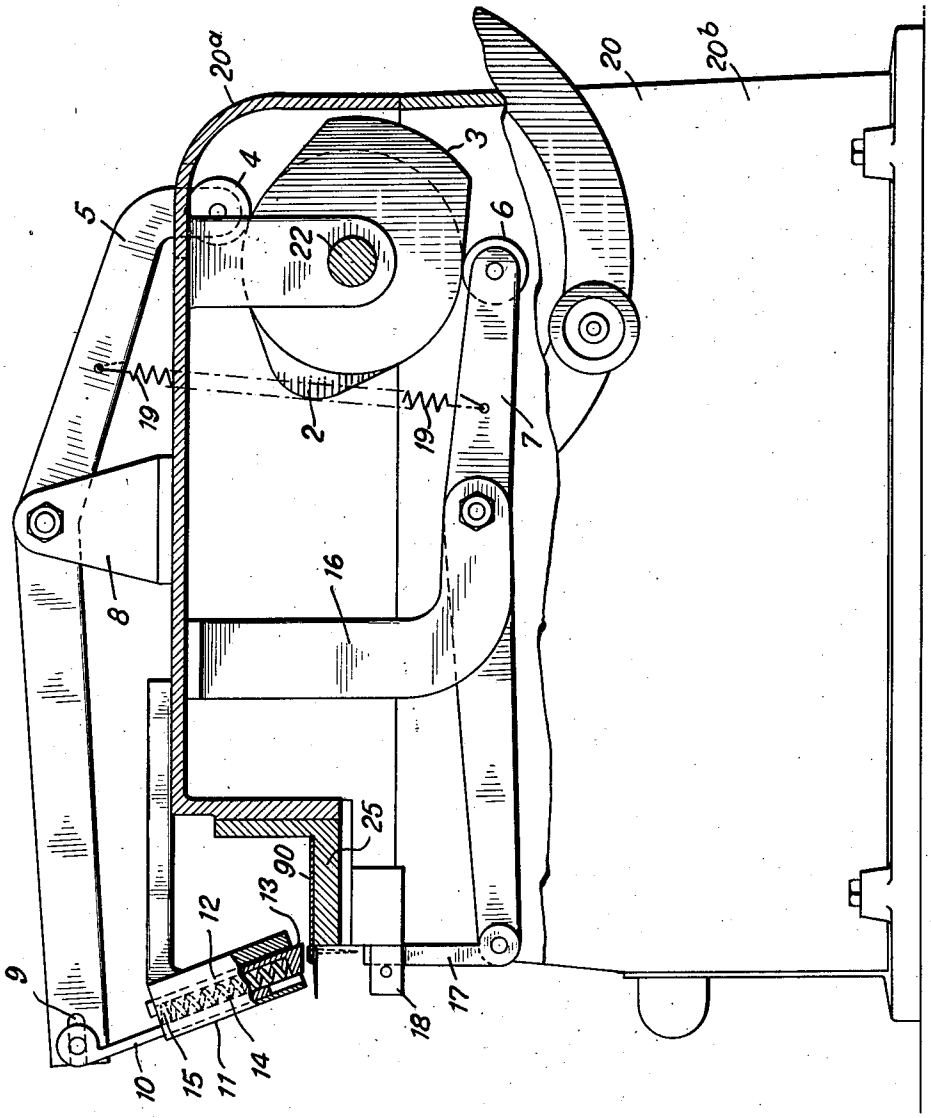


Fig. 1.

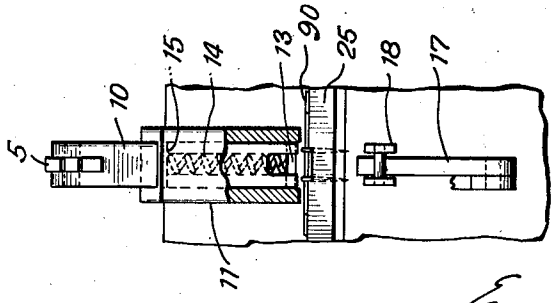


Fig. 3.

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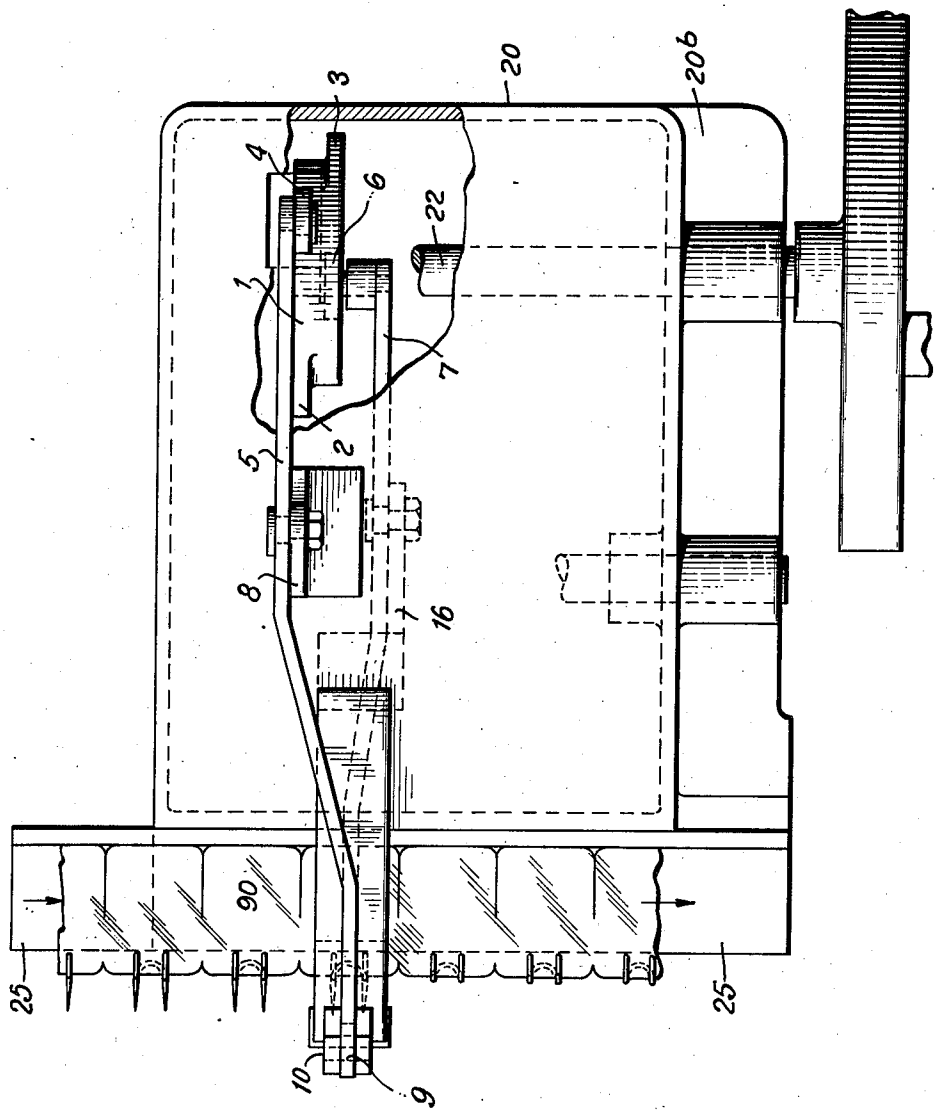


Fig. 2.

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MARKING MACHINE

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Fig. 4.

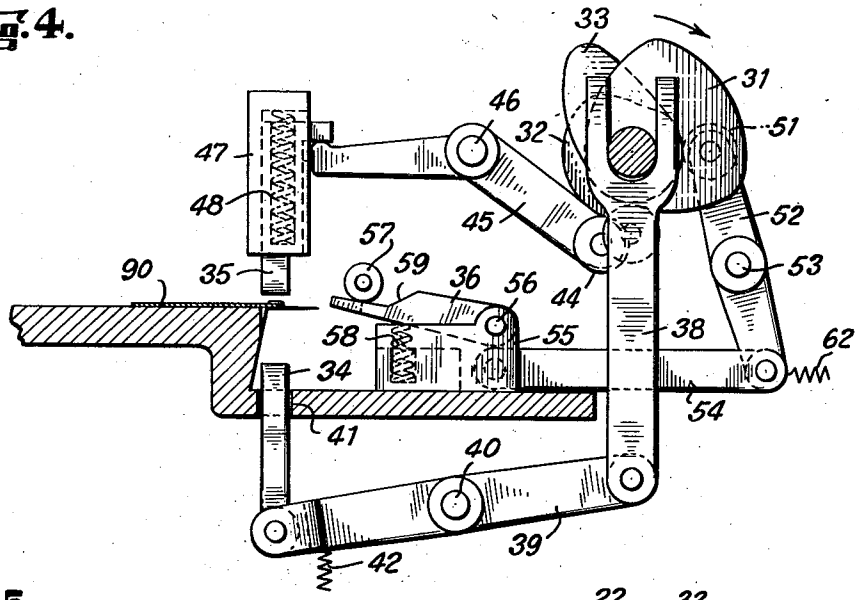


Fig. 5.

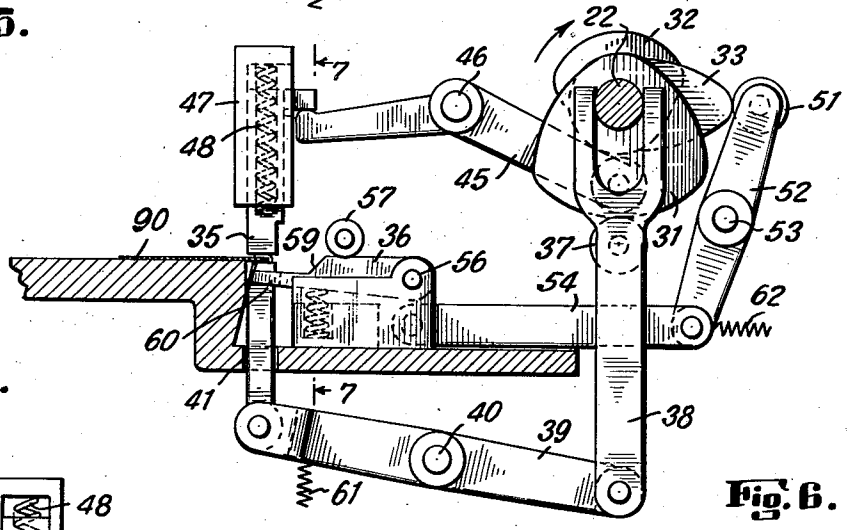


Fig. 7.

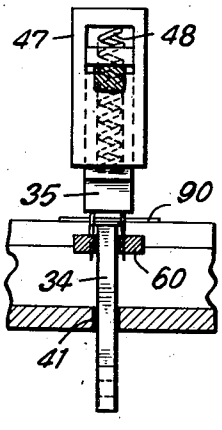
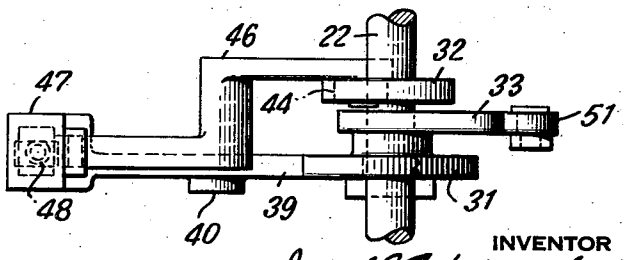


Fig. 6.



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UNITED STATES PATENT OFFICE

2,357,277

MARKING MACHINE

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Application March 21, 1940, Serial No. 325,134

5 Claims. (Cl. 153—25)

This invention relates to marking machines, i. e. machines for printing price or other indicia on price tags, pin tickets and the like.

In the manufacture of pin tickets it is customary to make the tickets in strip form, for convenience in handling, and the pins or prongs which are used to attach the individual tickets to merchandise customarily extend in a direction perpendicular to the plane of the ticket. See, for example, Laencher Patent No. 1,855,765. This arrangement of the prongs makes it very difficult to wind strips of tickets of indeterminate length into roll form, and consequently flat strips of determinate length, as for example, strips comprising one dozen tickets, are commonly sold to the trade.

According to the present invention, I propose to provide strips of tickets in which the pins or prongs extend in a direction parallel to the plane of the tickets, so that said strips may be readily wound into roll form, and it is an object of the present invention to provide a mechanism, adapted to be embodied in marking machines, for bending said prongs into a position perpendicular to the plane of the tickets. The said mechanism operates on individual tickets successively as they are fed through the machine, so that when said tickets are discharged from the machine, the prongs are in proper position for convenient attachment to merchandise.

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 side elevation, partly broken away, of a marking machine embodying the invention.

Figure 2 is a top plan view with parts broken away.

Figure 3 is a front elevation, partly broken away, of the pin bending mechanism.

Figure 4 is a vertical sectional view of a modified form of the invention.

Figure 5 is a similar view showing the parts in another position.

Figure 6 is a fragmentary top plan view of the main shaft, and

Figure 7 is a section on the line 7—7 of Figure 5.

Referring to the drawings, the invention is illustrated as embodied in a marking machine of the type disclosed in Laencher Patent No. 1,837,450. Such machines comprise a box-like frame 20 consisting of upper and lower portions 20*a* and 20*b*, and a main drive shaft 22 rotatably mounted on said frame.

According to the present invention a cam disk 1 is mounted on the shaft 22, said disk being provided with two cam faces 2 and 3. Cam face 2 cooperates with roller 4 secured to rocker arm 5 to oscillate said arm as hereinafter described, and cam face 3 cooperates with roller 6 secured to rocker arm 7 to oscillate said arm as hereinafter described.

Rocker arm 5 is pivoted on bracket 8 mounted on the frame member 20*a*, and the forward end of said arm is provided with a slot 9 which carries the bending member 10. This member is mounted to slide in the fixed guide 11 which is mounted on the frame member 20*a*. A second member 12 terminating in a presser foot 13 is also mounted to slide in guide 11. Member 12 is actuated by member 10 through a yielding connection comprising spring 14, one end of which engages the foot 13 and the other end of which engages the lug 15 on the member 10.

Rocker arm 7 is pivoted on bracket 16, and pivotally mounted on the end of the rocker arm is an anvil 17 which slides in the guide 18. The arms 5 and 7 are held in operative engagement with the cam faces by means of spring 19 connected to the two arms, although independent springs may be used if desired.

In the operation of the machine, the ticket strip 90 is fed along the table 25 by suitable mechanism such as described in Patent No. 1,837,450, the shaft 22 being rotated in clockwise direction as shown in Figure 1. While the strip is at rest, between successive strokes of the feed mechanism, the cam face 3 advances to oscillate arm 7 to lift the anvil 17 to a position beneath but in contact with the protruding edge of the ticket so as to support the same while the prongs are being bent. The dwell in the cam face 6 holds the anvil in this position during the bending operation hereinafter described. Soon after the anvil has reached its supporting position, the cam face 2 oscillates the arm 5. The initial movement of arm 5 brings the presser foot 13 into contact with the upper face of the ticket and as movement of the arm continues, pressure of the spring 14 is exerted on the presser foot, thus clamping the edge of the ticket firmly against the anvil. Movement of arm 5 also brings the lower end of the bending member 10 into contact with the prongs, and continued movement causes the prongs to be bent from the full line position to the dotted line positon as shown in Figure 1.

Subsequently the bending member and presser foot are first retracted, the anvil is then re-

tracted, and the parts are in position to permit the next successive feed movement of the strip.

In the modified form of the invention illustrated in Figures 4 to 7, the anvil, presser foot and bending member are each operated independently by separate cam faces. Thus, three cams 31, 32 and 33 are mounted on shaft 22, cam 31 operating the anvil 34, cam 32 operating the presser foot 35, and cam 33 operating the bending member 36.

The anvil 34 is operated by roller 37 mounted on link 38. Link 38 is connected to lever 39 pivoted at 40. The anvil is connected to the end of lever 39 and is guided by aperture 41 in the frame. The roller is held in engagement with the cam by spring 42.

The presser foot 35 is operated by roller 44 mounted on lever 45 pivoted at 46. The presser foot is slidably mounted in a fixed guide member 47 and is normally urged downwardly by spring 48 to engage the projecting edge of the ticket strip 90. The presser foot is provided with a lug 49 which engages the end of lever 45, and the spring 48 holds the roller 44 in engagement with the cam.

The bending member or finger 36 is operated by roller 51 mounted on lever 52 pivoted at 53. The lower end of the lever is connected to link 54, which in turn is connected to a block 55 mounted to slide on the frame. The bending member is pivoted to block 55 at 56 and is urged upwardly against fixed roller 57 by spring 58. The upper edge of the bending member is provided with a cam face 59 for purposes hereinafter described.

In operation, the shaft 22 is rotated as before to operate the strip feeding mechanism. Between successive strokes of the feeding mechanism the cam 31 advances from the position shown in Figure 4 to the position shown in Figure 5, thus depressing the link 38 to cause the anvil 41 to engage the under side of the ticket. The dwell in the cam holds the anvil in this position during the bending operation.

At the same time, cam 32 advances from the position shown in Figure 4 to the position shown in Figure 5, thus permitting the spring 48 to move the presser foot 35 against the upper face of the ticket, thus clamping the edge of the ticket against the anvil 34. While so held, cam 33 advances to rock the lever 52, which, through link 54, advances block 55. The initial advancing movement of the block brings the end of the bending member 36 to a position above the prongs of the ticket, and continued movement causes the cam face 59 to engage the roller 57, thus swinging the bending member downwardly during the final advancing movement so as to bend the prongs to the position shown in Figure 5. The end of the bending member may be bifurcated as shown at 60 in order to permit the member to straddle the anvil 34.

Further rotation of the shaft 22 returns the parts to the position shown in Figure 4. The roller 37 may be held against the cam 31 by spring 61 and roller 51 may be held against cam 33 by spring 62.

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. In a marking machine for feeding and printing a strip of pin tickets having pins secured to the tickets near one edge of the strip and projecting outwardly beyond said edge substantially parallel to the plane of the ticket, in combination, means to clamp and hold the pin bearing edge of a ticket against bending, and means moving through the plane of the ticket and engaging said pins outside the area of the ticket at a point removed from the ends of said pins to bend said pins at a point inside the area of the ticket from a position substantially parallel to the plane of the ticket to a position substantially perpendicular to the plane of the ticket.

2. In a marking machine for feeding and printing a strip of pin tickets having pins secured to the tickets near one edge of the strip and projecting outwardly beyond said edge substantially parallel to the plane of the ticket, means to engage and support the pin bearing edge of a ticket from beneath in order to prevent bending of said ticket, and means moving through the plane of the ticket and engaging said pins outside the area of the ticket at a point removed from the ends of said pins to bend said pins at a point inside the area of the ticket from a position substantially parallel to the plane of the ticket to a position substantially perpendicular to the plane of the ticket.

3. In a marking machine for feeding and printing a strip of pin tickets having pins secured to the tickets near one edge of the strip and projecting outwardly beyond said edge substantially parallel to the plane of the ticket, means to engage and support the pin bearing edge of a ticket from beneath in order to prevent bending of said ticket, means to engage said pin bearing edge from above and to hold the same against said supporting means, and means moving through the plane of the ticket and engaging said pins outside the area of the ticket at a point removed from the ends of said pins to bend said pins at a point inside the area of the ticket from a position substantially parallel to the plane of the ticket to a position substantially perpendicular to the plane of the ticket.

4. In a marking machine for feeding and printing a strip of pin tickets having pins secured to the tickets near one edge of the strip and projecting outwardly beyond said edge substantially parallel to the plane of the ticket, positively operated means to engage and support the pin bearing edge of a ticket from beneath in order to prevent bending of said tickets, yielding means to engage said pin bearing edge from above and to hold the same against said supporting means, and means moving through the plane of the ticket and engaging said pins outside the area of the ticket at a point removed from the ends of said pins to bend said pins at a point inside the area of the ticket from a position substantially parallel to the plane of the ticket to a position substantially perpendicular to the plane of the ticket.

5. In a marking machine for feeding and printing pin tickets, means to engage and support the pin bearing edge of a ticket from beneath, means to engage said pin bearing edge from above and to hold the same against said supporting means, means to bend said pins from a position substantially parallel to the plane of the ticket to a position substantially perpendicular to the plane of the ticket, and a yielding operating connection between said bending means and said upper holding means whereby the former actuates the latter.

JOSEPH WEIMONT.