

July 25, 1961

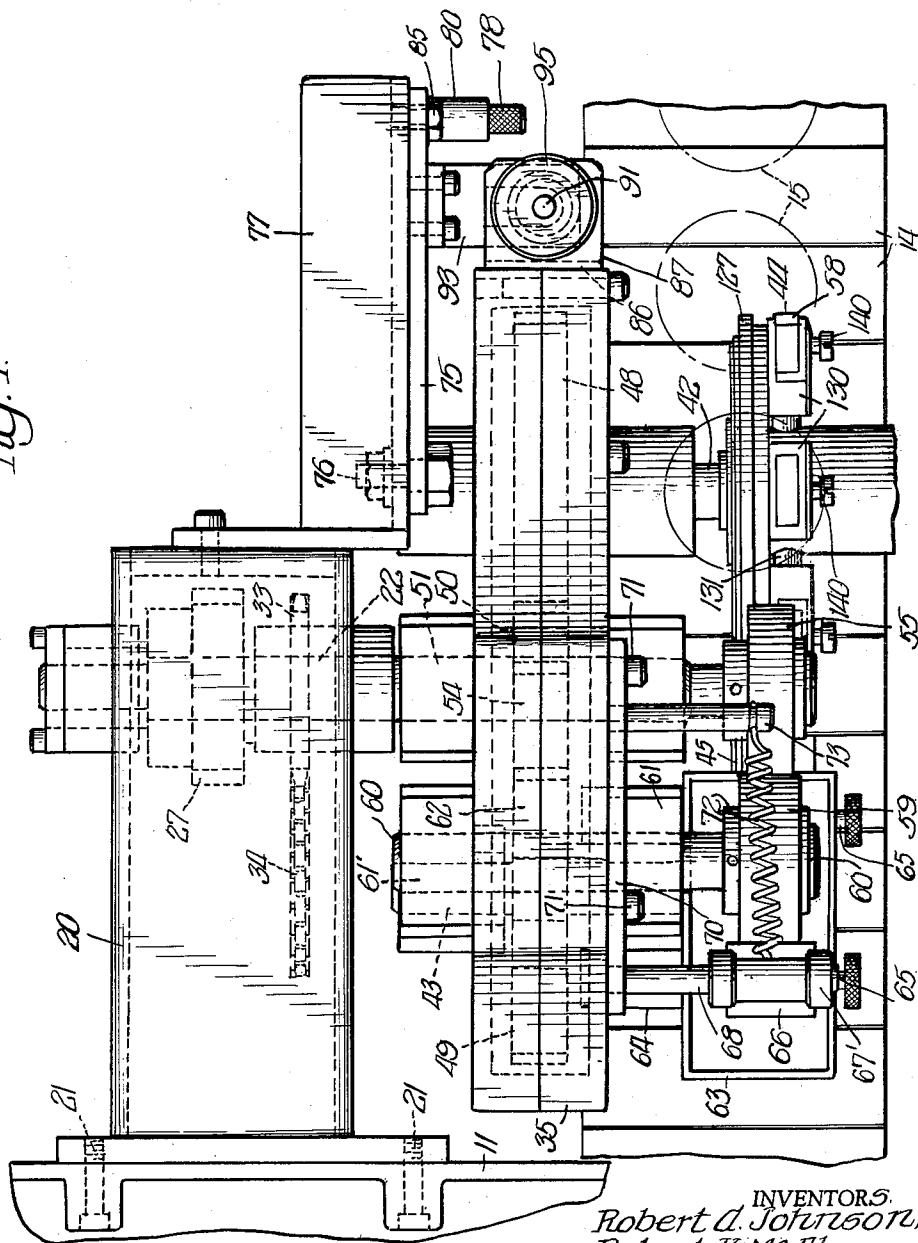
R. A. JOHNSON ET AL
ROTARY MARKING DEVICE

2,993,434

Filed Jan. 16, 1959

6 Sheets-Sheet 1

Fig. 1.



INVENTORS
Robert A. Johnson,
Robert H. McElroy,
William H. Wickboldt,
By Cromwell, Trust & Warden
attys

July 25, 1961

R. A. JOHNSON ET AL

2,993,434

ROTARY MARKING DEVICE

Filed Jan. 16, 1959

6 Sheets-Sheet 2

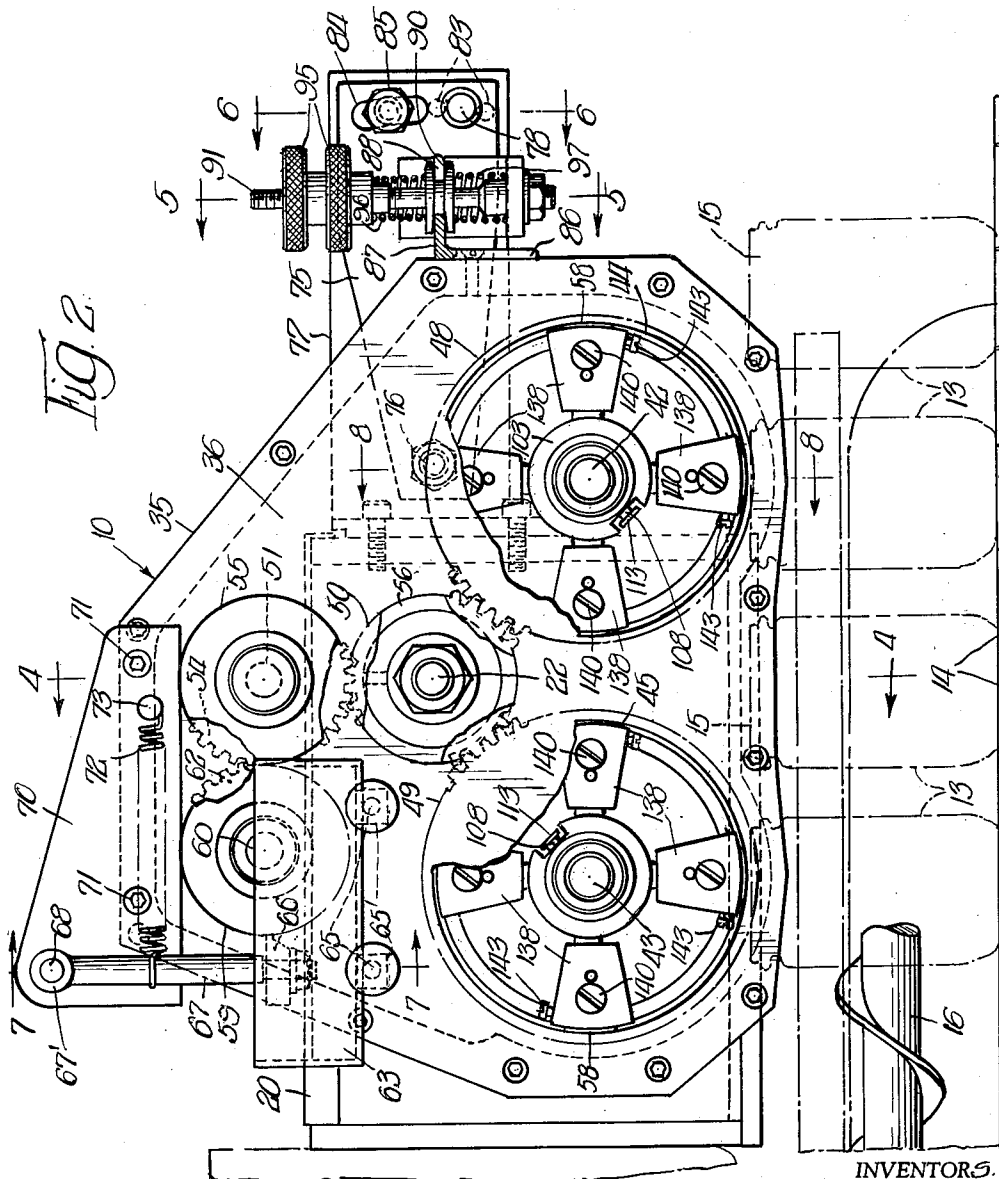


Fig. 2.

INVENTORS.
Robert A. Johnson,
Robert K. McElroy,
William H. Wickboldt,
By Leonard L. Gustafson & Warden
Attys.

July 25, 1961

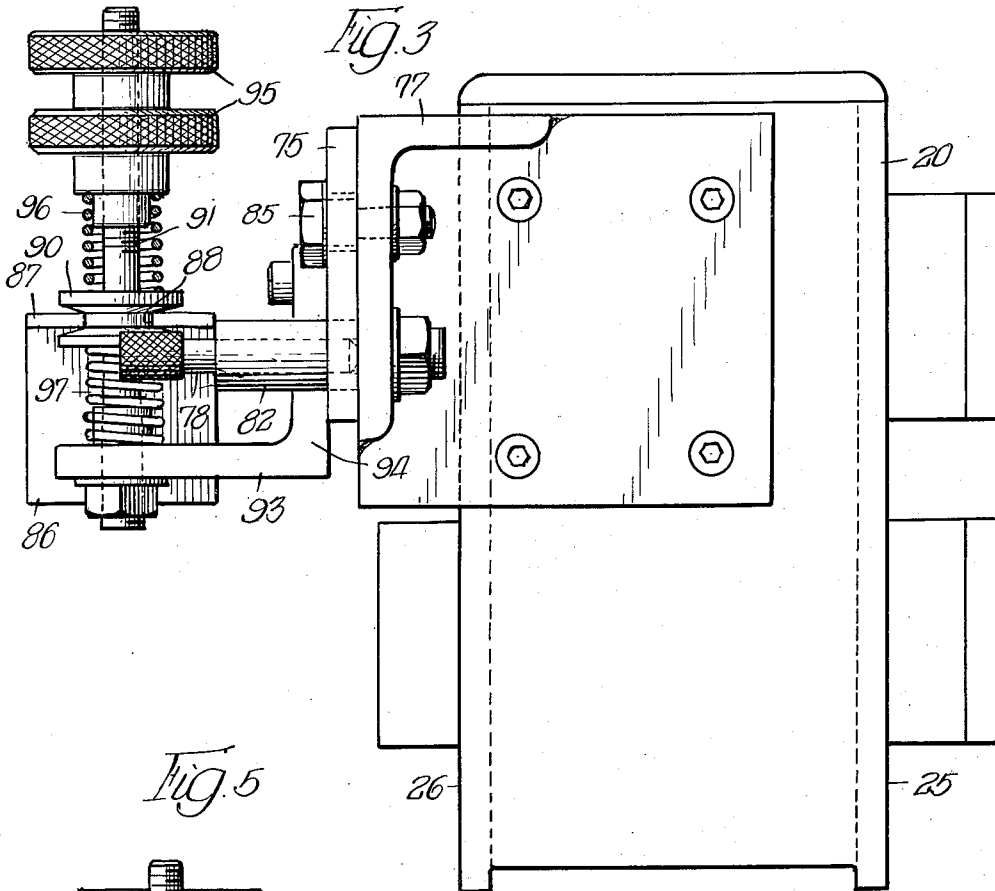
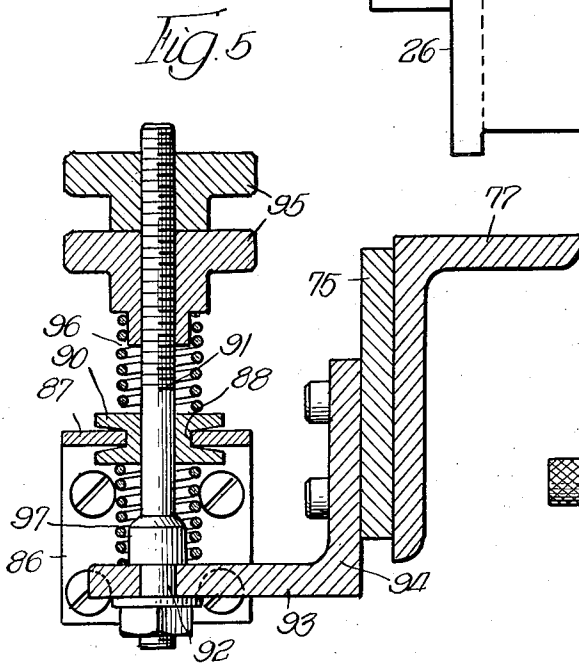
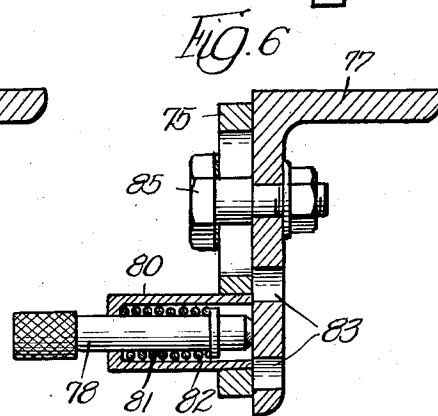
R. A. JOHNSON ET AL

2,993,434

ROTARY MARKING DEVICE

Filed Jan. 16, 1959

6 Sheets-Sheet 3



INVENTORS
Robert A. Johnson,
Robert K. McElroy,
William H. Wickboldt,

By Cromwell, Smith & Warden
attys

July 25, 1961

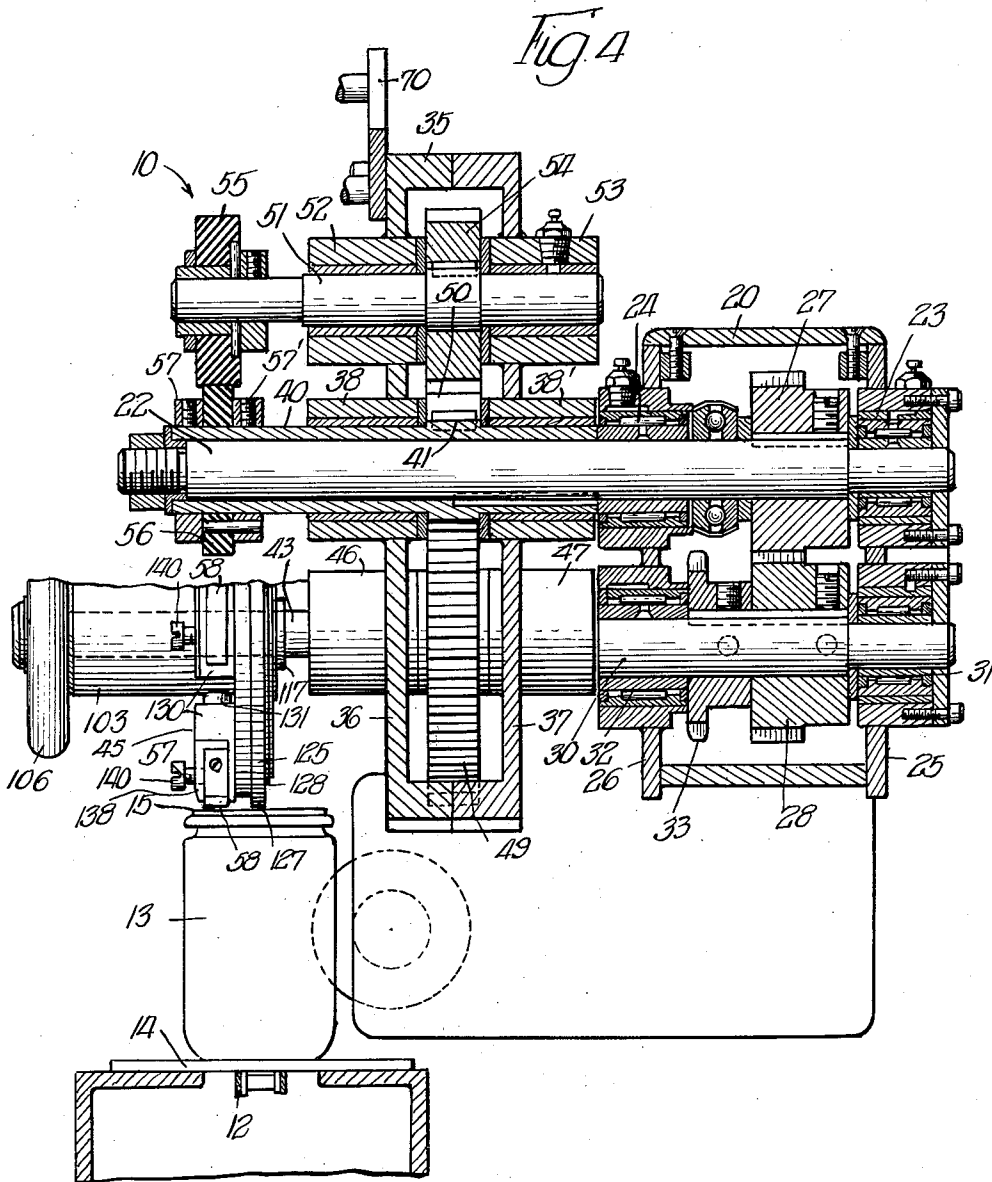
R. A. JOHNSON ET AL

2,993,434

ROTARY MARKING DEVICE

Filed Jan. 16, 1959

6 Sheets-Sheet 4



INVENTORS.

Robert A. Johnson,

Robert K. McElroy,

William H. Wickboldt,

By Cromwell, Frost & Waidner
Attys.

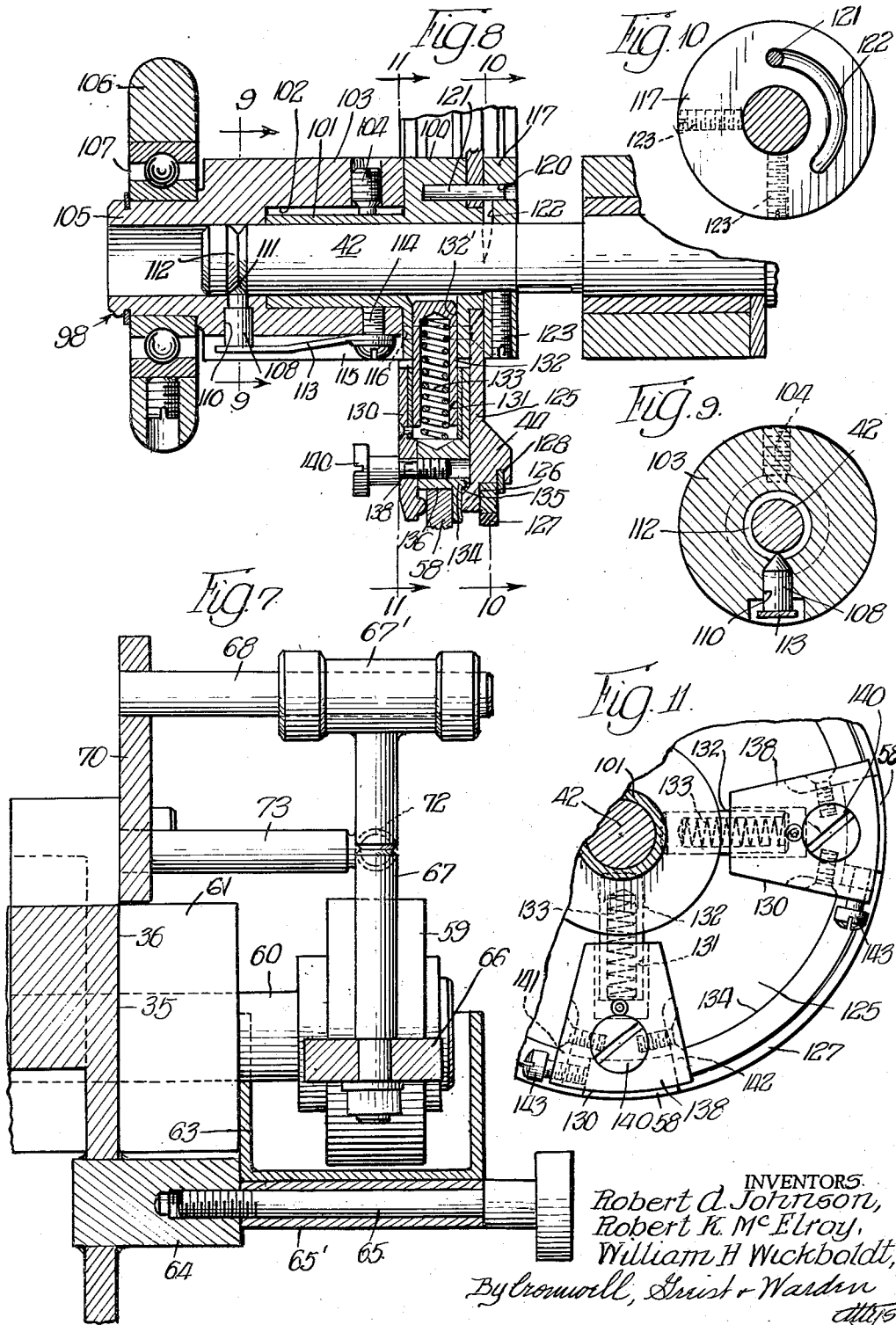
July 25, 1961

R. A. JOHNSON ET AL
ROTARY MARKING DEVICE

2,993,434

Filed Jan. 16, 1959

6 Sheets-Sheet 5



INVENTORS
Robert A. Johnson,
Robert K. McElroy,
William H. Wickboldt,
By Cromwell, Christ & Warden
attys

July 25, 1961

R. A. JOHNSON ET AL

2,993,434

ROTARY MARKING DEVICE

Filed Jan. 16, 1959

6 Sheets-Sheet 6

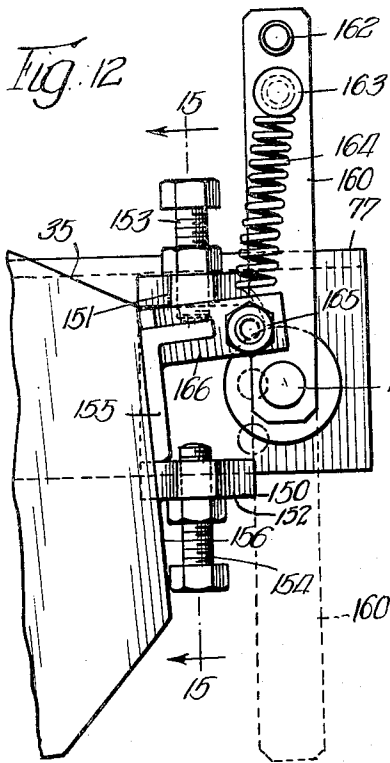


Fig. 12

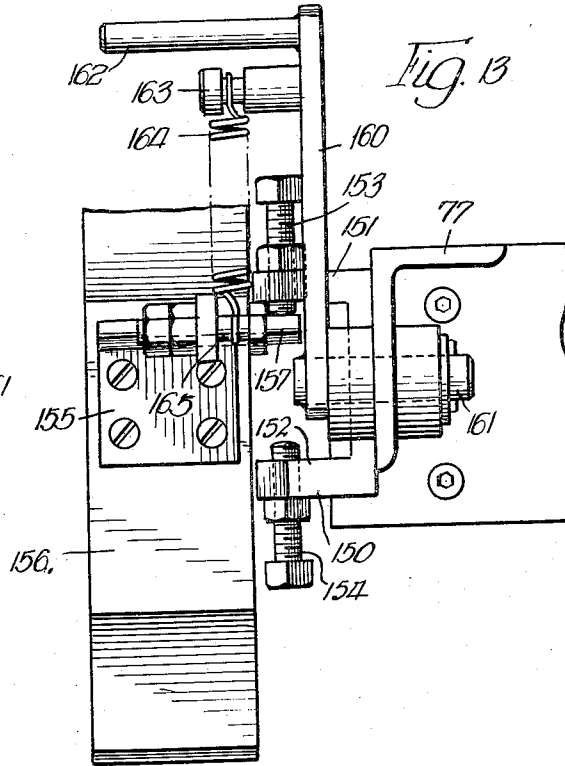


Fig. 13

Fig. 14

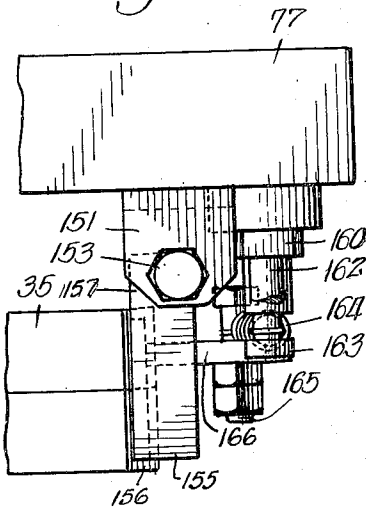
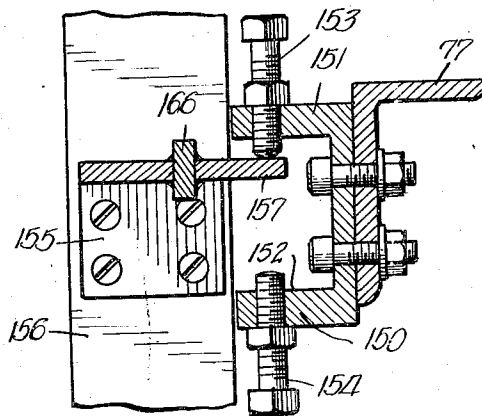


Fig. 15



INVENTORS
Robert A. Johnson,
Robert K. McElroy,
William H. Wickboldt,

By Cromwell, Shurt & Warden
attys

1

2,993,434

ROTARY MARKING DEVICE

Robert A. Johnson, Park Ridge, Robert K. McElroy, Elmhurst, and William H. Wickboldt, Chicago, Ill., assignors, by mesne assignments, to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Jan. 16, 1959, Ser. No. 787,180

20 Claims. (Cl. 101—35)

This invention relates to a marking device and is more particularly concerned with improvements in mechanism for applying markings, such as code numbers, to a series of moving articles, for example, closure caps of sealed containers.

It is a general object of the invention to provide an improved apparatus or device which is operable to apply to the tops or closure caps or filled containers a code number or the like which may serve to indicate the source of the particular lot of material being packaged, the time or date when the particular lot of material was packaged, or other information of a similar character.

It is a more specific object of the invention to provide an improved coding or marking mechanism for applying code numbers or legends to closure caps of sealed containers or the like wherein the mechanism is adapted for quickly changing the code number or other legend so that the machine is capable of handling a large volume of articles in a rapid and efficient manner with different groups of articles having different code numbers applied thereto.

It is a further object of the invention to provide an improved coding machine in which a pair of coding wheels are mounted on parallel shafts supported in a frame which is pivoted for rotation about the axis of a driven shaft, with the code wheels being mounted on constantly rotated shafts which have drive connections with the driven supporting shaft and with the code wheels being arranged on the shafts so that they are readily removable from the machine and replaceable thereon without interrupting the operation of the machine or the flow of objects to which the code numbers are applied.

It is another object of the invention to provide a machine for applying code numbers to closure caps on sealed containers which machine is adapted to be positioned above a conveyor on which the containers are advancing in spaced relation along a substantially horizontal path and wherein the machine comprises a horizontal driven shaft mounted at a fixed point above the conveyor and extending transversely of the conveyor, a housing pivotally supported on the driven shaft, a pair of coding wheel shafts journaled in the housing in parallel, radially and circumferentially spaced relation to the axis of the driven shaft, drive mechanism connecting the coding wheel shafts with the driven shaft for rotation thereof in the same direction, a pair of coding wheels each having one or more impression units which coding wheels are mounted on the coding wheel shafts and mechanism for adjusting the pivotal movement of said housing about its supporting shaft to selectively position the coding wheels for engagement of the impression units thereon with the closure caps on the moving containers.

It is still another object of the invention to provide in a coding wheel mechanism of the type described a mounting for the coding wheels which permits the wheels to be readily removed from their supporting shafts and replaced thereon without interrupting the rotation of the shafts.

It is a further object of the invention to provide in a coding machine of the type described a quick change mechanism for pivoting the housing on its supporting shaft to quickly move the respective coding wheels into

2

and out of operative position relative to the moving containers.

These and other objects and advantages of the invention will be apparent from a consideration of the apparatus which is shown by way of illustration in the accompanying drawings wherein:

FIGURE 1 is a plan view of a coding machine which embodies therein the principles of the invention, the machine being shown as attached to the container capping machine;

FIGURE 2 is a side elevation of the coding machine, with portions broken away;

FIGURE 3 is an end elevation of the machine, to an enlarged scale;

FIGURE 4 is a vertical cross section taken on the line 4—4 of FIGURE 2;

FIGURE 5 is a vertical cross section taken on the line 5—5 of FIGURE 2, to an enlarged scale;

FIGURE 6 is a vertical cross section taken on the line 6—6 of FIGURE 2, to an enlarged scale;

FIGURE 7 is a vertical cross section taken on the line 7—7 of FIGURE 2, to an enlarged scale;

FIGURE 8 is a detail section taken on the line 8—8 of FIGURE 2, to an enlarged scale;

FIGURE 9 is a detail section taken on the line 9—9 of FIGURE 8;

FIGURE 10 is a detail section taken on the line 10—10 of FIGURE 8;

FIGURE 11 is a fragmentary detail section taken on the line 11—11 of FIGURE 8;

FIGURE 12 is a side elevation of a portion of the machine showing a modification;

FIGURE 13 is an end elevation of the machine as shown in FIGURE 12;

FIGURE 14 is a plan of the portion of the machine shown in FIGURE 12; and

FIGURE 15 is a cross section taken on the line 15—15 of FIGURE 12.

In the packaging of foodstuffs in glass containers, for example, it is frequently desired to apply to the closure cap of the container some designation or code number which serves to indicate the source of the particular lot of material being packaged, the time or date when the particular material was packaged, or other information. Such marking with a code number or legend cannot be done at the time the caps are manufactured but must be performed at the time the products are sealed and preferably immediately upon emergence of the sealed containers from a sealing or capping machine. The coding mechanism or machine 10, which is illustrated in the drawings, is particularly designed for this purpose and is arranged to be supported on a portion of the capping machine, indicated at 11, or other fixed support located adjacent to traveling conveyor 12 on which a series of the capped containers 13 are traveling, each container 13 being in an upright position with its bottom supported on the plate members 14 forming the links of the conveyor 12 and the cap 15 presenting an upwardly facing horizontal surface for receiving thereon the code number or other legend.

The containers 13 are advanced from the capping machine to the coding machine 10 in upright position on the capping machine conveyor 12. In order to insure that the containers are uniformly spaced on the conveyor 12, a container spacing device is provided at the coding machine which may be a spacing screw, indicated at 16 in FIGURE 2, and/or a spacing conveyor (not shown) of the type such as described in Davies Patent No. 2,471,098, of May 4, 1949. The container spacing device may be connected to the power drive for the capping machine or it may be driven by any other source of power with its operation properly timed relative to the

operation of the code carrying elements on the coding machine so as to deliver successive containers in position for receiving the imprint of the coding machine in the desired location on the closure cap.

The coding machine 10 (FIGURES 1 and 2) comprises a fixed housing 20 of generally rectangular cross section which is secured by bolts 21 or other fastening means to the stationary frame portion 11 of the filling machine adjacent the container transporting conveyor 12. A shaft 22 (FIGURES 1, 2 and 4) is disposed in a horizontal position and extends through the housing 20 with an end portion supported in spaced bearings 23 and 24 which are mounted in the oppositely disposed laterally spaced vertical walls 25 and 26 of the housing 20. A gear 27 is secured on the shaft 22 within the housing and is in driven relation with a gear 28 secured on a small shaft 30, the latter being supported by spaced bearings 31 and 32 in the vertical side walls 25 and 26 of the housing 20 below the shaft 22. The shaft 30 has a sprocket 33 secured adjacent the gear 28 which is driven by a drive chain 34, the latter being driven by a sprocket on a rotating shaft on the capping machine (not shown) or other power source.

The shaft 22 serves as a pivot support for a housing 35 which constitutes the main supporting frame for the coding wheels and associated mechanism. The housing 35 has a generally triangular or truncated triangular shape with spaced vertical side walls 36 and 37 which are provided with two halves or sections of a hub formation indicated at 38 and 38'. The two hub sections 38 and 38' have aligned bores for receiving a bearing forming sleeve 40 which is keyed to the shaft 22 and which has a shouldered portion 41 adapted to project radially between the inner ends of the hub formations 38, 38' so as to maintain the housing 35 in proper axial position on the sleeve 40.

The housing 35 carries beneath the shaft 22 a pair of parallel spaced shafts 42 and 43 having their ends projecting from the front side plate 36 of the housing 35 and adapted to support thereon coding wheels 44 and 45. The shaft 43 is journaled in bearing formations 46 and 47 which are mounted in the side walls 36 and 37 of the housing 35. Shaft 42 is journaled in like bearing formations which are spaced on the other side of the shaft 22. The shafts 42 and 43 have helical gears 48 and 49 secured thereon, within the housing 35, which are both in driven engagement with a helical gear 50 which is keyed to the shouldered portion 41 of the sleeve 40 on the shaft 22 and rotates with the latter. The gear 50 constantly drive the gears 48 and 49 which rotate the coding wheel shafts 42 and 43. A third shaft 51 is journaled in the housing 35 above the shaft 22 by means of bearing formations 52 and 53 which are mounted in the vertical walls 36 and 37 of the housing 35. The shaft 51 is driven by the gear 50 which engages with a helical gear 54 keyed on the shaft 51. The shaft 51 extends forwardly of the front side wall 36 of the housing 35 and carries an ink transfer roller 55 which is adapted to engage with an inking roller 56 secured on the sleeve 40 on the shaft 22 by means of a pair of clamping rings 57 and 57'. The inking roller 56 is positioned with its periphery adapted to contact the coding type 58 carried on both coding wheels 44 and 45.

The ink transfer roller 55 (FIGURES 1, 2 and 7) receives ink on its peripheral surface from a pick-up roll 59 mounted on the end of shaft 60 which is journaled in suitable bearing members 61, 61' in the parallel side walls 36 and 37 of the housing 35 and which carries a helical gear 62, the latter being driven by gear 54 on the shaft 51. An ink pan or well 63 is supported on bracket members 64 extending from the front wall 36 of the housing 35 and being attached thereto by stud bolts 65 extending through bearing sleeves 65' secured on the bottom of the ink well or fountain 63.

A doctor blade 66 (FIGURES 1, 2 and 7) is provided

for the pick-up roll 59 which is secured on the bottom end of a depending arm 67. The arm 67 has a hub 67' at its upper end for mounting the same in pivotal relation on a shaft 68 extending forwardly of a bracket plate 70. The bracket plate 70 is secured by bolts 71 to the front plate 36 of the housing 35. A tension spring 72 extends between an intermediate portion of the arm 67 and a fixed pin 73 projecting forwardly of the bracket plate 70 which spring urges the arm 67 in a counterclockwise direction and holds the edge of the doctor blade 66 against the periphery of the pick-up roll 59. The ink fountain 63 is, of course, supplied with the necessary ink for transfer to the code applying type members 58.

The housing 35 is adjusted about the shaft 22 for placing the desired one of the coding wheels 44 and 45 in their operating position by means of an adjusting mechanism. The adjusting mechanism as shown in FIGURES 1, 2, 3, 5 and 6 comprises a supporting and adjusting plate 75 which is attached by pivot pin 76 to an angle bracket 77 extending from the fixed housing 20. The adjusting plate 75 is pivoted at its one end on the pin 76 and carries at its other end a spring pressed latch pin 78 which is mounted in a housing 80 secured on the plate 75. A compression spring 81 is seated in the housing with one end engaging the end of the housing and with the other end engaging a shoulder 82 on the pin 78. The inner end of the pin 78 is adapted to seat in pocket forming apertures 83 which are provided in the vertical flange of the bracket 77 to lock the plate 75 in selected positions about its pivot 76. The plate 75 is slotted at 84 adjacent the pin 78 to receive a headed guide bolt 85, the latter being secured on the depending vertical flange of the angle bracket 77.

The housing 35 carries on a vertical edge thereof an angular bracket 86 having a horizontal leg 87 which is slotted at 88 to receive a peripherally grooved washer or collar member 90, the latter being mounted for axial sliding movement on an upstanding pin 91 which has its lower end secured at 92 to the horizontal flange 93 of a bracket member 94 which bracket member is secured to the front face of the pivoted plate 75. The pin 91 is threaded at its upper end and carries a pair of nuts 95 which retain on the pin 91 compression springs 96 and 97 positioned on opposite sides of the grooved collar or washer 90, the springs serving to center the washer 90 between the innermost nut 95 and the flange 93 of the bracket 94. Thus the housing 35 is connected to the plate 75 by the spring cushioned washer 90 arranged in floating relation on the pin 91 and adjusted by the compression in the springs 96 and 97 which is controlled by rotation of the innermost nut 95. With this arrangement, the pivoted plate 75 is moved or set by operating the pin 78 to position either one or the other of the two coding wheels 44 and 45 in operative relation to the tops of receptacles passing beneath the same and the pressure exerted by the rubber faced bearer ring 127 on the top of the receptacle is adjusted by rotation of the innermost nut 95.

The coding wheels 44 and 45 are identical in construction and each is initially associated with specially constructed elements to form a unitary assembly 98 (FIGURE 8) which is adapted to be mounted on either of the shafts 42 or 43, that is, the coding wheel assemblies may be interchangeably mounted on the shafts 42 and 43. The type carrying code wheel 44 is secured on the inner end of a tubular member or sleeve 100 which is adapted to be received on the mounting shaft 42. The sleeve member 100 has an outer portion 101 of reduced diameter which is received within an enlarged portion 102 of the bore in a second tubular section 103, the latter forming an outer sleeve 103 and the two sleeve forming sections being secured together by the set screw 104. The outer sleeve 103 is provided with an outer end portion 105 of reduced diameter which forms a hub for supporting in rotatably mounted relation thereon a hand

5

wheel 106, the latter being secured on the hub by means of a ball bearing formation 107. The outer sleeve 103 also carries a latching pin 108 which is seated in a bore or socket 110 in the side wall thereof and which has a pointed inner end portion 111 adapted to engage in a peripheral groove 112 adjacent the end of the shaft 42. The latching pin 108 is urged toward the shaft 42 by a leaf spring 113 which is attached to the sleeve member 103 adjacent its inner end by a set screw 114 and which is seated in an axially extending recess 115 with the free end engaging the head of the latching pin 108. The pressure of the spring 113 urges the pin 108 toward the shaft 42, for seating the end 111 thereof in the groove 112 when the two sleeves 101 and 103 are in operative position on the end of the shaft 42.

The type carrying coding wheel 44 is seated on a flange or shoulder formation in the inner end or face of the hub-like portion of the inner sleeve 100 and secured by screws or other fastening means 116. A stop collar 117 is secured on the shaft 42 and rotates with the same. The stop collar 117 is provided with an axially extending socket forming bore 120 for receiving the projecting end of an indexing pin 121 which is secured in the inner face of the sleeve 100 and projects therefrom. The collar 117 has a circular groove 122 which forms a guide for the end of the pin with the end of the groove 122 terminating at the socket 120 so that when the coding wheel mounting assembly is moved axially inwardly on the end of the shaft 42, the projecting end of the pin 121 will fall into the pin guide groove 122 and be guided into the socket 120 so as to cause the assembly to rotate with the shaft 42, the wheel 106 permitting such rotation while the operator is still grasping the assembly. The stop collar 117 is secured on the shaft 42 by set screws 123 and its position on the shaft 42 may be initially adjusted to synchronize the rotation of the coding wheel 44 with the operation of the container spacing and conveying means.

The coding wheel 44 comprises a backing plate 125 (FIGURES 8 and 11) having a flange-like formation on its periphery with an inwardly opening peripheral recess 126 in which a rubber faced bearer ring 127 is seated and held against axial movement by a spring retaining ring 128. On its inner face the backing plate carries four slidably mounted segmental type holders 130 each having a radially extending socket 131 opening toward the supporting shaft 42 and adapted to receive the outer end of a hollow cylindrical guide or bearing member 132, the latter having its inner end closed and secured in a radially extending socket or bore 132' in the sleeve member 100. The type holder 130 is slidable on the guide or bearing member 132 and is urged outwardly in a radial direction by compression spring 133 in the bearing member 132. The backing plate 125 has a peripheral flange 134 on its outer face which forms a stop for limiting the outward movement of the type holder 130 by engaging with a shoulder 135 formed at the outer edge of the same. The type holder 130 has an edge recess 136 for receiving the type 58 with a removable clamp forming face plate 138 which is held in type clamping position by the clamp screw 140. End plates 141 and 142 are secured at the ends of the type recess 136 and a type clamping end screw 143 is provided in the end plate 141. The spring pressed sliding mounting for the type holder 130 permits the holder to adjust automatically for variations in the height of the containers, and gives the desired pressure for printing.

In operating the coding machine shown in FIGURES 1 to 11, the type wheels 44 and 45 are initially provided with the type required to imprint the information desired on the top closures of the containers, different type being set on the two wheels. Both wheels may be positioned on the ends of their respective shafts 42 and 43 and the collars 117 initially adjusted and secured by the set screws 123 so that the movement of the type holders 130

6

on each of the wheels will be synchronized with the movement of the conveyor 12 to properly imprint the tops of the containers at the desired point on the top surfaces thereof. The adjusting mechanism (FIGURES 1 to 3, 5 and 6) may then be manipulated to swing the housing 35 about the supporting shaft 22 to bring whichever type wheel is desired into operative position so that it will imprint the top of each successive container advanced to the device by the conveyor 12. The other type wheel will be free of engagement with the tops of the containers and may be removed for replacing or changing the type if desired. The type wheel assembly 98 may be removed from its shaft by the operator grasping the wheel 106 and exerting an outward force along the axis of the supporting shaft. This may be done while the shaft is rotating, and any desired change may be made in the type and the assembly replaced on its shaft without stopping the machine. When it is desired to change from the one type wheel to the other all that is required is to adjust the pivoted plate 75 of the adjusting mechanism so as to swing the housing 35 to bring the other type wheel into operative position for imprinting the tops of the containers.

A modification of the position adjusting mechanism for the device is illustrated in FIGURES 12 to 15 which permits the operator to shift very quickly from one type wheel to the other. In this form of the mechanism, the pivoted plate 75 is eliminated and the fixed angle bracket 77 is provided with an outwardly opening U-shaped bracket 150 which is bolted to the vertical face of the fixed bracket 77 and which carries in threaded apertures in its top and bottom flanges 151 and 152 a pair of adjustable stop bolts 153 and 154 which are in vertical alignment with their inner ends adapted to be spaced to permit limited movement of a projecting portion of an angle member 155 which is carried on the end face 156 of the housing 35. The angle member 155 has a vertical flange secured to the housing 35 and a horizontal flange extending outwardly thereof with an end portion 157 (FIGURES 13 to 15) projecting rearwardly of the rear face of the housing 35 and into the space between the ends of the stop bolts 153 and 154, the latter, as illustrated in the drawings, being adjusted in the bracket 150, to permit movement of the flange extension 157 between two positions, in each of which one of the code wheels 44 or 45 is positioned so that the marking elements on the periphery thereof engage with the tops of the containers advanced to the device by the conveyor 12. When the flange extension 157 is engaged with the end of the lower stop bolt 154 the code wheel 44 is in operative position and when the flange portion 157 is engaged with the end of the upper stop bolt 153 the code wheel 45 is in operative position.

Mechanism is provided for quickly swinging the housing 35 back and forth between the two positions which quick change mechanism comprises an arm member 160, pivotally mounted at 161 on the fixed bracket 77, and having a handle 162 at its free end. The arm 160 carries a laterally extending pin 163 adjacent the handle end on which one end of a tension spring 164 is pivotally mounted, the other end of the spring 164 being pivotally mounted on a bolt 165 which extends laterally of a vertical bracket plate 166 secured on the top flange of the bracket member 155 and extending in a vertical plane normal to the end face 156 of the housing 35. The axis of the bolt 165 is offset or eccentrically positioned relative to the axis of the pivot pin 161 in the direction of the housing 35. In one position of the housing 35 the axis of the bolt 165 is above a horizontal plane extending through the axis of the pin 161 while in the other position of the housing 35 it is below the horizontal plane extending through the axis of the pin 161, so that when the arm 160 is in the position shown in FIGURE 12, the housing 35 is in what may be termed the "up" position with the spring 164 holding the arm 160 upright against

the top flange 151 of the bracket 150. In this position the code wheel 45 is in position to imprint the tops of the containers. By swinging the arm 160 in a clockwise direction about its pivot 161, the housing 35 may be pulled to its "down" position by the spring 164 with the bolt 165 moving in a vertical path between the end of the housing 35 and the axis of the pivot 161 and through the horizontal plane in which the pivot 161 lies to a position below the same so as to urge the arm 160 against the lower flange 152 of the bracket 150 and hold the housing 35 in what may be termed the "down" position, with the coding wheel 44 being in position to imprint the tops of the containers. This arrangement enables the operator to very quickly swing the housing 35 and effect a quick change in the position of the coding wheels 44 and 45.

The stop bolts 153 and 154 may be adjusted so that the housing may swing between a "neutral" position where neither of the code wheels 44 and 45 is in container imprinting position to an "up" position alone or to a "down" position alone, thus enabling the operator to operate the device with only one of the code wheels being operative. In the "neutral" position which is indicated in dotted line in FIGURE 12, the spring 164 would operate to urge the arm 160 against either the upper or lower flange 151 or 152 of the bracket 150 since the pivot axis of pin 165 lies between the pivot 161 and the housing 35.

While specific materials and particular details of construction have been referred to in describing the coding device and the modification thereof which is illustrated, it will be understood that other materials and other details of construction may be resorted to within the spirit of the invention.

We claim:

1. A machine for applying code numbers to closure caps on sealed containers comprising means for supporting a series of capped containers for movement in spaced relation along a substantially horizontal path, a horizontally disposed driven shaft mounted above said container supporting means, a vertically disposed housing pivotally supported on said shaft for movement about the horizontal axis of the shaft, a pair of coding wheel shafts mounted in said housing in parallel relation to each other and to the driven shaft, said coding wheel shafts being radially spaced equidistant from the horizontal axis of said driven shaft, means connecting the coding wheel shafts in driving relation with the driven shaft so that the coding wheel shafts are rotated in the same direction, a coding wheel having one or more impression units on its periphery mounted on the free end of each of the coding wheel shafts and means for adjusting said housing about its supporting axis to selectively position one of the coding wheels for engagement of the impression units thereon with the caps on the containers.

2. A machine for applying identifying marks to closure caps on sealed containers comprising means for advancing a series of the containers in upright position along a substantially horizontal path, a horizontally disposed driven shaft mounted above said container advancing means, a frame swingably supported on said driven shaft for movement about the horizontal axis of the shaft, a pair of parallel shafts mounted in said frame in radially spaced relation to the driven shaft, said parallel shafts being spaced equidistant from the axis of rotation of said supporting frame, drive means connecting the parallel shafts with the driven shaft so that the parallel shafts are rotated in the same direction, a pair of wheels each having one or more impression units on its periphery, said pair of wheels being mounted on the parallel shafts, and means for adjusting said housing to selectively position one of the wheels for engaging the impression units on the periphery thereof with the caps on the containers.

3. A machine for marking closure caps on sealed containers comprising means for advancing a series of capped

containers in spaced upright relation along a substantially horizontal path, a driven shaft mounted with its axis in horizontally disposed relation above said means and transversely of the direction of advancing movement of said containers, a housing supported on said driven shaft for pivotal movement thereon in a plane parallel with the path of movement of said containers, a pair of marking wheel shafts mounted in said housing in parallel relation to each other and to the driven shaft, said marking wheel shafts being spaced equidistant from the axis of rotation of said driven shaft, drive means connecting the marking wheel shafts with the driven shaft so that the marking wheel shafts are rotated in the same direction, a marking wheel on each of the marking wheel shafts and means for pivoting said housing to selectively move one of the marking wheels into and out of operative position where marking units supported on the periphery thereof engage with the caps on the containers.

4. Apparatus for automatically applying identifying marks to substantially flat container covers positioned on the tops of flat bottom containers in a canning or other line, said apparatus comprising an endless traveling conveyor having a horizontal upper stretch on which the bottoms of the containers are adapted to rest with the containers in upright position and a marking device above said conveyor which is characterized by a supporting frame mounted for swinging movement on a horizontal axis, a pair of wheels each having one or more impression units on its periphery, said impression units being adapted to contact with and mark the covers on the containers as the latter pass beneath the device, said wheels being mounted on said frame for rotation about horizontal axes which are parallel with the horizontal axis of the supporting frame, said wheels being spaced from each other in a circumferential direction and being spaced the same distance in a radial direction from the axis of said supporting frame, means to swing said frame about its axis to selectively position one of said wheels so as to engage the covers on successive containers with the impression units on said wheel, and drive means mounted for rotation on an axis coinciding with the axis of said supporting frame and connected to said wheels to continuously rotate both of said wheels in the same direction.

5. Apparatus for automatically applying identifying marks to substantially flat container covers on the tops of containers in a canning or other line, said apparatus comprising an endless traveling conveyor having a horizontal upper stretch on which the containers are adapted to rest with the containers in upright positions, a marking device above said conveyor comprising a supporting frame mounted for swinging movement on a horizontally extending pivot support, a pair of coding wheels each having one or more impression units on its periphery, which impression units are adapted to contact with and mark the covers on the containers as the latter pass beneath the device, said coding wheels being mounted on shafts journaled in said frame for rotation about horizontal axes which are parallel with the pivot support for the frame, said coding wheels being spaced an equal distance in a radial direction from the pivot support for said frame and being spaced from each other in a circumferential direction, means to swing said supporting frame about its pivot support to position either of said wheels so as to engage the covers on successive containers with the impression units thereon, and drive means mounted for rotation on an axis coinciding with the axis of said pivot support and connected in driving relation with said coding wheels to continuously rotate said coding wheels in the same direction.

6. A machine for automatically applying identifying marks to substantially flat container covers positioned on the tops of containers in a canning or other line, comprising an endless traveling conveyor having a horizontal stretch on which the containers are adapted to rest with the containers in upright positions, a marking

mechanism above said conveyor comprising a supporting frame mounted for swinging movement on a horizontally extending pivot shaft, a pair of coding wheels each having one or more impression units on its periphery, which impression units are adapted to contact with and mark the covers on the containers as the latter pass beneath the mechanism, said coding wheels being mounted on said frame for rotation about horizontally disposed shafts which are parallel with the pivot shaft for the frame, said coding wheel shafts being spaced from said pivot shaft and on opposite sides of a vertical plane extending through the axis of said pivot shaft, drive means mounted for rotation on an axis coinciding with the axis of said pivot shaft and connected in driving relation with said coding wheel shafts to rotate said coding wheels in the same direction, and means to pivot said frame about said pivot shaft so as to position either of said wheels for engagement of the covers on successive containers with the impression units thereon.

7. In a machine for automatically applying identifying marks to substantially flat container covers positioned on the tops of containers in a canning or other line, which machine is characterized by means for supporting and conveying a series of the containers in upright position and along a horizontal path, a marking device mounted above the path of the containers which comprises a horizontally disposed driven shaft and a coding wheel assembly removably mounted on the end of said shaft, said wheel assembly comprising a coding wheel having one or more impression units on its periphery which are adapted to contact with and mark the covers on the containers as the latter pass beneath the same, a two part mounting sleeve having a bore for receiving said horizontal shaft, means for securing said coding wheel on the inner part of said sleeve, a hand wheel mounted for free rotation on the outer part of said sleeve, a stop collar on said driven shaft spaced from the end thereof and limiting the inward movement of the coding wheel assembly, means on the inner part of the coding wheel assembly for engaging with the stop collar to cause the assembly to rotate with the driven shaft and means on the assembly for engaging with the shaft to form a separable connection between the assembly and the shaft which normally holds the assembly against movement in the axial direction thereof and which permits the assembly to be removed from the shaft by grasping the hand wheel and forcing the assembly outwardly in an axial direction while the shaft is rotating.

8. In a machine for automatically applying identifying marks to substantially flat container covers positioned on the tops of containers in a canning or other line, which machine is characterized by means for supporting and conveying a series of the containers in upright position and along a horizontal path, a marking device mounted above the path of the containers comprising a horizontally disposed driven shaft and a wheel assembly removably mounted on the end of said shaft, said wheel assembly including a wheel having one or more impression units on its periphery which are adapted to contact with and mark the covers on the containers as the latter pass beneath the same, a mounting sleeve having a bore for receiving said horizontal shaft, means for securing said wheel on the inner end of said sleeve, a hand wheel mounted for free rotation on the outer end of said sleeve and held thereon against axial movement relative to said sleeve, a stop collar on said driven shaft spaced from the end thereof and limiting the inward movement of the coding wheel assembly, means on the coding wheel assembly for engaging with the stop collar to cause the assembly to rotate with the driven shaft and spring pressed latch means on the assembly for holding the same on the shaft in predetermined axial relation thereon, said latch means being disengageable upon the hand wheel being grasped and moved outwardly so as to permit

removal of said wheel assembly from said shaft while said shaft is rotating.

9. In a machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, which machine is characterized by means for supporting and conveying a series of the containers in upright position and along a horizontal path, a marking device mounted adjacent the path of the containers which device comprises a horizontally disposed driven shaft and a coding wheel assembly removably mounted on the end of said shaft, said wheel assembly comprising a coding wheel having one or more impression units on its periphery which are adapted to contact with and mark the covers on the containers as the latter pass beneath the same, a mounting sleeve having a bore for receiving said horizontal shaft, means for securing said coding wheel to said sleeve, a hand wheel journaled on the outer end of said sleeve and held thereon against axial movement relative to said sleeve, a stop member on said driven shaft which is spaced from the end thereof and which limits the inward movement of said mounting sleeve, means on the coding wheel assembly for engaging with the stop member to cause the assembly to rotate with the driven shaft, and yieldable means on the assembly for engaging with the shaft to hold the assembly against axial movement on the shaft whereby said assembly may be removed from said shaft while said shaft is rotating by grasping the hand wheel and applying a force in the direction of the end of the shaft.

10. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising an endless traveling conveyor on which the containers are adapted to be advanced in spaced upright position, and a marking device above the conveyor, said marking device having a supporting frame mounted to pivot on a fixed axis and a wheel journaled on said supporting frame, said wheel having one or more impression units on its periphery which are adapted to engage with and mark the covers on the containers as the latter pass beneath the same, said wheel being mounted for rotation on a horizontal axis which is at right angles to the path of movement of the containers, drive means for rotating the wheel, and means for pivoting the supporting frame about its axis comprising a plate member mounted on said supporting frame, a bracket mounted in fixed position adjacent said plate member and having vertically spaced stop members between which said plate member projects, an arm member pivoted on said fixed bracket, means connecting said arm member with said plate member so that rotation of said arm member swings said frame about its pivot axis, and said connecting means including resilient means to hold said arm member in either one of two positions where said wheel is positioned for engagement or non-engagement of the impression units thereon with the covers on the containers.

11. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising an endless traveling conveyor on which the containers are adapted to be advanced in spaced upright position, a marking device above the conveyor which is provided with a pivotally mounted supporting frame and a wheel journaled therein, said wheel having one or more impression units on its periphery which are adapted to engage with and mark the covers on the containers as the latter pass beneath the same, said wheel being mounted for rotation on a horizontal axis which is at right angles to the path of movement of the containers, drive means for rotating the wheel, and means for pivoting the supporting frame about its axis comprising an angle member mounted on said supporting frame, a bracket mounted in fixed position adjacent said angle member and having spaced top members between which a flange portion of said angle member

projects, an arm member pivoted at one end on said fixed bracket, a tension spring connected at one end to said arm member in spaced relation to the pivotal connection of said arm member with said bracket, said spring being connected at its other end to said angle member so that upon rotation of said arm member said spring pulls said frame about its pivotal support and holds said arm member in either one position where the impression units on said wheel rotate in a path which brings them into engagement with the covers on the container or another position where the impression units on said wheel are out of engagement with said covers.

12. Apparatus for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, said apparatus comprising an endless traveling conveyor on which the containers are adapted to be advanced in spaced upright position, and a marking device above the conveyor which is provided with a pivotally mounted supporting frame and a wheel journaled therein, said wheel having one or more impression units on its periphery which are adapted to engage with and mark the covers on the containers as the latter pass beneath the same, said wheel being mounted for rotation on a horizontal axis which is at right angles to the path of movement of the containers, drive means for rotating the wheel, and means for pivoting the supporting frame about its axis comprising a bracket mounted in fixed position adjacent said supporting frame and in spaced relation to the pivotal axis thereof, said fixed bracket having spaced stop members, a bracket on said frame having a flange portion projecting between said stop members, an arm member pivoted on said fixed bracket, a tension spring connected at one end to said arm member and at the other end to said supporting frame so that rotation of said arm member swings said supporting frame about its pivotal axis from a position where the impressing units on said wheel rotate into engagement with the covers on the containers to a position where the impression units rotate in a path spaced above said covers.

13. Apparatus for automatically applying identifying marks to substantially flat container covers positioned on the tops of flat bottom containers in a canning or other line, said apparatus comprising an endless traveling conveyor having a horizontal upper stretch on which the bottoms of the containers are adapted to rest with the containers in upright position and a marking device above said conveyor which is characterized by a supporting frame mounted for swinging movement on a horizontal axis, a pair of wheels each having one or more impression units on its periphery, said impression units being adapted to contact with and mark the covers on the containers as the latter pass beneath the device, said wheels being mounted on said frame for rotation about horizontal axes which are parallel with the axis on which said supporting frame swings, means to continuously rotate said wheels in the same direction, said wheels being spaced from each other and being the same radial distance from the axis about which said frame swings, and mechanism to swing said frame about its axis to selectively position one or the other of said wheels so as to engage the covers on successive containers with the impression units on the wheel, which mechanism comprises a bracket fixed adjacent said frame in spaced relation to the axis of said frame, a pair of stop members in spaced relation on said bracket, a member projecting from said frame between said stop members, an operating arm mounted at one end on a pivot adjacent said fixed bracket, and a link forming tension spring connected to said frame and said operating arm whereby when said operating arm is rotated about its pivot said frame is swung about its axis between two positions where the respective wheels are in operative relation with the covers on the containers.

14. Apparatus for automatically applying identifying marks to container covers positioned on the tops of con-

tainers in a canning or other line, comprising an endless traveling conveyor on which the containers are adapted to be advanced in spaced upright position, a marking device positioned above the conveyor which is provided with a pivotally mounted supporting frame and a pair of coding wheels journaled therein, said wheels each having one or more impression units on the periphery thereof which are adapted to engage with and mark the covers on the containers as the latter pass beneath the same, said wheels being mounted for rotation on axes which are parallel with the pivotal mounting of the supporting frame, drive means for rotating the wheels, and means for swinging the supporting frame about its pivotal mounting which comprise a member extending from said supporting frame, a bracket mounted in fixed position adjacent said supporting frame, adjustable stop members on said bracket which are positioned to receive between them the member extending from said supporting frame, an arm member pivoted at one end on said fixed bracket, a tension spring connected at one end to said arm member in spaced relation to the pivotal connection of said arm member with said bracket, said spring being connected at its other end to said supporting frame so that upon rotation of said arm member said spring will swing said supporting frame about its pivotal mounting and hold said arm members in one position where the impression units on one of said wheels rotate in a path which brings them into engagement with the covers on the containers or another position where the impression units on said wheel are out of engagement with said covers.

15. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising a movable support on which the containers are adapted to rest in upright positions, a marking device carried on a fixed support above the container support, which marking device comprises a frame mounted on a pivot on said fixed support and a pair of wheels mounted on parallel shafts carried on said frame, said wheels each having one or more impression units on the periphery thereof, said shafts being parallel to the support pivot of said frame and spaced in different radial directions from said pivot, drive means mounted on said support pivot and connected to said wheel shafts for rotating the wheel shafts in the same direction, means on the fixed support and the frame for pivoting said frame so as to selectively position one or the other of the wheels for engaging the top of a container with an impression unit, and means forming a resilient floating connection between said frame and said frame pivoting means whereby said frame is yieldable when an impression unit engages with the top of a container.

16. A machine for automatically applying identifying marks to substantially flat container covers positioned on the tops of containers in a canning or other line, comprising a movable support on which the containers are adapted to rest in upright position, a marking device above said support which marking device comprises a frame mounted for swinging movement on a horizontally extending pivot shaft, a pair of coding wheels each having one or more impression units on its periphery, which impression units are adapted to contact with and mark the covers on the containers as the latter pass beneath the device, said coding wheels being mounted on said frame for rotation about horizontally disposed axes which are parallel with the axis of the pivot shaft for the frame, said coding wheels being spaced from said pivot shaft in different radial directions, drive means mounted to rotate on an axis coinciding with the axis of said pivot shaft and connected in driving relation with said coding wheels, said frame being adapted to pivot so as to position one or the other of said wheels for engagement of the covers on successive containers with the impression units thereon, and adjustable resilient means connecting said frame with a fixed support for holding said frame

when it has been pivoted to a position where the covers on successive containers engage with the impression units on one of the wheels.

17. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising a movable support on which the containers are adapted to rest in spaced upright position, a marking device above the container support, which marking device includes a pivotally mounted frame and a wheel journaled therein, said wheel having one or more impression units on its periphery which are adapted to engage with and mark the covers on the containers as the latter pass beneath the same, said wheel being mounted for rotation on a horizontal axis which is at right angles to the path of movement of the containers, drive means for rotating the wheel, and means for swinging the frame about its pivotal mounting comprising a bracket mounted in fixed position adjacent said frame and having spaced stop members, a member on said frame projecting between said stop members, an arm pivoted on said fixed bracket, a tension spring connecting said arm with said frame so that rotation of said arm through a predetermined angle swings said frame about its pivotal mounting and brings said wheel into either one of two positions, in one of which the impression units on said wheel rotate in a path which brings them into engagement with the covers on the containers and in the other of which the impression units rotate in a path where they are free of engagement with the covers.

18. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising an endless traveling conveyor on which the containers are adapted to be advanced in spaced upright position, a marking device mounted on a supporting frame above the conveyor, said marking device being provided with a wheel having one or more impression units on its periphery which impression units are adapted to contact with and mark the covers on the containers as the latter pass beneath the same, said wheel being rotatable on a horizontal axis which extends transversely of the direction of movement of the containers, drive means for rotating the wheel, said supporting frame being swingably mounted on an axis parallel with the axis of said wheel, and means for swinging the supporting frame about its axis to bring said wheel into or out of operative position which means comprises an elongate plate member mounted at its one end on a fixed pivot which is parallel with and adjacent the pivotal axis of the supporting frame, means at the other end of said plate member for securing said elongate plate member in predetermined selected positions, a bracket extending from the periphery of the supporting frame, a pin mounted on said elongate plate member adjacent said other end thereof, a collar forming member mounted on said pin and engaging with said bracket, a pair of compression springs arranged on said pin on opposite sides of said collar forming member, and means for applying compression to said springs whereby to center said collar forming member between the compression springs thereby resiliently holding said frame in a selected one of said predetermined positions.

19. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising an endless traveling conveyor on which the containers are adapted to be advanced in spaced upright position, a support frame mounted for movement on a pivotal axis above the con-

veyor, a marking wheel rotatably mounted on said support frame and having one or more impression units on its periphery which are adapted to contact with and mark the covers on the containers as the latter pass beneath the same, said wheel being rotatable on a horizontal axis extending at right angles to the direction of advancing movement of the containers, drive means for rotating the wheel, and a means for adjusting the movement of said support frame so as to swing said wheel into and out of position for marking the container covers, which movement adjusting means comprises a plate member mounted at its one end on a fixed pivot which is parallel with and offset from the pivotal axis of the support frame, a slot in the other end of said plate member and a clamp screw in said slot for securing said plate member in one of a plurality of predetermined positions to which it may be swung, a bracket extending from the support frame, a pin mounted on said plate member, a collar member mounted on said pin and engaging with said bracket, and resilient means associated with said pin for centering said collar member and thereby resiliently holding said support frame in a set position.

20. A machine for automatically applying identifying marks to container covers positioned on the tops of containers in a canning or other line, comprising a movable support on which the containers are adapted to rest in spaced upright position, a marking device positioned above the container support, said marking device comprising a frame mounted for pivotal movement about a horizontal axis and a wheel journaled in said frame for rotation on a horizontal axis which is at right angles to the path of movement of the containers and which is spaced from the pivot axis of said frame, said wheel having one or more impression units on its periphery which are adapted to engage with and mark the covers on the containers as the latter pass beneath the same, drive means for rotating the wheel, and means for pivoting said frame about its axis comprising a bracket mounted in fixed position adjacent said frame and having adjustably mounted spaced apart stop members between which a portion of said frame projects, said stop members limiting the pivotal movement of said frame between two positions, an arm pivotally mounted on said fixed bracket at a point spaced from said stop members, said arm having a connection with said frame at a point spaced from its pivotal mounting so that rotation of said arm pivots said frame between the two positions determined by said stop members whereby to bring said wheel into either one or the other of said two positions where the impression units on said wheel rotate in paths which brings them into engagement or non-engagement, respectively, with the covers on the containers.

References Cited in the file of this patent

UNITED STATES PATENTS

1,012,156	Ranz	Dec. 19, 1911
1,443,164	Bracken	Jan. 23, 1923
1,538,079	Albertoli	May 19, 1925
1,715,451	Eller	June 4, 1929
1,741,927	Friedrichs	Dec. 31, 1929
2,040,525	Mumma et al.	May 12, 1936
2,108,155	Woolens	Feb. 15, 1938
2,186,555	Phillips	Jan. 9, 1940
2,380,004	Wilderson	July 10, 1945
2,471,098	Davies	May 24, 1949
2,551,633	Preis	May 8, 1951
2,749,838	Stover	June 12, 1956