May 13, 1958 J. D. VAN BUSKIRK 2,834,284

ARTICLE MARKING

Filed Nov. 14, 1952 2 Sheets-Sheet 1

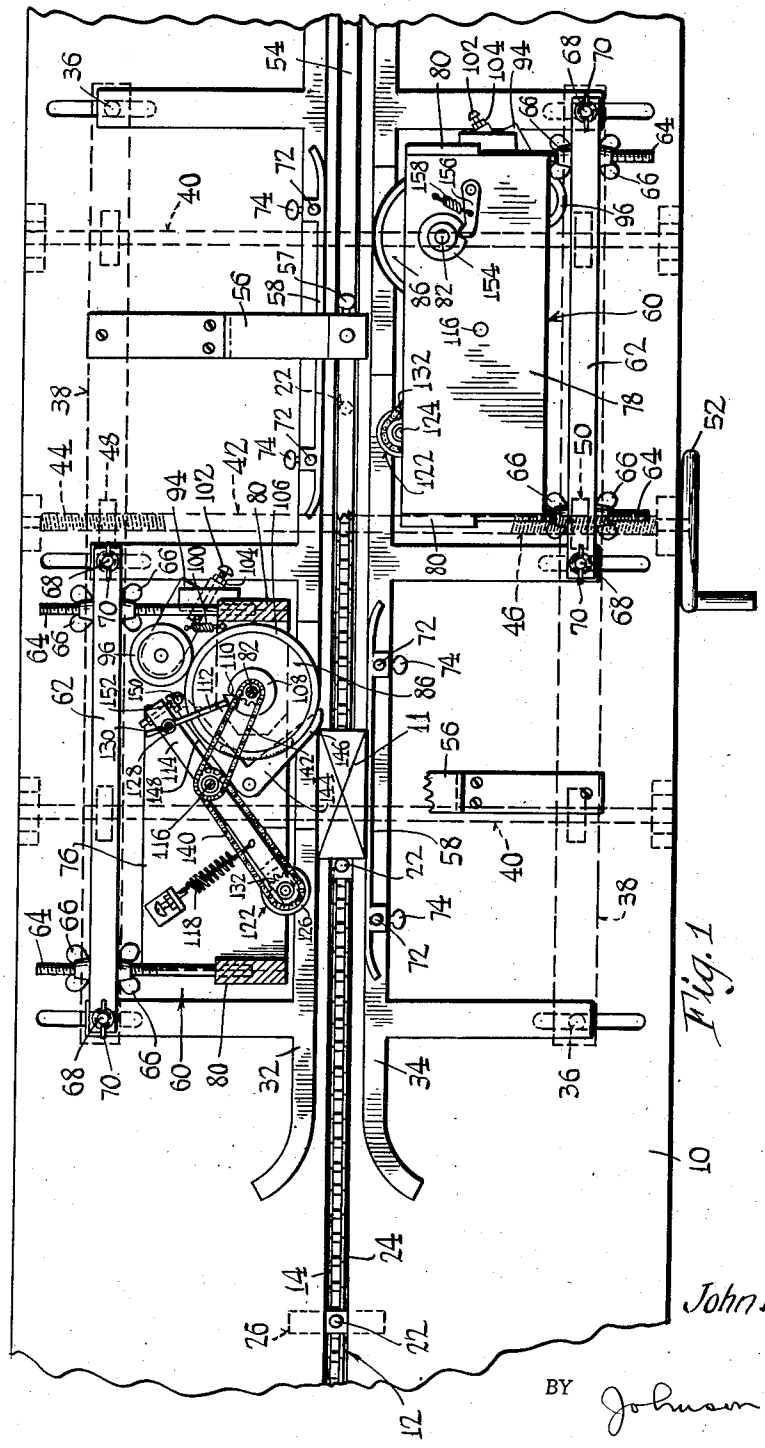


Fig. 1

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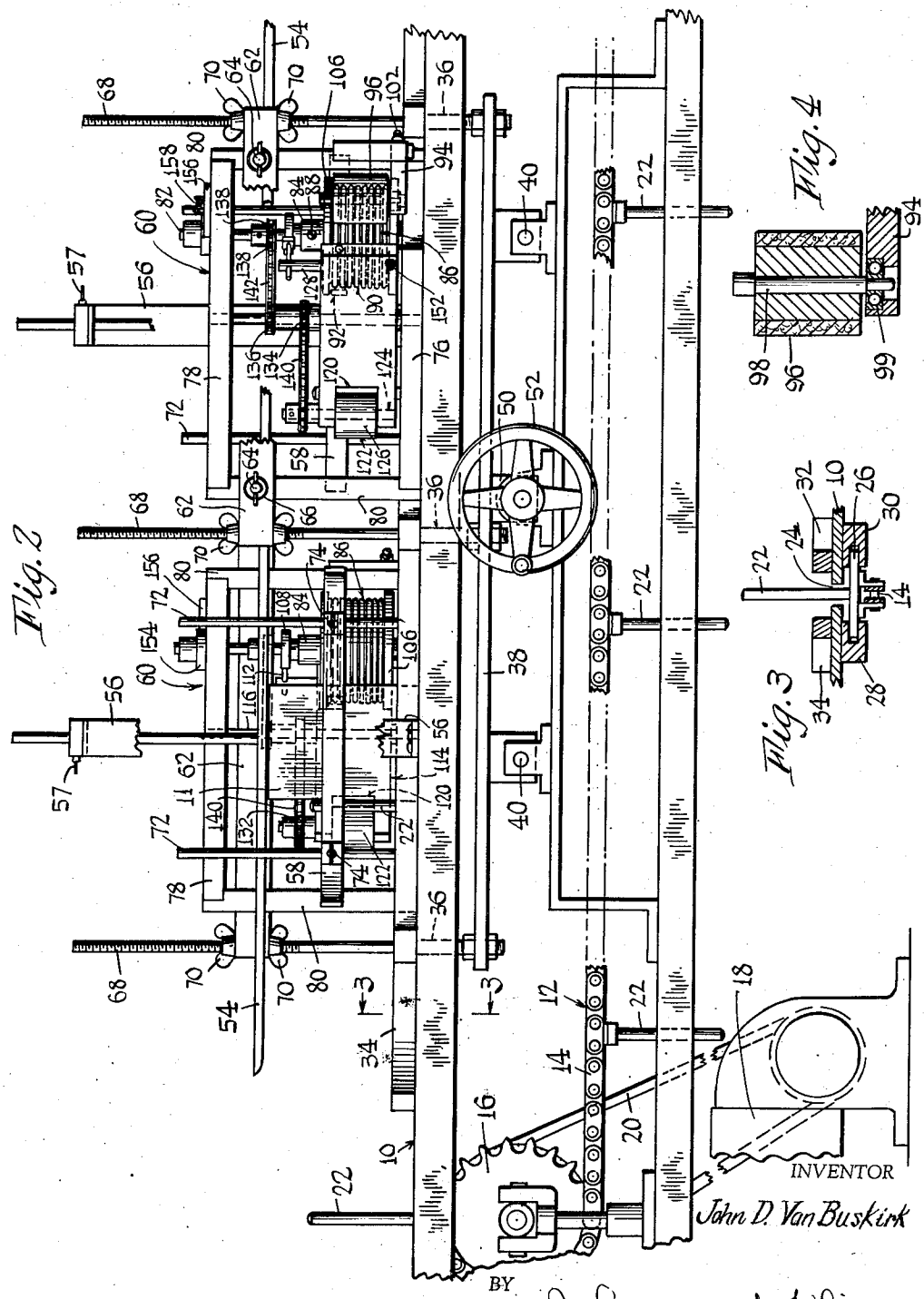


Fig. 2

Fig. 4

Fig. 3

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2,834,284

ARTICLE MARKING

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Application November 14, 1952, Serial No. 320,463

12 Claims. (Cl. 101—35)

This invention relates to printing, and more particularly to improved apparatus for printing a mark on the surface of each of a series of articles such as packages, boxes, cartons, and the like.

In the packaging of bulk merchandise in shelf packages for release into commercial channels, for example, it is frequently found that the printing of identifying labels on the containers used would be most readily and economically effected as one of the last steps in the packaging process. This is especially the case where a large variety of sizes and shapes of packages is being used, and where the type or size of package employed for any single commodity may have to be varied from time to time. If the boxes as manufactured or purchased are complete as to labeling of contents, weights, etc. it can be seen that an extremely large inventory of boxes would be required to take care of all possibilities. However, if it were possible to apply certain critical elements of the box marking at the time of filling the box, the number of boxes required on hand of any particular size or shape could be greatly reduced, and losses from unused boxes due to improper labeling could be discontinued.

Heretofore there have been available, marking devices which could place a code mark or other functional indicia on an article such as a filled box or carton, but these have been designed primarily for large quantity production lines where uniform containers are being handled, and hence were incapable either of the flexibility necessary to handle readily a variety of different sized and shaped containers, or of making a suitably refined imprint properly centered and located on packages of various sizes and shapes in harmony with other printing or decoration already present on the package and without detriment to its trade dress.

The present invention has for its object the provision of a device for printing on boxes, packages or other articles which is arranged to be readily settable to accommodate packages of a wide range of sizes and shapes within the range for which the device is constructed and to make a finished imprint thereon at any desired location to register and harmonize imprinting quality with the decoration, if any, previously appearing on the article.

Another object of the invention relates to the printing of indicia on the sides of a series of like articles moving beside a printing drum of a given fixed diameter, and is to provide for the accurate location of the printing at a desired point on the article side even though the series may consist of articles of one size upon one occasion and of another size upon another. According to the invention this object is effected by locking the printing drum at a predetermined indexed position of rotation which will properly determine the relationship of the printing indicia to the article side for the particular size article being printed, unlocking the drum just as each article makes contact therewith to start a printing operation, and then, between article contacts, rotating the drum from whatever position it is found in after a printed article leaves it, to the locked position ready for another

printing operation. The method for effecting this object may further include the bringing about of the movement of the printing drum to locked position by relating the operation directly to the approach of an article about to be printed.

It is still another object of the invention to provide a printing machine having a printing drum which rotates in contact with the surface of the article being printed, and which may accordingly rotate through various angles depending upon the length of the drum contacting side, but in which means is provided for surely, accurately and rapidly returning the drum to a predetermined starting position between articles.

It is a feature of the present invention that the presetting of the printing drum is accomplished in each case by a mechanism operated by contact with the article about to be printed.

Still another feature of the invention is the ready settability of the position of the printing drum both axially and angularly about its axis to provide for accurate control of the location of the mark on the article.

A further feature of the invention is the provision of guides and a printing head on opposite sides of an article conveyor so arranged as to be simultaneously adjustable towards or away from the conveyor so that rapid adjustment for printing articles of various sizes can be made, the articles being maintained in accurately centered position on the conveyor.

Additional features and advantages will hereinafter appear.

In the accompanying drawing:

Figure 1 is a plan of the machine of this invention with a portion of the top guide and one of the printing heads broken away to illustrate the parts in detail.

Fig. 2 is a side elevation of the device shown in Fig. 1 with portions of the support members broken away to illustrate the structure more clearly.

Fig. 3 is a detail section taken substantially on line 3—3 of Fig. 2.

Fig. 4 is a detail section through the inking roller, drawn to a slightly larger scale and showing the mounting thereof.

Referring to the drawing, numeral **10** indicates a table along which the packages or boxes **11** to be printed are propelled. The movement of the package is brought about by means of a conveyor **12** which includes a continuously moving chain **14** carried by suitable sprockets, one of which is shown in Fig. 2 and identified by reference character **16**. The sprocket **16** may be driven by a suitable source of power e. g. a motor **18** and transmission belt **20**. Spaced pushers **22** are provided on the conveyor chain **14** and extend upwardly through a slot **24** in the table **10** to engage the packages and propel them past the printing position. Each pusher is associated with a cross bar **26** connected thereto and designed to ride with its ends in guide tracks **28** and **30** while the associated pusher is on the upper reach of the chain **14** in package contacting position, thus holding the pusher in a true central and vertical position.

At opposite sides of the slot **24** and extending substantially the length thereof against the upper surface of the table **10** are guide bars **32, 34** which engage the sides of a package near its base and help to guide the same past the printing position. The bars **32, 34** are each connected by vertical posts **36** to an actuating bar **38**, both of said actuating bars being slidable on horizontal guides **40**. A screw **42** mounted for rotation but fixed against axial motion has oppositely threaded end portions **44** and **46** which engage in correspondingly threaded nuts **48** and **50** affixed to the actuating bars **38**. By means of a hand wheel **52** on one end of the screw, the latter may be rotated in one direction to draw the guide bars **32, 34**

parallel to each other, towards each other and towards the centerline of the conveyor **12**, or in the opposite direction to cause the guide bars **32**, **34** to move parallel to each other, apart, and away from the centerline of the conveyor **12**.

An adjustable top guide **54** is carried by a pair of supports **56**, **56** upon which it is vertically adjustable, e. g. by means of set screws **57**, to accommodate packages of different heights. Additional short side guides **58** for the packages are provided, one on each side and in staggered relationship. These are vertically aligned one with each of the guide bars **32**, **34** and are rigidly connected thereto for adjusting movement therewith. They are preferably also made vertically adjustable in a manner and for a purpose which will subsequently appear.

Mounted on each of the guide bars **32**, **34** and positioned opposite that side guide **58** which is on the other guide bar, is a printing head **60** which serves to mark one side of a package **11** as it is carried between guide bars **32**, **34** by a pusher member **22** of the conveyor **12**. Each printing head **60** is preferably connected to a head support **62** by means of a pair of horizontal threaded rods **64** which pass through the support and are adjustably clamped thereto by a pair of nuts **66**. The support **62**, in turn, is also preferably carried by a pair of vertical threaded rods **68** which pass through it, together with pairs of clamp nuts **70** which make the support **62** fast in any desired vertical position on the rods **68**. The rods **68** are, in each case, rigidly affixed to the adjacent guide bar **32** or **34**.

From the foregoing description it can be seen that the printing head **60** and hence its printing height on the package **11** can be vertically adjusted by means of nuts **70**. In order to produce clear, accurate images it is preferred that the print be correctly backed up directly opposite the pressure center during printing. The side guides **58** are accordingly made vertically adjustable, for example, by being slidable on vertical posts **72** affixed to guide bars **32**, **34** and clampable thereon at any desired height by set screws **74**. The side guides **58**, therefore, are settable to directly oppose the printing action of the printing heads **60** and thus provide images of good quality on the faces of the boxes.

Each printing head **60** comprises a framework including a base plate **76**, a cap plate **78** and a pair of side members **80**, the latter each being rigidly connected with one end of one of the horizontal threaded rods **64** previously described. A printing drum support shaft **82** is rotatably mounted in plates **76**, **78** and has mounted thereon a sleeve **84** which is integral with a printing drum **86** and may be clamped to the shaft **82** in any desired rotated position by means of a set screw **88**. The printing drum includes a covering of grooved rubber sheeting **90** of known kind designed to frictionally grip and hold types or printing members such as type **92** of various sizes and shapes at selected positions on its surface. Hinged to the frame of the printing head **60** is an inker arm **94** which carries an absorptive roller **96** mounted on a spindle **98** which is rotatably supported in and readily removable from a bearing **99** at the free end of the arm **94**, and which extends parallel to shaft **82**. A spring **100** urges the inker arm **94** and hence the roller **96** towards the printing drum **60**. A stop consisting of a screw **102** is positioned so as to limit the swinging of the arm **94** towards the printing drum **60**, and may be adjusted so that the surface of the inking roller **96** will firmly engage the surface of the type **92** but will be held clear of the vacant areas on the inker drum which are unoccupied by type. A jam nut **104** may be applied to the screw **102** to insure the retention of the proper setting once arrived at. The absorptive body of the roller **96** is charged with a suitable fluid ink from time to time to insure proper inking of the type **92**, and this may be conveniently accomplished by lifting the roller from its bearing **99**.

The printing drum **60** also carries at its upper and lower peripheries, tires **106** of friction material, such as rubber, whose surfaces lie in the same cylindrical surface as the faces of type **92**, or possibly on a cylindrical surface of slightly smaller diameter. The tires **106** serve to bring about the rotation of the printing drum by contact with a package being carried along by the conveyor **12**, and the appropriate degree of contact with the package for this purpose may be adjusted by means of the clamp nuts **66** on the horizontal threaded rods **64**.

The machine of the present invention is capable of printing indicia at a location on a package which may be very accurately predetermined, and to this end the printing drum **86** has a predetermined rest or indexed position. This position is determined by a cam and locking wheel **108** which is substantially circular in outline but has a single V-shaped notch **110** in its periphery. The wheel **108** is rigidly secured to the drum shaft **82** and cooperates with a stop member or dog **112** which projects from a control lever **114** rockable about the axis of a shaft **116** upon which it is supported between the base and cap plates **76** and **78**. A spring **118** urges the lever **114** in a direction to cause the dog **112** to engage with the periphery of wheel **108**, or to project the dog into the notch **110** when the latter is presented in the proper angular position.

The control lever **114**, at the other side of the shaft **116** from the dog **112**, is provided at its end with a notch or recess **120** in which is rotatably mounted a drum **122** affixed to a shaft **124**. The drum **122** may be referred to as an indexing drive drum and is provided with a suitable friction covering **126** of rubber or the like. The parts of the device are so proportioned that when the dog **112** is in the notch **110** of wheel **108**, the indexing drum is positioned to be out of contact with the side of a package moving along the conveyor and against the adjacent guide bar **32** or **34**, but when the dog **112** rests against the periphery of the wheel **108**, then the lever **114** is swung to a position such that the indexing drum **122** is flush with the adjacent guide bar **32** or **34**, or perhaps extends beyond the same and very slightly into the conveyor guideway to make firm frictional contact with the side of a package **11** being moved therethrough. In the form of the invention shown the dog **112** is mounted slidably in an upright **128** which is a rigid extension of the control lever **114**, and its position is fixed by means of a set screw **130** so that the corresponding position of the indexing drum **122** for the desired amount of package contact when the dog **112** is against the periphery of wheel **108** can be exactly set.

The purpose of the indexing drum **122** is to rotate the printing drum rapidly to its locked or indexed position between printing operations, and to this end the shaft **124** carries a drive sprocket **132**. On shaft **116** are rotatably mounted a pair of drivingly connected idler sprockets **134**, **136**, and on the printing drum shaft **82** is a driven sprocket **138**. A chain **140** drivingly connects sprockets **132** and **134**, while another chain **142** drivingly connects sprockets **136** and **138**. It can thus be seen that when the indexing drum **122** is in contact with the side of a moving package **11**, the indexing drum rotation thus induced causes the printing drum **86** to rotate in the same direction but the ratios are such that the printing drum **86** rotates much more rapidly than it does when its rotation is caused directly by contact with the surface of a package **11**.

When an approaching package **11** is about to be printed, the printing drum **86** must be unlocked to permit it to rotate in contact with the package, and this is accomplished by a trip lever **144** pivoted on the base plate and having a feeler arm **146** lying adjacent the periphery of the drum and normally projecting over and slightly beyond the guide bar **32** or **34**, into the conveyor guide-

way. The feeler arm **146** is so placed and dimensioned that when contacted by a package in the conveyor guideway it will complete its throw to a position flush with the edge of the guide bar **32** or **34** just as, or a fraction of an instant before, the leading corner of the package **11** comes into contact with the tires **106**. The lever **144** also has an operating arm **148** carrying a pin **150** which extends into the path of an adjustable tappet **152** on the control lever **114** adjacent to the mounting for the dog **112**. Thus the lever **144** is designed, by contact of its feeler arm with an approaching package **11**, to release the dog **112** from the notch **110** of locking wheel **108** against the force of spring **118** a fraction of an instant before the leading corner of the package **11** comes into contact with the tire **106** and before it starts to drive the printing drum. This timing of movements can be accurately set by regulating the length of the tappet **152**, so that the degree of extension of the feeler arm **146** into the guideway of the conveyor will correspond exactly to a throw of lever **144** just sufficient to bring the dog **112** out of the notch **110** and to a position to ride smoothly on the periphery of locking wheel **108**. The movement of trip lever **144**, of course, also actuates the control lever **114** and readies the indexing mechanism for operation at the same time that it releases the printing drum **86** for movement.

To insure that the printing drum **86** remains stationary and properly indexed during the fraction of an instant between the time when it begins to be unlocked and the time when the package **11** touches the tire **106**, there is provided a detent means in the form of a notched wheel **154** fixed on the shaft **82** and cooperating therewith a pawl **156** which is urged into the notch of the wheel by a spring **158**. The arrangement is such that the printing drum **86** is prevented from turning in a reverse direction, and is permitted to turn in a printing direction, but is lightly although significantly, restrained by friction from doing so while the pawl **156** is in the notch of the wheel **154**.

In the operation of the machine of this invention, the hand wheel **52** is turned to bring the guide bars **32**, **34**, to the proper spacing for the thickness of the package to be printed, and the top guide **54** is adjusted to the package height. The type **92**, suited to the printing job desired, is selected and is frictionally attached by forcing its cooperating base members into the grooves of the covering **90** on the printing drum **86** in a known manner. The type may be placed at any desired height on the drum **86** to correspond to the desired printing height on the package, or, if greater refinement of placement is needed than is furnished by the spacing of the type receiving grooves, or if adjustment beyond that provided for by the drum height is required, the height adjustment may be completed by setting the support **62** at the required elevation using clamp screws **70** on rods **68**.

The location of the type as to its centering or other predetermined placement along the side of the box being printed can be set by placing the printing drum in locked or indexed position and then determining the peripheral distance from the contact point that the type should be placed, equal to the corresponding distance along the box side measured from the leading edge. A few actual printing trials can then be made and the position of the type refined if necessary by loosening the set screw **88** and making a slight adjustment of the angular position of the drum on its shaft **82**.

In order to properly back up the printing to produce the best results, the set screws **74** should be loosened and the side guides **58** raised or lowered to correspond with the center of pressure of the type **92** on the drum **86**. Assuming then that all other parts are in normal adjustment, and ink has been supplied to the inking roller **96**, the machine is ready for printing operation.

The conveyor **12** is then started, and packages or boxes **11** to be marked are introduced, one ahead of each pusher **22**. As the first box approaches the printing head **60** it engages and rotates the indexing drum **122** which rapidly rotates the printing drum **86** to indexed position ready for printing. When the indexed position of the printing drum is reached, the dog **112** drops into the notch **110** in locking wheel **108** and thus simultaneously locks the printing drum and allows the spring **118** to withdraw the indexing drum away from the surface of the package **11** to disabled condition so that it undergoes no sliding contact with the indexing drum.

The package **11** then approaches the feeler arm **146** of the trip lever **144** and upon striking the same causes the operating arm **148** to release the dog **112** and permit the printing drum **86** to turn. Almost at the same instant the leading edge of the package **11** engages one or both of the tires **106** on the printing drum and starts a printing operation. Also, at the same time that the drum is unlocked, the indexing mechanism is cocked or activated and made ready for the next package. The package **11** is moved past the printing drum **86** by the pusher **22** and finally leaves the drum in some undetermined rotative position with the type **92** probably positioned somewhere between the departure point of the package **11** and the inking roller **96**.

As the next package **11** comes into position it rotates the activated indexing drum **122**, consequently rotating the printing drum **86** as before so that the type **92** is inked and then the printing drum is brought to indexed position ready for printing. The printing operation thereafter proceeds as previously described, and is continuously repeated with each succeeding package **11**.

If for any reason there is an interruption in the machine operation it will be seen that the last package to be printed will very likely leave the type **92** in position to be inked, and that the type will be inked immediately prior to the printing operation so that the first package of the subsequent run will receive a proper printing.

The device has been shown as including two printing heads **60**, one for printing each side of the package as it is moved along by the conveyor **12**. It will be understood, however, that if only a single marking is desired at each pass, an arrangement using only a single printing head **60** could be employed. Furthermore, the positioning of the printing head need not be limited to the positions shown in the drawing, for the device is capable of operating in any position and could be mounted, for example, to print on the top surface of the packages **11** without detriment to its operation provided the inking roller **96** were firmly secured on its arm **94** in any convenient fashion.

Upon careful consideration of the structure of the machine described in detail above, the same will be recognized as characterized by and embodying certain novel method operations and steps which distinguish it clearly from devices using previous methods of marking on packages by means of rotary printing drums. Particularly important are the steps of locking the printing drum in indexed position, unlocking it for rotation just as the package to be printed makes initial contact, rotating the drum back to indexed position again after the printed package has left, especially at a high speed, and conducting the last mentioned step as an incident to and in response to the approach of the next package to be printed.

It will be noted that the printing drum of the present invention has its axis substantially fixed with respect to the conveyor or to the path of the package being marked during any particular series of marking operations on one size of package. This position can, of course, be adjusted to suit different sizes of packages, and may also vary slightly by reason of the quality of "give" which may be either inherent or especially provided in the equipment for accommodating printing pressures, but for convenience it will be described hereinafter as a

"substantially fixed" position, with the above significance attaching to this language.

From the foregoing description it can be seen that a novel package printing method and mechanism have been devised which are capable not only of ready and easy adaptation to printing in various predetermined locations on articles or packages of various sizes, but which are also capable of providing a finished printing quality suited to the labeling of packages of all sorts including even decorative retail shelf packages if desired.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. A marking device of the class described comprising a cylindrical indicia-bearing marking drum arranged to be frictionally rotated by an article passing by the same to be marked; means to ink the indicia as the drum rotates; means for locking said marking drum in a predetermined indexed position; and means for unlocking the drum to permit printing rotation thereof including a feeler arm at the point of contact between the article and the drum engageable by an article as it comes into contact with the printing drum; and means activated by the operation of said feeler arm by one article and driven by contact with a subsequent article to rotate the printing drum to locked position after the printing of the one article is completed and before the printing of the next article begins.

2. A marking device adapted for marking at a preselected one of various locations on a series of flat-sided articles of a predetermined size selected from a variety of sizes, which comprises a guideway and means for progressing a succession of articles therealong; a printing head mounted adjacent the guideway including a rotatably mounted printing drum positioned for rolling printing contact with a surface of an article in the guideway; printing indicia carried on the surface of said printing drum; means for holding the printing drum in a predetermined angular position about its axis; means including a drum in contact with the next article to be printed for moving the printing drum to said held position prior to printing drum contact with each article; and means to release the printing drum for free rotation substantially simultaneously with contact of the article with the printing drum.

3. A marking device adapted for marking at a preselected one of various locations on a series of flat-sided articles of a predetermined size selected from a variety of sizes, which comprises a guideway including a pair of guide bars and means for progressing a succession of articles along said guideway between said bars; means to adjust said guide bars laterally simultaneously towards and away from said progressing means to accommodate the thickness of the articles being printed; a printing head mounted on one of said guide bars for adjusting movement therewith and including a printing drum mounted on a rotatable shaft and positioned for rolling printing contact with a surface of an article in the guideway; printing indicia carried on the surface of said printing drum; means to adjust the printing head position in a direction parallel to the printing drum axis to bring the same into registration with the preselected printing location on the article in one direction; means for holding the printing drum shaft in a predetermined angular position about its axis; means for moving the printing drum shaft to said held position prior to printing drum contact with each article; means to release the printing drum shaft for free rotation substantially simultaneously with contact of the article with the printing drum; and means for adjusting the angular relation between said printing indicia and said printing drum shaft so as to position the print exactly at the desired location along the side of the article being printed.

4. For an article marking machine, a marking head, comprising a frame, a printing drum, including a friction driving tire, rotatable on a fixed axis on the frame for printing on an article passing the drum with said tire in rotary contact with the article, printing type on said drum; means firmly connecting said type to said drum for printing rotation therewith, but also affording ready adjustment of said type to any desired angular printing position about the drum axis; a locking wheel rotating coordinately with said drum, and having a notch defining a locked position of the drum; a movable dog engageable in said notch to hold said drum in said locked position; release means, including a package feeler, movably mounted on said frame in a position to be contacted and moved by an article passing the drum and to remain in contact with such article while it passes the drum, said feeler being operatively associated with said dog for withdrawing the same from said notch when the feeler is engaged and moved by an article; and means carried by the frame for rotating said drum to locked position prior to each printing operation.

5. For an article marking machine, a marking head comprising a frame, a printing drum, including a friction driving tire, rotatable on the frame for printing on an article passing the drum with said tire in rotary contact with the article, printing type on said drum; means firmly connecting said type to said drum for printing rotation therewith, but also affording ready adjustment of said type to any desired angular printing position about the drum axis; a locking wheel rotating coordinately with said drum, and having a notch defining a locked position of the drum; a movable dog engageable in said notch to hold said drum in said locked position; release means, including an article feeler, movably mounted on said frame and engageable with said dog for withdrawing the same from said notch when the feeler is engaged and moved by an article; an indexing drum rotatable on said frame and positioned to be rotated by frictional engagement with an article passing the marking head; and drive means connecting the indexing drum and the printing drum for rotating the latter in response to rotation of the former.

6. For an article marking machine, a marking head comprising a frame, a printing drum, including a friction driving tire, and rotatable on the frame for printing on an article passing the drum with said tire in rotary contact with the article, printing type on said drum; means firmly connecting said type to said drum for printing rotation therewith, but also affording ready adjustment of said type to any desired angular printing position about the drum axis; a locking wheel rotating coordinately with said drum, and having a notch defining a locked position of the drum; a control lever pivoted on the frame for swinging movement between two positions; a dog carried by said control lever and in the first position thereof engageable in said notch to hold said drum in said locked position and in the second position of said control lever released from said notch to permit rotation of said printing drum; a release means including an article feeler movably mounted on said frame and engageable with said control lever for swinging the same to said second position when the feeler is engaged and moved by an article; said control lever being held in said second position by the locking wheel periphery when the printing drum is rotated to remove said notch from register with said dog; means normally urging said control lever toward said first position; an indexing drum rotatably mounted on said control lever at an end thereof and in position to be rotated by frictional engagement with an article passing the marking head when the control lever is in said second position and to be free of article contact when the control lever is in said first position; and drive means associated with said control lever and connecting said indexing drum and said printing drum for rotating the latter in response to rotation of the former.

7. A marking device adapted for marking at pre-

selected ones of various locations on a series of flat-sided articles of a predetermined size selected from a variety of sizes, which comprises a guideway including a pair of guide bars and means for progressing a succession of articles along said guideway between said bars; means to adjust said guide bars laterally simultaneously towards and away from said progressing means to accommodate the thickness of the articles being printed; a first printing head carried by one of said guide bars for adjusting movement therewith and arranged to print on that side of the article which slides in contact with said one of the guide bars; a second printing head carried by the other of said guide bars for adjusting movement therewith and arranged to print on that side of the article which slides in contact with said other guide bar, said printing heads being offset from one another to print at different times as the article is moved by said progressing means; and a back-up guide carried by each of said guide bars for adjusting movement therewith and positioned directly opposite the printing head on that guide bar by which the back-up guide is not carried to have sliding contact with the article at the same time that the opposite printing head is printing.

8. A marking device adapted for marking at preselected ones of various locations on a series of flat-sided articles of a predetermined size selected from a variety of sizes, which comprises a guideway including a pair of guide bars and means for progressing a succession of articles along said guideway between said bars; means to adjust said guide bars laterally simultaneously towards and away from said progressing means to accommodate the thickness of the articles being printed; a first printing head carried by one of said guide bars for adjusting movement therewith and arranged to print on that side of the article which slides in contact with said one of the guide bars; a second printing head carried by the other of said guide bars for adjusting movement therewith and arranged to print on that side of the article which slides in contact with said other guide bar, said printing heads being offset from one another to print at different times as the article is moved by said progressing means; means for mounting each of said printing heads on its guide bar for individual vertical adjustment so as to print at any desired height on the passing article; a back-up guide carried by each of said guide bars for adjusting movement therewith and positioned directly opposite the printing head on the other guide bar; and means for mounting each of said back-up guides on its guide bar for individual vertical adjustment whereby each back-up guide may be positioned to correspond to the height of the opposite printing head.

9. A marking machine for marking articles of various lengths comprising a cylindrical indicia-bearing marking drum arranged on a substantially fixed axis positioned so that the drum will be frictionally rotated by an article passing the same, said drum being normally free to rotate for marking purposes purely in response to driving by the article; means for locking said drum in a predetermined indexed position until the approach of an article; means for unlocking the drum and holding it unlocked for free rotation while the article is in contact with the same; means operative only after the marked article has cleared the drum for driving the drum rapidly as far as necessary to reach indexed position regardless of the angular distance which the drum has been driven by the article; and means for disabling said driving means and relocking said drum in response to said drum's reattaining said predetermined indexed position.

10. A marking machine for marking articles of various lengths comprising a cylindrical indicia-bearing marking drum arranged on a substantially fixed axis positioned so that the drum will be frictionally rotated by an article passing the same, said drum being normally free to rotate

for marking purposes purely in response to driving by the article; means for locking said drum in a predetermined indexed position until the approach of an article; means for unlocking the drum and holding it unlocked for free rotation while the article is in contact with the same; and means powered by an approaching article operative only after the marked article has cleared the drum for driving the drum rapidly as far as necessary to reach indexed position regardless of the angular distance which the drum has been driven by the article.

11. A marking device adapted for marking on a series of flat-sided articles of a predetermined size selected from a variety of sizes, which comprises a guideway including a pair of guide bars and means for progressing a succession of articles along said guideway between said guide bars; means to adjust said guide bars laterally and simultaneously towards and away from the center of said progressing means to accommodate the thickness of the articles of the selected size; and a printing head mounted on one of said guide bars for adjusting movement therewith, said printing head being adapted for marking articles of various lengths and comprising a cylindrical indicia-bearing marking drum arranged on an axis substantially fixed with respect to its guide bar and positioned so that the drum will project barely beyond said guide bar and be frictionally rotated by an article passing the same, said drum being normally free to rotate for printing purposes purely in response to driving by the article; means for locking said drum in a predetermined indexed position until the approach of an article; means for unlocking the drum and holding it unlocked for free rotation while the article is in contact with the same; means operative only after the marked article has cleared the drum for driving the drum rapidly as far as necessary to reach indexed position regardless of the angular distance which the drum has been driven by the article; and means for disabling said driving means and relocking said drum in response to said drum's reattaining said predetermined indexed position.

12. A marking machine of the class described comprising a cylindrical indicia-bearing marking drum arranged to be frictionally rotated by an article passing the same to be marked; means to ink the indicia as the drum rotates; means for locking said marking drum in a predetermined indexed position; means other than the friction contact with the article being printed for driving said printing drum, said last named means being activatable and disableable; a feeler arm engageable and moveable by an article as it approaches driving contact with said drum and maintainable in moved position thereby as the article passes the drum; means controlled by movement of said feeler arm for operating said locking means to unlock said drum and for activating said driving means; means rotatable with said drum for holding said driving means activated at least until the drum again reaches indexed position and for then disabling the same unless the feeler arm remains in moved position.

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