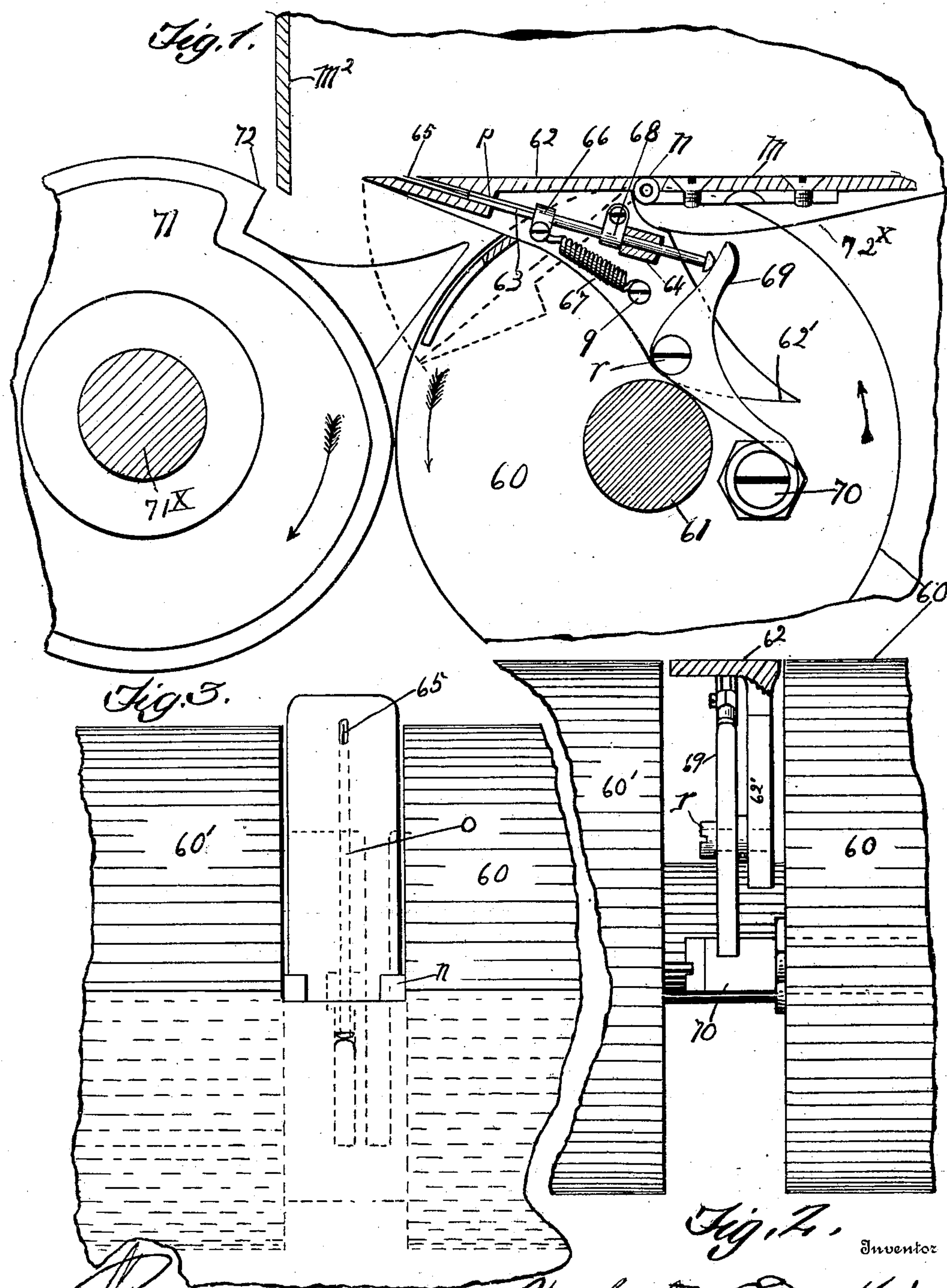


No. 886,277.

PATENTED APR. 28, 1908.

W. A. TOMPKINS.
FEEDING-OFF MECHANISM.
APPLICATION FILED DEC. 18, 1906.



UNITED STATES PATENT OFFICE.

WEBSTER A. TOMPKINS, OF PORTLAND, OREGON.

FEEDING-OFF MECHANISM.

No. 886,277.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed December 18, 1906. Serial No. 348,491.

To all whom it may concern:

Be it known that I, WEBSTER A. TOMPKINS, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a certain new and useful Improvement in Feeding-Off Mechanism.

My invention relates to new and useful improvements in means for feeding envelops, wrapped articles, etc., from a box to be stamped and consists in various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings; in which:—

Figure 1 is a sectional view showing in elevation parts of the invention. Fig. 2 is a side elevation, parts being shown in section, and Fig. 3 is a detail view in elevation of the rollers and means for feeding the papers forward.

Reference now being had to the details of the drawings by letter, *m* designates the bottom of the box having a front wall *m*². The bottom of the box *m* is cut away at a point where the articles are to be fed therethrough. Said rollers are mounted upon the shaft 61 with a space intervening between the same, as shown in Figs. 2 and 3 of the drawings.

62 designates a deflector which is hinged at *n* to the bottom of the feed box *m* and an edge of a projection of said deflector has a cam surface 62'.

Mounted upon the body of the deflector 62 is a needle bar 63 which moves longitudinally through the bearing box 64. The free swinging edge of said deflector has, it will be noted, a diagonally disposed aperture *p* through which a portion of the bar 63 extends.

65 designates a needle held in a split end of said bar, and 66 designates a clamp designed to frictionally hold the needle 65 within the aperture of the bar 63. Said clamp 66 has attached thereto a spring 67, which latter is also fastened to a screw 9, and 68 designates a clamp upon the deflector, the purpose of which is to limit the return movement of the bar.

Pivotally mounted upon the pin *r* upon a wing of the deflector is a thrust pawl 69 designed to engage the head of a needle bar

and to impart a longitudinal movement thereto, as said pawl is tilted. Fixed to the end of the feed roll 60 is a stud 70 which is designed at each rotary movement of the roll upon which it is mounted to engage the pawl 69 and tilt the same and also to contact with the cam surface 62' of the deflector.

Mounted upon a shaft 71^x is a feeding off roll 71 having a lipped recess 72 in the circumference thereof, into which the article fed from the box or receptacle enters as the rollers travel in the direction indicated by the arrows.

In operation, the articles to be fed out are placed in the feed box lying flat upon the bottom with their inner edges overlapping the feed roll 60 and laid against the front end of the box *m*² and directly in contact with the upper surface of the deflector 62. As the roll 60 rotates in the direction shown by the arrows, the stud 70 first engages the thrust pawl 69, driving the needle bar 63 with its needle point 65 forward. The needle point perforates and engages the underlying articles in the box or receptacle to be flexed into engagement with the feed rolls. As the stud 70 is still carried further forward by the rotation of the roll upon which it is mounted, it will engage the cam surface 62' of the deflector 62, causing the deflector to tilt upon its pivot or hinge *n*. This movement depresses the point of the deflector carrying the article into which the needle point was thrust down with it, thereby flexing the article into contact or engagement with the lipped recess 72 of the feeding off roll 71, by which it is carried into the bite of the rolls 60 and 71. These rolls draw the article being fed off out of the bottom of the feed box and from which they may be carried to conveyer rolls or to any other location. As the article being fed off is carried down by the roll 71, the deflector 62 is depressed to a position within the periphery of the roll 60, where it remains until the article has passed, after which it is returned to its former position by the spring 72^x. It will thus be observed that, when the stud 70 has passed the fulcrum of the thrust pawl 69, the needle bar and the thrust pawl will be returned to their normal positions by the spring 67.

My improved feeding off mechanism is designed to be worked intermittently by any suitable mechanism and driven by means of

a motor or other suitable power and the shafts 61 and 71^x are adapted to be geared together in order that the stud 70 may maintain a consistent relative position to the gripping edge of the feeding off roll 71.

What I claim to be new is:—

1. A feeding off mechanism for articles, comprising a receptacle having an opening in the bottom thereof, a hinged deflector mounted in the bottom of the receptacle, a movable needle point carried by the deflector, a roller, means carried thereby for tilting said deflector and operating the needle point, and a feeding off roll having a lipped recess upon its circumference coöperating with the deflector to receive an article to be fed between said rollers, as set forth.

2. A feeding off mechanism for articles, comprising a receptacle having an opening in the bottom thereof, a hinged deflector mounted in the bottom of the receptacle, means for operating said deflector a movable needle point carried by the deflector, a roller, a stud mounted upon said roller, a thrust pawl pivotally mounted upon a wing of said deflector and in the path of said stud, said needle point being actuated by said pawl, and a feeding off roll having a lipped recess in the circumference thereof and positioned adjacent to said stud carrying roller, as set forth.

3. A feeding off mechanism for articles, comprising a receptacle having an opening in the bottom thereof, a hinged deflector mounted in the bottom of the receptacle, means for operating said deflector, a needle carrying bar mounted upon said deflector, a needle carried by said bar, a spring fastened at one end to said bar and its other end to the deflector, a thrust pawl pivotally mounted upon the latter, a roller, a stud mounted thereon and positioned in the path of said pawl, and a feeding off roll having a lipped recess in the circumference and positioned

adjacent to the stud carrying roll, as set forth.

4. A feeding off mechanism for articles, comprising a receptacle having an opening in the bottom thereof, a hinged deflector mounted in the bottom of the receptacle, a needle carrying bar mounted upon said deflector, a needle carried by said bar, a spring fastened at one end to said bar and its other end to the deflector, a thrust pawl pivotally mounted upon the latter, a roller, a stud mounted thereon and positioned in the path of said pawl, a wing of said deflector having a cam edge also in the path of said stud, and a feeding off roll having a lipped recess in its circumference and positioned adjacent to the stud carrying roll, as set forth.

5. A feeding off apparatus comprising a receptacle having an opening in the bottom thereof, a deflector hinged to the bottom of said receptacle, means for operating said deflector a bearing box mounted upon a wing of said deflector, a rod passing through said bearing box, one end of said rod being split, a needle point mounted in said split end and extending through a diagonally disposed opening in the deflector, a clamping member fixed to the split portion of the rod, a spring connecting said clamping member and wing of the deflector, a pivotal thrust pawl mounted upon the wing of the deflector, a roller, a stud mounted thereon and positioned in the path of said pawl, and a feeding off roll with a lipped recess in the circumference thereof mounted adjacent to said stud carrying pawl, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. A. TOMPKINS.

Witnesses:

HERMAN GOODWIN,
ROY E. HARRIS.