

May 30, 1939.

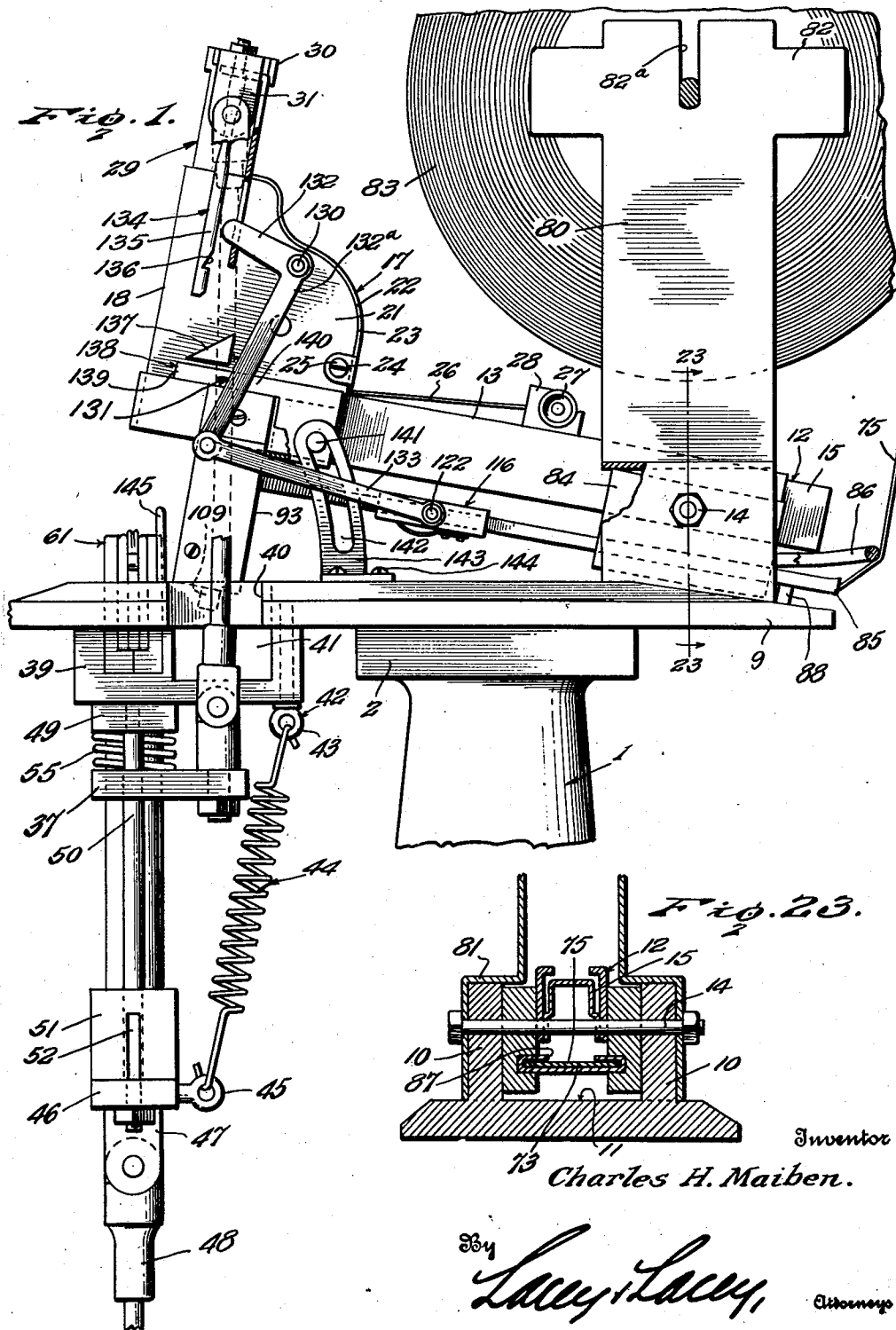
C. H. MAIBEN

2,160,552

TAGGING MACHINE

Filed Feb. 19, 1938

9 Sheets-Sheet 1



May 30, 1939.

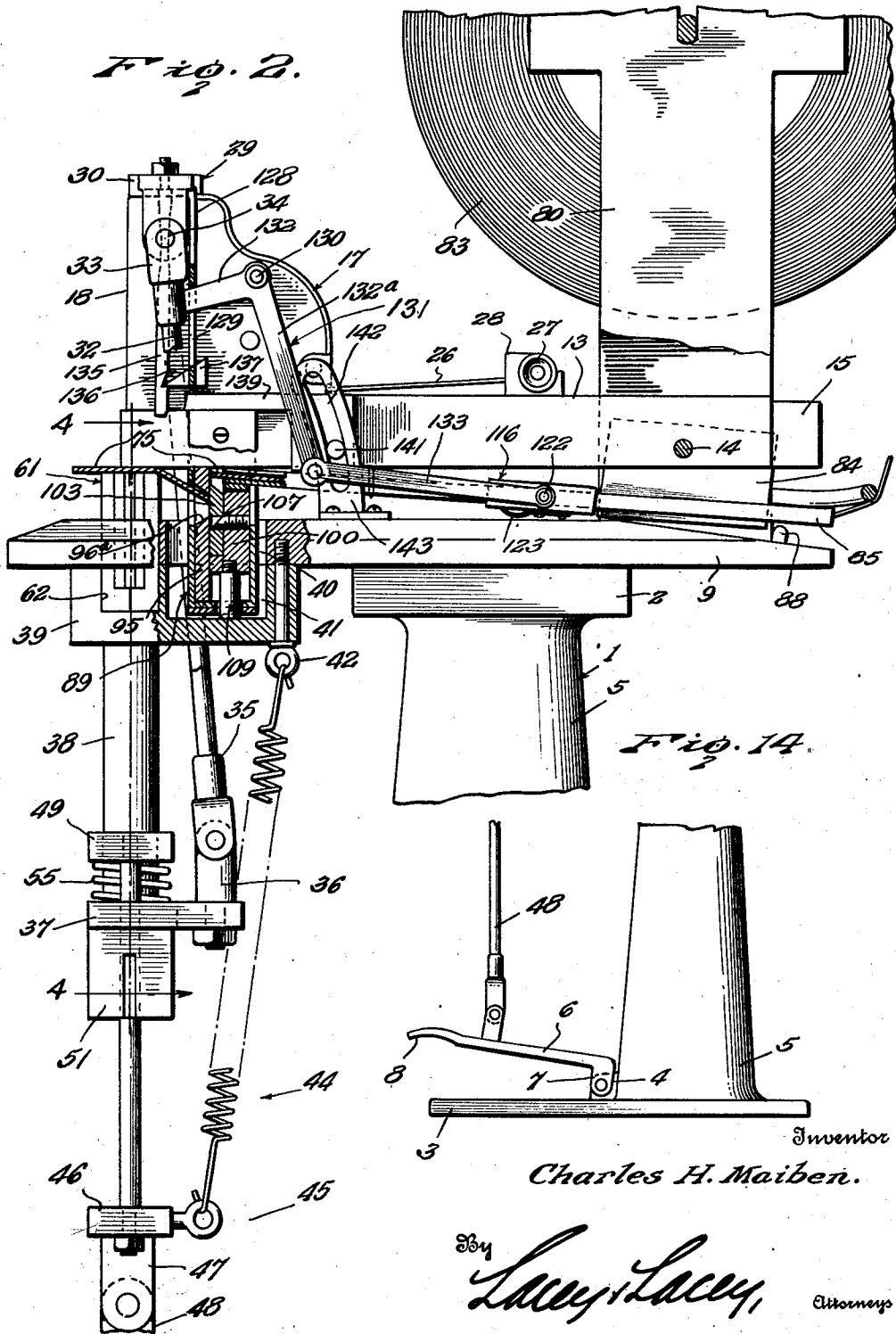
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TAGGING MACHINE

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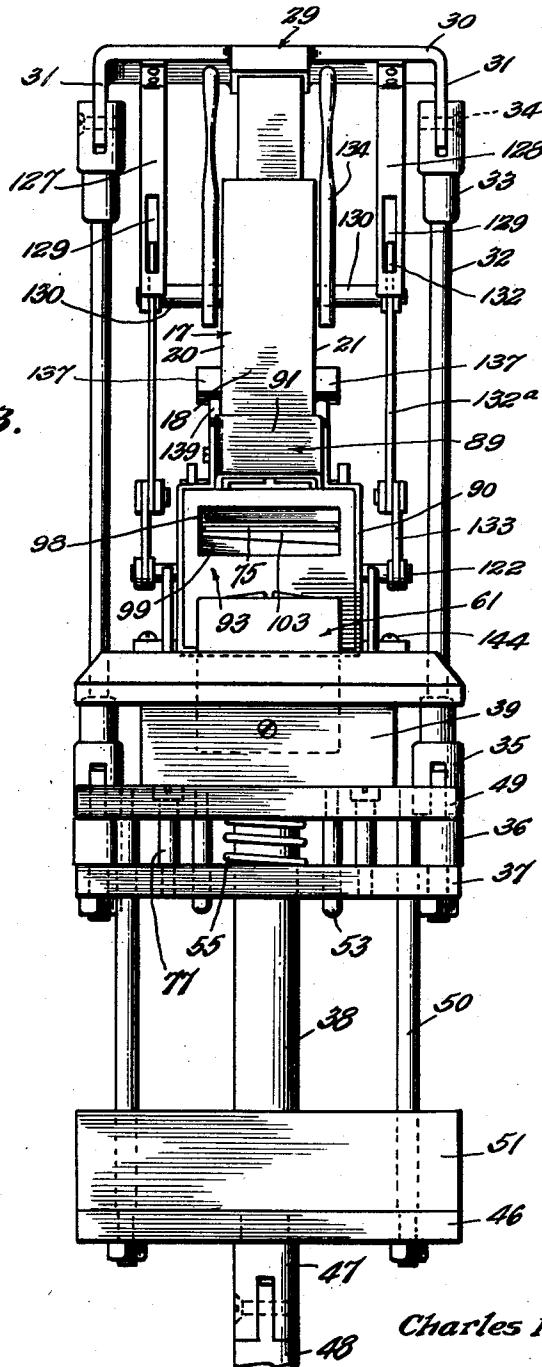
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Fig. 3.



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9 Sheets-Sheet 4

Fig. 4.

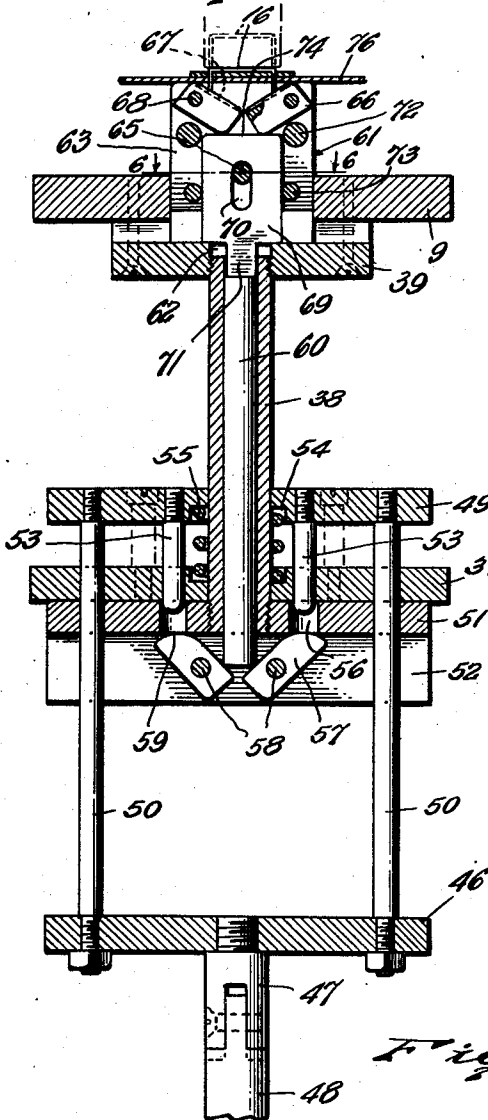


Fig. 5.

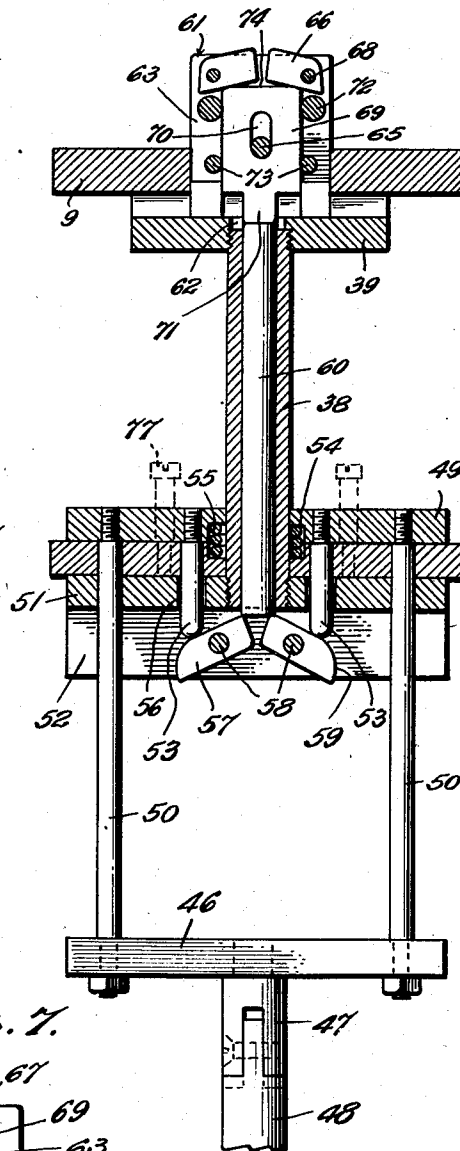


Fig. 7.

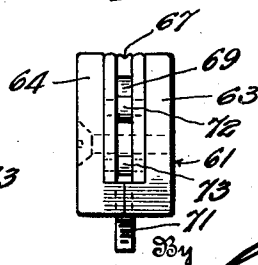
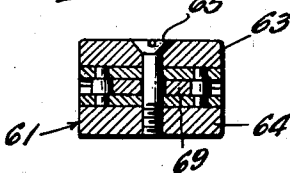


Fig. 6.



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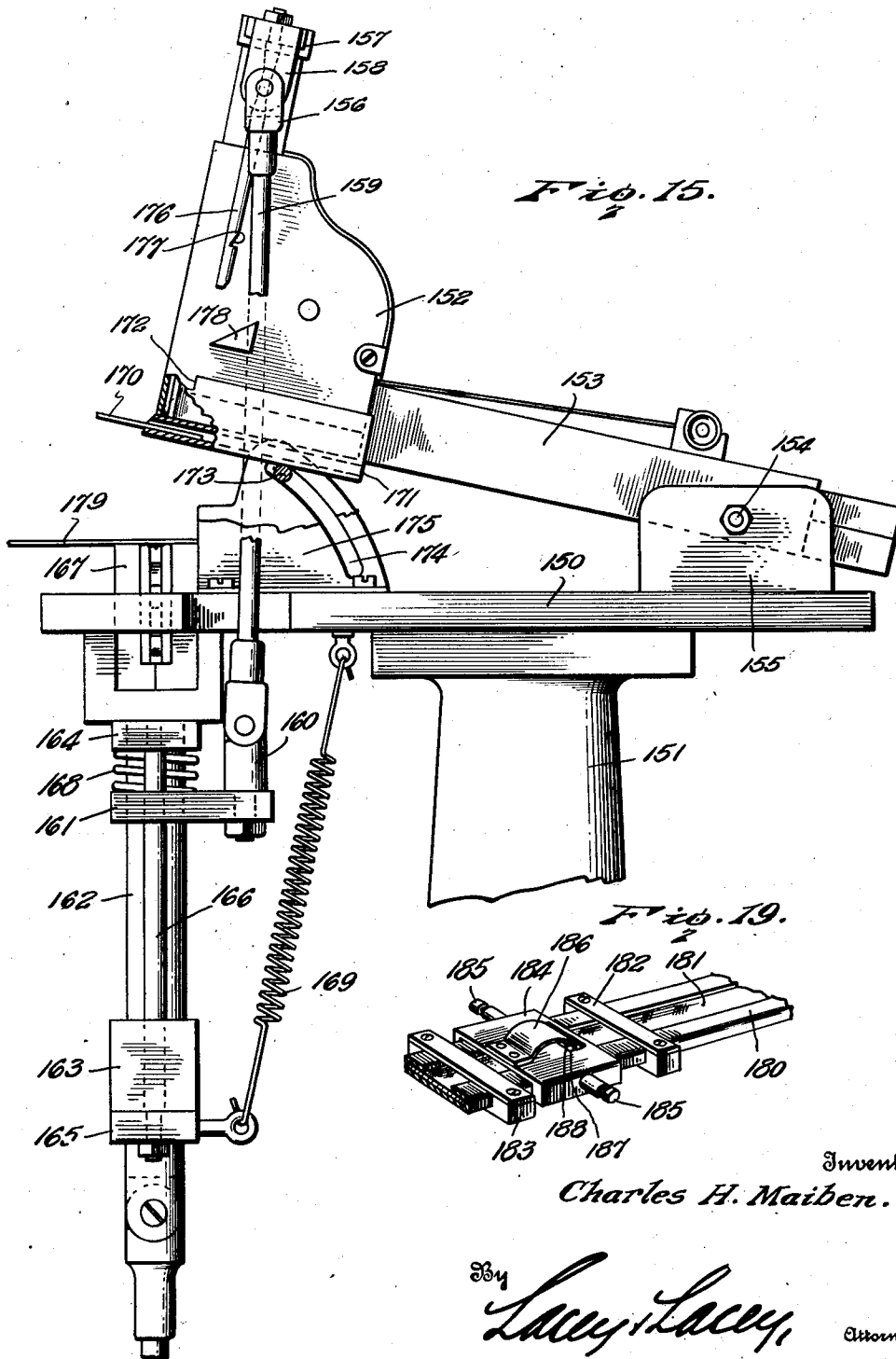
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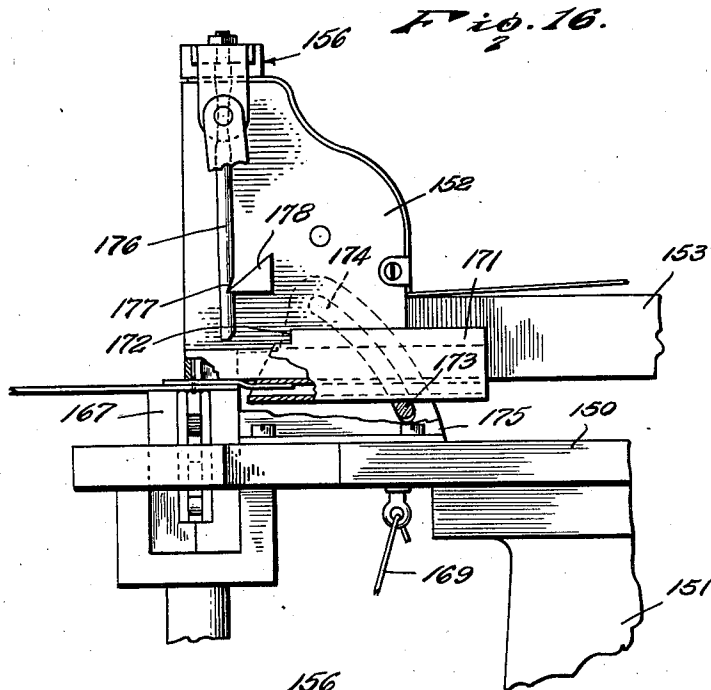


Fig. 17.

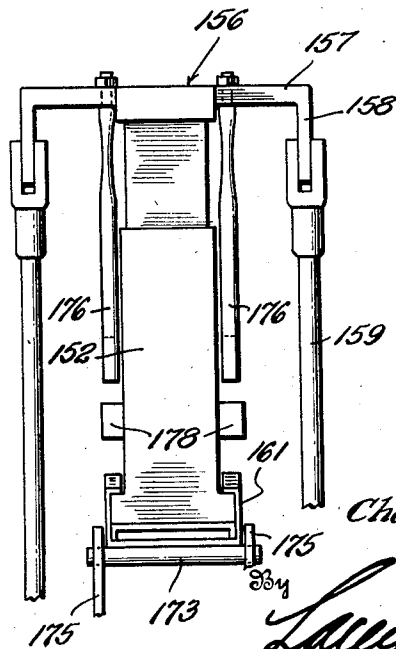
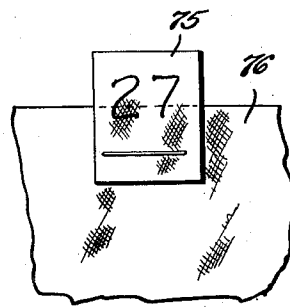


Fig. 18.



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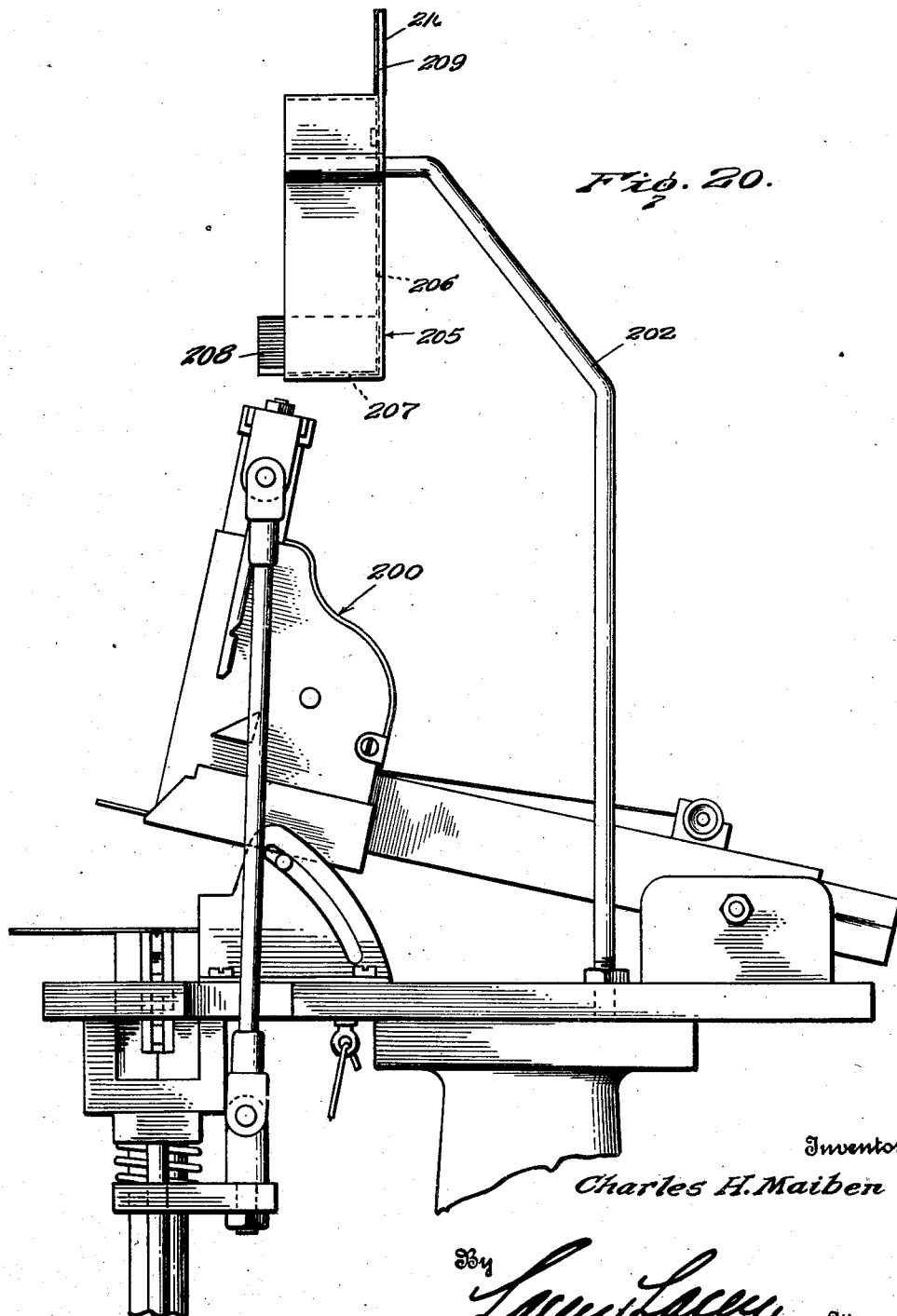
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Fig. 21.

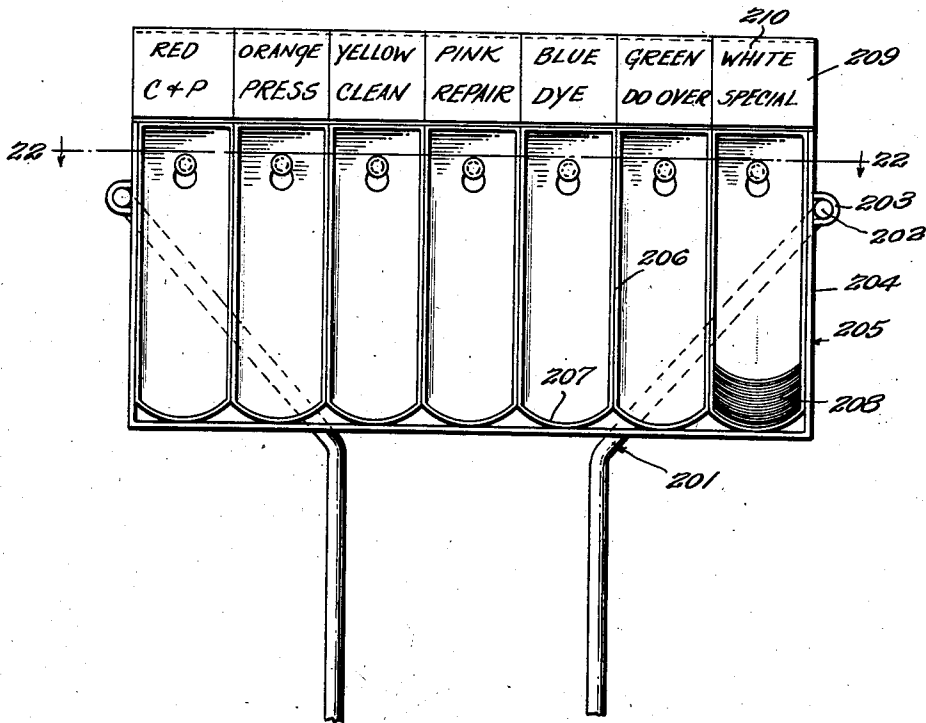
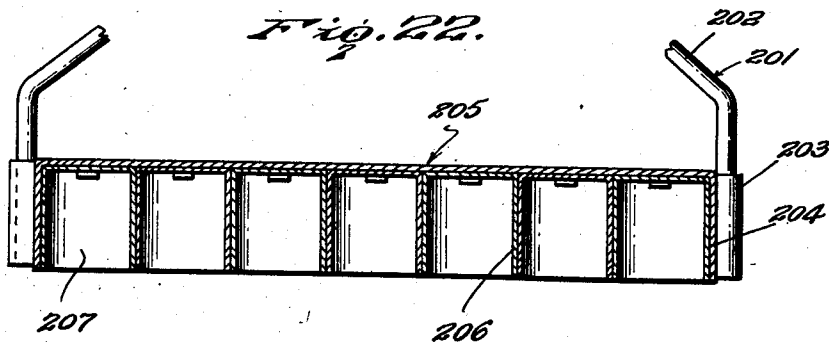


Fig. 22.



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TAGGING MACHINE

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Application February 19, 1938, Serial No. 191,561

14 Claims. (Cl. 93—88)

This invention relates to an improved tagging machine.

In laundries, dry cleaning and other establishments, handling large quantities of clothing and other articles, a constant watch must be kept in order to assure that articles of clothing do not become lost or have improper service performed thereon. As a matter of fact, during each year, thousands of dollars are spent by laundries in replacing lost and damaged articles, which loss or damage was caused by improper identification of articles entrusted to them.

One object of my present invention is, therefore, to provide a tagging machine which is particularly adapted for use in laundries and dry cleaning establishments and which may be operated for automatically feeding a portion of tape to lie in proximity to the edge of an article to be identified, cutting the tape to form an identification tag, and fastening the tag to the article, these three functions being performed at one operation of the machine.

Another object of the invention is to provide a tagging machine wherein effective feeding mechanism is provided for the tape so that the same will be fed to proper position to be cut into tags.

A further object of the invention is to provide an improved tagging machine adapted for operation by the foot of the user so that it may be operated with the utmost facility.

A still further object of the invention is to provide a tagging machine wherein the staples employed may be securely and effectively attached to the articles to be identified.

And still another object of the invention is to provide a tagging machine which will employ a container having compartments for colored identification tabs, which container will be conveniently located so that tabs may be withdrawn from the compartments of the container as needed.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of my complete tagging machine as it would appear in operative position ready for a stapling operation.

Figure 2 is a side elevation, partly in section, and showing my complete tagging machine as it would appear at completion of a stapling operation.

Figure 3 is a front view of the machine in inoperative position.

Figure 4 is an enlarged detail vertical sectional view on the line 4—4 of Figure 2, looking in the direction indicated by the arrows.

Figure 5 is a fragmentary detail sectional view similar to Figure 4, but showing the mechanism for crimping or bending the staple ends as it would appear during a bending operation.

Figure 6 is a horizontal sectional view on the line 6—6 of Figure 4, looking in the direction indicated by the arrows.

Figure 7 is a side elevational view of the clamping base assembly for the staples.

Figure 8 is a fragmentary detail vertical sectional view, partly shown in elevation, of the stapling head and associated mechanism in inoperative position.

Figure 9 is a fragmentary perspective view showing the housing or bracket for the tape cutting mechanism employed.

Figure 10 is a detail sectional view on the line 10—10 of Figure 8.

Figure 11 is a horizontal detail sectional view on the line 11—11 of Figure 8.

Figure 12 is an enlarged fragmentary detail longitudinal sectional view showing a portion of the tape feeding mechanism employed.

Figure 13 is a vertical detail sectional view on the line 13—13 of Figure 12.

Figure 14 is a fragmentary side elevation showing the lower portion of the machine having the operating treadle thereon.

Figure 15 is a side elevation showing, in inoperative position, a modified form of the invention.

Figure 16 is a fragmentary side elevation showing the modified form of the invention as it would appear in operative position during a stapling operation.

Figure 17 is a fragmentary front view of the modified form of the invention.

Figure 18 is a fragmentary plan view showing a portion of goods with an identification tag as it would appear secured thereto after a stapling operation by my improved tagging machine.

Figure 19 is a fragmentary detail perspective view showing a modified form of tape feeding mechanism.

Figure 20 is a side elevation showing a modified embodiment of the invention wherein a tagging machine has conveniently mounted thereon a container for identification tabs.

Figure 21 is a fragmentary front view showing particularly the container for identification tabs.

Figure 22 is a horizontal sectional view on the line 22—22 of Figure 21, looking in the direction of the arrows.

Figure 23 is a detail vertical sectional view on the line 23—23 of Figure 1.

Referring now more particularly to the accompanying drawings, wherein like numerals of reference will be seen to designate like parts throughout the various views, the numeral 1 indicates in general a pedestal for supporting my improved tagging machine. The pedestal includes an enlarged upper portion 2 and, as best seen in Figure 14, a laterally extended base 3. A mounting lug 4 is carried by the pedestal at the junction of the upright portion 5 and said base 3 and serves pivotally to mount a treadle 6 having a mounting yoke 7 disposed medially inwardly of the foot engaging portion 8 of said treadle. The purpose of the treadle will be described in more detail hereinafter.

The pedestal 1 has mounted on the enlarged upper portion 2 a base plate 9 which is substantially rectangular in shape, is relatively thick, is formed of heavy cast metal, and is tapered in thickness at its opposite ends. The base plate 9 forms a part of stapling mechanism which is, broadly speaking, of conventional construction but which, for the sake of clearness, will be described. The base plate 9 of the stapling mechanism includes, at its rear end portion, parallel vertically disposed walls 10 which define a mounting member or yoke 11 for the movable body 12 of the stapling mechanism. The movable body 12 comprises a relatively long substantially inverted U-shaped body portion 13 which is pivotally mounted between the walls 10 by means of a pivot bolt 14. The body portion is adapted to carry a mandrel 15 therein and said mandrel is substantially U-shape in cross section and is adapted to receive staples therein, which staples are conventionally "frozen" into sticks of great quantity. That is to say, large numbers of these staples are glued or otherwise secured together, edge to edge, so that they may be placed on the mandrel 15 and fed therealong. The staples are indicated, in Figure 8 of the drawings, at 16.

The body 12 has, at its forward end, a relatively large stapling head, indicated in general by the numeral 17. The stapling head, per se, has a straight front wall 18, a flat bottom wall 19 and flat side walls 20 and 21. The rear wall of the stapling head is curved inwardly toward the top of the head, as shown at 22, and is closed by a curved wall 23 which is hingedly connected to the head 17 by means of ears 24 having screws 25 extending therethrough and into the walls 20 and 21. Feeding mechanism is carried within the head 17 and includes a flat coil spring 26 which extends rearwardly along and above the upper surface of the body portion 13 to terminate in an end piece 27 adapted to engage in a follower 28 which follower is intended to ride on the mandrel 15 and urge the staples forwardly within the body and stapling head to position for stapling operations.

The stapling head 17 includes a plunger 29 which is vertically slidable in the head adjacent the wall 18 and is adapted to engage individual staples fed from the mandrel within the head for urging said staples into engagement with an article to be fastened in a manner to be discussed more in detail hereinafter. The plunger 29 has a plunger head 30 provided with depending lugs 31 at each end, which lugs are adapted for pivotal connection with operating tie rods 32 which are provided with connecting yokes 33 at their upper ends, which connecting yokes are adapted to be pivotally connected to the depending lugs 31 by screws 34. The corresponding lower ends of the operating tie rods are provided with connecting

yokes 35 which are pivotally connected to studs 36 carried on a guide plate 37.

The guide plate 37 is, as best seen in Figures 1 and 3 of the drawings, slidably mounted upon a central sleeve 38 which is screwed at its upper end in a sub-base plate 39 which, as best seen in Figures 4 and 5 of the drawings, is bolted to the under side of the forward end of the base plate 9. The base plate 9 is provided at its forward end portion with a cut away portion 40 while the rear portion of the sub-base plate 39 is provided with a relatively large and deep cut away portion 41. The sub-base plate 39 is secured to the under side of the base plate 9 at the rear end of said base plate by means of a screw 42 having an eye 43 thereon. The eye 43 provides anchoring means for one end of a retractile spring 44 which has its other end secured in an eye bolt 45 which bolt is secured in the central portion of a cross member 46. The cross member 46 forms a part of the actuating mechanism for the stapling structure which comprises the body 12 and the stapling head 17 with its plunger 29. The cross member 46 is provided with a connecting yoke 47 and said connecting yoke has pivotally connected thereto an actuating rod 48, the lower end of which is pivotally connected in the treadle 6. The cross member 46 is connected, at each end portion, with an upper cross member 49 by means of tie rods 50. The tie rods are slidable through the guide plate 37 and through a stationary stop plate 51 which is relatively thick and is screwed on the lower end of the central sleeve 38. The stop plate 51 has a relatively narrow slot 52 therein.

As best seen in Figures 1, 4 and 5, the upper cross member 49 is adapted to slide on the central sleeve 38, which extends through said cross member 49 medially of its length and is provided with dog operating pins 53 which are disposed on the upper cross member 49 at opposite sides of the sleeve 38. The upper cross member 49 is formed with a spring receiving recess 54 medially of its length and said recess is adapted to receive a coil spring 55 which surrounds the central sleeve 38 and provides a resilient connection between the upper cross member 49 and the guide plate 37. As best seen in Figures 4 and 5, the pins 53 are adapted to extend through suitable openings in the guide plate and through aligned openings 56 in the stop plate 51. The stop plate has, in the relatively narrow slot 52, dogs 57 which are pivotally mounted in the slot by means of bolts 58. The dogs are substantially rectangular in shape but are formed at their upper ends with curved cam-like walls 59 normally disposed to confront the openings 56 in inoperative position for engagement by the lower ends of the dog operating pins 53, which lower ends are preferably mounted so as to insure easy sliding contact between said pins and the dogs. An operating rod 60 is slidably mounted in the central sleeve 38 and has its lower end engageable, as shown in Figures 4 and 5, between the dogs 57.

Carried by the base plate 9 within the cut away portion 40, is a clamping mechanism casing 61. The casing 61 extends through the base plate 9 and rests in the sub-base plate 39 in an opening 62 and is held in the opening 62 by means of a set screw 62a. The casing 61, as best seen in Figures 4, 5, 6 and 7, is formed of two substantially L-shaped sections 63 and 64 which are connected by a screw 65 which screw also serves a dual function to be presently set forth. The clamping mechanism casing 61 has

mounted therein, near the upper ends thereof, suitable clamping dogs 66 rectangular in shape and each provided with a slotted upper surface 67. The clamping dogs are pivotally mounted in the casing 61 by means of pivot pins 68 and said dogs are adapted to be operated by means of a substantially rectangular vertically movable operating cam or block 69. The cam or block 69 is provided with a vertically disposed slot 70 which receives the screw 65 therethrough. The lower end of the operating cam or block is provided with a lug 71 which engages the upper end of the operating rod 60. Guide pins 72 and 73 are carried in the casing 61 at opposite ends of the operating cam or block and serve to guide the operating cam or block in its vertical movement. The operating cam has a flat upper surface 74 upon which rest the corresponding inner end portions of the dogs 66.

It will be understood that when the treadle 6 is depressed by the operator, the actuating rod 48 will be pulled downwardly for shifting the cross member 46 downwardly, whereupon downward movement will be transmitted through the tie rods 50 to the upper cross member 49. The upper cross member will be urged downwardly and will move the guide plate 37 downwardly, which downward movement of the guide plate will transmit downward movement through the studs 36 to the plunger head 30 for moving the plunger head and plunger downwardly together with the body and the stapling head. As the stapling head is moved downwardly and the plunger is operated in the usual manner for forcing a staple into operative position adjacent the tape, which is illustrated at 75, and the goods to be marked, a portion of which is illustrated at 76, the staple is ready to be forced into clamping relation with the tape and goods. When this operation has been completed, the upper cross member 49 and the guide plate 37 will be in the position shown in Figure 4 of the drawings. That is to say, no clamping movement will as yet have been exerted upon the staple clamping dogs. It is necessary, therefore, that a further downward movement be exerted upon the treadle 6 and such further downward movement will move the upper cross member 49 downwardly against the tension of the spring 55 for urging the dog operating pins into engagement with the cam like walls 59 of the dogs 57. Said dogs will be rocked upon the bolts 58 and will shift the operating rod 60 downwardly for urging the cam or block 69 into engagement with the staple clamping dogs 66. Said staple clamping dogs will be urged upwardly for bending the lower end portions of the staples toward each other to assume the well known horizontal clamped position. Although the spring 55 resiliently connects the upper cross member 49 with the guide plate 37, a pair of connecting bolts 77 are carried in the guide plate 37 and have heads engageable in the upper cross member 49 so that said upper cross member, while it will be allowed to slide downwardly along the connecting bolts, will be prevented from separating from the bolts and the plate 37 so that the pins 53 will always be maintained in proper operative position and the spring 55 will not be allowed to completely separate the cross member 49 and the guide plate 37.

As best seen in Figures 1, 2 and 23, a pair of brackets 80 are mounted on the walls 10 of the yoke 11. The brackets are formed of sheet metal and are offset inwardly toward each other, as shown at 81, and extend upwardly in parallel

spaced relation. The brackets are formed with enlarged upper end portions 82 which are slotted at 82a to receive the trunnions of a roll of tape 83 which is mounted between the brackets 80. Tape 75 from the roll 83 is led from said roll in a downward direction. Mounted between the walls 10 of the yoke 11 are assembly plates 84 which mount therebetween the outer end portion of a guide tube 85, which guide tube is adapted to have tape 75 shiftable therein. A bracket 86 is mounted on the yoke 11, extends rearwardly above the guide tube 85, and serves to insure proper feeding of the tape into said guide tube. The guide tube 85 is substantially rectangular in cross section and, as seen in Figure 23, is provided with a slot 87 which extends throughout its length. A stop 88 on the base 9 cooperate with the lower surface of the tube 85, at its rear end, and limits swinging movement of the stapling body 12. As clearly seen in Figures 1, 2, 8 and 10, the tube 85 extends forwardly beneath the body 12 and terminates beneath the stapling head in a cutting mechanism housing which will now be described.

The tape cutting mechanism is shown generally at 89 and comprises a bracket 90 which is formed from strap metal. The bracket 90 is formed with a lateral portion 91 which is adapted substantially to engage about the stapling head 17. That is to say, the lateral portion 91 will engage the front wall 18 and the side walls 20 and 21, while rear lugs 92 on the portion 91 will engage the base of the rear wall 22. Carried in the bracket 90 is a cutting mechanism housing 93 which is formed with front and rear walls 93a and 93b. The housing 93 is of the same width and thickness as the bracket 90, and, therefore, as shown clearly in Figure 9, completely fills the space in the bracket beneath the head 17. The housing 93 is formed with a bottom wall 94 which is provided with an opening 94a, which opening is adapted to align with an opening 94b in the bracket 90. The housing and bracket are relatively wide with respect to the stapling head and said housing 93 carries therein a fixed cutting plate 95 which is held in place in the housing by means of small set screws 96 and 97, which engage the sides of the fixed cutting plate. The plate 95 has a cutting edge 96a. The fixed cutting plate has a transverse slot 98 therein which is provided with an upwardly projecting inwardly tapered cutting edge 99 along its lower side. Carried by the housing 93 in slidable relation to the fixed cutting plate 95 is a movable cutting blade carrier 100 which is adapted to slide vertically in the housing 90 and has a flat upper surface which supports the inner end of the guide tube 86, said guide tube extending through an opening 101 in the wall 93b and terminating at substantially the inner edge of said movable cutting blade carrier or holder. The movable cutting blade holder has a cut away portion 102 which is adapted to have mounted therein a movable cutting blade 103 which has a cutting edge 104 adapted to cooperate with the cutting edge 99. The movable cutting blade holder 100 is, as best seen in Figures 8, 10 and 11, provided with a pair of laterally spaced recesses 105. The blade holder 100 is also provided with a pin 106 which is screwed into said blade holder and extends somewhat loosely through an opening 107 formed in the movable cutting blade substantially medially of its length and width. The pin serves to prevent movement of the cutting blade with respect to the holder 100 in every direction except away from said holder laterally. The blade 75

103 is, of course, held against movement away from the holder by means of the fixed cutting plate 95. Coil springs 108 are carried in the recesses 105 and urge the cutting blade 103 toward the plate 95 so that the blade 103 and the plate 95 will be maintained in proper cutting relation. As best seen in Figure 2 of the drawings, the housing 93, with the plate 95 and the elements 100 and 103 carried therein, is adapted to project into the opening 41 in the base plate 9 and sub-base plate 39 in operative position. Carried on the holder 100 is an adjustable operating bolt 109 which is adapted to be screwed upwardly through the openings 94a and 94b into the holder 100. As best seen in Figures 2 and 8 of the drawings, the bolt 109 will engage the lower surface of the recess 41 when the stapling head 17, with the mechanism 89 thereon, is moved downwardly so that said movable cutting blade holder will be shifted upwardly for causing the movable cutting blade 103 to cooperate with the fixed cutting plate 95 and effect the cutting of a desired length or section of the tape 75 which projects from the guide tube 85 forwardly of the tube. Inasmuch as the plate 95 is mounted within the housing 93, said plate will be slidable in said casing without displacement.

Feeding mechanism is, of course, necessary in order to cause the tape to feed from the tube 85 to the desired position above the plate 95 and blade 103. The feeding mechanism may be seen in Figures 1, 2 and 3 of the drawings but the details are best seen in Figures 8, 12 and 13 thereof. By referring to Figure 12, it will be seen that the guide tube 85 is provided with a lower slot 114 which is aligned with the slot 87 and extends along the tube a relatively short distance beneath the movable body 12. The tube 85 is adapted to carry a feeder sleeve 116 which is slidable on said tube and is located about the tube throughout the length of the slots 113 and 114. The feeder sleeve 116 has a bottom wall 117 which is formed near its forward end with an opening 118. A thickened intermediate portion 120 is formed on the top wall 121 of the feeder sleeve, and said thickened portion is, as best seen in Figure 13, normally disposed in the slot 87. Formed on the side walls of the sleeve 116 are trunnions 122 which are engageable, in a manner to be described, for shifting said feeder sleeve.

A feeder claw 123 of spring metal, is carried by the sleeve 116 and said feeder claw has a base portion 124 and a claw portion 125. The base portion 124 is riveted or otherwise suitably secured to the bottom wall 117 medially of its width while the claw portion 125 is downwardly offset and is curved upwardly to extend through the opening 118 and through the slot 114 into engagement with a portion of the tape 75. The claw portion 125 terminates in a claw edge 126. It will be understood that, as the feeder sleeve 116 shifts forwardly on the tube 85, due to the fact that the end of the claw portion 125 is slightly inclined forwardly, the claw edge 126 will engage the tape 75 and urge it forwardly in the tube 85. As the sleeve 116 moves rearwardly, the claw edge 126 will slip out of engagement with the tape.

Mounted on the plunger head 30 on the lower surface thereof and between opposite sides of the plunger 29 and the lugs 31, are feeder operating mechanism plates 127 and 128 which are formed with slots 129. The plates 127 and 128 are formed of flat metal and extend downwardly, at the rear of the plunger head, in parallel spaced relation. Mounted on the side walls 20 and 21

adjacent the rear wall 22 and substantially medially of the length thereof are oppositely directed pivot members 130, and pivotally mounted on said members are operating levers 131. As best seen in Figures 1 and 2, the levers 131 are substantially inverted L-shaped. Each of said levers has a short slot engaging portion 132 and a relatively long portion 132a. The portions 132 are adapted for shiftable engagement in the slots 129 while the portions 132a are adapted, at their corresponding lower ends, to be connected to the corresponding inner ends of links 133. The opposite ends of the links are swingingly connected to the trunnions 122. As the stapling head 17 moves upwardly, the ends of the portions 132 will slide in the slots 129 until said portions 132 reach the ends of said slots. Then, as the head continues to move upwardly, said portions 132 will engage the lower ends of the slots and thus the levers 131 will be rocked on the pivot members 130 for shifting the links 133 and the sleeve 116 forwardly. As the sleeve 116 moves forwardly on the tube 85, the claw edge 126 of the claw portion 125 will engage the tape 75 for moving said tape forwardly to project above the tape cutting mechanism 89 and the housing preparatory to a cutting and stapling operation. As the stapling head is moved downwardly, the blade 103 cooperates with the plate 95 for severing a length of tape and the stapling mechanism in the head 17 and housing 61 operates for stapling the length of tape to the article of goods to be identified. At the same time, the levers 131 will be swung rearwardly for shifting the links 133 and the sleeve 116 rearwardly. The sleeve 116 will thus be positioned for advancing another section of the tape when the head 17 swings upwardly.

In order to prevent, directly upon release of the treadle 6, upward shifting of the plunger 29 in the head 17, which upward shifting at this particular time would cause premature operation of the feeding mechanism and other mechanism, I provide latch mechanism shown generally at 134. The latch mechanism includes latch rods 135 which are carried on the plunger head 30 and extend downwardly in close parallel spaced relation to the plunger 29 at opposite sides thereof and exteriorly of the head 17. As best seen in Figure 8 of the drawings, when the plunger head 30 is in its downward position, the latch rods will extend to within a short distance of the bottom wall 19. The latch rods are formed with notches 136 which are engageable, in locked position, as seen in Figure 2, by the forward corners of triangular keepers 137, which keepers 137 are mounted on the walls 20 and 21 near their lower ends.

In order to release the latch rods 135 from the keepers 137, I provide release mechanism shown generally at 138. The release mechanism includes a substantially U-shaped operating member 139 which is slidably mounted on the lateral portion 91 of the frame 90. As may be clearly seen in Figures 1, 2 and 8, the member 139 is cut away throughout the major portion of its length to define arms 140 which have their free ends engageable with the lower end portions of the latch rods 135. Trunnions 141 are mounted on the member 139 and are adapted slidably to engage in arcuate slots 142 formed in guides 143. Screws 144 retain the guides 143 in operative position on the base plate 9. It will be seen that, as the stapling head 17 shifts downwardly, the plunger head 30 and plunger 29 will move downwardly in the stapling head 17 so that the keepers 137 will

engage the notches 136 of the latch rods 135 so that said latch rods will be held downwardly for holding the plunger 29 in downward position. During this operation, the arms 140 of the member 139 will be shifted rearwardly on the walls 21 and 22 of the stapling head by reason of the fact that the trunnions 141 will operate in the guide slots 142. As the stapling head moves upwardly for a tape cutting and stapling operation, the trunnions 141 will be permitted to ride upwardly and forwardly in the slots 142 so that the free ends of the arms 140 will engage the lower end portions of the latch rods 135 for springing said latch rods forwardly and releasing the keepers 137 from the notches 136. The plunger 29 and plunger head 30 will then be allowed to shift upwardly for operating the tape feeding mechanism at the proper time for such operation. The latch rod releasing mechanism will, in the manner hereinbefore described, retain the plunger in proper position until the stapling head 17 is near the upward end of its course of travel. Mounted on the base plate near the forward end thereof is a pin 145 which serves to prevent retraction of the tape when the feeder sleeve 116 moves rearwardly.

Although the operation of certain portions of the invention has been discussed, it is desired at this time to discuss the operation of the complete device. After the stapling head 17 has been "loaded" by means of the "stick" of staples carried on the mandrel and fed by means of the follower 28 into the stapling head for engagement by the plunger, a portion of an article to be identified is placed on the clamp mechanism casing or housing 61 and the stapling head moved downwardly. The stapling head is moved downwardly, as heretofore described, by engaging the foot of the operator with the treadle 6, which downward motion is transmitted through the actuating rod 48 and the connecting yoke 47 to the member 46. The member 46 is moved downwardly for urging the upper cross member 49 downwardly and as the spring 55 resiliently connects the upper cross member 49 with the guide plate 37, said guide plate will also be moved downwardly on the sleeve 38 and the rods 50, said rods 50, of course, traveling with the guide plate for the greater portion of its distance and said sleeve providing a guide for the upper cross member and guide plate. Downward movement of the guide plate is arrested by the stop plate 51. In this position, the stapling head 17 will be in overhanging close relation to the piece of goods 76 but the stapling operation will not yet have taken place. In order to effect the stapling operation, further downward movement is brought to bear upon the treadle, whereupon the further downward movement will be transmitted to the upper cross member 49 which will be urged downwardly on the center sleeve 38 against the tension of the spring 55 for urging the pins 53 into engagement with the dogs 57 and effecting the clamping of a staple fed by the plunger 29 to the goods. Downward movement of the stapling head is effected by the guide plate 37 which is pivotally connected to said stapling head by means of the operating rods 32 which are connected with the plunger head 30.

Simultaneously with the stapling operation, the rear end portion of the tape 75, which tape has been fed from the tube 85 and extends through the opening 101 in the housing 93 above the movable cutting blade 103, is severed by said movable cutting blade so that the work 76 with

identifying tab thereon, may be moved away from the machine.

After the stapling and cutting operation is completed, pressure is released from the treadle 6 so that the retractile spring 44 will be permitted to raise the rod 48 and the member 46 so that the elevating or releasing movement will be transmitted through the tie rods 50 to the upper cross member 49 and through the connecting bolts 77 to the guide plate 37. As the guide plate 37 is connected to the plunger rod by means of the operating rods 32, said plunger head will move upwardly. As it is desired that the entire stapling head be moved upwardly with the plunger head so that the device will be positioned for another stapling operation, the stapling head and plunger head are held by the cooperating latch rods 135 and keepers 137 against relative movement so that said plunger and stapling head will move upwardly as a unit to a large extent of its upward travel. However, as best seen in Figures 1, 2 and 8 of the drawings, as the stapling head nears the upper end of its travel, the release mechanism carried by the stapling head will be caused to free the rods so that the plunger will, of course, be urged upwardly under the tension of the conventional spring carried within the stapling head. Raising of the stapling head will, of course, permit the movable cutting blade 103 to retract and position itself for another cutting operation which will take place when the stapling head is again moved downwardly. It is thought that the operation of the preferred embodiment of my improved stapling machine will now be completely and thoroughly understood.

Referring now to the modification of the invention shown in Figures 15, 16 and 17 of the drawings, the numeral 150 indicates in general the base plate of the modified form of the invention and said base plate is mounted on a pedestal 151. A stapling head 152 has a body portion 153 hingedly connected to the base plate by means of a bolt 154 which extends through parallel mounting arms 155. This modified form of the invention is of substantially the same construction as that of the preferred form with the important exception that no tape retarding or advancing mechanism, or allied structure, is employed. More specifically, the stapling head 152 has a plunger 156 provided with a head 157, which head is formed with depending lugs 158 to which are pivotally connected operating rods 159. The operating rods 159 extend vertically at opposite sides of the stapling head and are connected to connecting studs 160 mounted on a guide plate 161. The guide plate, as in the preferred form of the invention, is mounted on a central sleeve 162 and is limited in its downward movement by a stop plate 163. Upper and lower cross members 164 and 165 respectively, are connected to each other by means of tie rods 166. The base plate 150 carries a clamping mechanism casing 167 in which is carried mechanism identical with that of the preferred form for cooperating with the stapling head in effecting the stapling operation. It will be understood that downward movement of the guide plate 161, which is transmitted to said sleeve from the upper cross member 164 to said sleeve by means of a helical spring 168, will be effected when a treadle, similar to that employed in the preferred form of the invention, is engaged for pulling downward the lower cross member 165 against the tension of a retractile spring 169.

Downward movement of the plate 164 will effect downward movement of the stapling head 152 and, when said stapling head has been located in the lowermost position, further downward movement will cause downward movement of the plunger 156 for effecting a stapling operation. Sections of fabric tape, shown at 170, are located in a chute 171 carried on the lower wall of the stapling head and this chute is in the form of a slidable substantially U-shaped housing which is adapted to slide forwardly and rearwardly of the stapling head. The housing is provided with a striking shoulder 172 at its forward end and said housing is further provided, on its wall near the central portion thereof, with a transverse operating piece 173 which is adapted to ride in the arcuate slots 174 of side plates 175 which are secured to the base plate 150 near the forward end thereof. The plunger head 157 carries latch rods 176 provided with notches 177 adapted to engage with integrally formed triangular keeper members 178 carried at opposite side of the stapling head near its lower end.

In operation, after the stapling head has been moved downwardly in the same manner as in connection with the preferred form of the invention, the housing 171 will be retracted for rotating the forward end of the tab or tape 170 which extends forwardly of the housing, in close proximity to the edge of the goods to be identified, a portion of said goods being shown at 179. Further depressing movement on the treadle causes the plunger 156 to effect the stapling operation in a manner hereinbefore described in connection with the preferred form of the invention. Upon release of the treadle, the stapling head will be raised but, as will be understood, the plunger will be held in a downward position until the stapling head is near its upper position. In this position, the housing 171 will have been advanced so that the shoulders 172 will engage the lower end portions of the latch rods 176 for freeing the notches of said rods from the keepers 178 so that the plunger will be raised to a position ready for another stapling operation. Aside from the above described structure, this modification of the invention operates in an identical manner with the preferred form.

Referring now to the modification of the invention as shown in Figure 19 of the drawings, and wherein a modified tape feeding structure is shown, the numeral 180 indicates a portion of the relatively long guide tube, which portion is formed with a slot 181. Stop clips 182 and 183 are secured to the tube 180 in spaced relation. Between these clips and adapted to slide upon the tube 180 is a feeder sleeve 184 provided at opposite sides thereof with connecting pins 185. A spring feeder claw 186 is carried by the feeder sleeve 184 and is of bowed formation, having its forward end extending through a slot 187 in the feeder sleeve 184. The claw 186 has a serrated or claw-like end edge 188 adapted to engage tape in the forward movement of the sleeve 184 for advancing the tape in the tube 181. Rearward movement of the sleeve disengages the claw-like edge 188 from the tape so that no retarding movement of the tape is effected. The stops 182 and 183 limit the movement of the sleeve 184. Backward and forward movement of the sleeve is effected in the same manner as that employed in the preferred form of the invention. Further description of this modification is thought to be unnecessary.

Referring now to the modification of the in-

vention as shown in Figures 20, 21 and 22 of the drawings, the numeral 200 indicates in general a tagging machine such as that shown in the embodiment in Figures 15, 16 and 17 of the drawings. Inasmuch as the tagging machine has been previously described and forms no part of the present embodiment of the invention except as a support for said structure, no further mention will be made of said tagging machine.

Rising from the base plate of the stapling machine 200 are supporting legs 201 which, near their upper end portions, diverge outwardly and are forwardly inclined upwardly, as shown at 202. At their upper ends, the legs 201 are again bent forwardly so that they lie in parallel relation to the upper surface of the base plate 9 in spaced relation thereto. The legs 201 are adapted for engagement in loops 203 which are mounted on the opposite end walls 204 of a container 205. The container 205, as best seen in Figures 20 and 21 of the drawings, is substantially rectangular in shape and is adapted to have mounted therein compartments 206. The compartments 206 are arranged in a laterally spaced series and are formed with curved bottom walls 207. The compartments are adapted to have disposed therein a plurality of identifying tabs, shown generally at 208. The bottom walls 207 being of curved formation, impart curvature to the tabs in the containers so that said tabs will conform to the shape of the end of a finger inserted selectively in the containers. The tabs 208 may be withdrawn with the utmost facility. The container 205 is formed with an upwardly projecting portion 209 adapted to have indicia 210 disposed on the front surface thereof. The indicia will, of course, relate to the nature of the tabs in the compartments within the container. As best seen in Figure 22 of the drawings, the compartments are adapted to be removably mounted in the container so that substitution may be made at any time. The container 205 greatly facilitates the use of my improved tagging machine, as shown in Figures 15, 16 and 17. It is thought that further description of this embodiment of the invention is unnecessary.

Having thus described the invention, what I claim is:

1. In a tagging machine, supporting means, a base plate carried thereby, a sub-base plate carried by the base plate at one end thereof, a clamping mechanism casing carried by the base plate and sub-base plate at one end thereof, staple clamping mechanism in the casing, a central sleeve carried by the sub-base plate, a guide sleeve slidably mounted on the central sleeve, upper and lower cross members movably connected with the guide sleeve, tie rods connecting said upper and lower cross members, an operating rod carried within the central sleeve, a stop plate carried by said central sleeve and having dogs therein, dog operating pins carried by the upper cross member and adapted for engagement with said dogs, a stapling head, means swingingly connecting the stapling head with the base plate, said stapling head having a plunger and being adapted to contain staples, operating rods connecting the guide plate with the plunger, means associated with the stapling head and adapted for carrying tape, and means carried by the supporting means and engageable with the lower cross member, said last mentioned means being operable for shifting the cross members and guide plate downwardly for imparting downward movement to the stapling head whereby said stapling

head will be moved to its initial operative position clamping the tape and the goods to be stapled between said stapling head and said clamping mechanism casing, said last mentioned means being adapted to be further engaged for moving the upper cross member further downwardly with respect to the guide plate and engaging the dog operating pins with the dogs for shifting the operating rod and operating the clamping mechanism within the clamping mechanism casing for clamping a staple moved downward at downward movement of the plunger in engagement with the goods and tape.

2. In a tagging machine, supporting means, a base plate carried by the supporting means, a sub-base plate carried by said first mentioned plate at one end thereof, a stapling head having a movable body, means swingingly connecting the stapling head and movable body with the base plate, said stapling head having a plunger and being adapted to be shifted for effecting downward movement of a staple in the head, a central sleeve carried by the sub-base plate, a stop plate carried by the central sleeve at its lower end, a guide sleeve slidably mounted on the central sleeve, an upper cross member slidable on the central sleeve and having dog operating pins, tie rods carried by the upper cross member and slidable through said sleeve and stop plate, a lower cross member carried by the tie rods, a spring resiliently connecting the sleeve and said upper cross member, bolts carried by the guide sleeve and preventing too great separation of said guide sleeve and upper cross member, a clamping mechanism casing carried on the base plate and sub-base plate, staple clamping dogs carried thereby, an operating cam carried in the clamping mechanism casing, an operating rod carried within the central sleeve, dogs carried by the stop plate, said stop plate having openings and said dogs having cam-like surfaces, a stapling head swingingly connected with the base plate, said stapling head having a movable plunger, an operating rod pivotally connecting the guide plate with the plunger, means carried by the lower cross member and being engageable for shifting said cross member downwardly for engaging the dog operating pins with the cam-like surfaces and shifting the dogs and the operating rod upwardly within the central sleeve for shifting the operating cam and clamping a staple fed from the stapling head by said plunger to the tape and goods to be identified at the lowermost position of said stapling head and plunger, and a spring carried by the sub-base plate and said lower cross member and being operable for releasing the stapling head and staple clamping means for a stapling operation.

3. In a tagging machine, stapling mechanism including a clamping mechanism casing adapted to be secured to a base plate, staple clamping dogs carried by the casing, an operating cam carried by the casing and having a slot, means limiting movement of the operating cam, guide pins carried by the casing for guiding the movement of the operating cam, said operating cam having a depending lug, a sub-base plate carried by the base plate, a central sleeve carried by the sub-base plate, an operating rod carried therein, a stop plate carried by the central sleeve at its lower extremity and having openings, dogs carried by said stop plate beneath said openings and being adapted to engage said operating rod, a guide plate slidable on the central sleeve, an upper cross member slidable on said central sleeve,

means resiliently connecting the guide plate and said upper cross member and normally holding said upper cross member in spaced relation with said guide plate, means carried by the guide plate for preventing too great separation of the guide plate and upper cross member, dog operating pins carried by the upper cross member, a lower cross member, tie rods connecting said cross members and being slidable through said stop plate and adapted for sliding movement on said guide plate, a stapling head carried by the base plate and having a plunger adapted to operate to project a staple, means connecting the stapling head with the guide plate, and means engageable with the lower cross member for shifting both said cross members and said guide plate downwardly to initial operative position with a stapling head clamping a portion of tape and a portion of goods to be stapled between said stapling head and said clamping mechanism casing, said last mentioned means being adapted to be urged downwardly for urging the upper cross member against the tension of said resilient means and projecting the dog operating pins into engagement with the dogs for shifting the operating rod within the central sleeve and the operating cam within the casing for effecting the clamping of a staple on the tape and goods.

4. In a tagging machine, staple clamping mechanism including a base plate having a sub-base plate at one end thereof, a clamping mechanism casing carried by the base plate and said sub-base plate, a central sleeve carried by the sub-base plate, a stop plate carried by the central sleeve and having a relatively narrow slot and aligned openings, dogs carried in the slot of said stop plate, an operating rod carried in the central sleeve, an operating cam carried by the clamping mechanism casing, staple clamping dogs carried by the casing and being engageable by the operating cam, means carried by the casing for guiding the operating cam, said cam having a lug engageable with the operating rod, a guide plate slidably mounted on the central sleeve, an upper cross member slidably mounted on said sleeve, a spring resiliently connecting said upper cross member and said guide plate, a lower cross member, tie rods connecting said cross members and being slidable through said stop plate and slidable relative to said guide plate, connecting bolts carried by the guide plate and preventing too great separation of the guide plate and upper cross member, said spring surrounding the central sleeve and normally retaining the upper cross member spaced from the guide plate, dog operating pins carried by the upper cross member, a stapling head, means swingingly connecting the stapling head with the base plate, said stapling head having a movable plunger, means connecting the stapling head and plunger with the guide plate, and means for transmitting downward movement to the upper and lower cross members and said guide plate and said stapling head and plunger for locating said stapling head in an initial operative position clamping a portion of tape carried beneath the head in engagement with a portion of goods to be identified, said last mentioned means being adapted to be urged further downwardly for simultaneously moving said cross member downwardly with respect to the guide plate and shifting the plunger downwardly in said stapling head, said simultaneous movement effecting the engagement of the dog operating pins with the operating rod for shifting said rod and operating cam and staple clamping dogs into

a clamping position for clamping a staple urged downwardly by the downward movement of said plunger head whereby said tape will be secured to the goods to be identified.

5. In a tagging machine, a pedestal, a base plate carried by the pedestal, a sub-base plate carried by the base plate, a clamping mechanism casing carried by said base plate and sub-base plate at one end thereof, a stapling mechanism including a stapling head, means swingingly connecting the stapling head with the base plate, said stapling head having a plunger, a guide tube carried by the stapling mechanism and adapted to direct tape from a roll of tape to a position beneath the stapling head, a cutting mechanism housing carried by the stapling head and located forwardly of said guide tube, said guide tube being adapted to project into said cutting mechanism housing, a fixed cutting plate carried by the housing, a movable cutting blade carried by the housing and movable with respect to the fixed cutting plate, a movable cutting blade holder slidably mounted in the housing, a bolt carried by the holder, and means carried by the sub-base plate and operable for shifting the stapling head downwardly and engaging the bolt against the sub-base plate for shifting said cutting blade upwardly and effecting the cutting of a portion of the tape issuing from said guide tube, said portion of tape being adapted to be clamped beneath said stapling head preparatory to a stapling operation.

6. In a tagging machine, a pedestal, a base plate carried by the pedestal, a sub-base plate carried by said base plate, a clamping mechanism casing carried by the base plate and sub-base plate at one end thereof, stapling mechanism including a stapling head, means swingingly connecting the stapling head with the base plate, said stapling head having a plunger, a guide tube carried by the stapling mechanism and adapted to direct a portion of tape from a roll of tape to a position beneath the stapling head, a cutting mechanism housing carried by the stapling head and located forwardly of said guide tube, said guide tube being adapted to project into said cutting mechanism housing, a fixed cutting plate carried by the housing, a movable cutting blade carried by the housing and movable with respect to the fixed cutting plate, a movable cutting blade holder slidably mounted in the housing, a bolt carried by the holder, means carried by the sub-base plate and operable for shifting the stapling head downwardly and engaging the bolt with the sub-base plate for shifting said cutting blade upwardly and effecting the cutting of a portion of the tape from said guide tube, said portion of tape being adapted to be clamped beneath said stapling head preparatory to a stapling operation, and means carried by the base plate and adapted for preventing insertion of a portion of material too far under the stapling head.

7. In a tagging machine, a pedestal, a base plate carried by the pedestal, a sub-base plate carried by said base plate, a clamping mechanism casing carried by the base plate and sub-base plate at one end thereof, a stapling head, means swingingly connecting the stapling head with the base plate, said stapling head having a plunger, a guide tube carried by the base plate and adapted to direct tape from a roll of tape to a position beneath the stapling head, a cutting mechanism housing carried by the stapling head and located forwardly of said guide tube, said guide tube

being adapted to project into said cutting mechanism housing, a fixed cutting plate carried by the housing, a movable cutting blade carried by the housing and movable with respect to the fixed cutting plate, a movable cutting blade holder slidably mounted in the housing and carrying said movable cutting blade, a bolt carried by the holder, means carried by the pedestal and operable for shifting the stapling head downwardly and engaging the bolt with the sub-base plate for shifting said cutting blade upwardly and effecting the cutting of a portion of the tape issuing from said guide tube, said portion of tape being adapted to be clamped beneath said stapling head preparatory to a stapling operation, said bolt being adapted to be adjusted for carrying the cutting movement of the movable cutting blade at the downward swinging of the stapling head, and feeding means carried by the stapling head and said guide tube and being operable by upward movement of said stapling head for advancing the tape to project forwardly of the tube.

8. In a tagging machine, tape cutting mechanism including a housing adapted to be secured to a stapling head, a fixed cutting plate carried in the housing and having a transverse slot, means locking said fixed cutting plate within the housing, a movable cutter blade holder carried in the housing, means carried by the housing and limiting the movable cutting blade holder to restricted movement within the housing, said holder having laterally spaced recesses, a movable cutting blade carried by the holder, springs in the laterally spaced recesses and urging said movable cutting blade toward said fixed cutting plate, and a pin carried by the movable cutting blade holder and engageable by said movable cutting blade for limiting said blade against vertical movement relative to said holder, said movable cutting blade holder being engageable with a base plate beneath the housing and effecting the cutting of an article extending through the transverse slot in the fixed cutting plate above the movable cutting blade.

9. In a tagging machine, a base plate, a stapling head, a movable body swingingly connecting the stapling head with the base plate, said stapling head having a plunger provided with a plunger head, means engageable with the plunger head for urging the stapling head initially downwardly to operative position for locating a staple carried in the stapling head in position to be clamped to articles disposed beneath the stapling head, latch rods carried by the plunger head, feeder operating mechanism plates having slots, substantially inverted L-shaped levers carried by the stapling head and having lateral portions terminating within the slots, keepers on the stapling head, a guide tube carried by the base plate, a feeder sleeve carried by the guide tube, and links connecting the feeder sleeve with the substantially inverted L-shaped levers, said feeder operating mechanism plates being adapted to engage corresponding inner ends of the lateral portions for rocking the links and sleeve rearwardly in inoperative position as the stapling head is shifted to downward position, said opposite corresponding ends of the feeder operating mechanism plates rocking the levers forwardly for shifting the links and feeder sleeve forwardly during the raising of the stapling head whereby said feeder sleeve will be caused to feed tape forwardly from the guide tube for a stapling operation upon release of said first mentioned means, said keepers and latch rods cooperating to pre-

vent premature operation of the feeder mechanism.

10. In a tagging machine, a base plate, a stapling head, a movable body swingingly connecting the stapling head with the base plate, said stapling head having a plunger provided with a plunger head, means engageable with the plunger head for urging the stapling head initially downwardly to operative position for locating a staple carried in the stapling head in position to be clamped to articles disposed beneath the stapling head, latch rods carried by the plunger head, keepers on the stapling head, feeder operating mechanism plates having slots, substantially inverted L-shaped levers carried by the stapling head and having lateral portions terminating within the slots, a guide tube carried by the stapling mechanism, a feeder sleeve carried by the guide tube, links connecting the feeder sleeve with the substantially inverted L-shaped levers, said feeder operating mechanism plates being adapted to engage the lateral legs for rocking the links and sleeve rearwardly in inoperative position as the stapling head is shifted to downward position, said feeder operating mechanism plates rocking the levers forwardly for shifting the links and feeder sleeve forwardly during the raising of the stapling head whereby said feeder sleeve will be caused to feed tape forwardly from the guide tube into position for a stapling operation upon release of said first mentioned means, said latch rods and keepers being operable for retaining the plunger in downward position during the greater extent of the raising of said stapling head to inoperative position whereby operation of the feeder mechanism will be properly timed.

11. In a tagging machine, a base plate, a stapling head, a movable body swingingly connecting the stapling head with the base plate, said stapling head having a plunger provided with a plunger head, means engageable with the plunger head for urging the stapling head initially downwardly to operative position for locating a staple carried in the stapling head in position to be clamped to articles disposed beneath the stapling head, feeder operating mechanism plates carried by the plunger head, substantially inverted L-shaped levers carried by the stapling head and having lateral portions, a guide tube carried by the stapling mechanism, a feeder sleeve carried by the guide tube, links connecting the feeder sleeve with the substantially inverted L-shaped levers, said feeder operating mechanism plates being adapted to engage with the lateral portions for rocking the links and sleeve rearwardly in inoperative position as the stapling head is shifted to downward position, said feeder operating mechanism plates rocking the levers forwardly for shifting the links and feeder sleeve forwardly during the raising of the stapling head whereby said feeder sleeve will be caused to feed tape forwardly from the guide tube into position for a stapling operation upon release of said first mentioned means, latch rods having notches, keepers carried by the stapling head for engaging the notches and normally retaining the stapling head plunger in a downward position, and release means carried by the stapling head and the base plate and operative as the stapling head approaches the upper end of its throw for releasing the rods from the keepers and permitting restoration of the plunger to operative position for a further stapling operation.

12. In a tagging machine, a base plate, a stapling head, a movable body swingingly connect-

ing the stapling head with the base plate, said stapling head having a plunger provided with a plunger head, means engageable with the plunger head for urging the stapling head initially downwardly to operative position for locating a staple carried in the stapling head in position to be clamped to articles disposed beneath the stapling head, latch rods carried by the plunger head, feeder operating mechanism plates on the plunger, substantially inverted L-shaped levers carried by the stapling head and having lateral portions, a guide tube carried by the stapling mechanism, a feeder sleeve slidably carried by the guide tube, links connecting the feeder sleeve with the substantially inverted L-shaped levers, said feeder operating mechanism plates being adapted to engage ends thereof with the lateral portions for rocking the links and sleeve rearwardly in inoperative position as the stapling head is shifted to downward position, said plates rocking the levers forwardly for shifting the links and feeder sleeve forwardly during the raising of the stapling head whereby said feeder sleeve will be caused to feed tape forwardly from the guide tube for a stapling operation upon release of said first mentioned means, said latch rods having notches, keepers carried by the stapling head for engaging the notches and retaining the stapling head plunger in a downward position, side plates carried by the base plate and having arcuate slots, tracks defined on the stapling head, and slidable release members carried by the tracks and having trunnions adapted to ride in the arcuate slots, said trunnions being adapted to ride upwardly in the arcuate slots as the stapling head rises to inoperative position whereby the slidable release plate will be moved forwardly for engaging the latch rods and freeing said notches from the keepers and permitting restoration of the plunger to operative position.

13. In a tagging machine, a base plate, stapling mechanism including a stapling head, a guide tube, means mounting the guide tube on the stapling mechanism, said guide tube having a slot, feeding mechanism carried by the guide tube and including a feeder sleeve slidable on said guide tube, a feeder claw carried by the feeder sleeve, means rockably mounting the stapling head on the base plate, levers carried by the stapling head, said stapling head having a plunger, means carried by the plunger and engageable with the levers for shifting said levers as the plunger is raised and lowered in the stapling head, links connecting the levers with the feeder sleeve, said links being adapted to be shifted rearwardly by the levers at downward movement of the stapling head for shifting the sleeve rearwardly, said last mentioned means being adapted to rock the levers forwardly at upward movement of the stapling head whereby forward movement of the links and feeder sleeve will take place and said feeder claw will be engaged through the guide tube with a portion of tape for advancing said tape forwardly of said tube, and means carried by the base plate and operable for raising and lowering the stapling head.

14. A tagging machine including a pedestal, a base plate carried by the pedestal, a stapling head, a movable body carried by the stapling head and connecting said stapling head with the base plate, a clamping mechanism casing carried by the base plate, a plunger carried by the stapling head, operating means carried by the base and operatively connected with the plunger for shifting said head downwardly to initial operative

position, a chute carried by the stapling head and adapted to carry a portion of tape at its forward end, side plates carried by the base plate, said stapling head having a stud, latch rods carried by the plunger, latch members carried by the stapling head and adapted to engage said latch rods for retaining said plunger downwardly in said stapling head in operative position, and means carried by the chute for engaging the latch rods and freeing said rods from the latch member at upward swinging of the stapling head

whereby the plunger will be permitted to rise to operative position in the stapling head as said stapling head approaches the upward end of its swing, said chute being disposed to receive a new portion of tape for a stapling operation and said chute being retractable at downward swinging of the stapling head for locating the tape between the clamping mechanism casing and said stapling head for a stapling operation.

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