



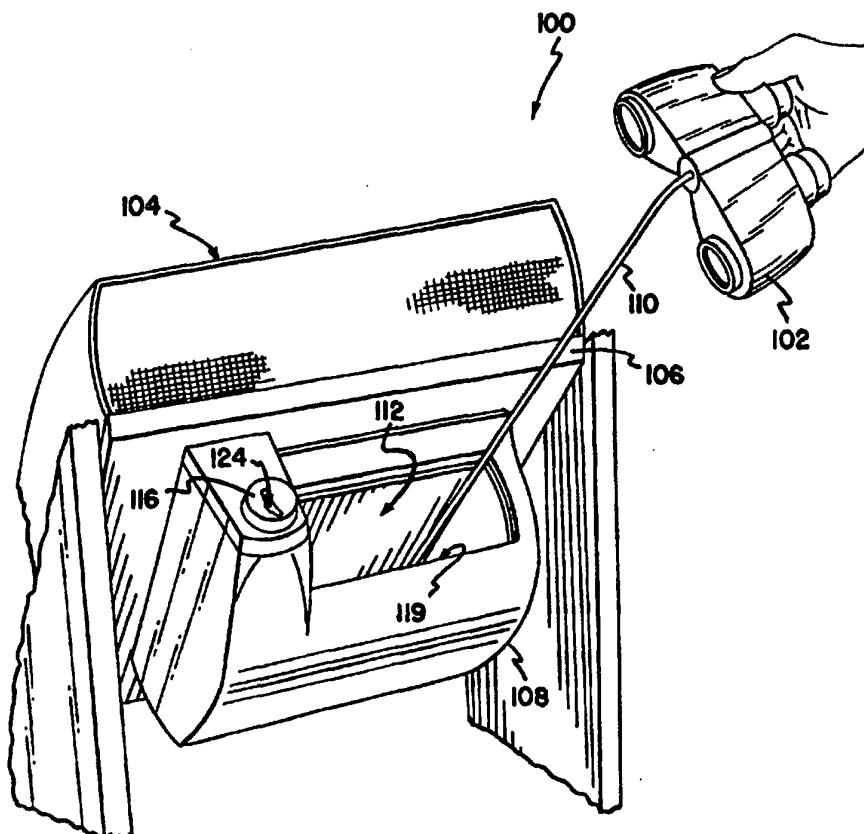
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(54) Title: BINOCULAR VENDING APPARATUS

(57) Abstract

A binocular vending apparatus for attachment to a structure, preferably a seat bottom, a seat back, or a pedestal is provided. The vending apparatus includes binoculars, a housing for removably retaining the binoculars, a recoil mechanism attached to the housing, a cable for tethering the binoculars to the recoil mechanism, a token actuator device for actuating the vending apparatus, and a mounting plate which is attachable to the structure, wherein the housing is mountable to the mounting plate when the mounting plate is attached to the structure. The recoil mechanism preferably includes pivoting weight which engages and disengages a recoil stop mechanism. The tethering cable is preferably constructed of hardened stainless steel and is attached to the binoculars at one end and attached to the recoil mechanism at the other end. The token-actuator device is preferably operated by beveled tokens having a disk-shaped base and a raised portion having an angled edge. A flexible sleeve for covering the binoculars is also provided.



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BINOCULAR VENDING APPARATUS**BACKGROUND OF THE INVENTION****1. Field of the Invention**

The present invention relates to an apparatus
5 for vending vision enhancing equipment, preferably
binoculars, in spectator facilities.

2. Description of the Prior Art

Binoculars are widely used by spectators in
large and small spectator facilities to enhance their
10 view of events from seats which are removed from the
activity being viewed. In the past, however, it has
generally been necessary for spectators to bring their
own binoculars. This usually creates a dilemma for the
owner of the binoculars as it is bothersome to have to
15 carry the binoculars to and from the facility and there
is a chance that one's binoculars can be damaged or
stolen during transit to and from the facility or during
the event. There is also a limited space to store the
binoculars and any case for them when the binoculars are
20 not being used.

Although some facilities now rent binoculars,
the cost is often quite high and requires a very large
deposit. In addition, it requires the spectators to
seek out the rental booth and often leave some form of
25 identification or security with the renters. The rental
also requires returning the binoculars after the event
when spectator traffic is often high and when time may
be of the essence for avoiding spectator traffic.

In addition, there are many spectators who do
30 not own a pair of binoculars, but would nevertheless
like to use binoculars to enhance their viewing
particular events. Indeed, some people have no need for
a pair of binoculars, except when they are at a
particular event or in a special location where they
35 have a particular interest and, therefore, wish to have
the enhanced vision through the use of a pair of
binoculars. For example, a sports fan might have
interest in several different spectator sports, but only
have a desire to use a pair of binoculars to watch

portions of one particular sport. An example of such a situation might be an individual who has courtside tickets for a basketball game, but sits in the outfield upper deck at a baseball game. It can also be appreciated that at many areas such as scenic overlooks of natural sites, there exists a need for fitting binoculars at such sites.

It can be appreciated that such vending apparatus should have rugged construction to withstand use at outdoor facilities and use and abuse by spectators. It can further be appreciated that such an apparatus should supply the binoculars on a tether and that should have a recoil which pulls the binoculars back to the vending apparatus when not used. Such a recoil should be reliable and easily used and actuated for repeated use. Such an apparatus should also include a reliable token mechanism which is used for vending the binoculars.

For repeated use of the binoculars, oils and other dirt would build up on the binoculars, making their use less attractive to spectators. It can be appreciated that if a protective sleeve could be provided, the hygiene associated with renting binoculars would also be improved, thereby enhancing their use.

Accordingly, a need exists for availability of binoculars for spectators watching events so that view of the events can be enhanced by using binoculars provided. The present invention provides a solution to these other problems and also offers other advantages over the prior art, and solves other problems associated therewith.

SUMMARY OF THE INVENTION

Accordingly, it is object of the present invention to provide a convenient vending system in order to make binoculars available to patron and spectator facilities of all kinds where spectators may wish to have the

ability to enhance their view of their surroundings or of the action in the facility during specific events. In order to achieve this object, the present invention provides a novel binocular vending apparatus for
5 attachment to a structure, preferably the bottom of a seat or a backside of a seat, or the like. The binocular vending apparatus of the present invention preferably comprises of a pair of binoculars, a housing for removably retaining the binoculars, a frame, and a
10 mounting plate which is attachable to a structure, preferably the bottom of a seat or the backside of a seat, wherein the frame is mountable on the mounting plate when the mounting plate is attached to the structure.

15 Preferably, the binocular vending apparatus further comprises a tether which connects a pair of binoculars to the vending apparatus. The apparatus preferably includes a retractable door which blocks normal access to the housing when the door is in a
20 closed position, take-up means for retracting the tether, token actuator means which preferably include size recognition means for recognizing tokens having a raised portion of a predetermined size so that only a correctly-sized token will actuate the token actuator
25 means, and a take-up stop mechanism for preventing the take-up means from retracting the tether when the seat which is in a down position.

Preferably, the vending apparatus also includes a binocular sleeve which includes a flexible
30 body portion which is configured to slide over and conform to an exterior portion of the binoculars. Additionally, a security cable is preferably provided having a flexible cord and a plurality of cord protecting sleeve members encircling the cord.

35 These and various other advantages and features of novelty which characterize the invention are pointed out with particularity in the claims annexed

hereto and forming a part hereof. However, for a better understanding of the invention, its advantages, and the objects obtained by its use, reference should be made to the drawings which form a further part hereof, and to
5 the accompanying descriptive matter, in which there is illustrated and described a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

10 In the drawings, wherein like reference letters and numerals indicate corresponding elements throughout the several views:

Figure 1 shows a perspective view of a binocular vending apparatus in an open position with
15 binoculars removed from a housing according to the principles of the present invention;

Figure 2 shows a perspective view of the binocular vending apparatus shown in Figure 1 in a closed position;

20 Figure 3 shows a front elevational view of the binocular vending apparatus shown in Figure 1 in a closed position;

Figure 4 shows a right side elevational view of the binocular vending apparatus shown in Figure 1;

25 Figure 5 shows a left side elevational view of the binocular vending apparatus shown in Figure 1;

Figure 6 shows a top plan view of the binocular vending apparatus shown in Figure 1 in the closed position;

30 Figure 7 shows a bottom plan view of the binocular vending apparatus shown in Figure 1;

Figure 8 shows a rear elevational view of the binocular vending apparatus shown in Figure 1;

35 Figure 9 shows a bottom portion of a seat and the binocular vending apparatus shown in Figure 1 with the mounting plate of the binocular vending apparatus shown;

Figure 10 shows a detailed sectional view of a lock portion for the mounting plate and the retainer member of the mounting plate;

Figure 11 shows a right end view of the
5 binocular vending apparatus shown in Figure 1 with the exterior shell removed;

Figure 12 shows an exploded view of a re-coil apparatus for the binocular vending apparatus shown in Figure 1;

10 Figure 13 shows a perspective view of two tokens according to the principles of the present invention;

Figure 14 shows a top plan view of the token shown in Figure 13;

15 Figure 15 shows a front elevational view of the token shown in Figure 13;

Figure 16 shows a left side elevational view of the binocular vending apparatus shown in Figure 1 with the outer shell removed;

20 Figure 17 is a front detailed view of the token-actuated mechanism for the binocular vending apparatus shown in Figure 1;

Figure 18 is a sectional view of the token-actuated mechanism with the token a pre-actuated
25 position;

Figure 19 shows a sectional view of the token-actuated mechanism with a token inserted in the mechanism actuated;

30 Figure 20 is a left-side detailed view of the plunger portion of the token-actuated mechanism shown in Figures 18 and 19;

Figure 21 shows a perspective view of a sizing member for the token-actuated mechanism shown in Figures 18 and 19;

35 Figure 22 is a perspective view of a token-retaining member for the token-actuated mechanism shown in Figures 18 and 19;

Figure 23 is a front detailed view of an actuation linkage shown in a pre-actuated position;

Figure 24 is a front sectional view of the actuation linkage of the token-actuated mechanism in an
5 actuated position;

Figure 25 shows a front partial sectional view of the token-retaining member and locking mechanism for the token-actuated mechanism shown in Figures 18 and 19 in the unlocked position;

10 Figure 26 is a front partial sectional view of the token-retaining member and locking mechanism for the token-actuated mechanism shown in Figures 18 and 19 in the locked position;

Figure 27 is a sectional view of the re-coil
15 apparatus-locking mechanism in the unlocked position;

Figure 28 is a sectional view of the re-coil apparatus-locking mechanism in the locked position;

Figure 29 is a perspective view of binoculars and a sleeve for the binoculars;

20 Figure 30 is a perspective view of the sleeve shown in Figure 29 on the binoculars;

Figure 31 is a perspective view of a security cable device in accord with the present invention;

Figure 32 is a partially exploded perspective
25 view of the security cable showing the general assembly of the elements shown in Figure 31;

Figure 33 is a side sectional view of the security cable device shown in Figure 31;

30 Figure 34 is a side view of an arcing portion of the security cable device of Figure 31;

Figure 35 is a side sectional view of the ball member of the security cable device shown in Figure 31;

Figure 36 is a side sectional view of the ball member and the sleeve member of the security cable shown
35 in Figure 31;

Figure 37 is a perspective view of a first alternative embodiment of the security cable device in

accord with the present invention;

Figure 38 is a perspective view of a second alternative embodiment of the security cable device in accord with the present invention; and

5 Figure 39 is a perspective view of the security cable device connected to the binoculars.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

Referring now to the drawings, wherein like
10 reference numerals designate corresponding structure throughout the views, and referring in particular to Figs. 1-8, a binocular vending apparatus 100 for attachment to a structure, preferably a bottom 106 of a seat 104 is shown in Fig. 1. As shown in Figs. 1-8, the
15 binocular vending apparatus 100 includes an outer shell 108, a binocular housing 112, a retractable binocular housing door 114, and a door release button 116 having a slot 118 for receiving a token. The outer shell 108 includes a housing door opening 119, an opening 121 for
20 the door release button, a token slot exit 126, an opening 123 for a lock mechanism 128, and an opening 125 for resetting the housing door 114.

Referring to Fig. 1, the binocular vending apparatus 100 includes binoculars 102. The binoculars
25 102 are removably retained in the binocular housing 112. The binoculars 102 are connected to an elongated cable 110, preferably a steel cable, which is connected to the housing 112 so that the binoculars 102 are tethered to the apparatus 100. The retractable housing door 114
30 blocks normal access to the binoculars 102 when the binoculars 102 are in the binocular housing 112 and the retractable door 114 is in the closed position as shown in Fig. 2.

Referring now also to Figs. 8 and 9, the
35 binocular vending apparatus 100 also includes a frame 120 and a mounting plate 130 which can be attached to the bottom 106 of a seat 104. The mounting plate 130

preferably has a substantially flat housing interface surface 131, but the opposite surface (not shown) which interfaces with the seat bottom 106 may have any conceivable size, shape, composition, or the like, which will enhance the interface with the seat bottom such that the mounting plate 130 remains firmly attached thereto. It will be appreciated that the mounting plate 130 may be bonded, fastened, clamped, integrally formed with the seat bottom 106, or the like. Preferably, the seat 104 to the which the mounting plate 130 is attached is a pivotal facility seat which is spring biased such that it will rise to an upright position when no one is sitting on the seat. It will be appreciated that the mounting plate 130 may also be attached to the back side of a seat or other structure (not shown) and will preferably have the same features as the housing interface surface 131 of the plate 130 showing Fig. 9. The other features, particularly those related to the interface with the structure will be varied from structure to structure as required.

The binocular vending apparatus 100 also includes a recoil mechanism 170 including a take-up spool 186 to which the cable 110 is connected. The take-up spool 186 is spring biased so that it can pick up slack in the cable 110 when the cable is unrestrained and, preferably, when the seat 104 is in an upright position as shown in Fig. 1. Therefore, when the binoculars 102 are returned to the binocular housing 112, the cable 110 is gathered or wound upon the take-up spool 186.

In its general operation, the binocular vending apparatus 100 is ready for vending binoculars 102 to spectators in spectator facilities when the cable 112 is taken up on the take-up spool 186, the binoculars 102 are in the binocular housing 112, the retractable housing door 114 is in a closed position, and the housing frame 120 is mounted on the mounting plate 130

which is attached to the bottom 106 of a seat 104 which is preferably pivotable such that the binocular vending apparatus 102 can be easily accessed when the seat 104 is in the upright position, or to a backside of a seat which is generally in an upright, i.e., substantially vertical position. Alternatively, this machine may be mounted to a pedestal (not shown) in areas for standing room only. As a spectator or patron comes to the facility, the patron will have an opportunity to purchase a token 218 from a token vendor or token vending machine in the facility. In order to obtain access to the binoculars 102 in the binocular housing 112, the patron inserts the token 218 into the entrance 124 of the token receiving slot 118 in the door release button 116. After the token 218 has been inserted in the token-receiving slot 118, the door release button 116 is depressed thereby actuating a token-actuator mechanism 230 (see Fig. 17) to release the retractable housing door 114 which is spring biased so that it moves from the closed position shown in Fig. 2 to the open position shown in Fig. 1 wherein the binoculars 102 are easily accessible in the binocular housing 112. The patron can then reach into the housing 112 and remove the tethered binoculars 102, thereby withdrawing the cable 110 from the housing 112 as the binoculars 102 are withdrawn. A preferred embodiment of the binocular vending apparatus 100 mounted on a pivotal seat 104 includes a stop device 196 (shown generally in Figs. 27-28). As further explained herein, the stop device 196 acts to prevent the spring biased take-up spool 186 from retracting the cable 110 when the cable is withdrawn and the pivotal seat 104 is in the down position. This enables the patron to use the binoculars 102 without having to also strain against the cable 112 and the force of the spring biasing effect of the take-up spool 186. A stop device (not shown) can also be provided if the binocular vending apparatus is attached to other

structures but these mechanisms would have different features, including the door release mechanisms and the like.

The binoculars 102 are preferably good
5 binoculars which provide the patron or spectator with a good view of the events taking place in the respective facility, race track, sports center or the like. The binoculars preferably are 7 power X 50 mm (7 X 50). It will be appreciated that any other binoculars can be
10 provided, for instance, 5 X 25, or 8 X 55 can also be used. Low power binoculars are often ideal for the opera, concerts, speaking events and the like. Additionally, the binoculars are preferably of a rugged construction which enables the binoculars to withstand
15 use at outdoor facilities and use and abuse by spectators.

As shown in Figs. 13-15, the token 218 is generally disk-shaped and includes a base 220 and a raised portion 222. The raised portion 222 includes a
20 beveled or angled edge 224. The tokens 218 are preferably constructed of brass. It will be appreciated, however, that any suitable material which is known in the art can be used to make the tokens. Preferably, the token also includes a hollow portion 228
25 located within base 220 opposite the raised portion 222 of the token 218. The hollow portion 228 corresponds to the size of the raised portion 222 so that the tokens 218 may be stacked as illustrated in Fig. 13. This allows for easy storage of the tokens.

30 With the token 218 having the raised portion 222, the token slot 118 within the vending apparatus 100 is correspondingly shaped having a wide portion 148 for the base 220 and a narrow portion 147 for the raised portion 222. Thus, the token 218 may only be inserted
35 in the slot 118 in the one orientation which ensures that the token 218 is in the correct orientation with respect to the elements of the token-actuator mechanism

230.

Mounting Apparatus

Referring now to Figs. 8-10, there is shown an improved mounting apparatus for the present invention.

5 As shown in Fig. 9, the binocular vending apparatus 100 mounts to a seat bottom 106. A mounting plate 130 is attached to the seat bottom 106 and a complementary mounting member 132 mounts to the binocular vending apparatus 100. The mounting member 132 mounts on the
10 mounting plate 130 to retain the vending apparatus 100 against the seat 104. As shown in Fig. 8, the mounting member 132 includes an edge portion 136. The edge portion 136 is raised above the planar surface of the mounting member 132 and projects inward over the planar
15 surface of the mounting member 132. The edge portion 136 is tapered inward slightly along its sides, tapering at an angle of 2° in a preferred embodiment for improved alignment for attaching to and removing from the mounting plate 130.

20 In a similar manner, the mounting plate 130 includes an edge portion 134 with a projecting angled portion 144. The mounting plate edge portion 134 is also tapered to accept the mounting member edge 136. As shown in Fig. 10, the edge portion 144 of the mounting
25 plate engages the edge portion 142 of the mounting member. The mounting member 132 slides onto the mounting plate 130 so that the edge surfaces 142 and 144 engage to retain the vending apparatus 100 against the seat bottom 106.

30 As also shown in Figs. 9 and 10, the mounting member 132 includes a spring-loaded restraining pin 140 extending upward from the surface of the mounting member. The pin 140 is depressed as the mounting member 132 is slid onto the mounting plate 130. The pin 140
35 aligns with a corresponding orifice 138 in the mounting plate 130. It can be appreciated that when the restraining pin 140 is inserted into the orifice 138,

the mounting plate 130 and mounting member 132 cannot be slid relative to one another.

As shown in Fig. 10, the restraining pin 140 can be lowered with the locking mechanism 128. The locking mechanism 128 includes a lock cylinder 306 which rotates. The cylinder 306 includes an arm 308 extending therefrom. The restraining member 140 is biased upward by a spring 304 engaging clips 302 on the restraining member 140. When the lock cylinder 306 is rotated clockwise with a key (not shown), the arm 308 engages the edges of the clips 302 and pushes the retaining member 140 downward below the surface of the mounting member 132. At this position, the mounting member 132 may be slid off and removed from the mounting plate 130.

Door Lock and Release Mechanism

Referring now to Figs. 11 and 16, there is shown the door lock and release mechanism 150 for door 114. In its closed position, the door 114 is retained by restraining members 156 extending on either side of the door which engage tabs 158 on the door. The door 114 is normally urged toward its open position by a spring 152 connecting the door to the housing but is prevented from opening by the restraining members 156. In its normally closed position, the restraining members 156 are urged upward by a spring 160 pressing against washers 162. Each restraining member 156 inserts through and is aligned by a mounting member 154 attached to the frame 120. A linking cable 164 extends from the restraining member 156 to a door release bar 166 which is pivotally mounted below the housing 112. An end cap 172 is utilized to secure the linking cable 164 to the door release bar 166. Referring to Fig. 16, the release bar 166 includes an extension member 168 on the left side of the housing 112 extending upward through a slot in the upper linkage member 240, as shown in Fig. 17.

It can be appreciated that when the token 218 is inserted and the plunger 238 is depressed, as

explained below, linkage member 240 is moved from the position shown in Fig. 17 to that shown in Fig. 19. This movement acts on extension member 168 and connecting bar 166 to pull on cable 164. The retaining
5 pin 156 is therefore pulled downward and disengages the tabs 158 and the spring 152 pulls the door 114 to an open position.

It can be appreciated that the door is reset by forcing the tabs 158 with an angled edge portion past
10 the pins 156. In the preferred embodiment, an orifice 125 in the shell 108 allows for insertion of a rod or other instrument to push the door to the closed position. However, it can be appreciated that other methods and apparatuses can be utilized for closing the
15 door 114.

Recoil Mechanism

Referring to Fig. 12, a recoil mechanism 170 for the cable is shown. The mechanism 170 includes axle 172 retaining ball bearings 174 for smoother rotation.
20 A cylindrical outer housing 204 retains the components of the recoil mechanism 170. A spool 186 inserts over the axle 172 and is retained at both ends by end plates 188 and washer 190. Clips 176 retain the axle 172 relative to the other elements. At a first end, a
25 coiled spring 176 is retained by end member 180 and spring-engaging member 182. Spring-retaining member 182 has a slot 184 for accepting an end portion of the spring 176. This urges the spool 186 to rotate in a first direction for recoiling cable on the spool, as
30 explained hereinafter. At a second end of the spool 186 is end member 192 which includes a groove 194 formed therein with inner and outer annular walls. A recoil stop device 196 mounts over the end of member 192. The recoil stop device 196 includes a pivoting weight 198
35 connecting to cover member 200 and a guide member 202 which inserts into the groove 194, as shown in Figs. 27 and 28. When assembled, the clips retain the spool end

plates 188 and the slotted portions of the axle 172 extend through end members 180 and 192. A guide member 206 inserts into orifice 210 through the recoil housing 204 to engage the grooves of the spool 186. An orifice
5 212 is formed in the outer housing 204 to allow cable to feed therethrough.

In operation, cable is wound on the spool 186 and rests in the helical groove formed thereon. The guide member 206 rests in the helical groove of the
10 spool 186 and is retained by the side portions of the grooves. It can be appreciated that as the spool 186 rotates, the helical groove rides along the guide member 206 and forces the spool 186 to move axially along the shaft 174. In this manner, cable is wound and unwound
15 onto the groove, always feeding through the orifice 212 over the spool 186 while winding progressively down the spool 186. In this manner, the cable does not need to be moved up and down axially along the spool, as the spool 187 moves relative to the feed point of the cable.
20 This provides for better winding and unwinding and reduces the possibility of the cable jamming.

The recoil stop device 196 operates as shown in Figs. 27 and 28. When the seat 104 is raised so that the seat bottom 106 is substantially vertical, the
25 pivoting weight 198 hangs in the position shown in Fig. 27. At this position, the stop member 202 is disposed in the groove 194 with its lengthwise portion extending substantially along the tangential annular direction of the groove 194. It can be appreciated that at this
30 position, the stop member 202 does not engage either the inner or outer wall of the groove so that the recoil apparatus is free to rotate in either direction without resistance from the stop member 202.

When the vending apparatus 100 is tilted
35 downward with the seat bottom 106 in a lowered position, the weight 198 swings to the position shown in Fig. 28. It can be appreciated that this rotates the stop member

202 to a tilted position relative to a direction tangent with the interior wall of the groove 194. In this position, the corner portions of the stop member 202 engage one or both of the inner and outer walls of the groove 194. As shown, a corner of the stop member 202 engages the inner wall of the groove 194. This prevents rotation clockwise in the view shown so that the apparatus will not recoil from the tension applied by the spring 176. However, in this position, the corners do not "dig in" to the groove inner or outer walls to resist counterclockwise rotation which provides for unwinding additional cable from the spool 180. It can be appreciated that with the weighted member 198, the stop mechanism 196 allows the user to freely pull cable from the apparatus 100 when sitting in a seat but provides for automatically recoiling the cable when the user has stood up. In this manner, when the occupant has left his or her seat, the apparatus 100 will automatically recoil so that the binocular is retracted back to the housing 112 and the aisle in front of the seat remains clear and unobstructed.

Token-Actuator Mechanism

Referring now to Figs. 17-26, there is shown the general operation of the token-actuator mechanism 230. The token-actuator mechanism 230 includes an actuator housing 232 which is secured to the frame 120 of the binocular vending apparatus 100. The actuator housing 232 includes a slot 118 which runs the length of the housing and is sized to receive a token 218 having a raised portion 222. Referring now to Figs. 18-19, the binocular vending apparatus 100 is operated by inserting a token 218 into the token-actuator mechanism 230 so that the raised portion 222 of the token 218 is aligned with the narrow portion 147 of the token slot 118. When the token 218 is inserted into the token slot 118, the seat bottom 106, to which the vending apparatus 100 is interconnected is preferably in an upright position.

When the seat bottom 106 is in such a position, the force of gravity will carry the token 218 to a first position (as occupied by the token 218 shown within the slot 118 of the actuator housing 232 as illustrated in Fig. 18). It will be appreciated that while the token slot is preferably oriented in a substantially upright position when the token is inserted, it is not essential that the slot be in a substantially upright position. As long as the slot 118 is positioned at an angle in which the force of gravity will move the token downward within the slot, the token-actuator mechanism 230 will function properly.

The token-actuator mechanism includes a token sizing member 234 which is designed to recognize the size of the token inserted in the slot 118 so that the sizing member 234 actuates the door release mechanism 150 only when a correctly-sized token 218 is inserted in the slot 118. The sizing member 234 includes a shaft portion 264 which is rotatably disposed within the actuator housing 232. As shown in Fig. 21, the sizing member 234 also includes a shelf portion 268 having an edge 270 with a channel 272 having sidewalls 274 cut out of the edge 270. A retaining clip 266 is secured to the shaft 264 so that when the sizing member 234 is disposed within the actuator housing 232, the channel 272 of the sizing member 234 is disposed within the narrow portion 147 of the slot 118.

When the token 218 is inserted into the slot 118 of the token-actuator mechanism 230, the sizing member 234 is positioned so that the sidewalls 274 of the channel 272 are disposed substantially transverse to the longitudinal axis of the slot 118. The channel 272 is dimensioned such that the sidewalls 274 contact and retain the raised position 222 of the token 218 when the token is inserted in the slot 118. More particularly, the raised portion 222 of the token 218 is dimensioned to have a particular height (H), width (W) and angled

edge (θ) so that the sidewalls 274 of the channel 272 contact the angled edge 224 of the raised portion 222 when the token is inserted in the slot 118. With the token 218 retained in this first position in contact
5 with the sizing member 234, the token-actuator mechanism 230 is now ready to be actuated to determine if the raised portion 222 of the token has the correct dimensions.

It is appreciated that the sizing member 234
10 only extends into the narrow portion 147 of the slot 118. Thus, the wide portion 148 of the slot which corresponds to the base portion 220 of the token 218 is generally free of obstruction such that if a token having a generally disk-shaped body without a raised
15 portion is inserted in the slot 118, such a token will simply slide down the slot without engaging the sizing member and subsequently exit out the exit 126 of the slot 118. This prevents a person from jamming the token-actuator mechanism 230 with a disk-shaped token
20 not having a raised portion.

The token-actuator mechanism 230 includes a plunger 238 which is provided to exert a force against the token 218 when the token is retained by the sizing member 234 within the slot 118 so that the sizing member
25 234 may recognize whether the token 218 has a correctly-sized raised portion 222. The plunger 238 includes a base member 246 which is disposed within the actuator housing 232 adjacent the slot 118. The plunger 238 is moveable between an upper position and lower position
30 and includes a plunger tab 258 and spring 260 such that the plunger is biased toward the upper position as shown in Fig. 20. The plunger 238 includes an extension member having a beveled edge 250 and cam edge 252 which extend into the wide portion 148 of the slot 118. The
35 extension member 248 is pivotally connected to the base member 246 through a pin 254 so that the extension member 248 pivots between a first position in which the

extension member extends into the wide portion 148 of the slot 118 and a second position in which the extension member is disposed outside of the slot 118. A spring 256 is disposed between the base member 246 and extension member 248 to bias the extension member 248 into the first position where the beveled edge 250 and cam edge 252 extend within the wide portion 148 of the slot 118.

When the token 218 is inserted in the slot 118, the token slides down the slot until it contacts the beveled edge 250 of the extension member 248. The weight of the token 218 is such that the extension member 248 is pivoted out of the slot 118 so that the token continues along the slot past the extension member 248. Once the token 218 has moved down the slot past the extension member 248, the spring 256 pivots the extension member 248 so that the cam edge 252 of the extension member 248 extends within the wide portion 148 of the slot 118. After the token 218 slides past the extension member 148 of the plunger 238, the angled edge 224 of the raised portion 222 of the token 218 engages the sidewalls 274 of the channel 272 of the sizing member 234 so that the token is retained within the slot 118 as shown in Fig. 18. In this position, the plunger 238 which is connected to the door release button 146 is now depressed. As the plunger 238 is depressed, the cam edge 252 of the extension member 248 contacts the edge 226 of the base 220 of the token and forces the token 218 further down the slot 118. As the plunger 238 forces the token 218 down the slot 118, the angled edge 224 of the raised portion 222 exerts a force on the sidewalls 274 of the channel 272 which serves to rotate the sizing member 234. The angled edge 224 of the raised portion 222 continues to engage the sidewalls 274 of the channel 272 until the sizing member 234 is rotated to a second position as shown in Fig. 19. At this point, the angled edge 224 of the raised portion

222 disengages the sidewalls 274 of the channel 272 thus allowing the token to slide further down the slot 118. The sizing member 234 is connected to a upper linkage member 240 which is connected to the door lock and
5 release mechanism 150. When the sizing member 234 is rotated to the second position as shown in Fig. 19, the door release mechanism 150 operates to release to the retractable door 114 from the closed position to the open position thus allowing access to the binoculars
10 102.

The door release mechanism 150 biases the sizing member 234 through the upper linkage member 240 into the first position as shown in Fig. 18. The sizing member 234 must be rotated to the second position as
15 shown in Fig. 19 for the door release mechanism to operate. It will be appreciated that if a token having an incorrectly-sized raised portion is inserted in the slot 118, the sizing member 234 will not be rotated to the second position to allow the door release mechanism
20 to operate. For example, if the angled edge 224 of the raised portion 222 of the token is too flat, the angled edge 224 will engage the sidewalls 274 of the channel 272 but the angled edge will subsequently disengage from the sizing member 234 without the sizing member being
25 fully rotated to the second position. In such a case, the door release mechanism will not operate, the sizing member 234 will rotate back to the first position, and the token will continue down the slot and out the exit of the slot 118. Also, if a token is inserted having a
30 raised portion without a beveled edge, the raised portion will engage the edge 270 of the shelf 268 of the sizing member 234, but the sizing member 234 will not fully rotate to the second position and the door release mechanism 150 will not be operated. Thus, with this
35 sizing member 234 designed to recognize a token having a raised portion with a particular height, width and angled edge, a counterfeit token which is manufactured

with a raised portion having different dimensions than the token designed for use in the device will not operate the door release mechanism. It will be appreciated that by varying the height (h), width (w) and angle (θ) of the angled edge 224 of the raised portion 222 of the token 218, numerous variations may be utilized for engagement with the sizing member 234 to actuate the door-release mechanism. In the preferred embodiment, the angle of the angled edge is 45° .

10 Preferably, the token-actuator mechanism 230 includes a token retainer member 236 for retaining the token within the actuator housing 232 after a correctly-sized token has been recognized by the sizing member 234. The token retainer member 236 includes a retainer shaft 278 having a retainer opening 282 surrounded by
15 retainer walls 284. The retainer member 236 is disposed within the actuator housing 232 at a point further down the slot 118 from the sizing member 234. The retainer shaft 278 includes a retainer clip 280 so that the
20 retainer opening 282 and walls 284 are disposed within the slot 118. The token retainer member 236 is rotatable between a first position in which the retainer opening 282 is generally aligned with the slot 118 such that a token may pass through the retainer member and
25 out the exit 126 of the slot 118 (as shown in Fig. 18) and a second position in which the retainer walls 284 are positioned substantially transverse to the longitudinal axis of the slot 118 thus blocking the slot 118 so that a token may not pass through the retainer
30 member 236 (as shown in Fig. 19).

 The retainer member 236 also includes a lower linkage member 242 which is interconnected with the upper linkage member 240 of the sizing member 234 through a linking bar 244. When the sizing member 234
35 is in the first position where it engages and retains a token 218 inserted in the slot 118, the retainer member 236 is disposed in the position in which the retainer

opening is aligned with the slot to allow a token to pass through the retainer member. As shown in Fig. 19, when the sizing member is rotated to the second position in which the door release mechanism 150 is operated, the linking bar 244 rotates the retainer member 236 to the position in which the retainer walls 234 obstruct the slot to retain the token 218 within the actuator housing 232.

The token-actuator mechanism 230 includes a retainer lock mechanism 290 so that when the retainer member 236 is rotated to the second position to obstruct the slot and retain the token within the actuator housing, the retainer member 236 is locked in this second position. Generally, the retainer lock mechanism 290 includes a lock plunger 292 having a head 296 and stem 294 as illustrated in Figs. 25 and 26. A clip 298 is secured to the plunger 292 for engagement with a spring 300 which biases the plunger in a direction away from the retainer member 236. The retainer member 236 includes a bottom portion which engages the lock mechanism 290. In particular, the bottom portion of the retainer member 236 includes an end cap 279 having a notch 288 in the edge of the end cap and a grove 286. As illustrated in Figs. 23 and 25, when the retainer member 236 is in the first open position, the head 296 of the lock plunger 292 is disposed within the grove 286 of the retainer member 236 so that the retainer member is permitted to rotate. As the retainer member is rotated to the second closed position, the notch 288 of the end cap 279 is rotated into alignment with the plunger head 296 so that the lock plunger 292 then moves downward under the force of the biasing spring 300 to lock the retainer member 236 in the second closed position as illustrated in Figs. 24 and 26.

It will be appreciated that when the retainer member is locked in the closed position as illustrated in Fig. 19, the door release mechanism 150 is maintained

in an unlocked position so that the door 114 may not be reset into the locked position. In this way, a spectator who has inserted a correctly-sized token in the apparatus 100 and subsequently actuated the token-actuator mechanism to release the retractable door may not accidentally reset the retractable door 114 into a locked position. Rather, with the token-actuator mechanism 230 locked in the second position in which the retainer member 236 retains the token within the actuator housing 232, the door may not be reset until the retainer lock mechanism 290 is actuated to release the retainer member which then rotates back to the first open position. At this time, the token 218 retained within the housing exits out the bottom of the slot 118 and the retractable door 114 may then be reset into the locked position.

Preferably, a lock cylinder 306 is provided to release the retainer member from the second locked position. As shown in Fig. 10, the lock cylinder 306 having an arm 308 is rotatably disposed adjacent the retainer lock mechanism 290. The lock cylinder 306 is designed for use with a key (not shown) which engages the lock cylinder 306 to rotate the arm 308. In order to release the retainer lock mechanism from the second locked position, the key engages the lock cylinder to rotate the arm in a counter-clockwise position toward the retainer lock mechanism. The arm 308 engages an edge of the clip 302 on the lock plunger 292 and forces the lock plunger 292 upward so that the head 296 is moved out of engagement with the notch 288 of the end cap 279 and into the groove 286 of the retainer shaft 278. As the head 296 of the lock plunger 292 enters the groove 286 of the retainer shaft 278, the retainer member 236 is then permitted to rotate back to the first open position under the bias of the door release mechanism 150 and the token retained within the actuator housing 232 is then permitted to pass through the retainer

member and out the exit 126 of the slot 118. In this way, after a spectator has used the binoculars, a worker may come around and utilize a key to release the retainer member from the locked position to obtain the token, at which point the worker may then reset the housing door 114 to the locked position so that another spectator may then utilize the vending apparatus 100. Although the present invention provides a token-actuator mechanism to actuate the door release mechanism which utilizes a token with a raised portion having a predetermined size and shape, it is appreciated that a variety of different token-actuator mechanisms or other devices may be utilized with the present invention to selectively permit access to the binoculars within the apparatus.

The Sleeve

Referring now to Figs. 29 and 30, there is shown a sleeve 320 for the binoculars 102. The binoculars 102 generally include a set of lenses and a prism in between which magnifies objects and improves the depth perception when viewing through the binoculars. The binoculars generally include a lens at the eyepieces which are generally aligned with the distance between the eyes and an opposed larger objective lens corresponding to each eyepiece lens.

A sleeve 320 includes a sleeve body which may be made of a flexible elastic material or may be a molded flexible material to generally fit the exterior of the binoculars. Suitable materials include polyvinyl chloride, polystyrene, polypropylene, low or high density polyethylene, foam or foam based materials, or rubber and rubber based materials. The binocular sleeve 320 includes an enlarged opening configured to fit around the exterior of the binoculars 102 for applying and removing the sleeve 320. At an opposite end of the sleeve body and aligned with the opening 322 are a pair of raised eyepiece cover portions 324. The cover

portions 324 form orifices 326 which are generally aligned with the lenses of the eyepieces of the binoculars 102. The raised portions 324 cover the rim around the eyepieces of the binoculars.

5 As shown in Fig. 30, when the sleeve 320 is mounted on the binoculars, the field of vision remains clear through the eyepieces and objective lenses of the binoculars. In this way, vision is not impaired by the sleeve. It can be further appreciated that the sleeve
10 320 provides for hygienic protection should the binoculars be used over and over by different persons while the sleeve 320 may be disposed after a single use. The eyepiece portions of binoculars 102 never physically contact the eyes or face of a user as the raised
15 eyepiece portions 324 cover the rims around the binocular eyepieces. This prevents dirt and oil from building up on the binoculars 102 and eliminates extensive cleaning of the binoculars. It can be further appreciated that the binocular body does not retain
20 grease or oils from either the face or hands as the portions are not gripped, as they are also covered by the sleeve 320.

 Since the binocular sleeve 320 is made of a flexible lightweight material, it may be easily slipped
25 over the eyepieces and onto the body with little adjustment or alignment required. It can be further appreciated that after each use of the binoculars, the sleeve 320 may be easily disposed and a new sleeve may be quickly applied for the next use. The sleeve 320
30 also provides enough flexibility so that when adjustments to the binoculars 102 are required to fit the individual user's face or for focusing, the sleeve body is able to flex with the adjustments of the binocular's configuration.

35 SECURITY CABLE

 Referring now to Figs. 31 and 32, there is shown a preferred security cable 110 for securing the

binoculars 102 to the vending apparatus 100. The security cable device, generally designated 110, has a cord 420, ball members 430, and protective sleeve members 440. In the preferred embodiment, the cord 420
5 has a proximal end 422 and a distal end 424 and is made of flexible steel wire, although a number of other strong and flexible rope-like materials may be substituted. The cord 420 runs through passages 432 and 442 formed through the ball members 430 and sleeve
10 members 440 respectively, such that the ball members 430 and sleeve members 440 are retained by the cord 420 and pivotally engaged in an alternating series, as explained hereinafter. It will be appreciated that the proximal end 422 and distal end 424 of the cord 420 can include a
15 locking mechanism whereby the two ends may be connected or can be attached to objects for security purposes.

Referring now to Fig. 35, the ball members 430 may be constructed of any of a variety of suitable materials, such as metals or composites. In the
20 preferred embodiment, the ball members 430 are typically formed of a hardened steel coated with a rust resistant coating such as zinc or chrome. The ball members 430 contain an axially extending passage 432. The passage 432 has an inner portion 434 of generally constant
25 circumference and two chamfered outer portions 436 of increasing circumference, one chamfered portion 436 at each end of the passage inner portion 434. The circumference of the inner portion 434 is sized such that the ball members 430 tightly encircle the cord 420.
30 The chamfered portions 436 of the passage 432 allow for bending and radial movement of the cord 420.

Referring now to Figs 32 and 36, the protective sleeve members 440 are preferably cylindrical and constructed of a hardened stainless steel, although
35 it should be appreciated that the sleeve may be shaped as a polygon and constructed of any of a variety of suitable materials, such as brass, or other metals or

composites. Each sleeve members 440 defines an axially extending passage 442 of generally constant circumference. The circumference of the passage 442 is sized such that the sleeve members 440 tightly encircle the cord 420. At the ends of each sleeve are concave sockets or concave receptacle ends 444. The concave receptacle ends 444 have a curvature generally equal to the curvature of the ball members 430 and receive the ball members 430. Upon reception, the passage 442 of the sleeve member 440 substantially aligns with the chamfered portion 436 of the ball member 430 such that the cord 420 may pass through and pivotally engage the sleeve members 440 and ball members 430 in an alternating series, as best shown in Figs. 31-32.

Accordingly, the present invention provides many advantages over the prior art. The present invention provides a security cable that is flexible and capable of being compactly coiled, yet is uncuttable by hand cutters. The flexibility of the security cable device is best shown in Figs. 31, 32, and 34, and although the cord 420 in Fig. 34 is shown as smooth semicircle, it will be appreciated that the cord 420 has generally curved segments and generally straight segments. The cord 420 generally curves at the chamfered portions 436 of the ball member 430, and the cord 420 is generally straight in the passage 442 of the sleeve member 440 and the inner portion 434 of the passage 432 of the ball member 430. The "ball and socket" connection, as best shown in Figs. 31, 32, and 34, between the ball members 430 and the protective sleeve members 440 provides flexibility by allowing for pivoting movement of the sleeve members 440. The chamfered portions 436 of the ball members 430 further enhance flexibility by allowing for pivoting movement of the cord 420. The enhanced flexibility enables the security cable 110 to be compactly coiled for easy storage and effective use in a recoil system.

The ball and socket connection also enhances the security cable's resistance to shear force. The curvature of the ball members 430 and the concave receptacles 444 are generally equal, thus providing a flush connection between the ball member 430 and the sleeve member 440, as best shown in Figs. 33 and 34. The flush connection prevents any gap between the ball member 430 and the sleeve member 440 and thus eliminates exposure of the cord 420. Furthermore, by receiving the ball member 430 within a concave receptacle 444, the sleeve member 440 overlaps with ball member 442, as best shown in Figs. 33 and 34. The flush connection and overlap combine to prevent a shearing force from being directly applied to the cord 420 without first penetrating either the ball member 430 or the protective sleeve member 440.

The shearing force necessary to cut through the cord 420 and hardened steel of the ball 430 or sleeve member 440 cannot be attained through the use of hand cable cutters but must be acquired through use of larger equipment, such as a large bolt cutter or another similar device. Such tools are more difficult to conceal than a smaller hand cutters and thus deter attempts at cutting the security cable.

In a first alternative embodiment shown in Fig. 37, the security cable device 110 has of a cord 420 and protective sleeve members 450. The sleeve members 450 have an elongated, generally cylindrical shape with one concave receptacle end 454 and one domed end 456, each end of similar curvature. The domed end 456 essentially replaces and functions as the ball member 430 of the preferred embodiment.

The sleeve member 450 has a axially extending passage 452 with a chamfered portion at the domed end 456, similar to the chamfered portions 436 shown in Fig. 35. The cord 420 runs through the passage 452 and retains the sleeve members 450 such that a domed end 456

of a sleeve member 450 pivotally engages with the concave receptacle end 454 of an adjacent sleeve member 450. The pivotal engagement between the domed end 456 and the concave receptacle end 454 prevents a gap
5 between the adjacent sleeves and yet enables the two sleeves to pivot with respect to each other.

In a second alternate embodiment shown in Fig. 38, the security cable device 110 has a cord 420, male protective sleeve members 460, and female protective
10 sleeve members 470. The male sleeve members 460 have an elongated, generally cylindrical shape with domed ends 464. The male sleeve members 460 have an axially extending passage 462 with chamfered portions 466 at the outer edges. The female sleeve members 470 have an
15 elongated, generally cylindrical shape with two concave receptacle ends 474 of substantially similar radius as the domed ends 464 of the male member 460. The female sleeve members 470 also have an axially extending passage 472. A cord 420 runs through the passages 462
20 and 472 and retains the male and female sleeve members in an alternating series such that a receptacle end 474 of a female sleeve member 470 pivotally engages with a domed end 464 of a male sleeve member 460. The pivotal engagement between the receptacle end 474 and domed end
25 464 prevents a gap between the adjacent sleeves and yet allows pivoting of the sleeve members.

As shown in Fig. 39, the security cable 110 connects to the binoculars 102 through a passage 480 extending generally along the pivoting axis of the
30 binoculars. The cable 110 has an end retaining member 482 which may be crimped or otherwise securely attached to the cord 420. The retaining member 482 engages the end of the passage 480 to retain the binoculars 102. A cable cover 484 may be placed over the ends of the
35 passage 480 for improved appearance. It is understood that various other types of security cables may be utilized to secure the binoculars 102 to the vending

apparatus 100.

It is to be understood, however, that even though numerous characteristics and advantages of the present invention have been set forth in the foregoing
5 description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size and arrangement of parts within the principles of the invention to the full
10 extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

WHAT IS CLAIMED IS:

1. A token-actuated article vending apparatus comprising:

a token having a base portion and a raised portion having a predetermined size;

a housing having a slot formed therethrough for receiving said token;

means for recognizing the size of said token;

means for actuating the apparatus to provide for access to the article when said size recognition means recognizes a token having said predetermined size; and

means for securely retaining said token after said size recognition means recognizes a token having said predetermined size.

2. The apparatus of claim 1 wherein said raised portion of the token has a particular height, width, and angled outer edge and said size recognition means includes a sizing member which recognizes said height, width and angled outer edge of the raised portion of the token when the token is inserted in said slot such that said actuation means are actuated only when said sizing member recognizes a token with a raised portion having said particular height, width and angled outer edge.

3. The apparatus of claim 2 wherein said sizing member is disposed adjacent said slot such that said sizing member contacts and retains said raised portion of the token when the token is inserted in said slot, said size recognition means further including a plunger disposed adjacent said slot and moveable along a length of said slot between a first upper position and a second lower position wherein said plunger contacts said base portion of the token when the plunger is in the upper position and the movement of the plunger toward the second lower position forces the token further down the

slot such that said raised portion of the token engages and rotates said sizing member wherein the sizing member recognizes the size of the raised portion of the token.

4. The apparatus of claim 2 wherein said sizing member is disposed adjacent said slot and rotatable between a first position and a second position, said sizing member includes a shelf portion having an edge and a channel formed therein along said edge, said channel is disposed within the slot to contact and retain said raised portion of the token when said token is inserted in said slot and said sizing member is in said first position, and wherein subsequent movement of the token along the slot forces the raised portion of the token against the channel to rotate the sizing member such that the sizing member rotates to said second position to actuate the actuation means only when a raised portion having said particular height, width and angled outer edge engages said channel.

5. The apparatus of claim 4 wherein said channel includes side walls such that said side walls contact and retain said angled outer edge of the raised portion of the token when the token is inserted in the slot and the sizing member is in said first position, and with subsequent movement of the token along the slot, said angled outer edge of the raised portion exerts a force on the side walls of the channel which rotates the sizing member such that when the sizing member is rotated to said second position in which said actuation means are actuated, the angled outer edge of the raised portion disengages said side walls of the channel wherein the token moves further along the slot and is subsequently retained by said retaining means.

6. The apparatus of claim 1 wherein said retaining means includes a retention member disposed

within said slot for rotation between a first open position and a second closed position wherein said retention member allows a token to pass through the slot when the retention member is in the first open position, and said retention member blocks the slot to retain a token when the retention member is in the second closed position.

7. The apparatus of claim 6 wherein said retention member is interconnected with said size recognition means wherein the retention member is in the first open position when said size recognition means recognizes a token not having said predetermined size such that the incorrectly sized token is allowed to pass through the slot and out of the apparatus, and said retention member rotates to said second closed position when said size recognition means recognizes a token having said predetermined size such that the token is retained within the apparatus.

8. A vision enhancing device vending apparatus for use with a token of a specified size having a base portion and a raised portion, said apparatus comprising:

a vision enhancing device;

housing means for removably retaining said vision enhancing device including a retractable door having a first closed position and a second open position;

an elongated tether for interconnecting said vision enhancing device with said housing means, said housing means including tether retraction means for retracting a portion of the elongated tether; and

means for recognizing the token of a specified size, said token recognition means including actuation means for moving said door from said first closed position to said second open position when the token of specified size is recognized by said token recognition means.

9. The apparatus of claim 8 further comprising means for retaining the token having said specified size after the token is recognized by said token recognition means.

10. The apparatus of claim 9 further comprising means for removing the token from the apparatus and resetting said door to said first closed position.

11. The apparatus of claim 8 wherein the raised portion of the token has a particular height, width, and angled outer edge and said size recognition means includes a sizing member and a housing having a slot formed therethrough, wherein said sizing member recognizes the height, width and angled outer edge of the raised portion of the token when the token is inserted in said slot such that said actuation means are actuated only when said sizing member recognizes a token with a raised portion having the particular height, width and angled outer edge.

12. A vision enhancing device vending apparatus comprising:

a vision enhancing device;

housing means for removably retaining said vision enhancing device including a retractable door having a first closed position and a second open position;

an elongated tether for interconnecting said vision enhancing device with said housing means, said housing means including tether retraction means for retracting a portion of the elongated tether;

a token of a specified size having a base portion and a raised portion; and

means for recognizing said token of specified size, said token recognition means including actuation means for moving said door from said first closed position to said second open position when said token of specified

size is recognized by said token recognition means.

13. The apparatus of claim 8 further comprising means for retaining the token having said specified size after the token is recognized by said token recognition means.

14. The apparatus of claim 9 further comprising means for removing the token from the apparatus and resetting said door to said first closed position.

15. The apparatus of claim 12 wherein said raised portion of the token has a particular height, width, and angled outer edge and said size recognition means includes a sizing member and a housing having a slot formed therethrough, wherein said sizing member recognizes the height, width and angled outer edge of the raised portion of the token when the token is inserted in said slot such that said actuation means are actuated only when said sizing member recognizes a token with a raised portion having said particular height, width and angled outer edge.

16. A vision enhancing device vending apparatus comprising:

binoculars having a sleeve, wherein said sleeve comprises a flexible body portion forming an opening configured to slide over the binoculars and conform to an exterior portion of the binoculars, wherein the body forms a pair of orifices generally aligned with eyepieces of the binoculars and configured to fit around the eyepieces;

housing means for removably retaining said binoculars including a retractable door moveable between a first closed position and a second open position;

means for tethering said binoculars to the apparatus;

tether retraction means for retracting a portion of the elongated tether; and

token actuation means for releasing said door from said first closed position to the second open position to provide access to the housing means.

17. An apparatus for vending a vision enhancing device, said apparatus comprising:

housing means for removably retaining said vision enhancing device including a retractable door moveable between a first closed position and a second open position;

means for tethering said vision enhancing device to the apparatus, wherein said tethering means includes a cable, said cable comprising:

an elongated, flexible cord having a proximal end and a distal end,

a plurality of ball members encircling and retained by said cord, and

a plurality of cord protecting sleeve members encircling said cord, wherein said ball and sleeve members are retained by said cord in an adjacent, alternating series such that said sleeve members pivotally engage a portion of at least one of said ball members;

tether retraction means for retracting a portion of the elongated tether; and

token actuation means for releasing said door from said first closed position to the second open position to provide access to the housing means.

18. A pivotally mounted recoil apparatus, comprising:

a shaft;

a spool rotatably mounted about the shaft, wherein the spool includes an end portion having an annular groove formed therein having an inner wall and an outer

wall;

means for biasing the spool to rotate in a first direction;

a pivotally mounted weighted restraining device having a restraining member disposed in the groove and movable between a first position and a second position, wherein in the first position, the restraining member extends tangent to inner wall of the groove, and in the second position, the restraining member extends at a second angle relative to the groove to engage at least one wall of the groove to prevent recoiling.

19. An apparatus according to claim 18, wherein the restraining device prevents rotation of the spool in a first direction.

20. An apparatus according to claim 18, wherein the recoil is mounted to move between a first position and a second position.

21. A pivotally mounted recoil apparatus, pivoting between a first position at a first angle and a second position at a second angle, comprising:

a spool rotatably mounted about an axis;

means for biasing the spool toward rotating in a first direction;

a spool end portion having an annular groove including an inner and outer wall formed therein; and

a pivotally mounted restraining member including an engaging member having a corner formed thereon, wherein the engaging member is disposed in the groove, and wherein in the first position, the corner engages at least one wall of the groove and in the second position, the corner is disengaged.

22. An apparatus for dispensing vision enhancing devices, comprising:

a frame;
a housing for the vision enhancing devices;
means for tethering the vision enhancing device to the dispensing apparatus;
means for recoiling the tethering means;
token-actuated means for providing access to the housing;

means for mounting the apparatus to a surface, comprising a mounting plate including a planar portion attaching to the surface, the mounting plate including an engaging portion having a restraining edge portion with a angled profile projecting above the planar portion, and a complementary mounting member attaching to the frame, having a complementary angled portion inserting under the angled edge, and wherein the complementary member includes a spring-loaded engaging member extending outward from the complementary mounting member and a corresponding bore formed in the mounting plate, wherein the mounting member slides onto the mounting plate and the engaging member extends into the bore for retaining the apparatus.

23. An apparatus for coiling cable and the like, comprising:

a housing, having an orifice formed therein for feeding cable therethrough;
a guide member extending inward from the housing;
a recoil device including a recoil cylinder rotating about a shaft within the recoil housing, wherein the rotating cylinder includes a helical groove formed on the periphery, wherein the cable rests in the groove upon recoiling the cable and wherein the guide member rides in the groove, thereby moving the cylinder axially along the shaft and feeding the cable onto the cylinder;
means for biasing the cylinder to rotate to recoil the cable;

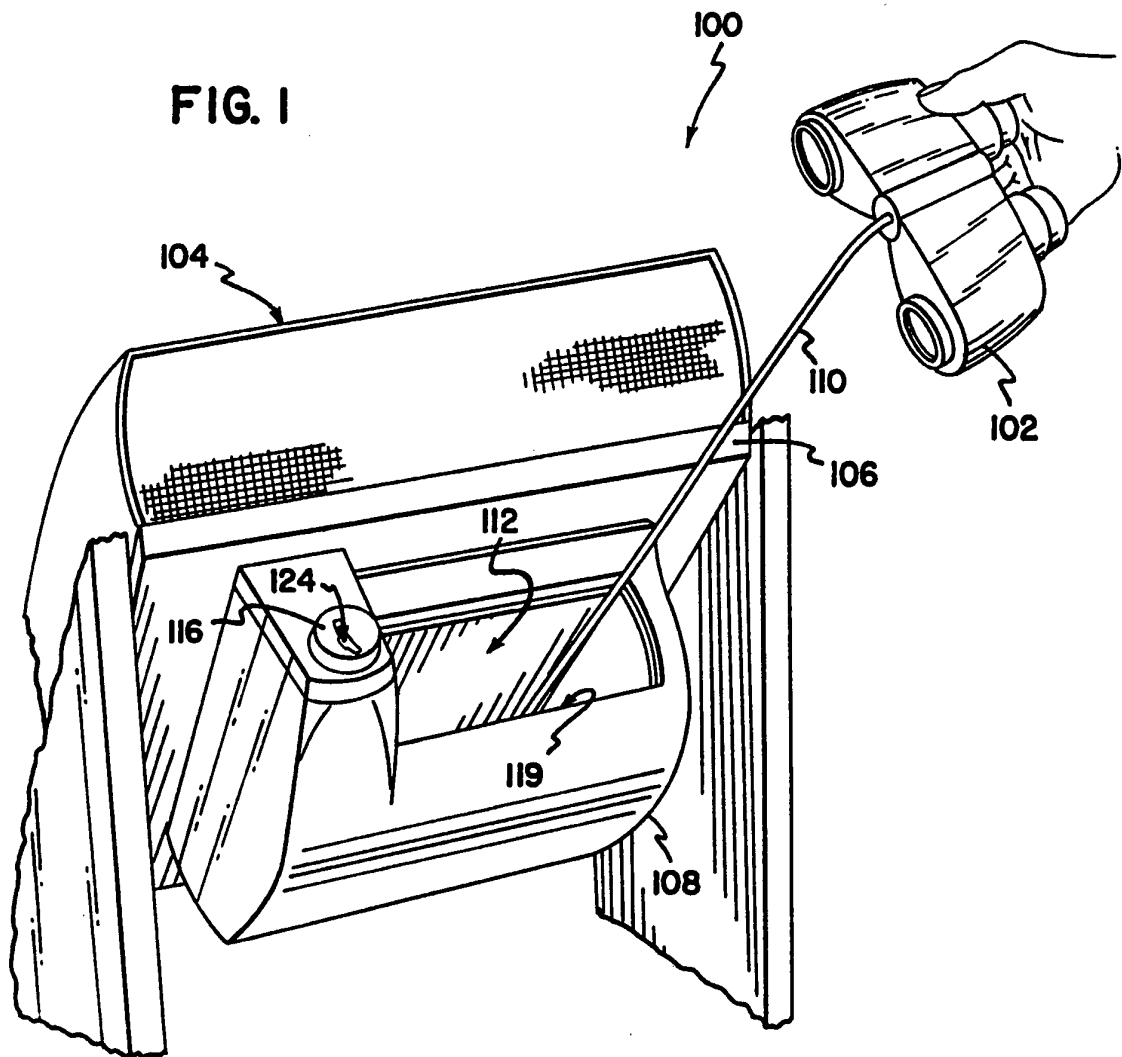
means for stopping rotation of the cylinder.

24. A coiling apparatus according to claim 23, wherein the rotation stopping means comprises a weighted rotatably mounted member for engaging the cylinder in a first position and disengaging the cylinder in a second position.

25. A recoil apparatus according to claim 24, wherein the rotatably mounted member includes a restraining member and wherein the cylinder has an end member with an annular groove formed therein, wherein in a first position the restraining member engages the groove and in a second position the restraining member disengages the groove.

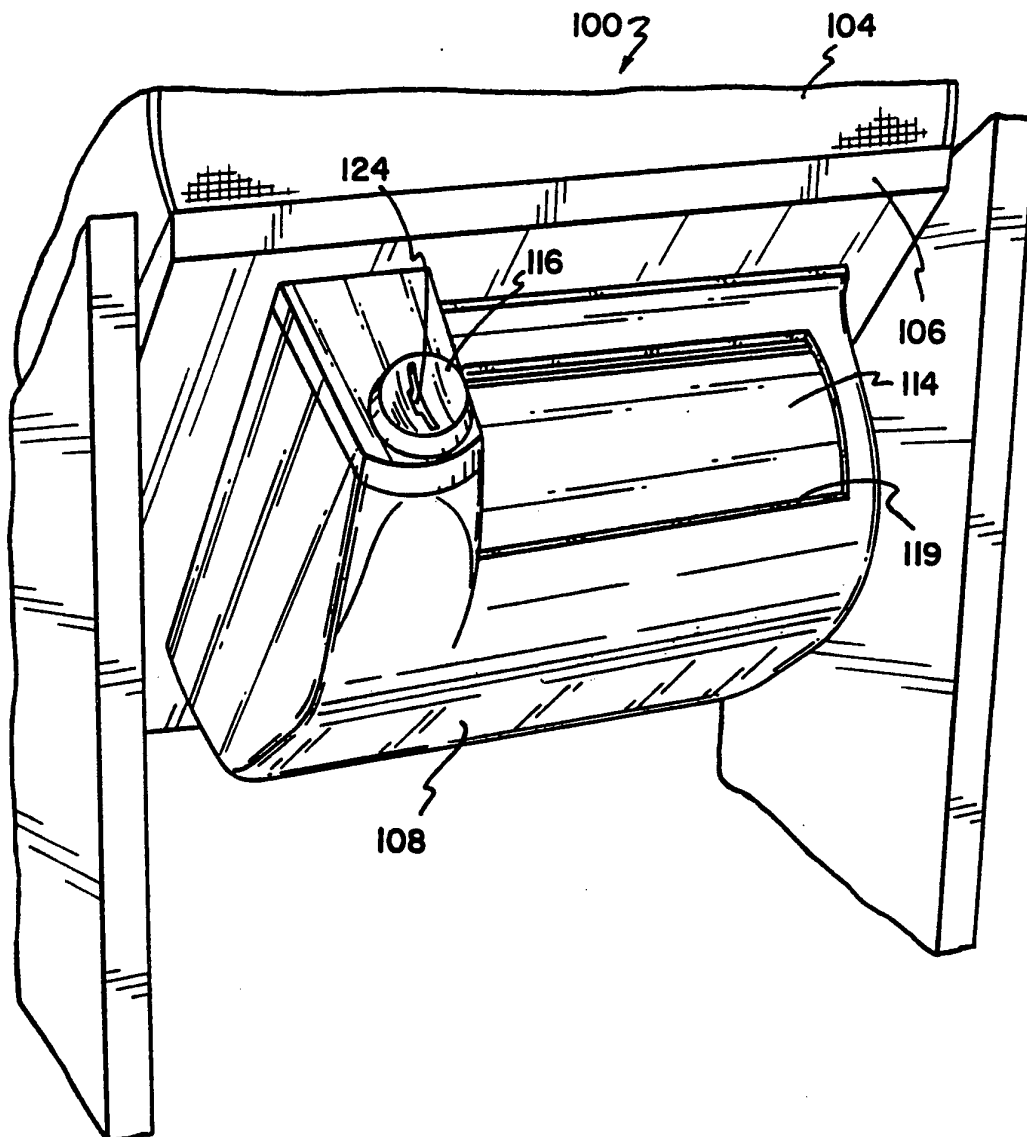
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FIG. 1



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FIG. 2



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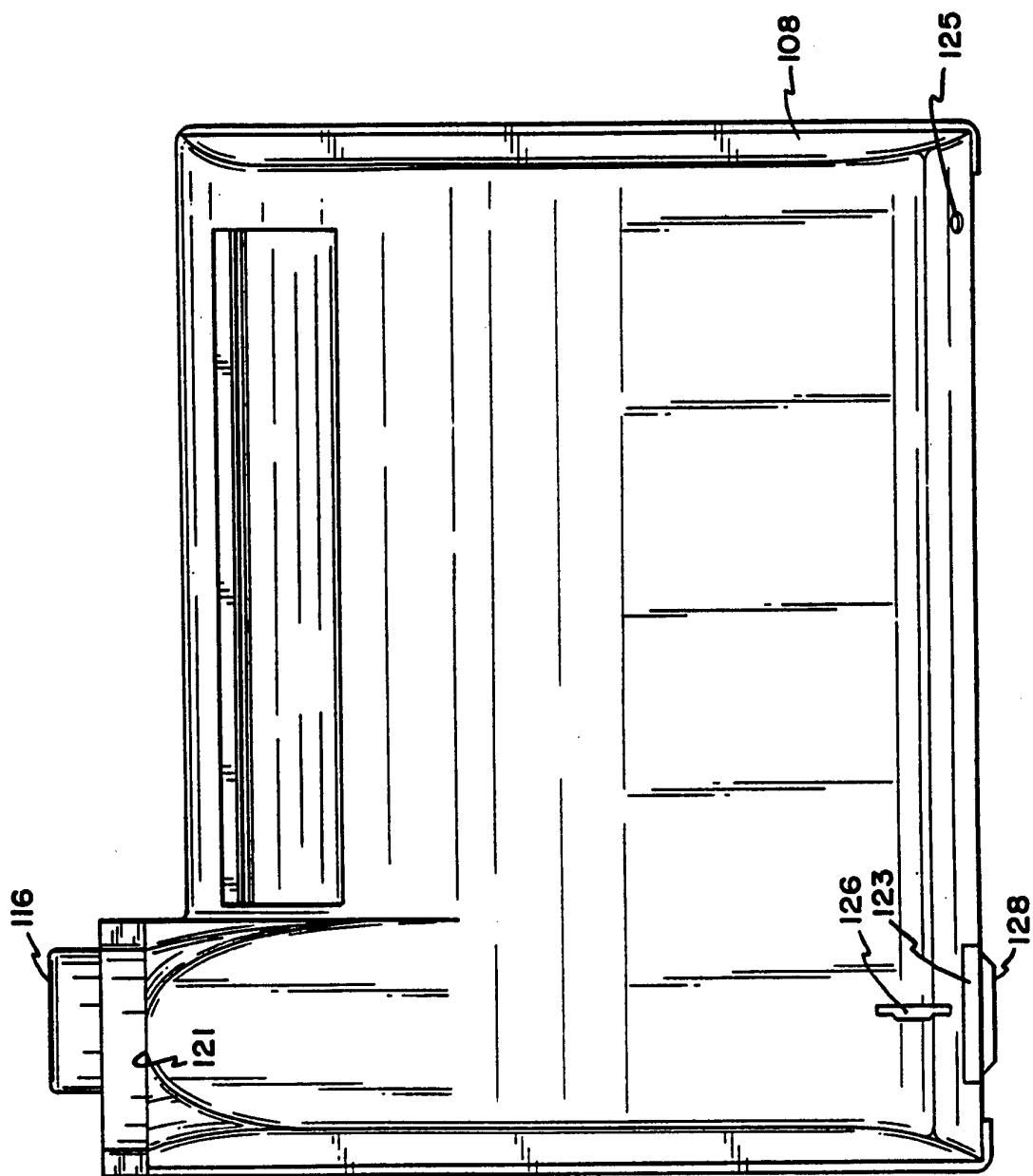


FIG. 3

FIG. 4

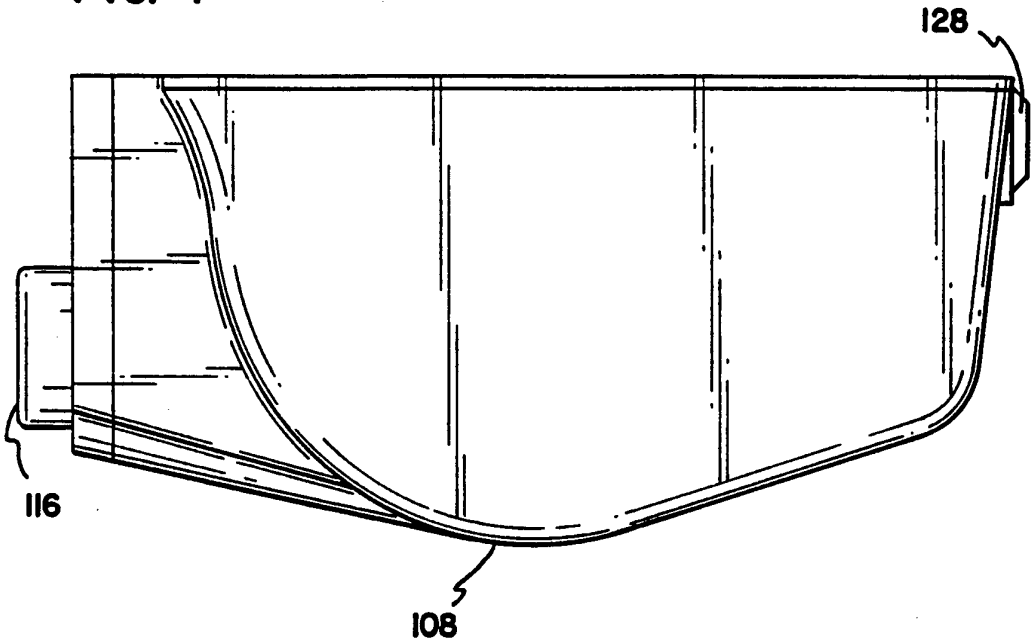
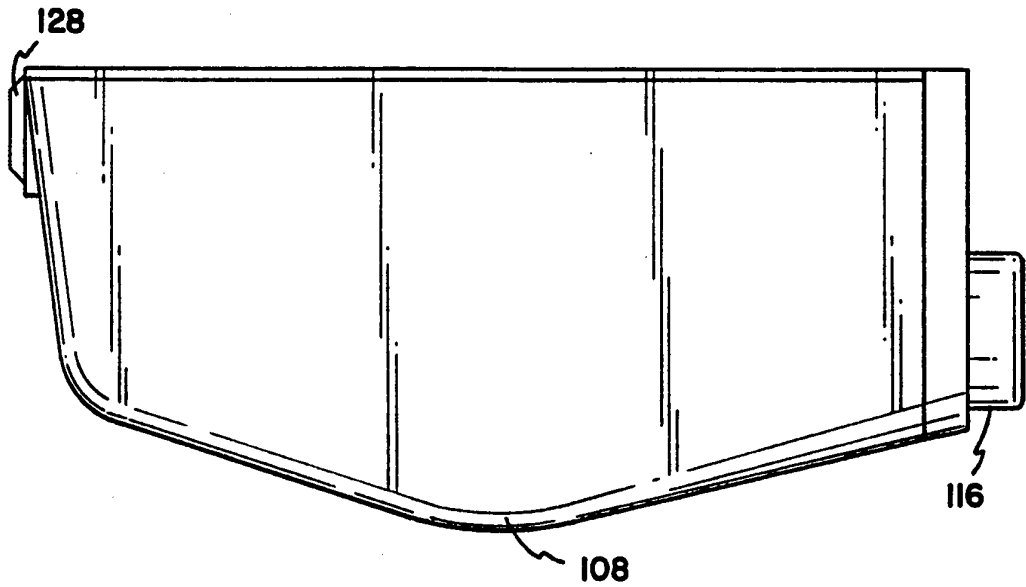


FIG. 5



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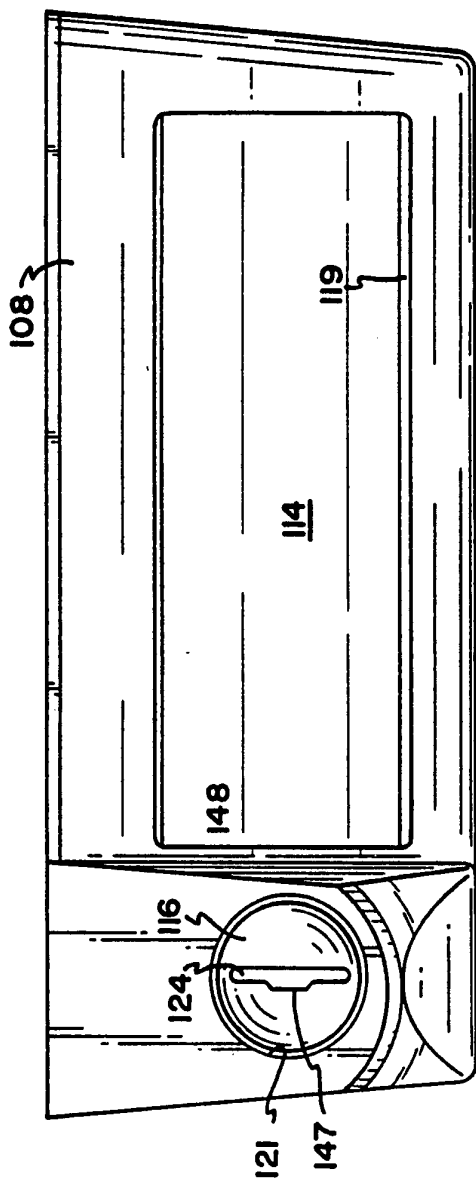


FIG. 6

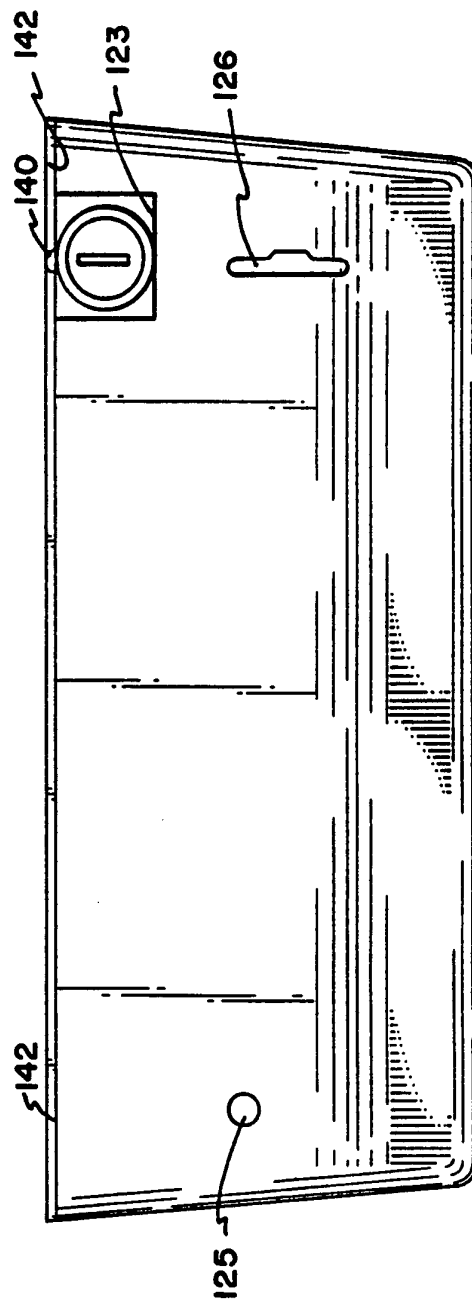


FIG. 7

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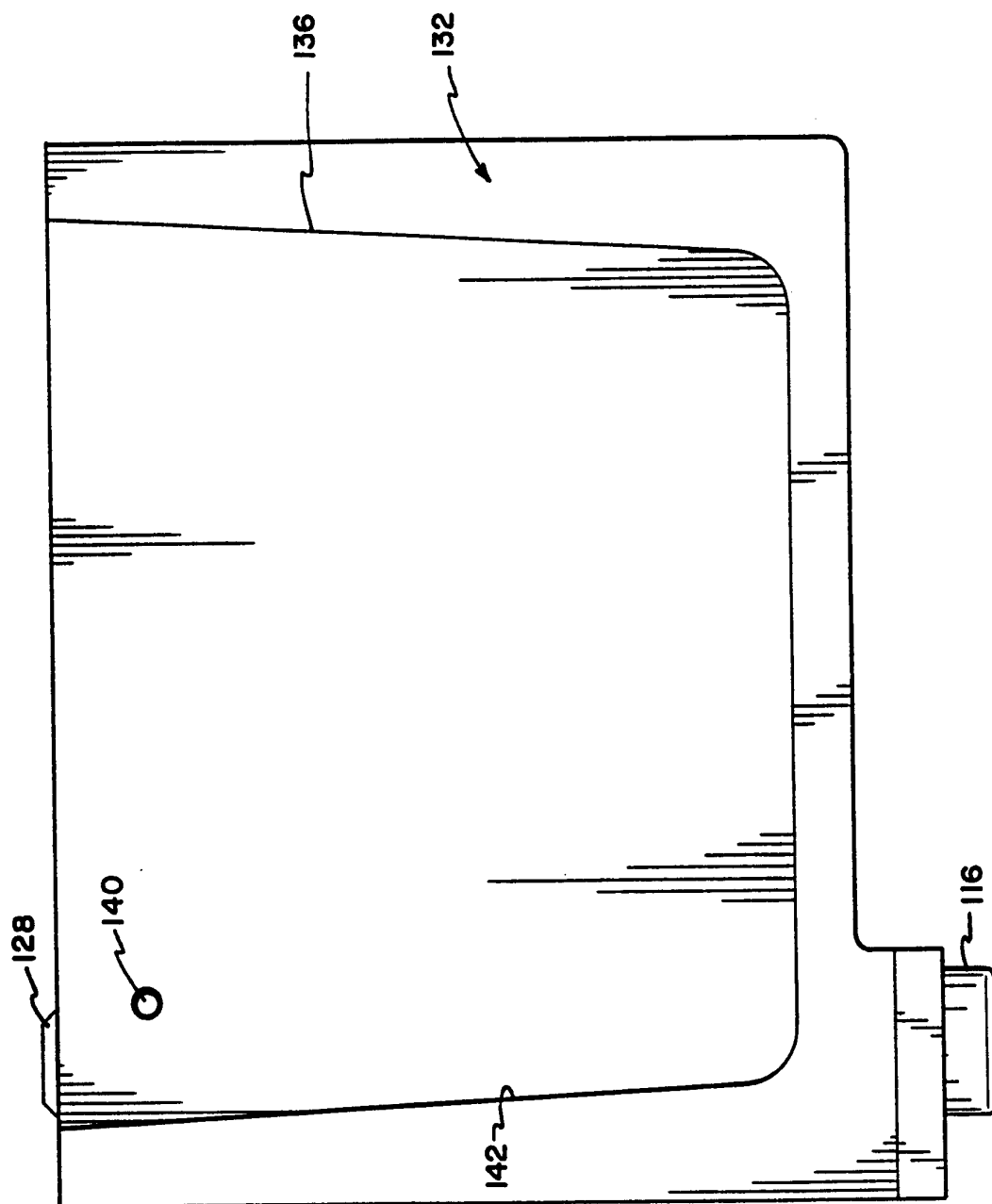


FIG. 8

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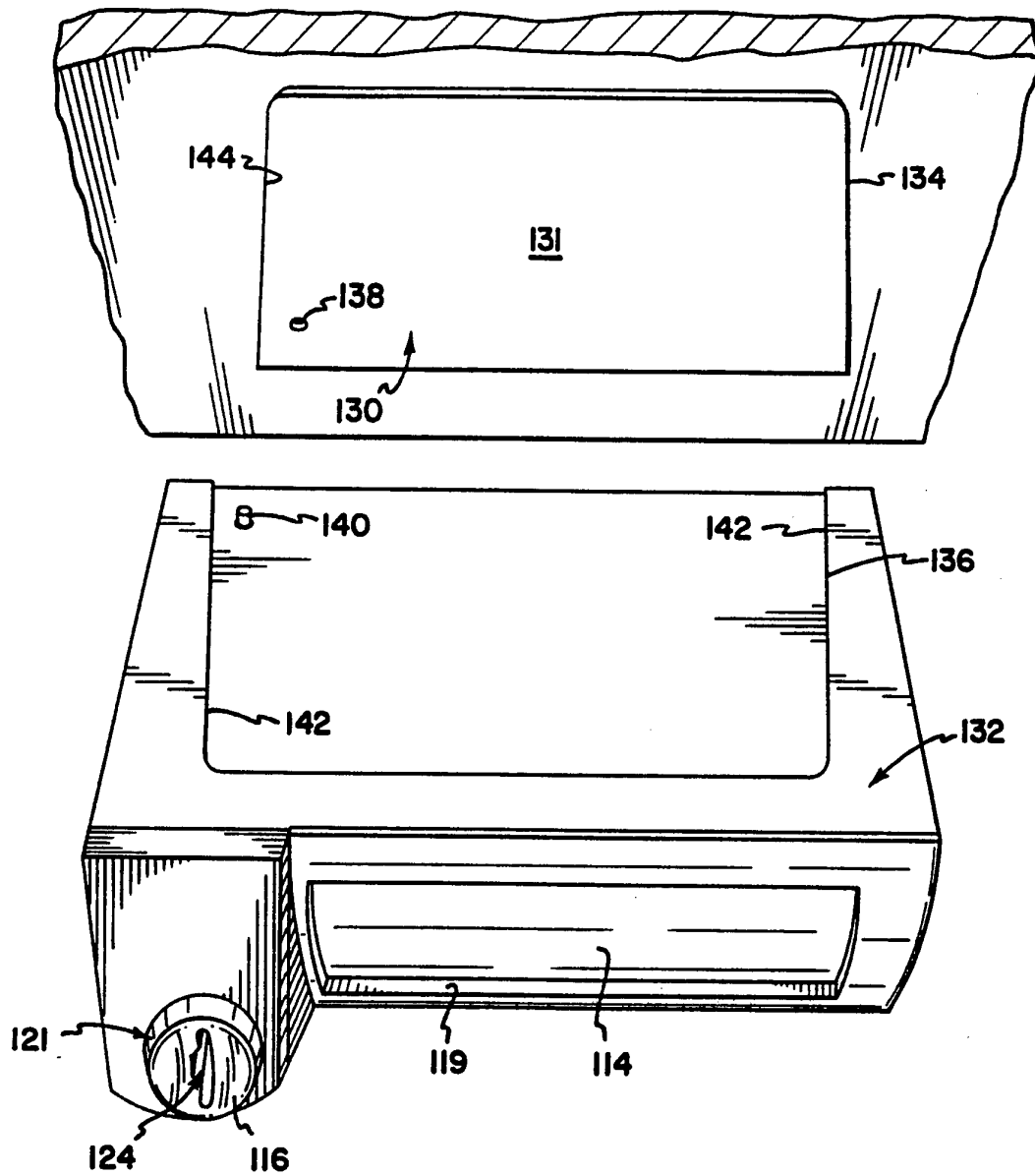
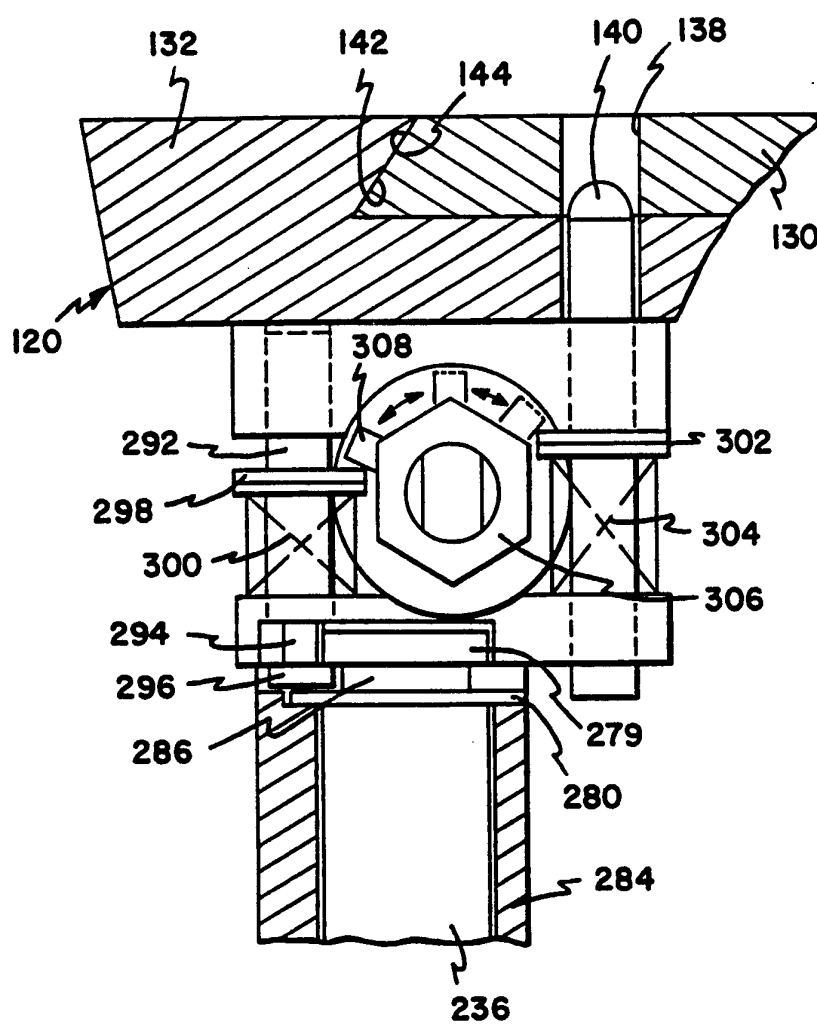


FIG. 9

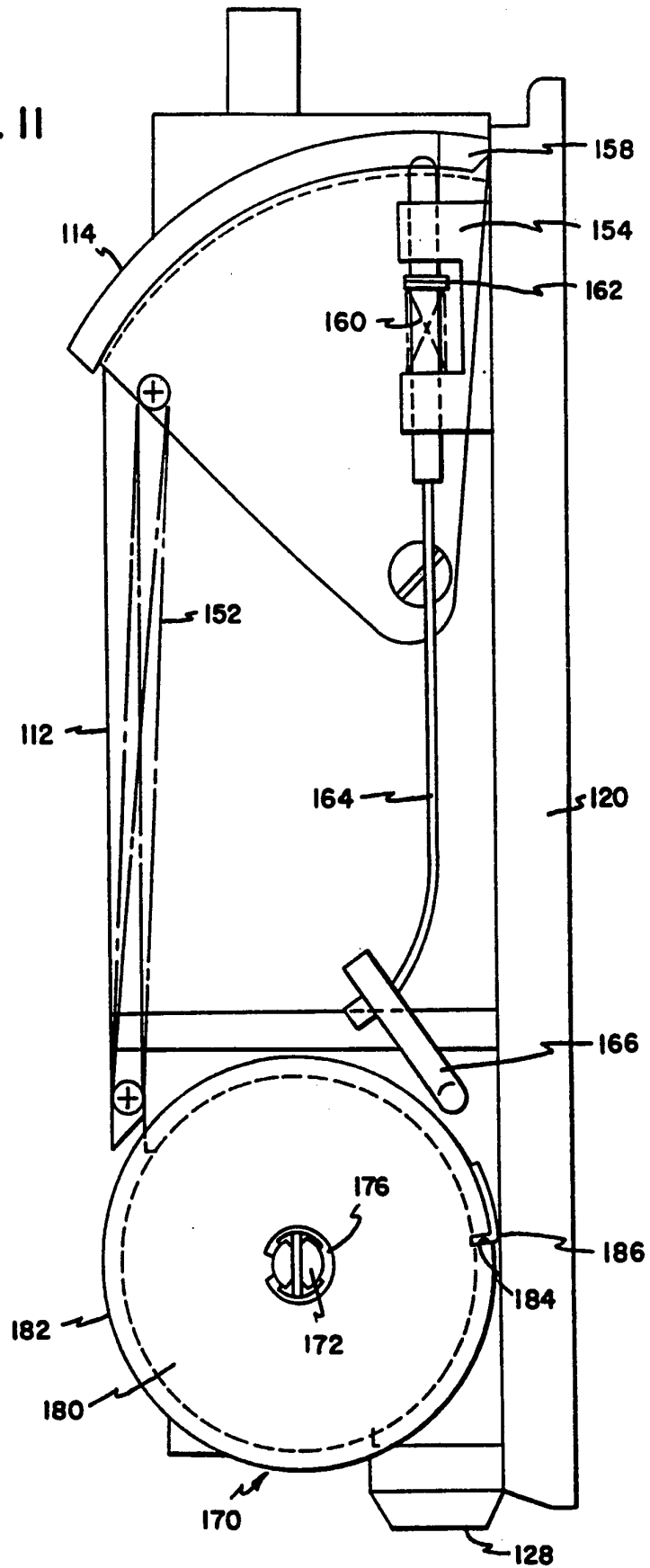
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FIG. 10



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FIG. II



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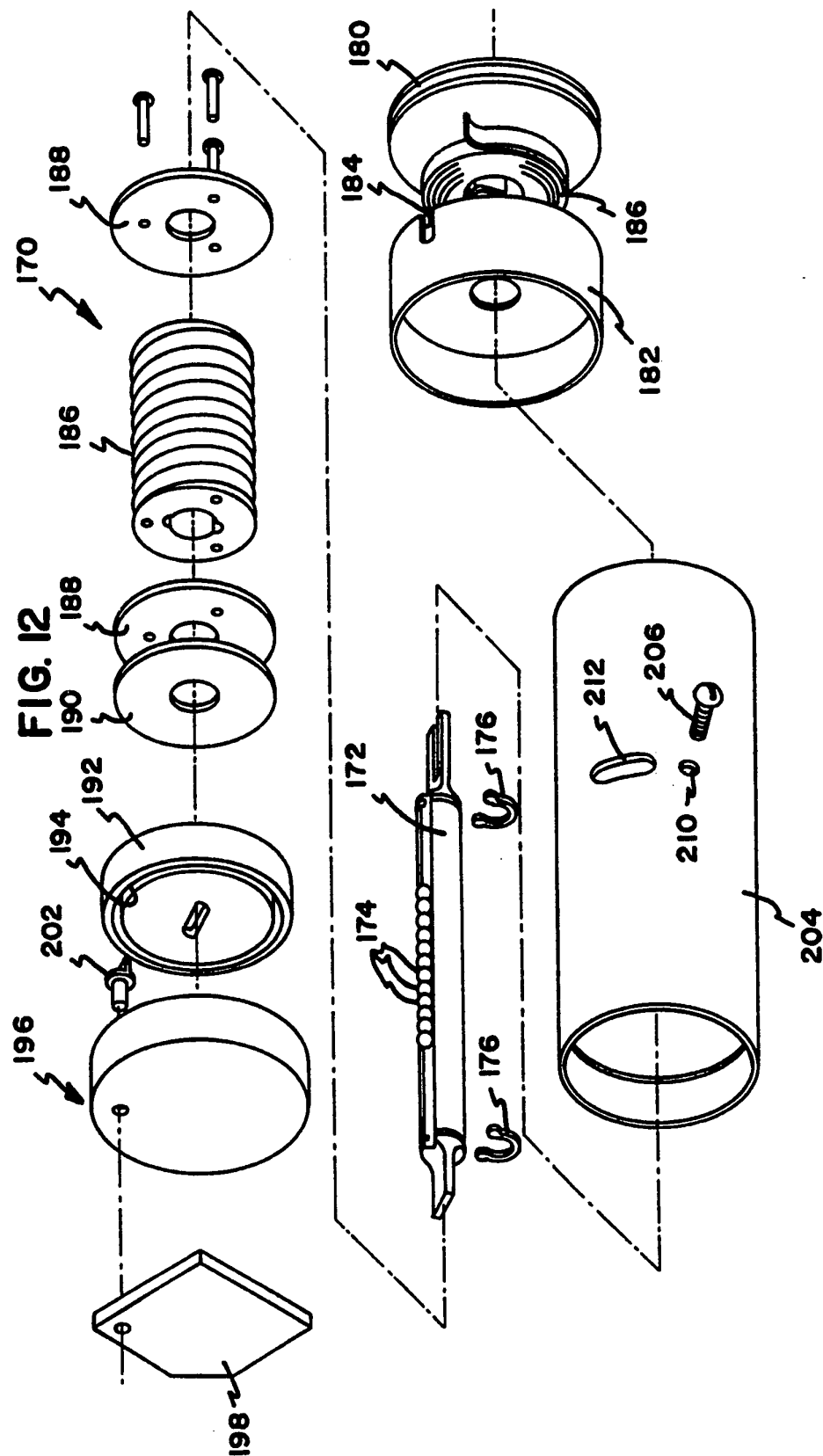


FIG. 13

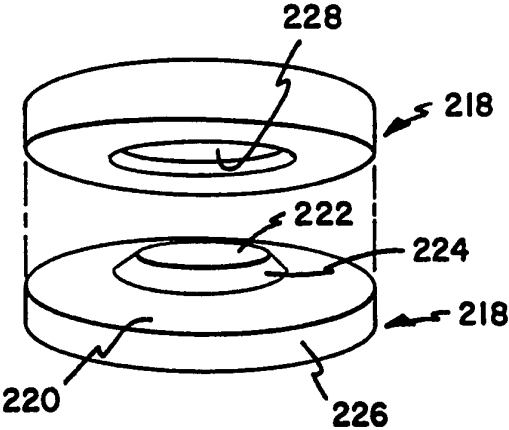


FIG. 14

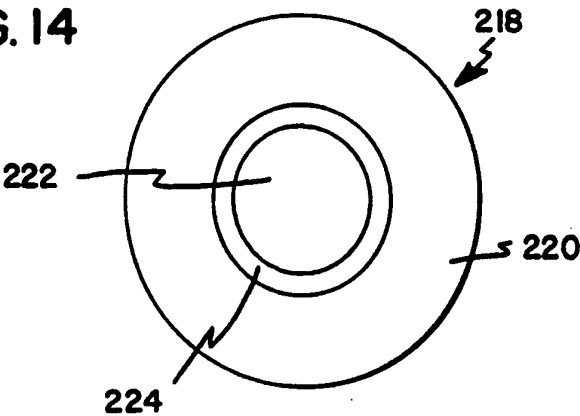
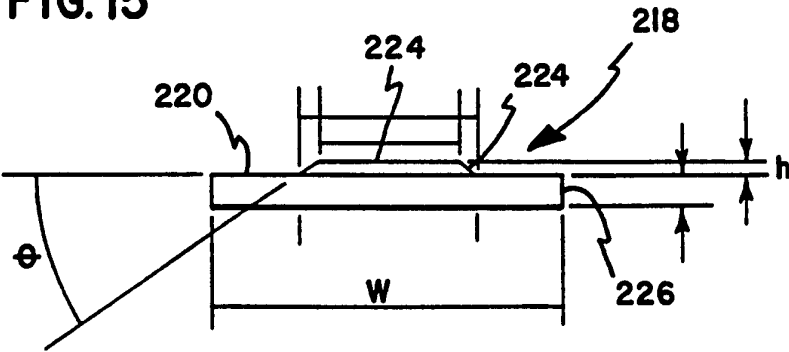
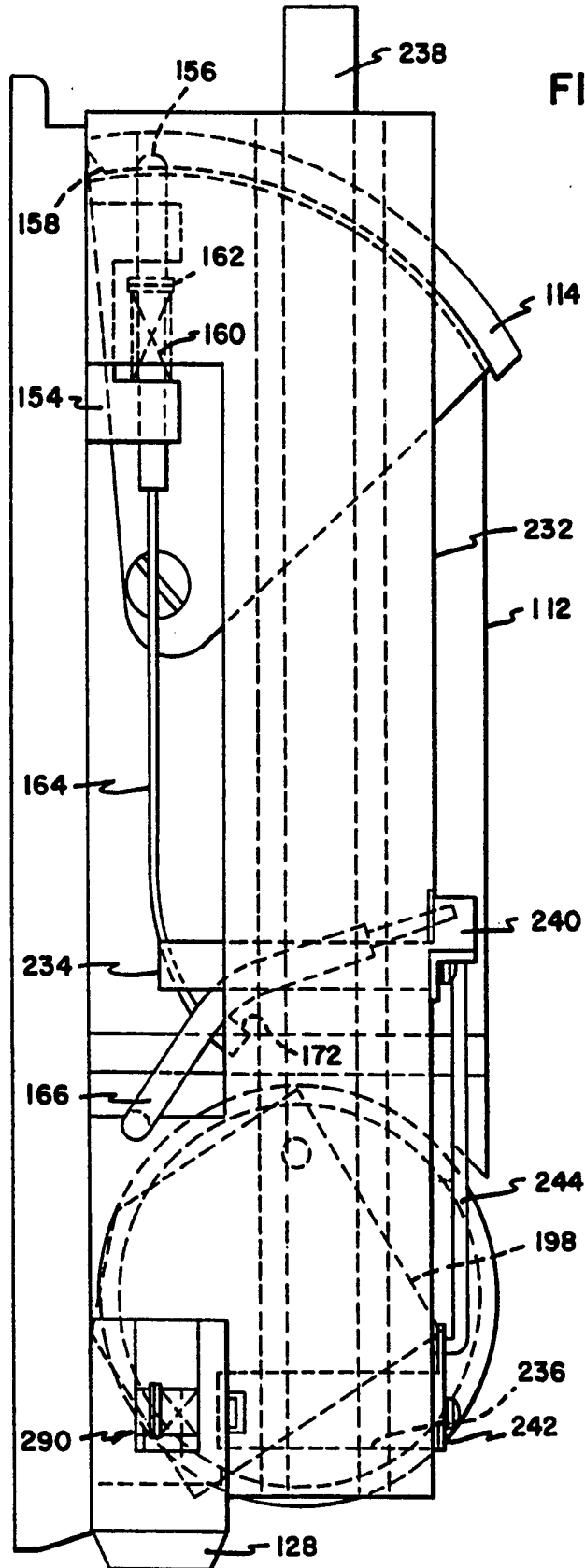


FIG. 15

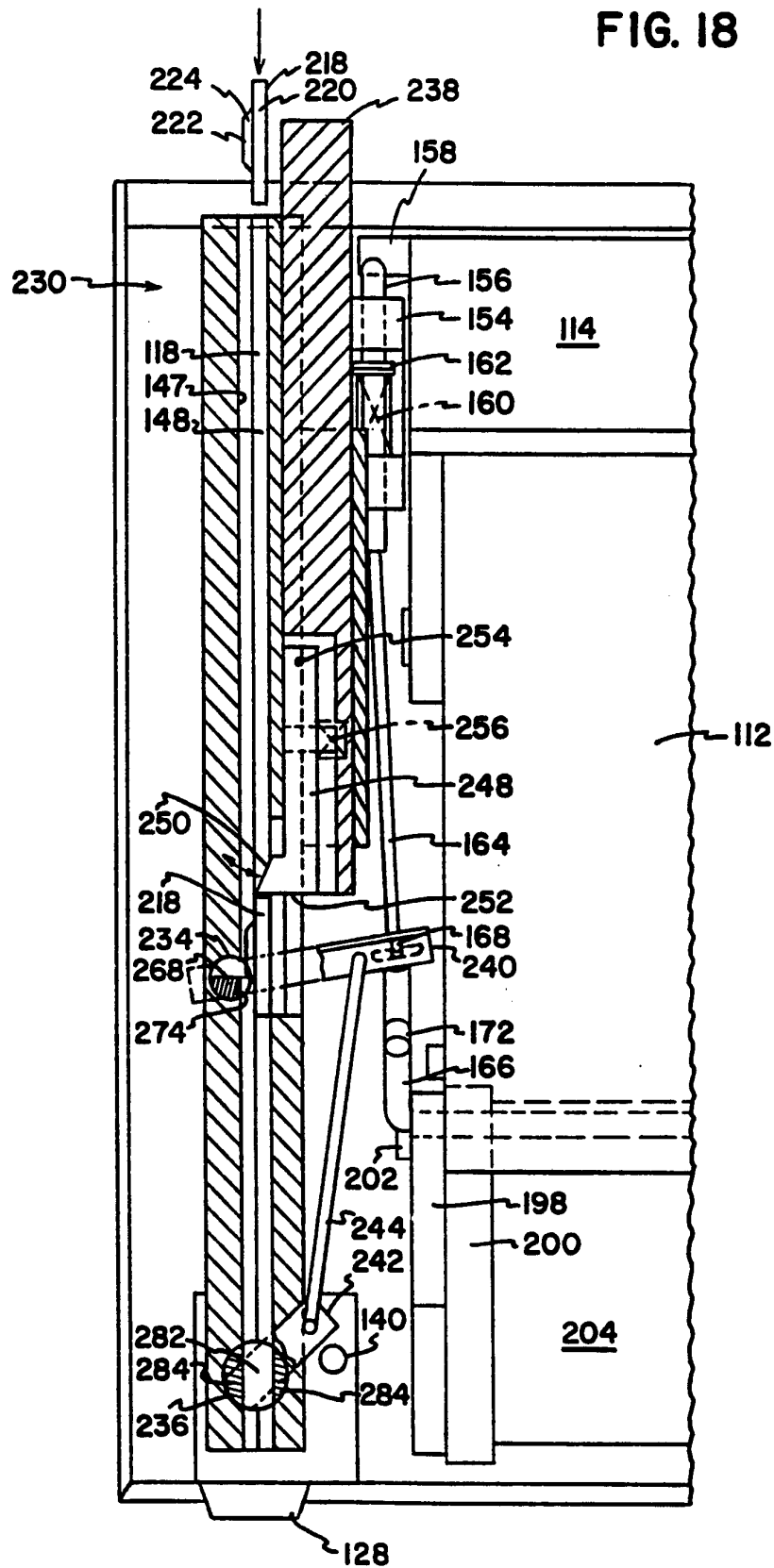


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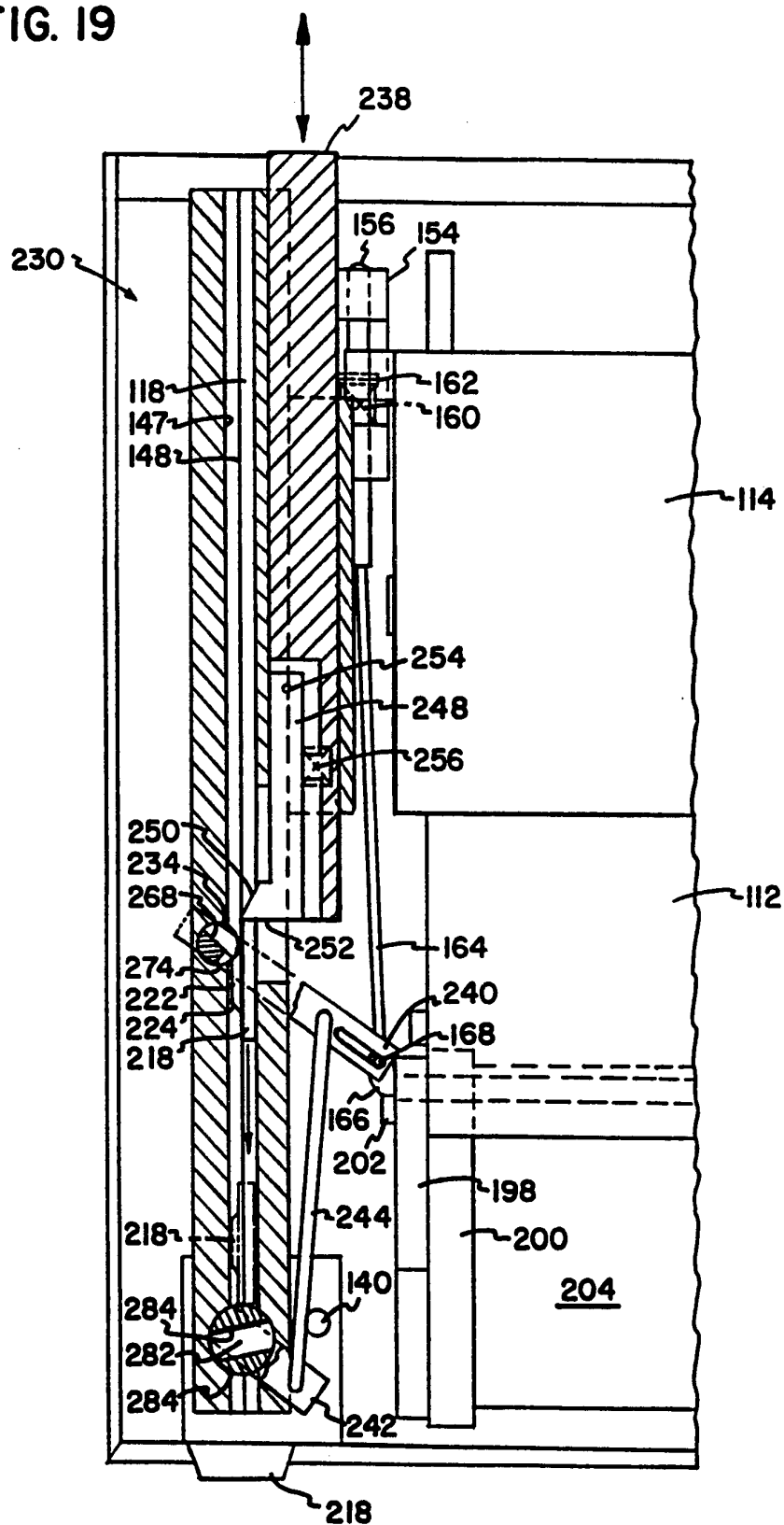
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FIG. 18



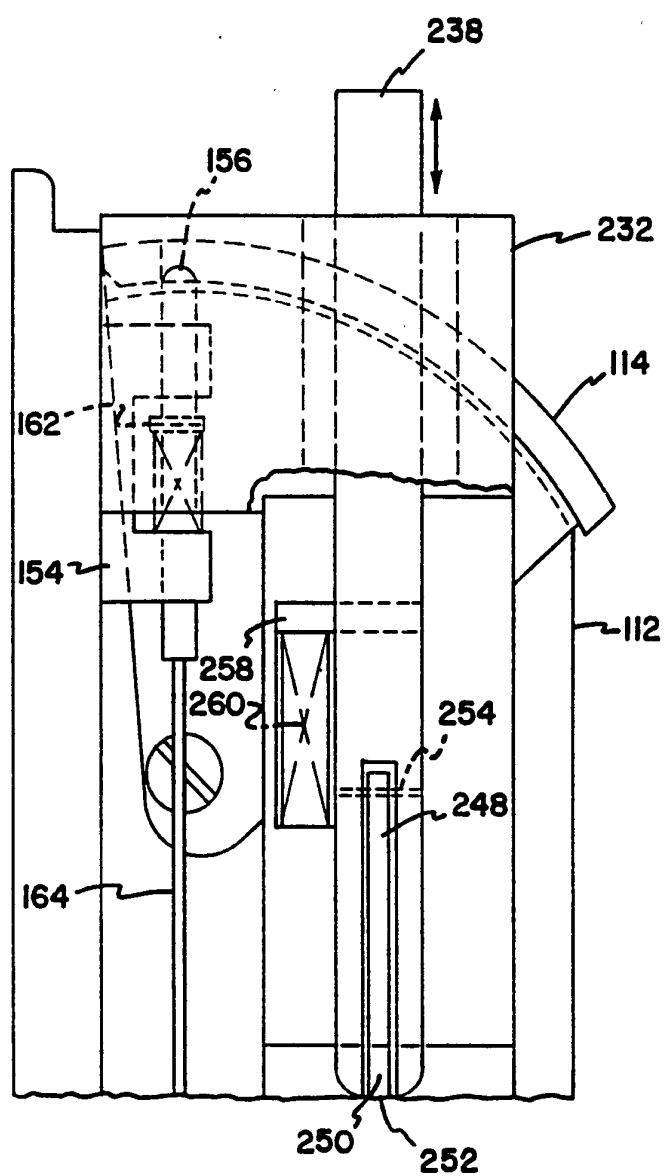
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FIG. 19



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FIG. 20



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FIG. 22

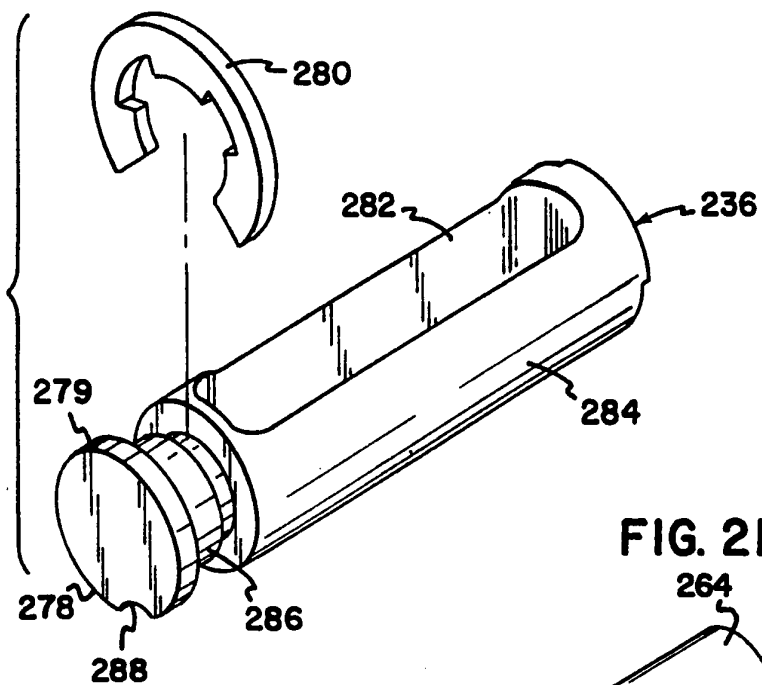
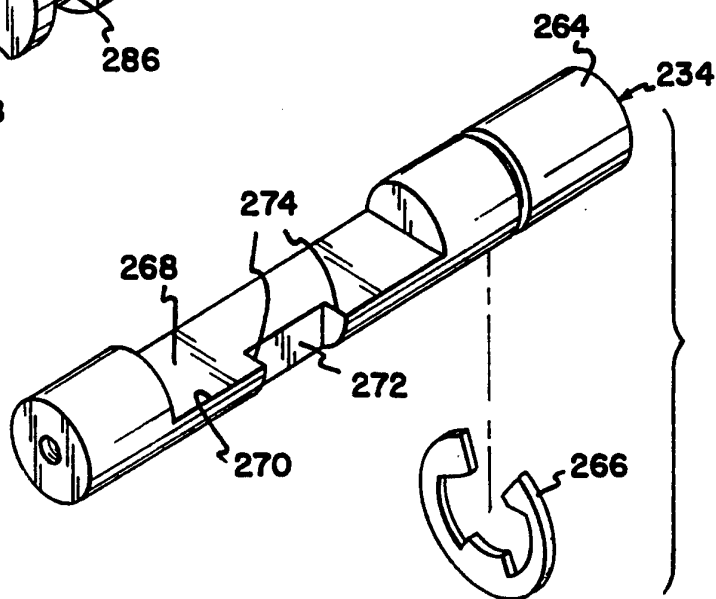


FIG. 21



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FIG. 23

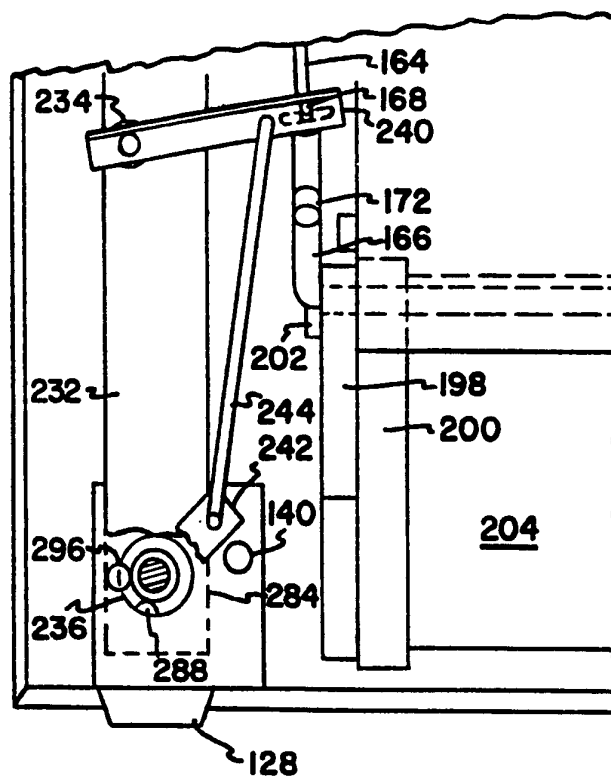
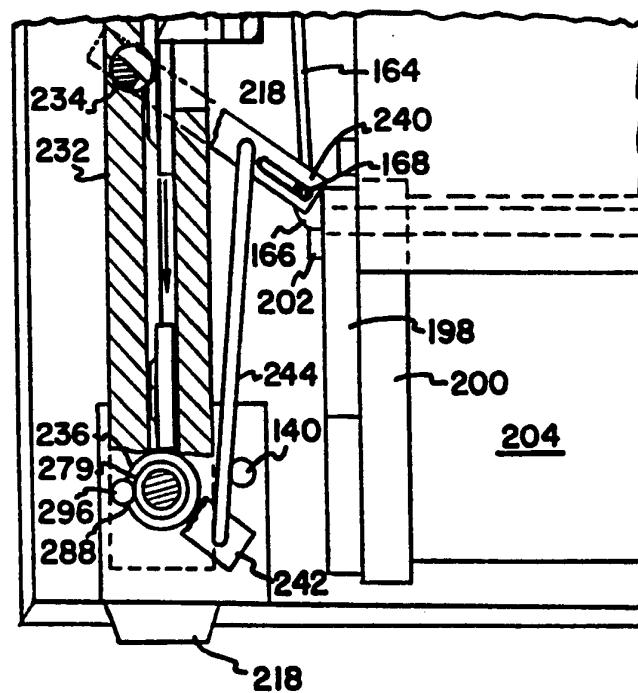
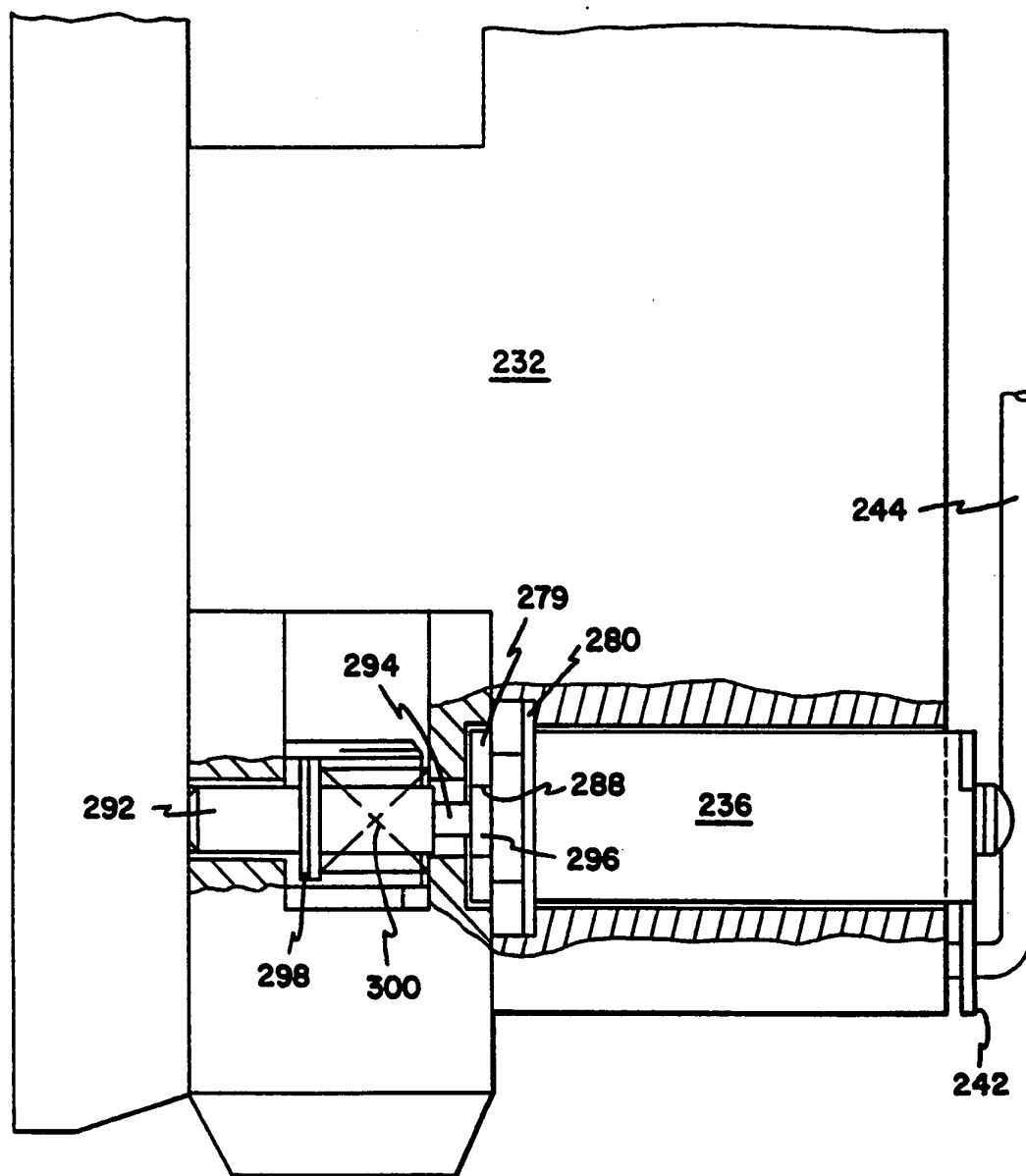


FIG. 24



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FIG. 26



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FIG. 27

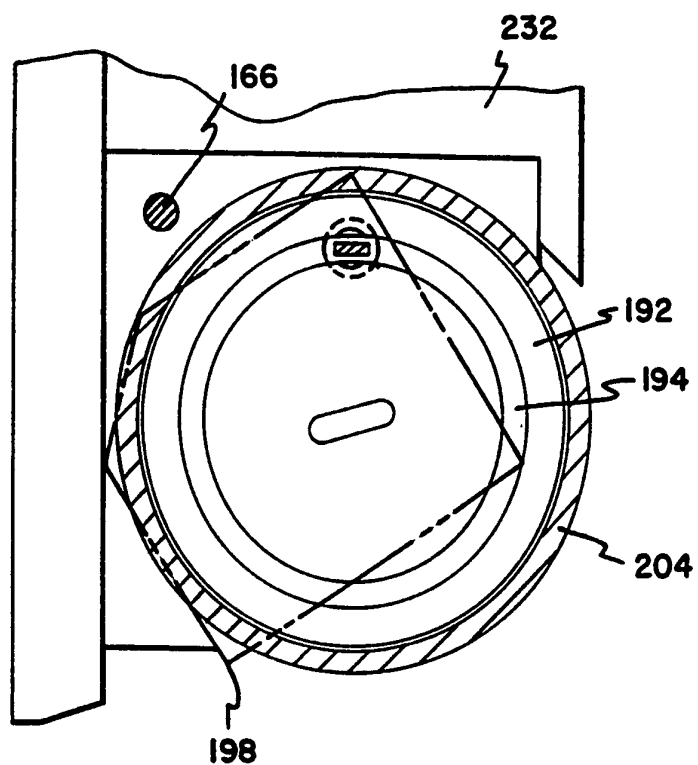
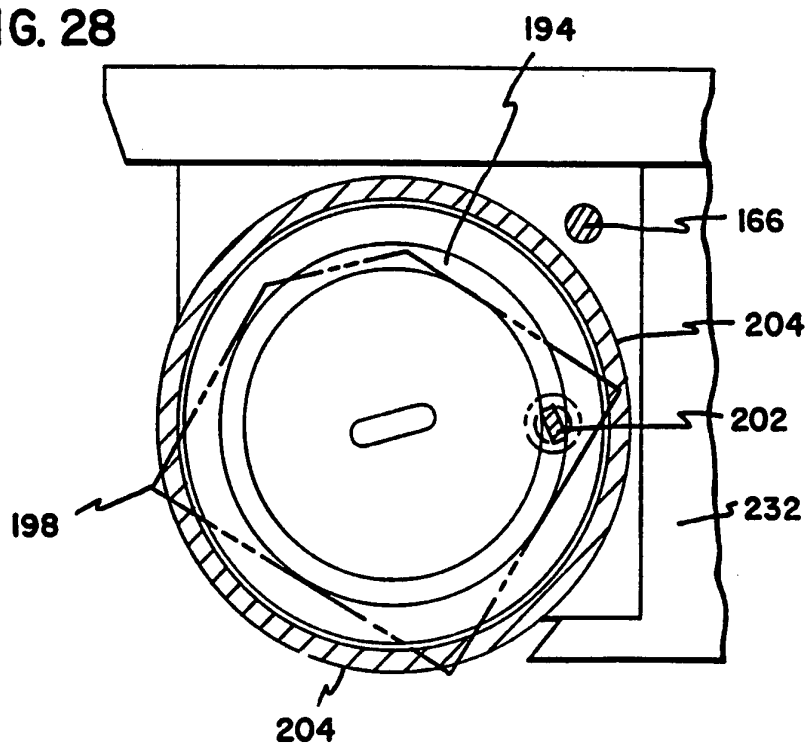


FIG. 28



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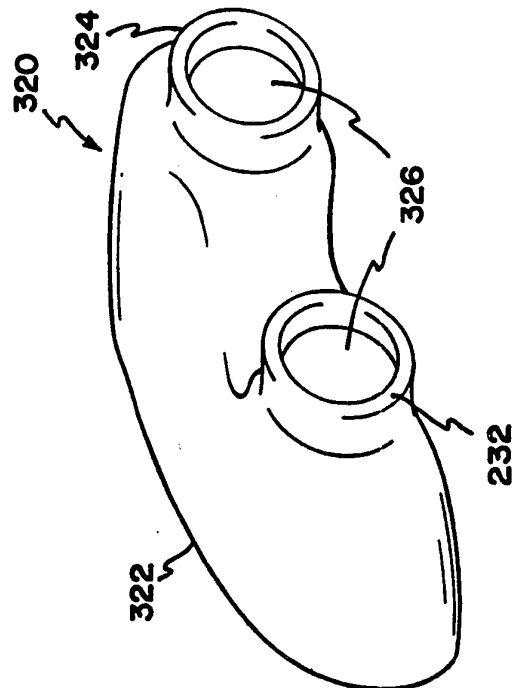
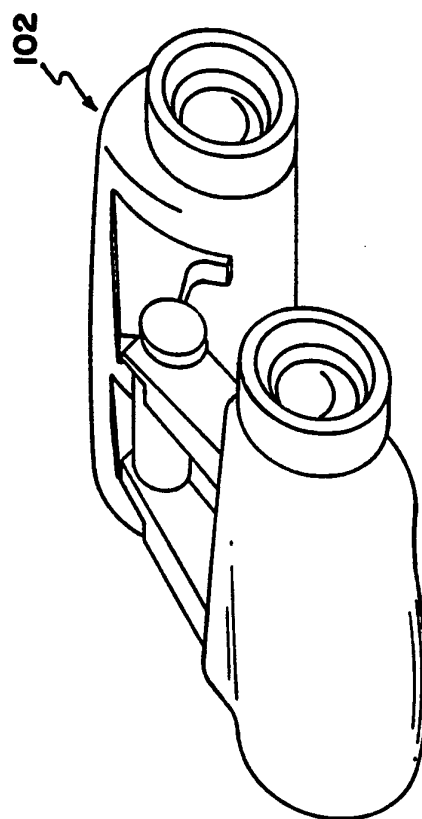
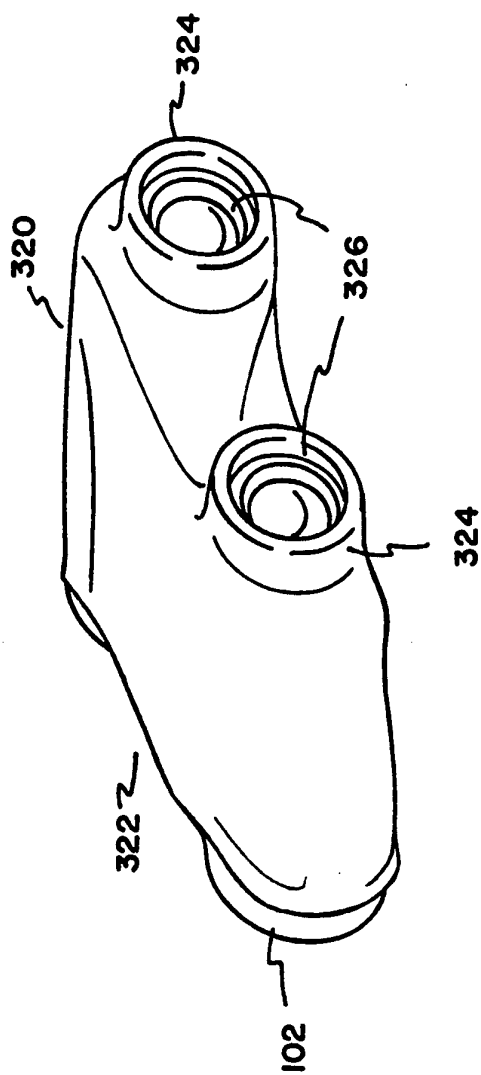


FIG. 29



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FIG. 30



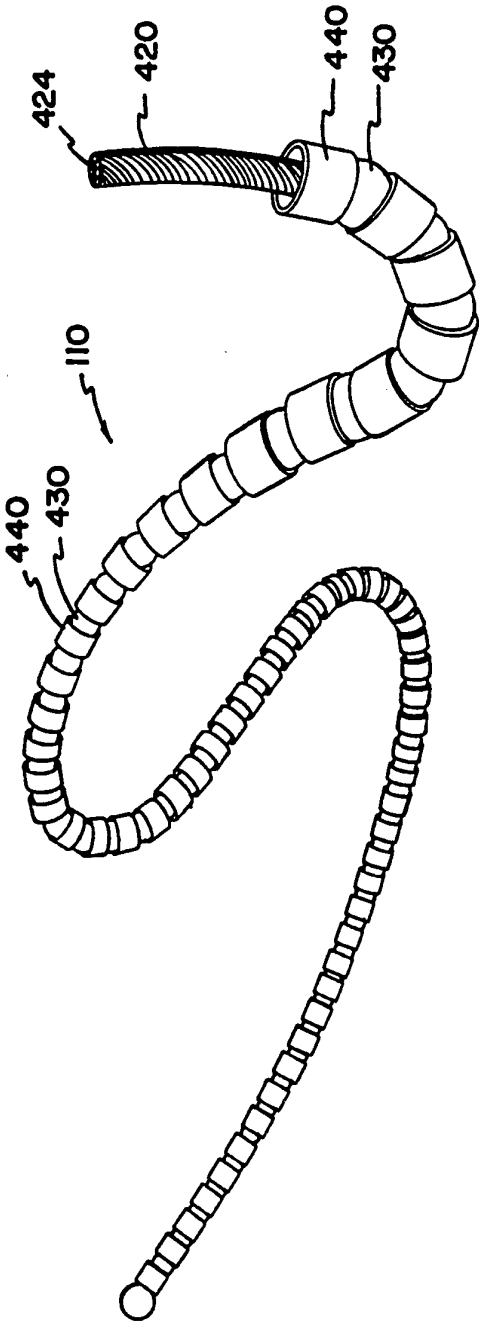


FIG. 31 422

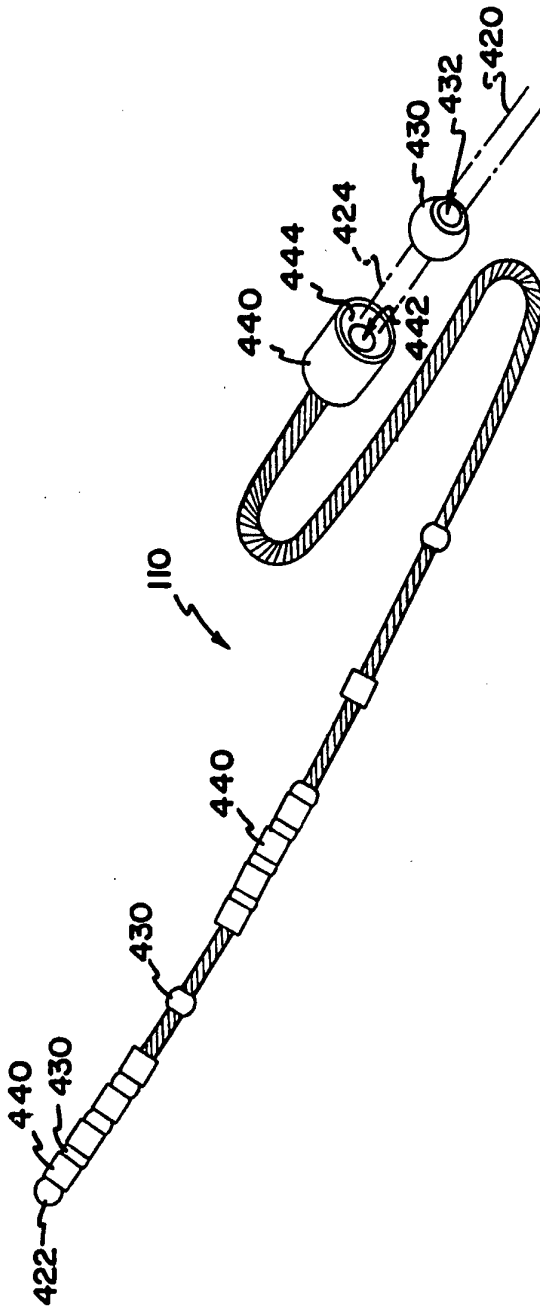


FIG. 32

FIG. 33

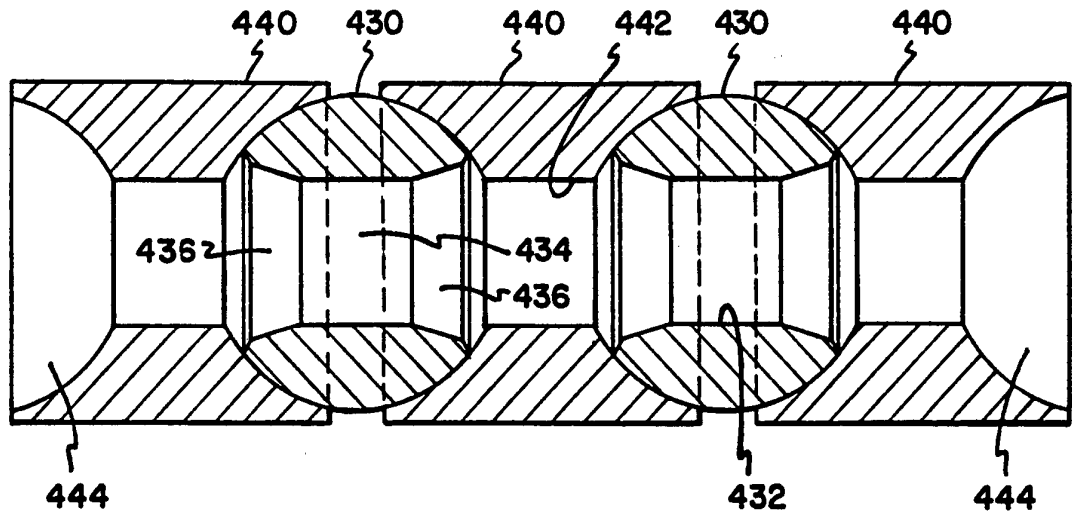
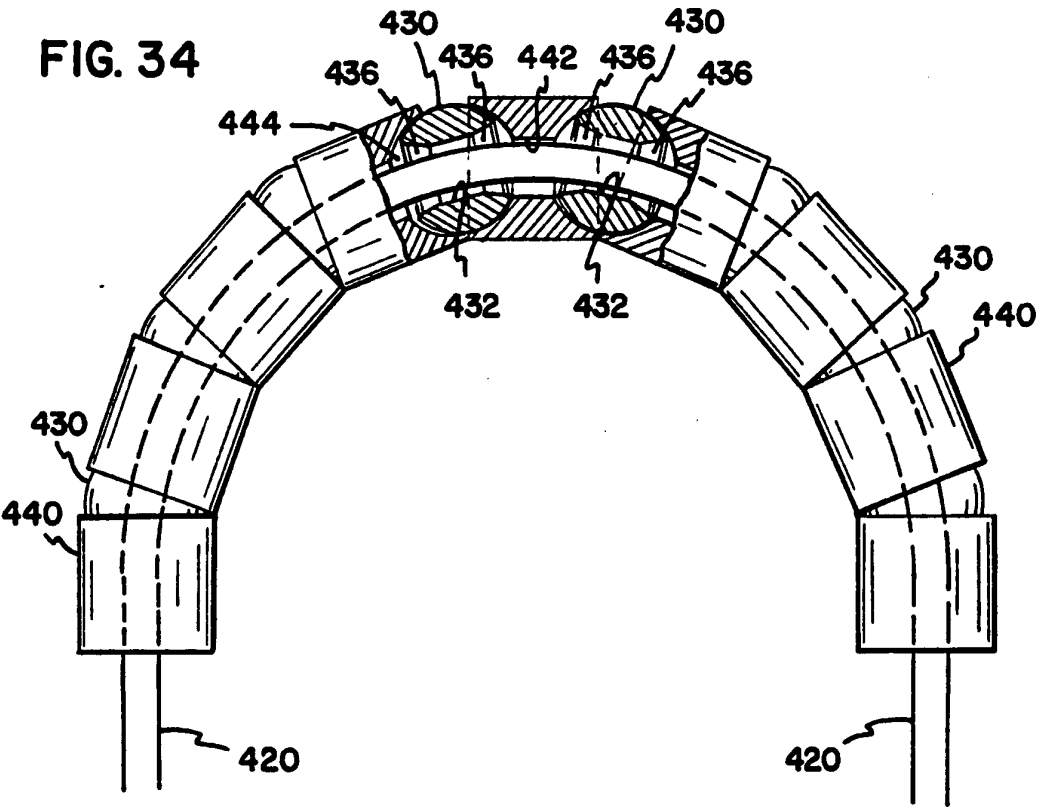


FIG. 34



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FIG. 35

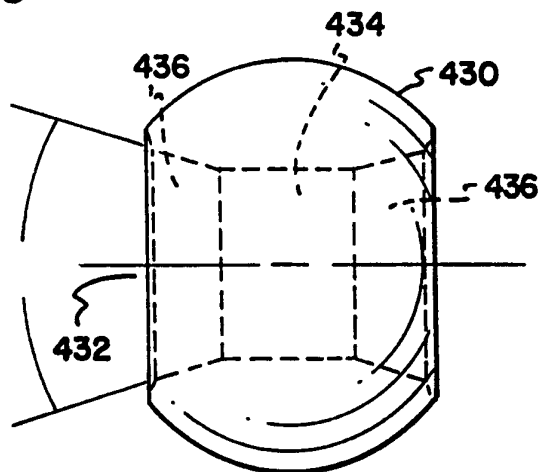
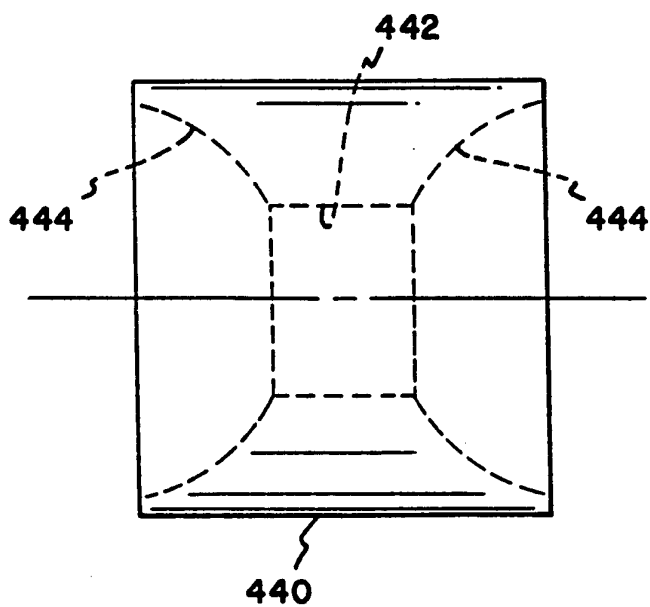


FIG. 36



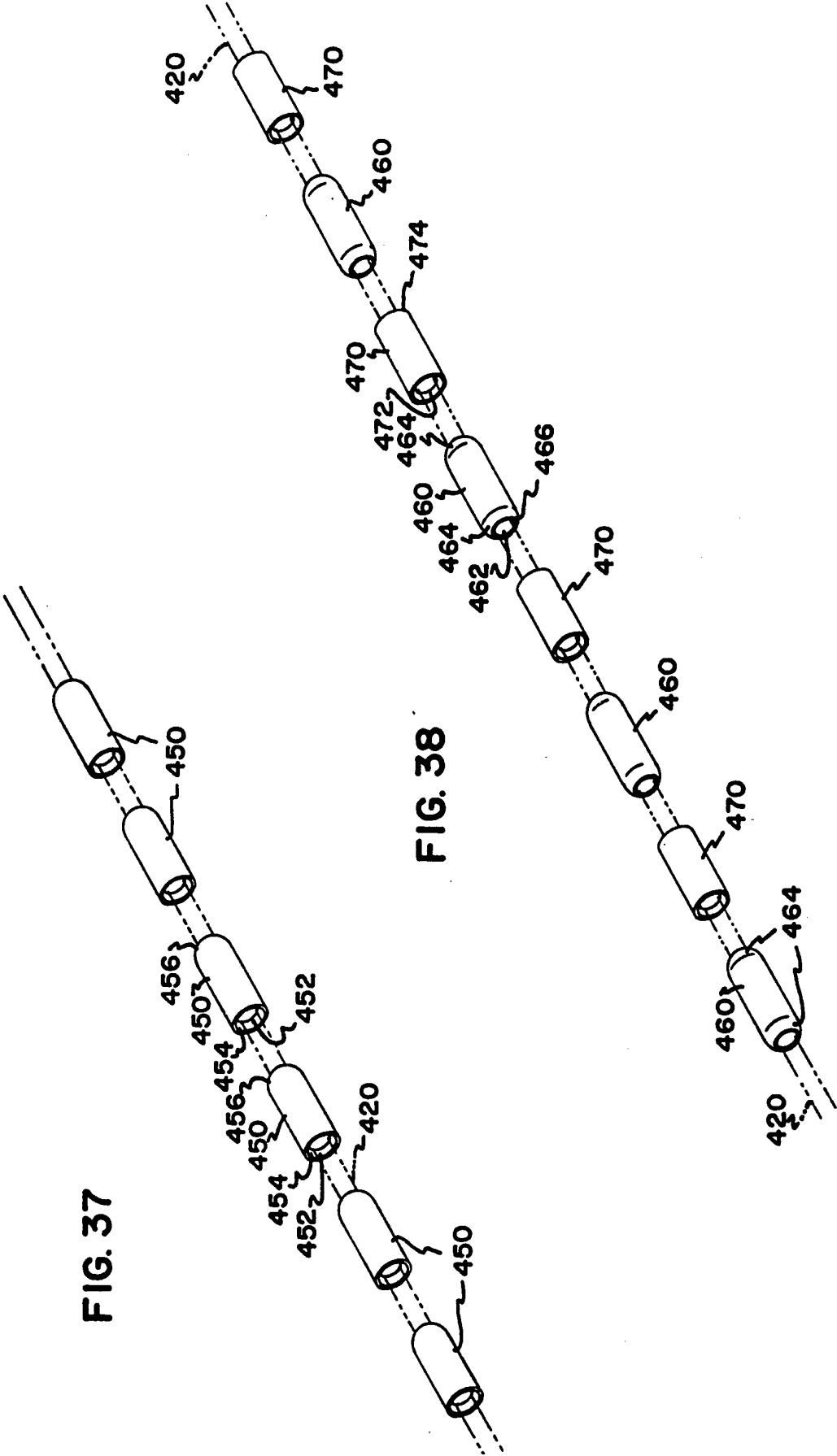


FIG. 37

FIG. 38

FIG. 39

