April 28, 1931. E. L. BOUTON 1,803,052

MAGAZINE FOR STACKED ARTICLES

Filed Feb. 27, 1929

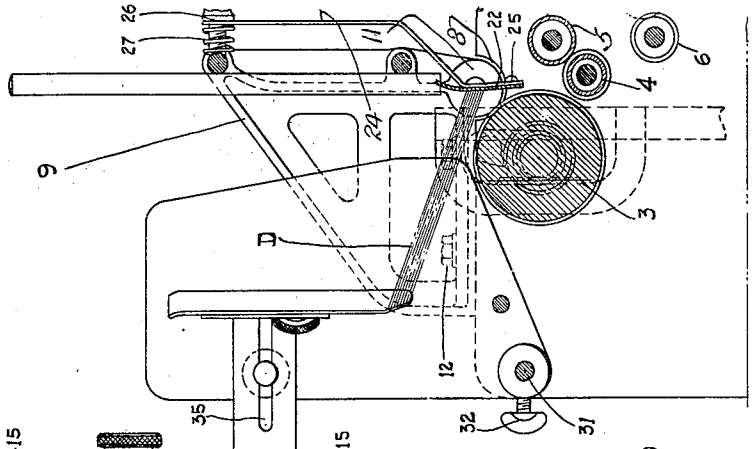


Fig. 2.

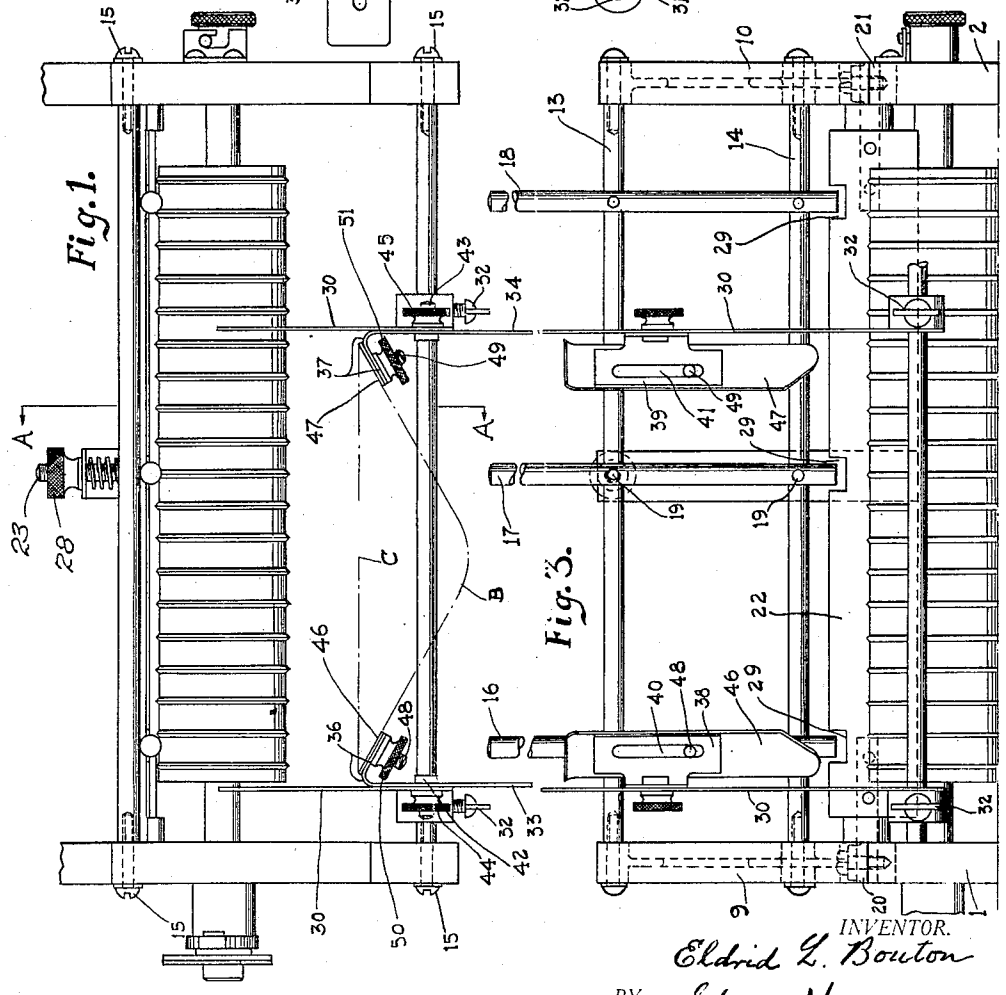


Fig. 1.

Fig. 3.

INVENTOR.
Eldred L. Bouton
BY
ATTORNEY.

Patented Apr. 28, 1931 1,803,052

UNITED STATES PATENT OFFICE

ELDRID L. BOUTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO CHARLES F. BOCHMANN, OF PHILADELPHIA, PENNSYLVANIA

MAGAZINE FOR STACKED ARTICLES

Original application filed November 16, 1928, Serial No. 319,986. Divided and this application filed February 27, 1929. Serial No. 342,982.

This invention relates to a magazine for stacked articles and more particularly to a magazine construction which is adapted to receive envelopes or enclosures and support the same in stacked relation so that they can be fed therefrom one at a time.

This invention is designed particularly for use in connection with envelope opening and feeding machines such as illustrated in my applications, Serial Numbers 319,986 and 332,943, filed November 16, 1928 and January 16, 1929, respectively, this application being a division of application Serial No. 319,986, filed November 16, 1928. While the invention will be described as being used in connection with such machines, it is to be understood, of course, that I intend to include its use in any of the arts to which it can be accommodated.

An object of the present invention is to provide a magazine construction which is capable of adjustment so as to accommodate the same to any size or thickness of material within the limits of the magazine construction itself, and which is of such universal adjustability that it can be readily and quickly adapted for the various materials being operated upon.

A further object of the present invention is to provide a magazine construction composed of parts which may be cheaply constructed so as to materially reduce the cost of such machines, and yet which is efficient and practical in operation.

An additional object is to provide a magazine construction which is provided with an adjustable guide plate which may be so set as to insure proper feeding of the stacked articles one at a time from the magazine.

A still further object is to provide a guide plate for magazine constructions which yieldingly engages the edges of the material to be treated and thereby yieldably supports the stacked articles within the magazine and permits the articles to be fed from the magazine without mutilation.

Other advantages and objects will be clearly apparent from the following description, it being understood that I may resort to such changes in minor details of construction as fall within the spirit or scope of my invention, as outlined in the attached claims.

Referring to the accompanying drawings forming part hereof and in which a preferred embodiment of my invention is illustrated, Fig. 1 is a plan view of my invention.

Fig. 2 is a vertical sectional view taken along the line A—A of Fig. 1.

Fig. 3 is a rear view of Fig. 1.

Referring more particularly to the drawing, the invention is illustrated as being used in connection with a machine such as shown in my applications, Serial Nos. 319,986 and 332,943, filed November 16, 1928 and January 16, 1929, respectively, in which the machine is illustrated as comprising spaced side walls which are here numbered 1 and 2, between which is journalled the feed roll 3 which delivers the article being operated upon to the transfer rolls 4 and 5, and thence to the roll 6 by means of which the material is fed against the face of the deflecting plate 7, all of which is illustrated in said application and which therefore requires no further illustration or description.

The side walls 1 and 2 are provided at their upper edges with recesses illustrated at 8 on one side of the machine, it being understood that the opposite side of the machine is of the same construction, and on the top edge of the side walls 1 and 2 I secure triangularly shaped brackets 9 and 10 which are provided at their front lower edges with bearings 11 which project into the recesses 8 in the top edges of the frames. The brackets 9 and 10 are secured to the top edge of the frames 1 and 2 by means of bolts 12 or other suitable fastening means, and while I have here indicated that the brackets 9 and 10 are of cast metal construction, it should be clearly understood that these parts may be formed of stamped sheet metal or other suitable material. The brackets 9 and 10 at the front of the magazine carry spaced longitudinally extending rods 13 and 14 which are secured to the brackets 9 and 10 by means of screws 15 or other suitable fastening means, and at spaced intervals along the horizontal rods 13 and 14 I provide vertical rods 16, 17 and 18, suitably secured to the rods 13 and 14, as indi-

cated at 19. The rods 16, 17 and 18 may be secured to the rods 13 and 14 by spot welding, rivets, screws, or other suitable fastening elements, and they form in reality a reticulated frame which comprises the front wall of the magazine construction.

The vertical rods 16, 17 and 18 are of such a length that the lower ends terminate at a point slightly above the upper edges of the side frames 1 and 2, and the feed roll 3 is so located that its periphery extends slightly above the edges of the frames 1 and 2, thereby leaving a space between the lower ends of the vertical rods 16, 17 and 18, and the feed roll 3.

The bearings 11 on the brackets 9 and 10 are located in this space between the vertical rods, and the feed roll 3, and in the bearings 11 are journaled trunnions 20 and 21 which extend from opposite ends of the guide blade 22, so that the guide blade 22 is rotatably supported between the vertical rods and the feed roll 3, and in reality forms an extension of the front wall of the magazine construction. In order to adjust the guide blade 22 to accommodate materials of varying thicknesses, I provide a screw threaded stud 23 on the horizontally extending rod 13 intermediate the ends thereof and on the guide blade 22 I secure a vertically extending arm 24 by means of rivets 25 or other suitable fastening means, and the arm 24 is provided at its upper end with an opening 26 which is adapted to pass over the screw-threaded stud 23 projecting from the rod 13.

Encircling the screw-threaded stud 23 is a spring 27 having an end thereof bearing against the horizontal rod 13 and the opposite end bearing against the arm 24, and on the opposite side of the arm 24 I provide a thumb nut 28 threaded on the stud 23 and bearing against the arm 24. From the foregoing it will be seen that the spring 27 normally urges the arm 24 away from the brackets 9 and 10, and that by adjusting the thumb 28, the guide blade 22 can be rotated so as to vary the space between the blade 22 and the roll 3.

In order to insure proper feeding of the material from the magazine and to prevent any possibility of the articles becoming engaged between the blade 22 and the vertical rods 16, 17 and 18, I provide the blade with spaced notches 29 located immediately below the ends of the rods 16, 17 and 18, so that the upper edge 30 of the blade 22 is above the lower end of the vertical rods 16, 17 and 18, thereby rendering it impossible for an envelope or enclosure to become engaged between the blade and the vertical rods, and insuring proper feeding of the envelopes from the magazine.

It is further to be noted from the foregoing that the blade 22 yieldingly contacts with the stacked articles in the magazine, so that the same are supported therein without any mutilation.

It is further to be seen that by changing the angularity of the blade 22 various thicknesses of material may be fed between the blade and feed roll.

The side walls of the construction are formed by providing spaced plates 30 slidably supported on the cross rod 31 which extends between the frames 1 and 2, and these plates can be adjusted longitudinally by means of the set screw 32 so that the width between the plates 30 may be varied to accommodate the side walls of the magazine construction to materials of varying thicknesses.

From an inspection of Fig. 2, is will be seen that the lower edge of the plates 30 is inclined upwardly toward the front of the machine, the purpose of which is to permit mounting of the feed roll 3 so that its periphery is in substantially the same plane as the top edge of the frames 1 and 2.

Carried on each adjustable plate 30 are brackets 33 and 34 which consist of flat sheet metal strips which are provided with elongated openings or slots 35 and terminate at their forward ends in rearwardly bent extensions 36 and 37, which terminate in vertically extending heads 38 and 39 which are likewise provided with elongated slots 40 and 41.

From an inspection of Fig. 1 it will be seen that the extensions 36 and 37 are bent so as to incline rearwardly with reference to the side plates 30 and are of such angularity with reference to the side plates 30 that they will abut and support the edge of an envelope in a flattened condition, as indicated by the dotted line B, or they may receive the edge of an envelope when in its closed condition, as indicated by the dotted line C.

In order to adjust the brackets 33 and 34 on the side plates 30, I provide headed screws 42 and 43 which are adapted to receive thumb nuts 44 and 45, so that the brackets 33 and 34 can be clamped between the thumb nuts and the bolt head, as clearly indicated in Fig. 1. These bolts are passed through the elongated slot 35 so that upon loosening the thumb nuts 44 and 45, the brackets 33 and 34 may be adjusted to accommodate envelopes of varying sizes.

In order to enable the mechanism to receive stacks of varying heights of material, and to adjust the position in which the envelopes or other material are to be supported in the magazine, I provide the vertically adjustable back plates 46 and 47, which are provided with screw threaded studs 48 and 49, projecting through the elongated slots 40 and 41 in the headed portions 38 and 39 of the brackets 33 and 34, and on the studs 48 and 49 are threaded the thumb nuts 50 and 51.

It will be apparent, therefore, that by

loosening the thumb nuts 50 and 51, the back plates 46 and 47 may be adjusted to any suitable height, after which they can again be locked in place.

From the foregoing description, it is believed to be obvious that the side plates 30 can be adjusted on the rod 31 to accommodate the magazine to envelopes or other material of varying lengths, and that by adjusting the brackets 33 and 34 envelopes or other material of varying width can be accommodated, and finally, by adjusting the back plates 46 and 47, it is possible to accommodate material of varying heights within the magazine. Furthermore, it is seen that by producing such adustability the brackets 33 and 34 and the back plates 46 and 47 can be so adjusted as to vary the angularity of the envelopes in the magazine, such as indicated at D in Fig. 2, thereby insuring proper supporting of the envelopes so that they can be fed by the feed roll 3.

Additionally, it will be seen that I have provided a practical, efficient, and inexpensive construction which is capable of handling materials of practically all sizes and shapes within the limits of the magazine itself.

What is claimed is:

1. A magazine construction for receiving stacked articles open at the bottom for permitting the feeding of the lowermost article of a stack and comprising side brackets, a front wall secured to said brackets, side walls for said magazine, located between the side brackets, and spaced abutments carried by the side walls and engaging a portion of the rear edge of the stacked articles.

2. A magazine construction for receiving stacked articles open at the bottom for permitting the feeding of the lowermost article of a stack and comprising side brackets, a front wall secured to said brackets, side walls for said magazine, located between the side brackets, spaced abutments carried by the side walls and engaging a portion of the rear edge of the stacked articles, and means for longitudinally adjusting said abutment.

3. A magazine construction for receiving stacked articles open at the bottom for permitting the feeding of the lowermost article of a stack and comprising side brackets, a front wall secured to said brackets, side walls for said magazine, located between the side brackets, spaced abutments carried by the side walls and engaging a portion of the rear edge of the stacked articles, and means for vertically adjusting said abutment.

4. A magazine construction for receiving stacked articles open at the bottom for permitting the feeding of the lowermost article of a stack and comprising side brackets, a front wall secured to said brackets, side walls for said magazine, located between the side brackets, spaced abutments carried by the side walls and engaging a portion of the rear edge of the stacked articles, and means for adjusting said abutment both vertically and horizontally.

5. A magazine construction for stacked articles open at the bottom for permitting the feeding of the lowermost article of a stack and comprising side brackets, a front wall secured to said brackets, laterally adjustable side walls for said magazine, located between the brackets, and spaced rearwardly inclined abutments carried by the side walls and mounted thereon for vertical and horizontal adjustment.

6. The combination with an envelope opening and filling machine having side frames and a feed roll, of a magazine construction for receiving stacked articles to be fed into the machine and open at the bottom to permit the feeding of the lowermost article of a stack and, comprising brackets, a front wall for the magazine supported on said brackets, side walls for the magazine adjustably supported by the side frames of the machine and located between the side brackets, and spaced rearwardly inclined adjustable abutments on the side walls for engaging and supporting the rear edges of the stacked articles, the magazine being located above the feed roll, whereby the lowermost article in the magazine is supported by and in engagement with the said feed roll.

7. A magazine construction for receiving stacked articles open at the bottom for permitting the feeding of the lowermost article of a stack and comprising side brackets, a front wall secured to said brackets, side walls for said magazine, located between the said brackets, spaced abutments carried by the side walls and engaging a portion of the rear edge of the stacked articles, and an adjustable guide blade pivotally supported by the side brackets immediately below the front wall of the magazine.

8. A magazine construction for receiving stacked articles comprising side brackets, a front wall secured to said brackets, side walls for said magazine, an abutment on each side wall engaging a portion of the rear edge of the stacked articles, an adjustable guide blade pivotally supported by the side brackets immediately below the front wall of the magazine, an arm on said blade having an opening therein, a stud on the front wall passing through said opening, means for yieldably supporting the guide blade against the front edge of the stacked articles, and means for varying the tension of said yielding means.

9. The combination with an envelope opening and filling machine having side frames and a feed roll, of a magazine construction comprising front and side walls and abutments on the side walls and supporting the rear edges of the stacked articles, an adjustable guide blade pivotally supported be-

tween the lower edge of the front wall and the feed roll, means normally urging the guide blade toward said feed roll, and means for adjusting the guide blade relative to the roll to permit articles of varying thicknesses to be fed one at a time from the magazine by the feed roll.

10. A magazine construction for stacked articles comprising side brackets, a front wall secured to said brackets, side walls for said magazine, an adjustable abutment carried on each side wall comprising an arm having an elongated slot therein and terminating in a re-bent portion having a flaring head thereon provided with an elongated slot therein, and a vertical blade provided with a stud passing through the slot in the flaring head for vertical adjustment therein, and means for locking the said arm and vertical blade in adjusted positions.

In testimony whereof I have hereunto set my hand, this 20th day of February, 1929.

ELDRID L. BOUTON.