Nov. 3, 1970 C. G. SEVERANCE 3,537,933

MULTIPLE LABEL DISPENSER

Filed April 18, 1967 2 Sheets-Sheet 1

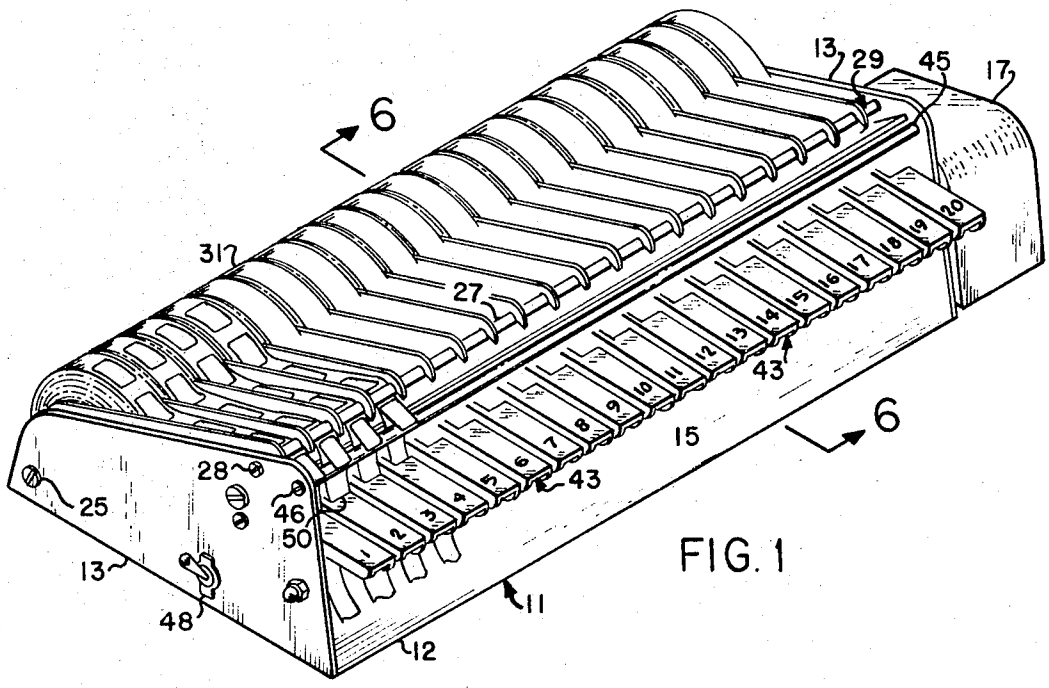


FIG. 1

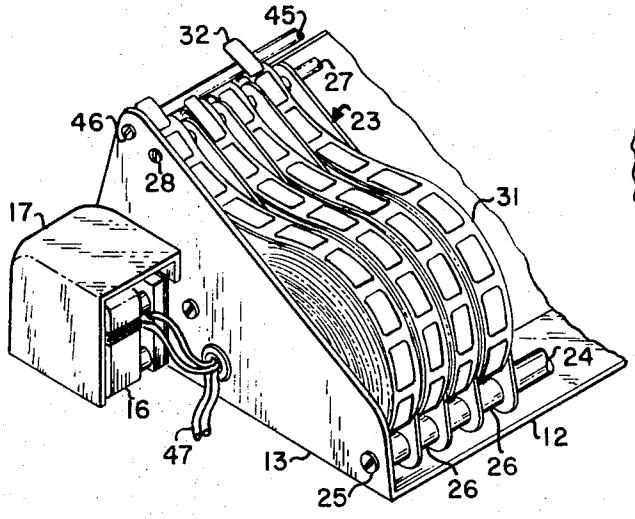


FIG. 2

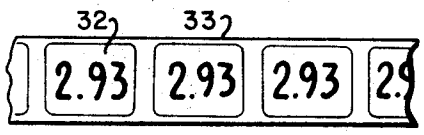


FIG. 3

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Nov. 3, 1970 C. G. SEVERANCE 3,537,933

MULTIPLE LABEL DISPENSER

Filed April 18, 1967 2 Sheets-Sheet 2

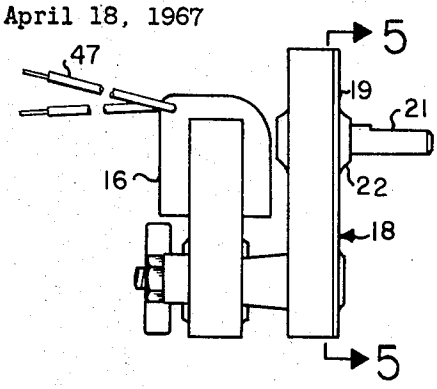


FIG. 4

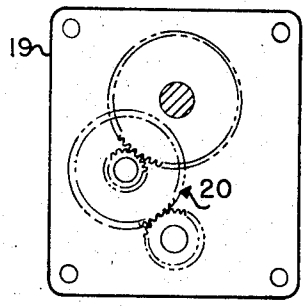


FIG. 5

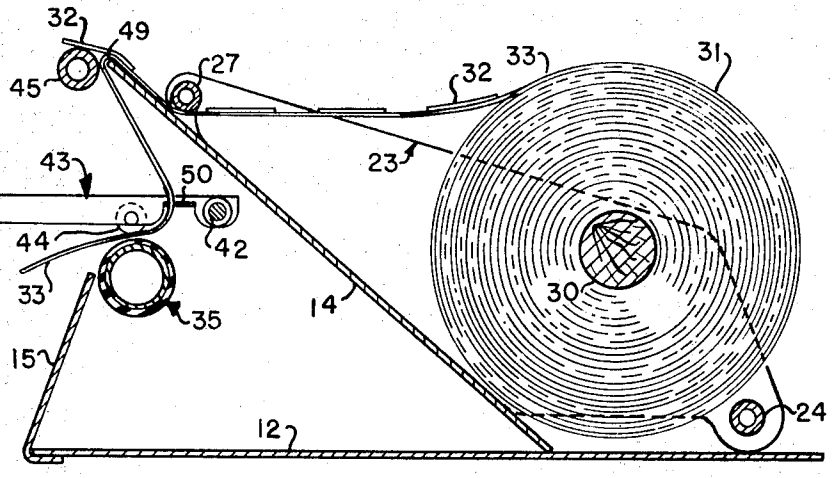


FIG. 6

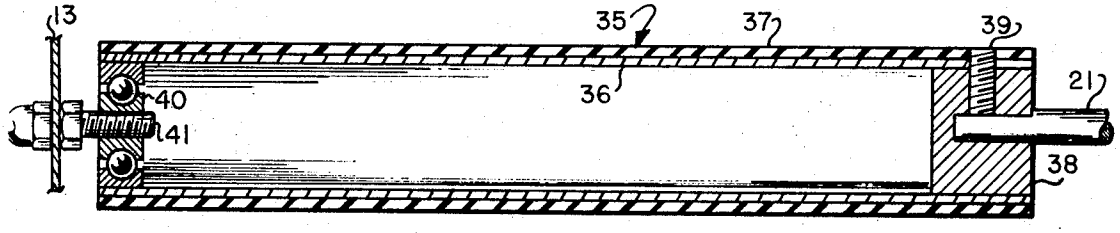


FIG 7

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MULTIPLE LABEL DISPENSER

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Filed Apr. 18, 1967, Ser. No. 631,629
Int. Cl. B32b
U.S. Cl. 156—344 15 Claims

ABSTRACT OF THE DISCLOSURE

The drive roller of a label dispenser rotates continuously during and between advancements of label-bearing carriers, those carriers normally lie close to but are not advanced by said drive roller, and finger-actuated keys are selectively moved to press said carriers against said drive roller and thereby effect advancements of said carriers.

Dispenser is designed as a time and labor saving device for utilization in conjunction with a mass production photo copy plant producing numerous packets requiring related but varied labeling. The dispenser comprises a series of preprinted glassine rolls carrying gummed labels, an electric motor drives a main roller dispensing a glassine strip upon selective pressure contact by a key roller. A sharp reflex angular turn in the track of the glassine detaches the gummed labels projecting them onto a serrated label bar. The multiple rolls selectively activated by multiple keys lend themselves to pre-computation of various but comparable priced packets.

Present conventional methods of labeling such as hand lettering of prices on packets of photographic prints is time consuming and conductive to error.

Pricing stamps frequently utilized in grocery stores are not satisfactory for pricing of packets of varied quantities and prices.

Pre-printed tear labels on singular rolls are extremely inefficient from a time motion aspect.

Devices of the prior art are not designed to meet the problems usually inherent in mass photo copy production. The problems of pricing for developing the negative film rolls plus various multiple copies in an efficient manner, eliminating errors while conserving time and man power prompted this invention.

The preferred embodiment utilizes a bank of twenty (20) pre-printed label rolls, selectively dispensed by depressing one (1) of twenty (20) keys. The first roll of priced labels is pre-printed to specify the cost of processing a roll of film and printing one (1) photograph. The second label roll and subsequent label rolls reflect the cost of processing the film plus two (2) or more copies. The operator of the machine need only observe the number of prints contained in the packet, then momentarily depress a corresponding key which will dispense the pre-computed gummed label. In processing numerous packets of photographs of varied numbers of prints the time conserved and accuracy achieved are obvious.

A primary object of this invention was to conserve

time and man hours in the labeling of packets of photo prints.

Another object was to accomplish increased accuracy in price computation.

Another object was to improve legibility of the price markings on labels while improving the appearance of the product to the customer.

Other objects and advantages of subject invention will be apparent to those familiar with the art of photo processing and merchandising from a study of the following views and detailed description and claims.

FIG. 1 is a front isometric view of the multiple label dispenser disclosing principally the multiple keys, rolls of labels, the dispensing bar, and the on and off switch.

FIG. 2 is a partial rear isometric view of the device disclosing principally the electric drive means and the mounting means for the multiple rolls.

FIG. 3 is a partial view of a portion of a roll of gummed labels adhering to a glassine strip.

FIG. 4 is an elevation view of the electric drive motor, the transmission, and the drive shaft.

FIG. 5 is a section view of the gear box taken on line 5—5 of FIG. 4 looking in the direction of the arrows.

FIG. 6 is a sectional view of the device taken on line 6—6 of FIG. 1 looking in the direction of the arrows.

FIG. 7 is a plan view, on a larger scale, of the drive roller partially in section.

Referring now in detail to the various views wherein like reference characters will be utilized to designate identical or corresponding components throughout the several views and the detailed description.

Referring now with particular reference to FIGS. 1, 2, and 6, the components of the device are mounted on a chassis **11**, which is formed from sheet metal and comprises a base plate **12** with two (2) perpendicular end brackets **13**, intermediately secured to base plate **12** and the end brackets angularly positioned is a central chassis member which will be referred to as a label dispensing feed slope **14**. At the front of the device secured to the base plate **12** and the end brackets **13** sloping inward is the front cover plate **15**.

Mounted on the exterior of an end bracket **13** is an electric drive motor **16** partially covered by a motor shield **17**. The drive motor of the preferred embodiment was one (1) one-hundredth ($\frac{1}{100}$) horse power operating at three thousand (3000) r.p.m. This necessitated the incorporation in the device of a transmission **18**. FIGS. 4 and 5, including a housing **19** with a series of reduction gears **20** reducing the r.p.m. of the output shaft **21** to fifty (50) r.p.m. At the juncture of the motor housing **19** and the drive shaft **21** is a shaft bearing **22**. Mounted in the chasis **11** is a series of identical label reel brackets **23**; the details of construction are best shown in FIG. 6. The brackets **2** are pivotally mounted on bracket support **24** which is secured to the end brackets **13** by reel bracket screws **25**. The reel brackets **23** are maintained in a properly spaced relationship at their pivot end by bracket dividers **26**, FIG. 2. The reel brackets **23** are properly positioned at their upper extremity by a reel bracket stop **27** which is mounted between the two (2) end brackets **13** by reel bracket stop screws **28**, FIGS. 1 and 2. There are a series of reel bracket dividers **29** provided on the reel bracket stop **27**, which maintains the brackets **23** in a

proper spaced relationship. The reel brackets **23** are provided with a large reel axle **30** on which a spool of gum labels **31** can be placed for dispensing. The gum labels **32** are uniformly spaced on a glassine carrier **33**.

Rotatably mounted between the two (2) end brackets **13** is a drive roller **35**, FIGS. 6 and 7, comprising a tubular body **36** and a yielding rubber or plastic friction surface **37**. One end of the drive roller **35** is adapted to receive the drive shaft **21** of the transmission **18**. The shaft **21** fits into a drive pulley **38** and is secured by an "Allen" screw **39**. The opposite end of the drive roller is provided with a ball bearing **40** which receives mounting stud **41** which is secured to an end bracket **13** of the chassis **11**.

Projecting for the length of the chassis **11** in the upper front of the device is key shaft **42** upon which is pivotally mounted a series of activating keys **43**. Rotatably mounted in each key **43** is a key roller **44**, FIG. 6. Extending the full length of the chassis at its forward upper most extremity is a label dispensing bar **45** which is secured to the end brackets **13** by dispensing bar screws **46**, FIGS. 1 and 2. The device is provided with electrical conductors **47** adapted to be connected to an external source of electricity. The device is also provided with an on off toggle switch **48** for activating and deactivating the device.

To place the multiple label dispenser in operation for its preferred use, a label roll is selected for the reel bracket **23** corresponding with key **1** which contains pricing labels for developing one (1) roll of film and producing one (1) print. The roll of labels selected for the reel bracket corresponding with key **2** would be printed to designate the price for the total cost of one (1) roll and two (2) prints. This progression is followed until the series of twenty (20) brackets corresponding with the keys have been filled. The threading of the device and its mode of operation on one (1) key is best illustrated in FIG. 6. A roll of labels **31** is placed on a reel axle **30**, the glassine carrier **33** with labels **32** is retained between and guided by the reel brackets **23**. The glassine carrier **33** is threaded over the apex **49** of the dispensing feed slope **14** and under the label dispensing bar **45**. The glassine carrier **33** is further threaded downward through a slot **50** in the key and through the space between the key roller **44** and the drive roller **35**. With the toggle switch **48** on and the device in operation, if a key **43** is depressed, the glassine carrier **33** will be pulled through the rollers **44** and **35**. As the glassine negotiates the reflex angular turn at the apex **49**, a gummed label will become detached from the glassine carrier **33** and the label will be deposited on the dispensing bar **45**.

An operator in using the machine in the preferred manner need only determine the total prints in a packet and momentarily depress the corresponding key and a pre-printed accurate label is dispensed.

This device in its preferred embodiment has been more particularly described for utilization in conjunction with photo processing producing prints in substantial quantities. What is desired to be claimed is all equivalent uses and modification which do not depart from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. A label dispensing device comprising:

(a) a chassis that receives a spool in the form of a wound elongated strip;

(b) a drive roller mounted for rotation in said chassis to help effect advancements of said elongated strip;

(c) means to rotate said drive roller continuously during advancements, and between advancements, of said elongated strip;

(d) an activating key operably associated with said drive roller;

(e) said activating key having a normal position and a moved position;

(f) a surface on said activating key that confronts said drive roller;

(g) said elongated strip being disposed between said surface on said activating key and said drive roller;

(h) said surface on said activating key forcing said elongated strip into intimate engagement with said drive roller, and thereby coacting with said drive roller to effect advancement of said elongated strip, whenever said activating key is in said moved position;

(i) said surface on said activating key being spaced far enough from said drive roller, whenever said activating key is in said normal position, to enable said elongated strip to come to rest even though said drive roller is rotating continuously;

(j) said activating key being movable from said normal position to said moved position by the application of finger pressure thereto but automatically returning to said normal position as soon as said finger pressure is released;

(k) whereby prompt and immediate advancement, and prompt and immediate cessation of advancement, of said elongated strip is effected by the application and release of finger pressure to said activating key.

2. A label dispensing device as claimed in claim **1** wherein a pivot rotatably supports said activating key, wherein said surface on said activating key is a roller that is rotatably mounted on, and movable with, said activating key, wherein said activating key has a finger-receiving portion, and wherein said roller is intermediate said finger-receiving portion of said activating key and said pivot that rotatably supports said activating key.

3. A label dispensing device as claimed in claim **1** wherein said surface on said activating key is a roller that is rotatably mounted on, and movable with, said activating key, wherein said activating key has an opening therethrough which is wide enough and long enough to freely accommodate the cross section of said elongated strip; said elongated strip is advanced successively from said spool to and through said opening in said activating key and between and beyond said drive roller and said roller that is rotatably mounted on, and movable with, said activating key.

4. A label dispensing device as claimed in claim **1** wherein a bracket is rotatably mounted on said chassis, wherein a second bracket is rotatably mounted on said chassis, wherein said brackets are spaced apart and are disposed adjacent the opposite faces of said spool, wherein an axle is supported by said brackets and supports said spool, wherein said brackets are rotatable between a normal position and a loading position to move said axle and said spool between a normal position and a loading position, wherein said axle is separable from at least one of said brackets, while said brackets are in said loading position, to facilitate the positioning of said spool between said brackets and on said axle, wherein said brackets are thereafter movable to the normal positions thereof to move said spool to said normal position thereof.

5. A multiple label dispenser comprising:

(a) a chassis that receives a plurality of spools in the form of wound elongated strips;

(b) said spools being spaced axially of each other;

(c) a drive roller mounted for rotation in said chassis to help effect advancements of said elongated strips;

(d) means to rotate said drive roller continuously during advancements, and between advancements, of said elongated strips;

(e) a plurality of activating keys operably associated with said drive roller;

(f) each of said activating keys having a normal position and a moved position;

(g) a surface on each of said activating keys that confronts said drive roller;

(h) one of said elongated strips being disposed between said surface on one of said activating keys and said drive roller;

(i) another of said elongated strips being disposed be-

tween said surface on another of said activating keys and said drive roller;

(j) said surface on said one activating key forcing said one elongated strip into intimate engagement with said drive roller, and thereby coacting with said drive roller to effect advancement of said one elongate strip, whenever said one activating key is in its moved position;

(k) said surface on said one activating key being spaced far enough from said drive roller, whenever said one activating key is in its normal position, to enable said one elongated strip to come to rest even though said drive roller is rotating continuously;

(l) said surface on said other activating key forcing said other elongated strip into intimate engagement with said drive roller, and thereby coacting with said drive roller to effect advancement of said other elongated strip, whenever said other activating key is in its moved position;

(m) said surface on said other activating key being spaced far enough from said drive roller, whenever said other activating key is in its normal position, to enable said other elongated strip to come to rest even though said drive roller is rotating continuously;

(n) said activating keys being individually movable from their normal positions to their moved positions by the application of finger pressure thereto but automatically returning to their normal positions as soon as said finger pressure is released;

(o) whereby prompt and immediate advancement, and prompt and immediate cessation of advancement, of said one or said other elongated strip is effected by the application and release of finger pressure to said one or said other activating key, respectively.

6. A multiple label dispenser as claimed in claim **5** wherein a pivot rotatably supports said one and said other activating keys, wherein said surface on said one activating key is a roller that is rotatably mounted on, and movable with, said one activating key, wherein said one activating key has a finger-receiving portion, wherein said roller on said one activating key is intermediate said finger-receiving portion of said one activating key and said pivot that rotatably supports said one and said other activating keys, wherein said surface on said other activating key is a roller that is rotatably mounted on, and movable with, said other activating key, wherein said other activating key has a finger-receiving portion, wherein said roller on said other activating key is intermediate said finger-receiving portion of said other activating key and said pivot that rotatably supports said one and said other activating keys.

7. The method of selectively dispensing labels from a plurality of spools in the form of wound elongated strips which comprises:

(a) disposing said spools axially of each other;

(b) maintaining a driving surface in continuous motion during advancements, and between advancements, of said elongated strips;

(c) selectively applying pressure to a given one of said elongated strips without applying pressure to any of the other of said elongated strips;

(d) the pressure applied to said one elongated strip forcing said one elongated strip into intimate engagement with said continuously moving driving surface and thereby enabling said continuously moving driving surface to enforce advancement of said one elongated strip;

(e) said continuously moving driving surface enforcing advancement of said one elongated strip throughout the entire time said pressure is applied to said one elongated strip;

(f) releasing the pressure applied to said one elongated strip to enable said one elongated strip to come to rest although said one elongated strip is immediately adjacent said continuously moving driving surface;

(g) selectively applying pressure to another of said elongated strips without applying pressure to any of the other of said elongated strips;

(h) the pressure applied to said other elongated strip forcing said other elongated strip into intimate engagement with said continuously moving driving surface and thereby enabling said continuously moving driving surface to enforce advancement of said other elongated strip;

(i) said continuously moving driving surface enforcing advancement of said other elongated strip throughout the entire time said pressure is applied to said other elongated strip; and

(j) releasing the pressure on said other elongated strip to enable said other elongated strip to come to rest although said other elongated strip is immediately adjacent said continuously moving driving surface.

8. The method of selectively dispensing labels as claimed in claim **7** wherein said one elongated strip is bent sharply as it passes adjacent a discharge station during its advancements from one of said spools to said continuously moving driving surface to cause said one elongated strip to deposit labels at said discharge station, and wherein said other elongated strip is bent sharply as it passes adjacent a second discharge station during its advancements from another of said spools to said continuously moving driving surface to cause said other elongated strip to deposit labels at said second discharge station.

9. The method of selectively dispensing labels as claimed in claim **7** wherein said one elongated strip is guided upwardly toward and past a discharge station and then is guided downwardly toward said continuously moving driving surface, and wherein said other elongated strip is guided upwardly toward and past a second discharge station and then is guided downwardly toward said continuously moving driving surface.

10. A label dispensing device as claimed in claim **1** wherein said activating key has an opening therethrough which is wide enough and long enough to freely accommodate the cross section of said elongated strip, wherein said elongated strip is advanced successively from said spool to and through said opening in said activating key and between and beyond said drive roller and said surface on said activating key, and wherein said opening in said activating key extends to and communicates with one side edge of said activating key to give said opening the configuration of a notch and thereby facilitate the introduction of said elongated strip into said opening in said activating key.

11. A label dispensing device comprising:

(a) a chassis that receives a spool in the form of a wound elongated strip;

(b) a drive roller mounted for rotation in said chassis to help effect advancements of said elongated strip;

(c) means to rotate said drive roller continuously during advancements, and between advancements, of said elongated strip;

(d) an activating key operably associated with said drive roller,

(e) said activating key having a normal position and a moved position,

(f) a surface on said activating key that confronts said drive roller.

(g) said elongated strip being disposed between said surface on said activating key and said drive roller,

(h) said surface on said activating key forcing said elongated strip into intimate engagement with said drive roller, and thereby coacting with said drive roller to effect advancement of said elongated strip, whenever said activating key is in said moved position,

(i) said surface on said activating key being spaced far enough from said drive roller, whenever said activating key is in said normal position, to enable said

elongated strip to come to rest even though said drive roller is rotating continuously,

(j) said activating key being movable from said normal position to said moved position by the application of finger pressure thereto but automatically returning to said normal position as soon as said finger pressure is released,

(k) whereby prompt and immediate advancement, and prompt and immediate cessation of advancement, of said elongated strip is effected by the application and release of finger pressure to said activating key,

(l) a bracket rotatably mounted on said chassis,

(m) a second bracket rotatably mounted on said chassis,

(n) said brackets being spaced apart and being disposed adjacent the opposite faces of said spool,

(o) an axle that is supported by said brackets and that supports said spool,

(p) said brackets being rotatable between a normal position and a loading position to move said axle and said spool between a normal position and a loading position,

(q) said axle being separable from at least one of said brackets, while said brackets are in said loading position, to facilitate the positioning of said spool between said brackets and on said axle,

(r) said brackets thereafter being movable to the normal positions thereof to move said spool to the normal position thereof,

(s) means guiding said elongated strip in its advancements from said spool to said drive roller,

(t) said guiding means enabling said drive roller and said surface on said activating key to apply forces to said elongated strip which urge said spool and said brackets to remain in their normal positions.

12. A multiple label dispenser as claimed in claim **5** wherein said one activating key has an opening therethrough which is wide enough and long enough to freely accommodate the cross section of said one elongated strip, wherein said one elongated strip is advanced successively from one of said spools to and through said opening in said one activating key and between and beyond said drive roller and said surface on said one activating key, wherein said other activating key has an opening therethrough which is wide enough and long enough to freely accommodate the cross section of said other elongated strip, wherein said other elongated strip is advanced successively from another of said spools to and through said opening in said other activating key and between and beyond said drive roller and said surface on said other activating key, wherein said opening in said one activating key extends to and communicates with one side edge of said one activating key to give said opening the configuration of a notch and thereby facilitate the introduction of said one elongated strip into said opening in said one activating key, and wherein said opening in said other activating key extends to and communicates with one side edge of said other activating key to give said opening the configuration of a notch and thereby facilitate the introduction of said other elongated strip into said opening in said other activating key.

13. A multiple label dispenser as claimed in claim **5** wherein said surface on said one activating key is a roller that is rotatably mounted on, and movable with, said one activating key, wherein said surface on said other activating key is a roller that is rotatably mounted so, and movable with, said other activating key, wherein said one activating key has an opening therethrough which is wide enough and long enough to freely accommodate the cross section of said one elongated strip, wherein said one elongated strip is advanced successively from one of said spools to and through said opening in said one activating key and between and beyond said drive roller and said roller that is rotatably mounted on, and movable with, said one activating key, wherein said other activating key has an opening therethrough which is wide enough and long enough to freely accommodate the cross section of said other elongated strip, and wherein said other elongated strip is advanced successively from another of said spools to and through said opening in said other activating key and between and beyond said drive roller and said roller that is rotatably mounted on, and movable with, said other activating key.

14. A multiple label dispenser as claimed in claim **5** wherein a bracket is rotatably mounted on said chassis, wherein a second bracket is rotatably mounted on said chassis, wherein a third bracket is rotatably mounted on said chassis, wherein the first said and said second brackets are spaced apart and are disposed adjacent the opposite faces of one of said spools, wherein said second and said third brackets are spaced apart and are disposed adjacent the opposite faces of another of said spools, wherein an axle is supported by said brackets and supports said one and said other spools, wherein said brackets are rotatable between a normal position and a loading position to move said axle and said one and said other spools between a normal position and a loading position, wherein said axle is separable from said second and said third brackets, while said brackets are in said loading position, to facilitate the positioning of said one spool between said first said and said second brackets and to facilitate the positioning of said other spool between said second and said third brackets and on said axle, and wherein said brackets are thereafter movable to the normal positions thereof to move said one and said other spools to the normal positions thereof.

15. A multiple label dispenser comprising:

(a) a chassis that receives a plurality of spools in the form of wound elongated strips;

(b) said spools being spaced axially of each other;

(c) a drive roller mounted for rotation in said chassis to help effect advancements of said elongated strips;

(d) means to rotate said drive roller continuously during advancements, and between advancements, of said elongated strips;

(e) a plurality of activating keys operably associated with said drive roller;

(f) each of said activating keys having a normal position and a moved position;

(g) a surface on each of said activating keys that confronts said drive roller;

(h) one of said elongated strips being disposed between said surface on one of said activating keys and said drive roller;

(i) another of said elongated strips being disposed between said surface on another of said activating keys and said drive roller;

(j) said surface on said one activating key forcing said one elongated strip into intimate engagement with said drive roller, and thereby coacting wtih said drive roller to effect advancement of said one elongated strip, whenever said one activating key is in its moved position;

(k) said surface on said one activating key being spaced far enough from said drive roller, whenever said one activating key is in its normal position, to enable said one elongated strip to come to rest even though said drive roller is rotating continuously;

(l) said surface on said other activating key forcing said other elongated strip into intimate engagement with said drive roller, and thereby coacting with said drive roller to effect advancement of said other elongated strip, whenever said other activating key is in its moved position;

(m) said surface on said other activating key being spaced far enough from said drive roller, whenever said other activating key is in its normal position, to enable said other elongated strip to come to rest even though said drive roller is rotating continuously;

(n) said activating keys being individually movable from their normal positions to their moved positions

by the application of finger pressure thereto but automatically returning to their normal positions as soon as said finger pressure is released;

(o) whereby prompt and immediate advancement, and prompt and immediate cessation of advancement, of said one or said other elongated strip is effected by the application and release of finger pressure to said one or said other activating key, respectively;

(p) means guiding said one elongated strip in its advancements from one of said spools to said drive roller;

(q) said means guiding said one elongated strip toward and past a discharge station;

(r) said one activating key being in register with and close to said discharge station;

(s) further means guiding said other elongated strip

in its advancements from another of said spools to said drive roller;

(t) said further means guiding said other elongated strip toward and past a second discharge station;

(u) said other activating key being in register with and close to said second discharge station.

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SAMUEL FEINBERG, Primary Examiner

U.S. Cl. X.R.

156—584; 221—73