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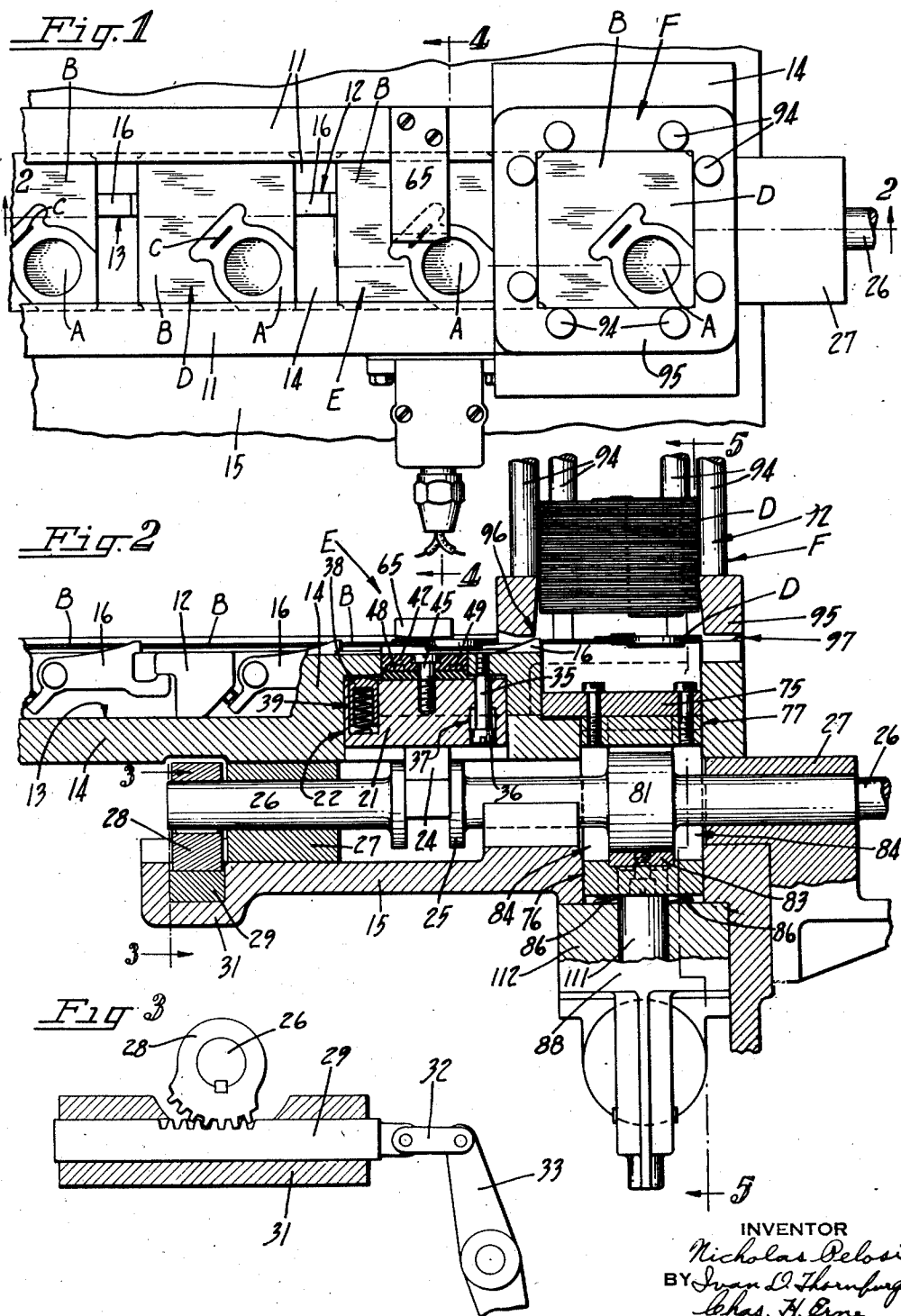
N. PELOSI

2,361,960

SORTING DEVICE FOR CONTAINER MAKING MACHINES

Filed Jan. 24, 1941

3 Sheets-Sheet 1



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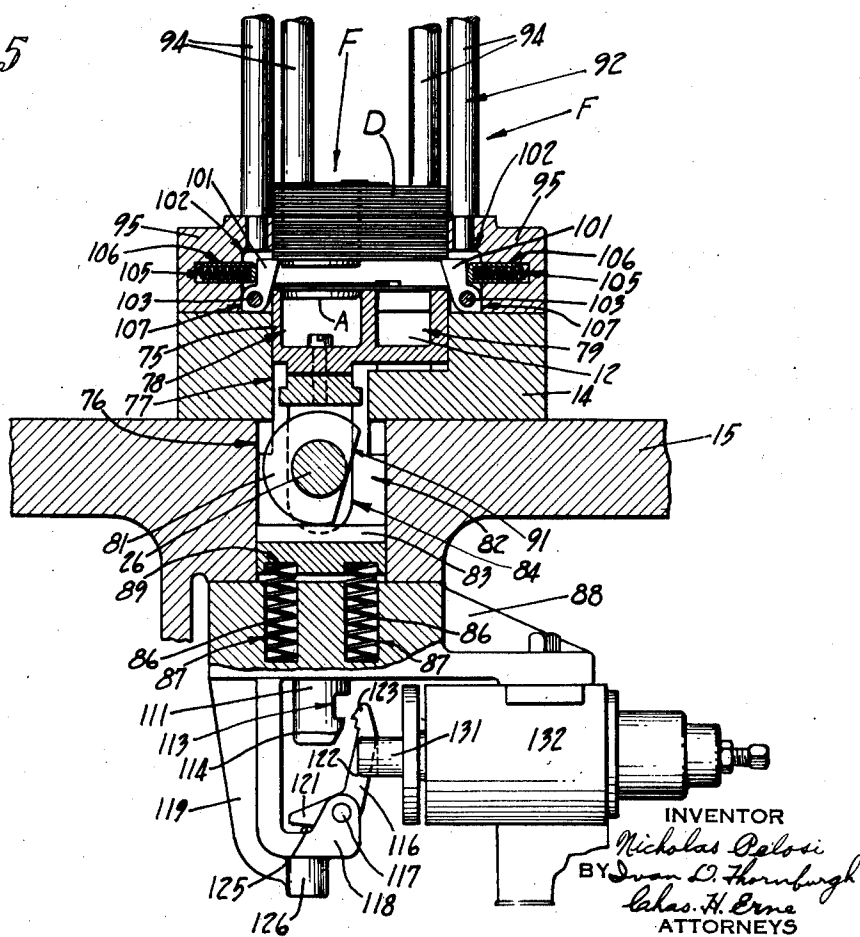
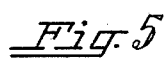
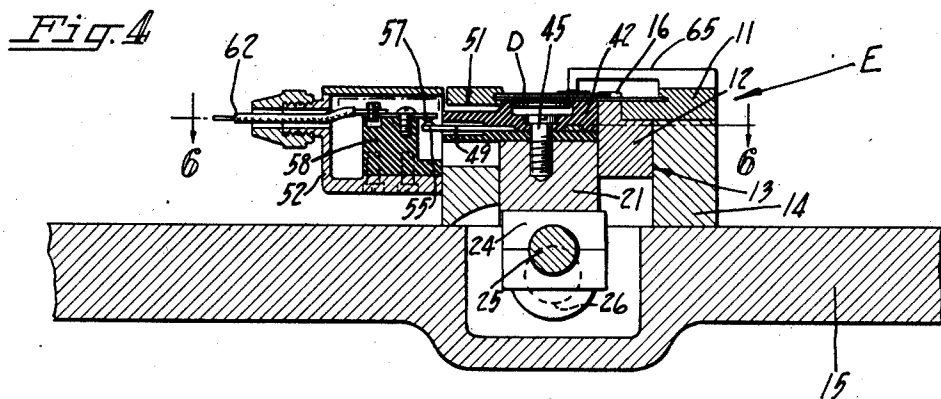
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Fig. 6

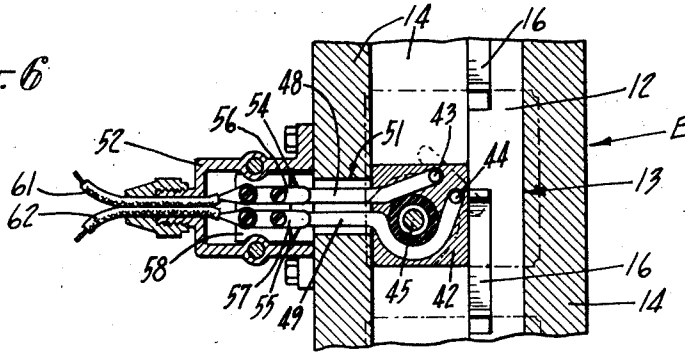


Fig. 7

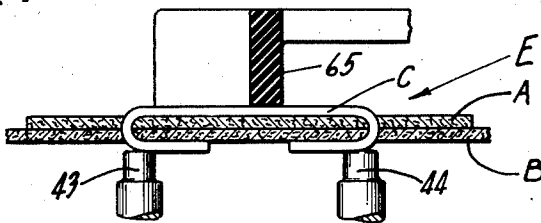
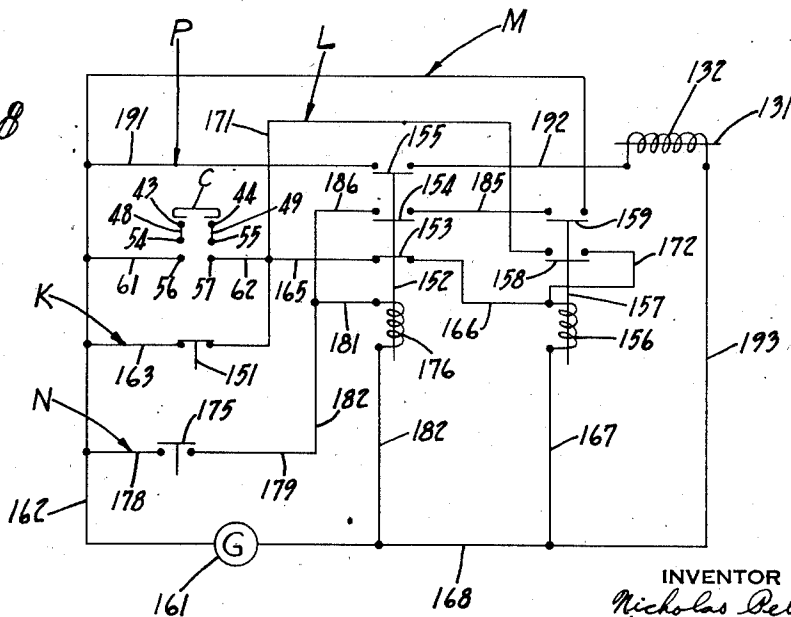


Fig. 8



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2,361,960

SORTING DEVICE FOR CONTAINER MAKING MACHINES

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Application January 24, 1941, Serial No. 375,837

6 Claims. (Cl. 209—81)

The present invention relates to container making machines in which two or more container parts are secured together with a metal staple and has particular reference to stacking the stapled parts while detecting and discarding unstapled parts.

In securing container parts together with metal staples or stitches, the latter occasionally break during insertion into the parts or are entirely omitted due to faulty operation of the stitching device. This omission or breakage of the staples permits the unsecured container parts to become separated or otherwise disarranged and thus they cause trouble in automatic handling and if not detected may become bothersome to packers or customers using the containers in which such unsecured parts are embodied.

The instant invention contemplates overcoming this difficulty by detecting a staple in the assembled container parts and using the staple as an electric conductor to transmit electric energy to operate devices which stack the stapled-together parts into a magazine and which discard the unstapled parts from the machine so that they will be prevented from being subsequently incorporated in the containers.

An object of the invention is the provision of mechanism for detecting metal staples in container parts secured together by such staples wherein the staple is used as a conductor of electric energy so that container parts having no staples at all and those having broken staples may be readily detected.

Another object is the provision of such a detecting mechanism wherein the staple in the assembled container parts or its omission therefrom controls the further disposition of the assembled parts.

Another object is the provision of a detecting mechanism of this character wherein container parts having required staples are stacked into a magazine while container parts not having staples are prevented from being stacked into the magazine and are discarded from the machine.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a top plan view of a machine in which the instant invention is embodied, with parts broken away;

Fig. 2 is a longitudinal vertical section taken

substantially along the broken line 2—2 in Fig. 1, with parts broken away;

Fig. 3 is a transverse vertical section taken substantially along the line 3—3 in Fig. 2, with parts

broken away;

Figs. 4 and 5 are transverse vertical sectional views taken substantially along the lines 4—4, 5—5, respectively, in Figs. 1 and 2, with parts broken away;

Fig. 6 is horizontal section taken substantially along the line 6—6 in Fig. 4, with parts broken away;

Fig. 7 is an enlarged sectional view showing the staple which holds the container parts together and also showing portions of the machine immediately adjacent the staple, with parts broken away; and

Fig. 8 is a wiring diagram of the electric circuits used in the machine.

As a preferred embodiment of the invention the drawings illustrate a staple detector and container part stacking mechanism used in a machine for securing closure elements A (Fig. 1) to container or can end members B with metal wire staples C to provide a unitary can top D for the well known fibre milk containers disclosed in United States Patent 2,085,979, issued July 6, 1937, to J. M. Hothersall.

In the machine these unitary can tops D are propelled along a straight line path of travel between spaced and parallel guide bars 11 by a reciprocating feed bar 12 located in a slideway 13 formed in a runway plate 14 secured to the top of a frame 15 which may constitute the main frame of the machine. The feed bar may be reciprocated in any suitable manner in time with the other moving parts of the machine. Spring held feed dogs 16 located at spaced intervals lengthwise of the bar engage behind the can tops and advance them in an intermittent or step-by-step manner.

During the advancement of these can tops D through the machine they are momentarily brought to rest at a testing station E (Figs. 1, 2, 4, 6 and 7). At this station a test is made to ascertain if the closure element A and the end member B are properly stapled together. The test is made by an electric detector device which includes a vertically movable detector slide 21.

The detector slide 21 is preferably rectangular in cross section and moves in a vertical slideway 22 formed in the plate 14. The bottom of the slide is flat and rests on a block 24 mounted on a crank 25 of a shaft 26 carried in bearings 27 secured to the main frame 15. The shaft is

rocked through a partial rotation in one direction and thence in an opposite direction during each cycle of the machine, i. e., for each advancement of a can top D.

The rocking of the shaft 26 is brought about by a segment gear 28 (Figs. 2 and 3) which is carried on the shaft. The gear meshes with a rack 29 which slides in a rectangular bearing 31 formed in the main frame 15. The rack may be reciprocated in any suitable manner, such as for example, by a link 32 and a lever 33 which may be actuated in time with the other moving parts of the machine.

Screws 35 secured in the runway plate 14 and having heads 36 which operate within elongated clearance recesses 37 in the slide 21, retain the slide in its slideway. Spring barrels 38 in bores 39 in the slide engage against the plate 14 and thus press the slide down against the crank 24, see also Fig. 4.

Hence when the shaft 26 rocks in one direction, the crank block 24 pushes the slide 21 upwardly toward the can top D in the runway for the testing operation. Conversely, when the shaft rocks in the opposite direction the crank block 24 moves down and the spring barrels 38 in the slide push the latter down and away from the can top.

Testing for the staple C in the can top is preferably done electrically. For this purpose the slide 21 carries on its top surface an insulator 42 (Figs. 2, 4 and 6) in which there are imbedded a pair of electric testing contacts 43, 44. The insulator is secured in place by a screw 45. The contacts are located in vertical alignment with the bent under ends of the staple C, as best shown in Figs. 6 and 7. These contacts are connected with flat spring wires 48, 49 which extend beyond the confines of the insulator 42 and project through a slot 51 in the side of the runway plate 14.

The contact wires 48, 49 terminate in a casing 52 which is secured to a side of the runway plate 14. The ends of the wires are formed with movable contacts 54, 55 which are normally out of engagement but in vertical alignment with the inner ends of a pair of stationary contacts 56, 57. These contacts 56, 57 are secured to an insulating block 58 in the casing and are connected with a pair of lead wires 61, 62 which form a portion of certain electric circuits which will be hereinafter explained in connection with the wiring diagram in Fig. 8.

Hence when the slide 21 moves up into testing position it brings the movable contacts 54, 55 into engagement with the stationary contacts 56, 57 in the casing 52 and thereby connects the testing contacts 43, 44 with a source of electric current. Simultaneously with this action the slide brings the testing contacts into engagement with the opposite ends of the staple C in the can top D if there is such a staple in place. During this engagement the can top is held against displacement by an overhanging anvil 65 of insulating material which backs up the staple C and which is secured to one of the guide rails 11.

The staple C thus engaged by the two testing contacts 43, 44 bridges the gap between them and thereby becomes a portion of the testing circuit of control devices hereinafter explained. If the staple C is in proper place in the can top and is not broken, the tested top is advanced to a stacking station F. This advancement is made after the slide 21 has moved down and is effec-

tive upon the next advancing stroke of the feed bar 12.

The stacking station F (Figs. 1, 2 and 5) is adjacent the testing station E and is spaced therefrom one step of advancement of the can tops D moving along the runway. The stacking devices at this station include a lifter 75 which is disposed below the path of travel of the can tops moving along the runway and which is retained for vertical movement in a slide recess 76 formed in the main frame 15 and within a clearance recess 77 cut in the runway plate 14.

The top of the lifter 75 is normally flush with the runway so that the can tops D may readily pass from the runway to the lifter. The top surface of the lifter is formed with a clearance slot 78 to clear the plug section of the closure element A and is further provided with a clearance slot 79 for the feed bar 12.

Hence when the feed bar 12 moves through an advancing stroke following a testing operation, one of its feed dogs 16 removes a tested can top D from the testing station E and advances it into the stacking station F. A can top so advanced is received on top of the lifter 75 preparatory to being raised into a magazine located above the lifter if the test has determined a properly stapled can top or preparatory to being discharged from the machine if such properly stapled can top is absent.

The lifter 75 is shifted vertically in its slide recess 76 by a cam 81 which is mounted on the rock shaft 26. The cam is located in an opening 82 formed in the lifter and bears against a hardened plate 83 secured to the lifter adjacent the bottom of the opening. The shaft extends through vertical slots 84 in the sides of the lifter and these slots permit vertical movement of the latter.

The lifter 75 is forced upwardly against the cam 81 by a plurality of compression springs 86 which are located below the lifter. These springs are retained in vertical pockets 87 formed in a bracket 88 which is bolted to the main frame 15. The upper ends of the springs engage in shallow seats 89 formed in the bottom of the lifter.

Hence when the rock shaft 26 revolves through a partial rotation to move the testing slide 21 into testing position, it also rocks the cam 81. The shaft and the cam rotate in a clockwise direction as viewed in Fig. 5 during this up-stroke and this brings a flat side 91 of the cam into spaced relation above the hardened plate 83 of the lifter. This shifting of the cam permits the compression springs 86 to raise the lifter and the can top D carried thereon.

The raising of the lifter 75 carries the can top D upwardly above its path of travel in the runways and into a magazine generally indicated by the numeral 92. This magazine includes a plurality of vertical rods 94 (Figs. 1, 2 and 5) which have their lower ends secured in a base 95. The base is bolted to the top of the runway plate 14. A can top entrance slot 96 and a discharge slot 97 are formed in the base in line with the path of travel of the can tops through the machine.

The base 95 also carries a plurality of vertically disposed can top supporting fingers 101 (Fig. 5) which are located in recesses 102 formed in the base adjacent the path of travel of a can top as it enters the stacking station. These fingers are mounted on pivot pins 103 which are carried in suitable bearings formed in the

base. The upper ends of the fingers are backed up by spring barrel units 105 which are retained in bores 106 formed in the base. These spring barrel units force the fingers inwardly. A flat surface 107 on each finger adjacent its pivot pin engages against the base and thus limits the inward movement of the fingers.

Thus when a can top D is moved upwardly by the lifter 75 it pushes past the spring held fingers 101 and is elevated to a position slightly above the upper ends of the fingers. The fingers snap back into their original position as soon as the can top passes and hence when the lifter moves down the can top, which is now within the magazine, moves down as far as the tops of the fingers and is thereafter supported on the fingers. In this manner as each new can top is elevated into the magazine it is placed beneath the others already in the magazine and hence a vertical stack is readily built up.

Only unitary can tops D which are properly stapled together, are stacked in the magazine 92. If a staple C is broken or has been partially or entirely omitted from the assembled parts of a can top D when it is tested at the testing station E, this constitutes an abnormal or imperfect can top. Such a top is prevented from being stacked into the magazine 92 and is subsequently discharged from the machine, as will now be described.

Discharge of an abnormal can top D is brought about by holding the lifter 75 against movement when such a can top is advanced into position on the lifter. For this purpose the lifter is formed with a depending vertical stem 111 (Figs. 2 and 5) which extends down through a bearing 112 formed in the bracket 88. A notch 113 is cut in the lower end of the stem where it is disposed adjacent a beveled surface 114.

Adjacent the notched lower end of the stem 111 there is a small bell crank lever 116 mounted on a pivot pin 117 carried in a pair of spaced lugs 118 formed on an arm extension 119 of the bracket 88. The bell crank is formed with a substantially horizontal leg 121 and with a vertical leg 122 which extends up alongside the stem 111, terminating in a hook 123 disposed in alignment with the notch 113 when the lifter 75 is in its lower position. The horizontal leg 121 of the bell crank engages against a spring barrel unit 125 located in a boss 126 on the bracket extension. This spring barrel maintains the leg 122 in engagement with the inner end of a horizontally movable core 131 of a latch solenoid 132 secured to the bracket 88. The core is adapted to be projected to an outward position by a compression spring located within the solenoid when the latter is deenergized.

The solenoid 132 is normally maintained energized and thus the core 131 is normally drawn in against the resistance of its spring. This normal position maintains the hook 123 of the bell crank 116 out of engagement with the notch 113 of the lifter stem 111, under which conditions normal raising and lowering of the lifter 75 is obtained.

When an abnormal can top is moved onto the lifter, the solenoid 132 is de-energized. This de-energizing of the solenoid permits the solenoid spring to thrust the core toward the lifter stem 111 and this rocks the bell crank 116 against the resistance of its spring barrel unit 125. Such a rocking of the bell crank brings the hook 123 into engagement with the notch 113 in the lifter

stem 111 and thereupon the lifter 75 is locked against movement.

Hence when the shaft 26 rocks in one direction to raise the testing slide 21 into testing position against a can top D at rest in the testing station E, the resulting movement of the lifter cam 81 on the shaft has no effect on the locked lifter 75 at the stacking station F to permit springs 86 to function and the lifter therefore remains stationary. Hence the abnormal or imperfect can top located on the lifter at station F is prevented from being stacked into the magazine 92 with the properly stapled can tops.

When the shaft 26 rocks in the opposite direction to permit the testing slide 21 to move downwardly away from the can top D at the testing station, the lifter cam 81 is simultaneously partially rotated into re-engagement with the lifter and pushes down slightly on the lifter. This action depresses the lifter stem sufficient to disengage the bell crank hook 123 from the lifter stem notch 113. If the can top just tested is a good one the solenoid is again energized and thus the hook 123 will be moved back with the solenoid core and thereby release the stem and the lifter for the next stacking movement.

However, the lifter cam 81 holds the lifter 75 depressed until the feed bar 12 moves through its advancing stroke and returns again. During this advance stroke the forward feed dog 16 on the bar engages behind the abnormal can top on the lifter and pushes it out of the machine through the slot 97 in the magazine base 95. The abnormal can top falls to any suitable place of deposit.

On this same stroke, the feed bar advances the newly tested can top at station E to the stacking station F and places it on top of the lifter. If this can top was tested as a good top it will be stacked into the magazine by the lifter on its next up stroke as hereinbefore explained. If it is an abnormal top the lifter will be prevented from raising as just explained.

Reference should now be had to the wiring diagram in Fig. 8. The energizing and de-energizing of the latch solenoid 132 is brought about by a plurality of operating and holding circuits which will now be explained.

The first of these circuits is an operating circuit K which includes a cam actuated timing switch 151, a triple contact relay switch 152 having a normally closed contact 153 and a pair of normally open contacts 154, 155 and a relay solenoid 156 of a relay switch 157 having a pair of normally open contacts 158, 159. The cam of the timing switch 151 may be actuated in any suitable manner in time with the operating parts of the machine.

The timing switch 151 is maintained closed for approximately seven-eighths of every cycle of the machine. During this normally closed period of the switch, electric energy from a suitable source of power, such as a generator 161 passes along the circuit as follows, from the generator along a main lead wire 162, a wire 163, closed timing switch 151, wires 164, 165, through the closed contact 153 of the triple contact switch 152, along a wire 166, through the relay solenoid 156, a wire 167, and thence back to the generator along a return wire 168. Electric energy flowing along this circuit energizes the relay solenoid 156.

Energizing of the relay solenoid 156 of relay switch 157 closes its two normally open contacts 158, 159 to form parts of two new circuits L and

M. Circuit L is a holding circuit for maintaining the relay solenoid 156 energized. This circuit receives electric energy from the timing switch wire 164 of operating circuit K. The energy passes along a wire 171 which connects with wire 164, through closed contacts 158 of the switch 157, along a wire 172 connecting with the relay solenoid 156, through the solenoid 156, and thence along wires 167, 168 which return to the generator. This holding circuit cuts out the normally closed contacts 153 of the triple contact switch 152.

The circuit M is not yet complete and reference to it will be passed over for the time being.

When the holding circuit L is established a new operating circuit N is formed. This operating circuit N includes a normally open auxiliary timing switch 175 and a relay solenoid 176 of the triple contact switch 152. The auxiliary timing switch 175 is cam operated in any suitable manner in time with the moving parts of the machine. This timing switch is normally open for approximately fifteen-sixteenths of every cycle of the machine and is closed for only one-sixteenth of the cycle.

During the period when the auxiliary timing switch 175 is closed the operating circuit N is complete and electric energy flows from the generator wire 162 along a connecting wire 178, closed timing switch 175, connecting wires 179, 181, through the relay 176 of the triple contact switch 152, and returns to the generator along a wire 182 and the return wire 168. Electric energy passing along this circuit energizes the relay solenoid 176. Energizing of the solenoid moves the triple contact switch 152 and thus opens its normally closed contacts 153 and closes the two normally open contacts 154, 155.

Closing of the normally open contact 154 of the triple contact switch 152 establishes the holding circuit M hereinbefore mentioned. This circuit M holds the relay solenoid 176 energized so that the auxiliary timing switch 175 may open breaking the operating circuit N without affecting the solenoid. This holding of the solenoid is brought about by energy which is received from the generator lead wire 162 and which flows through the closed contacts 159 of the double contact switch 157, along a wire 185, closed contacts 154 of the triple contact switch 152, a wire 186, wire 181, relay solenoid 176, and return wires 182, 168.

Closing of the normally open contact 155 of the triple contact switch 152 completes a latch solenoid circuit P which includes the latch solenoid 132. Electric energy for this circuit is received from the generator wire 162 and flows along a connecting wire 191, closed contacts 155 of the triple contact switch 152, a wire 192, latch solenoid 132, a connecting wire 193 and return wire 168. Energy flowing along this circuit maintains the latch solenoid 132 energized.

Now it will be readily seen, from an inspection of the wiring diagram, that the maintenance of the latch solenoid 132 in a normally energized condition depends solely upon maintaining the holding circuit L closed, such circuit including the relay solenoid 156 of the double contact switch 157. The maintenance of the relay solenoid 156 in an energized condition depends in its turn upon the main timing switch 151 in the operating circuit K.

In the operation of testing the can tops D for the presence of staples C as hereinbefore described, the main timing switch 151 is operated in

conjunction with the testing contacts 43, 44 of the detector slide 21 as will now be explained. With the main timing switch 151 closed and the latch solenoid 132 energized, the detector slide 21 moves up toward a can top D at the testing station, its testing contacts 43, 44 coming into position against the top at the place where the staple C should be. The timing switch 151 then momentarily opens.

The wires 61, 62 connecting with the testing contacts 43, 44 connect, respectively, with the generator wire 162 and the timing switch wire 164. Hence when the timing switch 151 opens, the testing contacts 43, 44 and the staple C, if one is in place, are brought in as parts of the holding circuit L. In other words, if a staple C is in place in the top D and is not broken, when the timing switch is opened, electric energy passes from the generator wire 162, along wire 61, closed contacts 56, 54, wire 48, contact 43, staple C, contact 44, wire 49, closed contacts 55, 57, wire 62, then along wire 171, closed contacts 158 of the double contact switch 157, wire 172, relay solenoid 156, and return wires 167, 168.

Thus the holding circuit L is maintained closed during the time the testing contacts 43, 44 are in engagement with the perfect staple C and when the timing switch 151 is open. Before the testing contacts 43, 44 are withdrawn from the staple by the lowering of the detector slide 21, the timing switch again closes. Hence the other holding circuit M and the latch solenoid circuit P are maintained closed and this keeps the latch solenoid in an energized condition.

It is this holding action of the circuits through the staple C that holds the latch lever 116 away from the lifter 75 and thus permits the lifter to stack these good can tops D into the magazine, as hereinbefore described. As long as can tops with good staples are passing through the detector station, the holding circuits remain closed and hence the latch solenoid remains energized.

However, if the staple C is broken or is entirely missing from the can top D when the testing contacts 43, 44 come into position against it, electric energy is interrupted when the timing switch 151 opens, the holding circuit thus being broken. This de-energizes the relay solenoid 156 and permits the two contacts 158, 159 of the double contact switch 157 to open and the holding circuit M is broken also.

Breaking of circuit M permits the triple contact switch 152 to operate and its contacts 154, 155 open, while reclosing its contact 153. Thus the latch solenoid circuit P is broken and the latch solenoid 132 is de-energized. It is this de-energizing action on the latch solenoid that locks the lifter 75 against movement.

The closing of the timing switch 151 immediately following the detection of an abnormal can top D recloses the operating circuit K and thus reestablishes the holding circuit L. However, the closing of the auxiliary timing switch 175 to reestablish the holding circuit M and latch solenoid circuit P is delayed until that part of the cycle of the machine is reached when the lifter is at the bottom of its stroke as when its operating cam is holding it down. At this part of the cycle, the latch may be easily withdrawn when the latch solenoid is again energized to free the lifter. The stacking of good can tops D into the magazine thereupon continues.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form,

construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a detecting and stacking mechanism for fibre container parts each secured together with an electric current conducting wire staple, the combination of feeding devices for advancing container parts along a predetermined path of travel through a plurality of stations, a movable staple detector element disposed at one station and having spaced electric current conducting portions engageable with spaced portions of said staple for conducting an electric current therethrough, means for moving said detector element toward and away from a container part to be tested, a magazine at another station for receiving container parts having staples properly positioned therein, a stacking device disposed in vertical alignment with said magazine and having means for moving the same toward and away from said magazine for elevating perfectly stapled container parts thereinto, actuating means for vertically reciprocating said stacking device towards and away from said magazine, a normally inactive latch device disposed adjacent said stacking device, and electric instrumentalities connecting with the spaced current conducting portions of said detector element also connecting with said latch device, said instrumentalities being operable when an electric circuit is completed to actuate said latch device to hold it in inactive position to render the stacking device operative upon the detection of a perfect container part, and operable when the detector element fails to complete a circuit to render the latch device active so as to hold the stacking device inoperative when a staple is missing or broken, whereby such improperly stapled container part will be prevented from being elevated into said magazine and will be discharged from the mechanism by further operation of said feeding devices.

2. In a detecting and stacking mechanism for fibre container parts each secured together with an electric current conducting wire staple, the combination of a support for a container part to be tested, a vertically movable staple detector element arranged adjacent said support and having spaced electric current conducting portions engageable with opposite ends of said staple for conducting an electric current through the staple, a magazine for container parts disposed adjacent said detector element, a vertically movable stacking element arranged below said magazine for lifting properly stapled container parts received thereon into said magazine, feeding devices for shifting the container parts from said detector element to said stacking element, actuating means for raising and lowering said detector and stacking elements simultaneously to test a container part while a previously tested properly stapled container part is stacked into the magazine, and electrically controlled instrumentalities responsive to an electric circuit connected with said spaced detector element current conducting portions and operable to hold the stacking element inoperative when such staple is missing or broken, whereby such improperly stapled container part will be prevented from being deposited in said magazine after being shifted from the detector element to the stacking element so that said improperly stapled

part will be discharged from the mechanism by continued operation of said feeding devices.

3. In a detecting and stacking mechanism for fibre container parts each secured together with an electric current conducting wire vertically movable staple, the combination of a staple detecting element including means for engaging spaced portions of said staple to conduct an electric current therethrough, a magazine disposed adjacent said detector element, a vertically movable stacking element disposed in vertical alignment with said magazine for elevating container parts having properly positioned staples into said magazine, actuating means for elevating said stacking element, a normally inoperative latch device disposed adjacent said stacking element, devices for shifting said latch device into and out of holding engagement with said stacking element, electro-mechanical means including electric circuits connected with the spaced staple engaging means of said detector element and operative in the absence of an electric current conducting circuit through said staple to shift said latch device into holding engagement with the stacking element to render the same inoperative when a staple is missing and when a staple is broken, thereby preventing improperly stapled container parts from being elevated into said magazine, and means movable in one direction to elevate said detector element for a detecting operation, said means when moved in the opposite direction depressing said stacking element relative to said magazine.

4. In a detecting and stacking mechanism for fibre container parts each secured together with an electric current conducting wire staple, the combination of a support for a container part to be tested, a vertically movable detector element having spaced electric current conducting portions engageable with opposite ends of a staple properly positioned in said container part, a shaft for moving said detector element towards and away from said container support, actuating means for rocking said shaft, a magazine disposed adjacent said detector element, a vertically movable and yieldable stacking element disposed below said magazine for lifting properly stapled container parts received thereon into said magazine, a cam on said shaft and engaging against said yielding stacking element for operating the same, and electrically controlled instrumentalities responsive to an electric circuit connected with said spaced detector element current conducting portions and operable to hold the stacking element inoperative against the action of its operating cam when a staple is missing or broken so that such improperly stapled container part will be prevented from being deposited in said magazine and will be discharged from the mechanism by said feeding devices.

5. In a detecting and stacking mechanism for composite fibre container parts each secured together with an electric current conducting wire staple, the combination of a support for the container part to be tested, a staple detector element arranged adjacent said support and having spaced electric current conducting portions engageable with opposite ends of said staple for conducting an electrical current through the staple, a magazine for container parts disposed adjacent said support, a normally active reciprocating stacking element arranged adjacent said magazine for moving properly stapled container parts into the magazine, feeding devices for shifting the container parts from said detector element to said

stacking element, means for reciprocating said stacking element through a stacking stroke and thence through a return stroke, and electrically controlled instrumentalities including a normally closed electric circuit connected with said detector element current conducting portions for controlling movement of said stacking element and operable when said electric circuit is broken by the detection of an imperfect container part by said detector element to hold said stacking element against movement through a stacking stroke to prevent stacking of such imperfect container part when a staple is missing or broken therein.

6. In a detecting and stacking mechanism for fibre container parts each secured together with an electric current conducting wire staple, the combination of a movable staple detector element having spaced electric current conducting portions engageable with spaced portions of said staple for conducting an electric current there-through, a magazine for receiving container

parts, a normally reciprocating stacking device disposed in alignment with said magazine for moving detected container parts into said magazine, a latch device positioned adjacent said stacking device and having engagement therewith only when an imperfect container part is detected to hold the same inoperative, and instrumentalities including a normally closed electric circuit connected with the spaced current conducting portions of said detector element and with said latch device to hold the latter out of engagement with said stacking device so long as current flows through properly positioned and unbroken staples to maintain said stacking device operative to stack all such perfect container parts into said magazine, said latch device being operative to prevent reciprocation of said stacking device when a missing or broken staple interrupts the passage of electric current through said instrumentalities.

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