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Patented Nov. 4, 1902.

F. A. ANDERSON & A. A. BROWN.
AUTOMATIC SIGNAL AND ALARM.

(Application filed Apr. 25, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

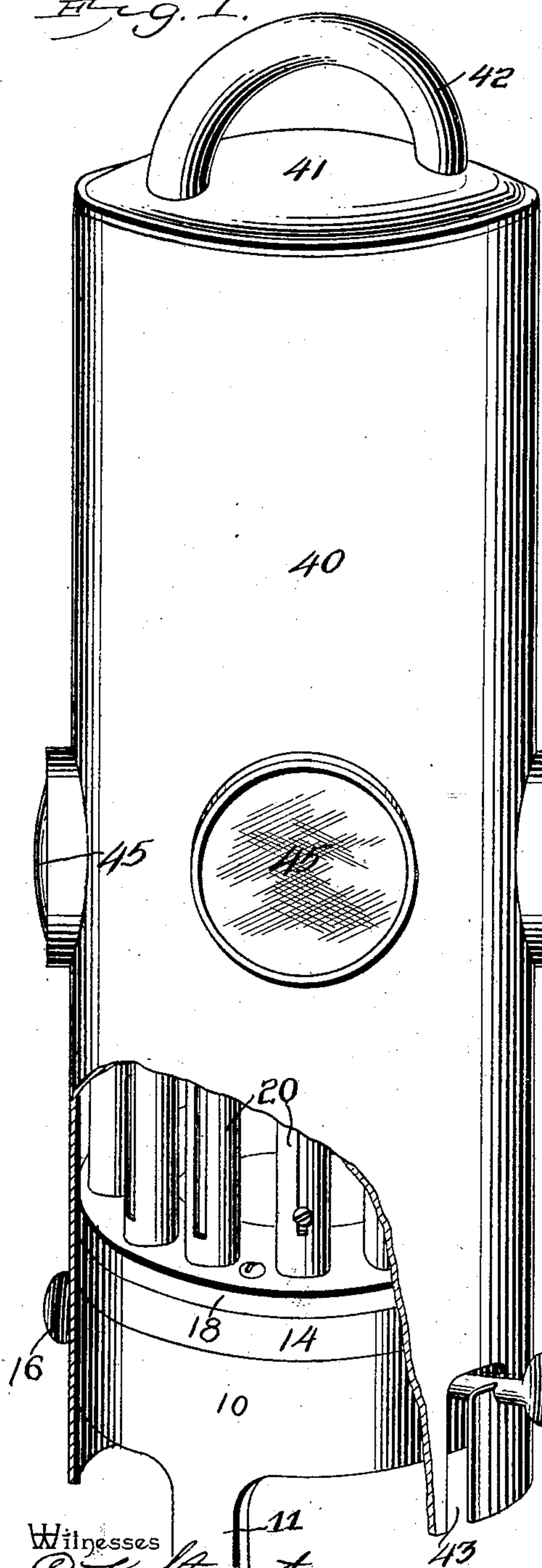
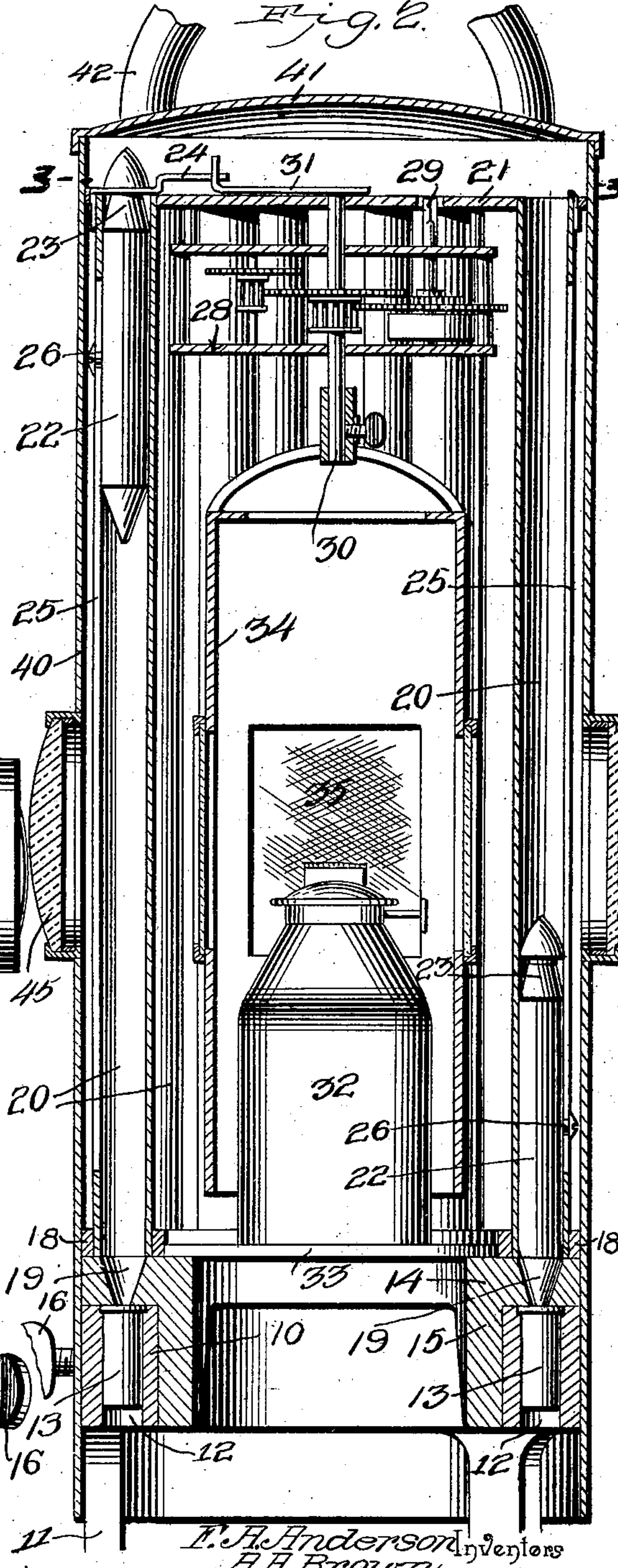


Fig. 2.



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No. 712,892.

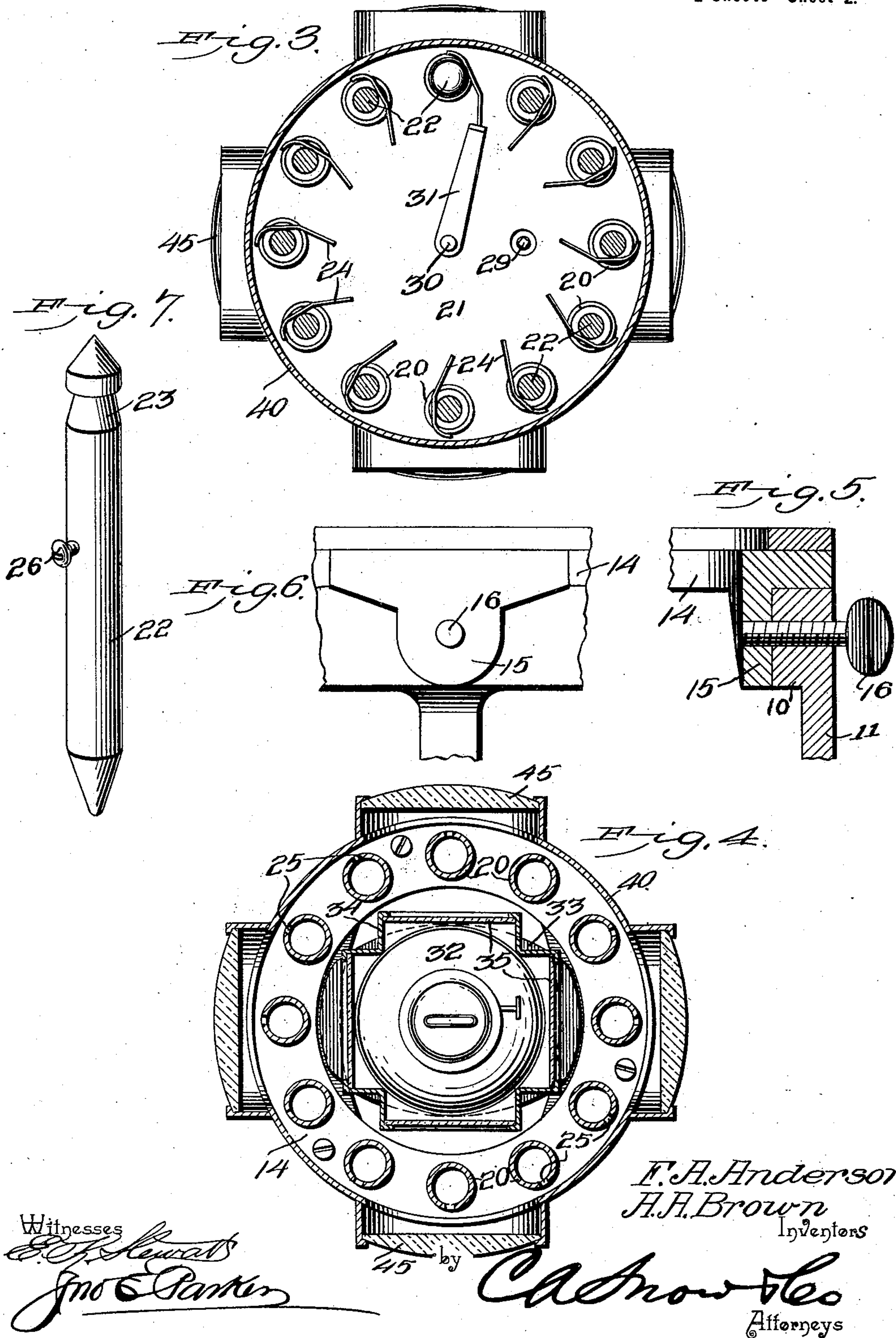
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2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

FRED A. ANDERSON AND AARON A. BROWN, OF RAWLINS, WYOMING;
SAID ANDERSON ASSIGNOR TO SAID BROWN.

AUTOMATIC SIGNAL AND ALARM.

SPECIFICATION forming part of Letters Patent No. 712,892, dated November 4, 1902.

Application filed April 25, 1902. Serial No. 104,700. (No model.)

To all whom it may concern:

Be it known that we, FRED A. ANDERSON and AARON A. BROWN, citizens of the United States, residing at Rawlins, in the county of Carbon and State of Wyoming, have invented a new and useful Automatic Signal and Alarm, of which the following is a specification.

Our invention relates to certain improvements in automatic signals and alarms, and has for its principal object to provide a suitable alarm for the protection of flocks or herds of cattle and the protection of growing crops from animals or birds.

A further object of the invention is to provide a device of this character in which the alarm will be of both a visual and an audible character, as more fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of an automatic signal and alarm constructed in accordance with our invention, a portion of the outer casing being broken away in order to illustrate the interior construction. Fig. 2 is a sectional elevation of the same. Fig. 3 is a sectional plan view of the apparatus on the line 3 3 of Fig. 2. Fig. 4 is a similar view taken in the plane through the lenses of the outer casing. Fig. 5 is a detail sectional view of a portion of the base of the structure. Fig. 6 is an elevation of that portion of the device shown in Fig. 5. Fig. 7 is a detail perspective view of one of the cartridge-discharging hammers detached.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The base portion of the apparatus is in the form of a ring 10, having a plurality of supporting-legs 11, which may be of any desired height in accordance with the elevation to be given the apparatus. In the base is arranged an annular series of openings 12 for the reception of cartridges 13, each opening being substantially in the form of a gun-breech and suitably recessed for the reception of the rim of the shell. On the base-ring is removably mounted a ring 14, having depending lugs 15, fitting within the ring 10, said lugs having threaded openings for the reception of the inner ends of thumb-screws

16, carried by the ring 10 and serving as a means of uniting the base and the upper portion of the apparatus. The thumb-screws may be readily loosened and the upper portion of the apparatus removed whenever it becomes necessary to place fresh cartridges in position. The number of cartridge-receiving openings may be increased to any desired extent, in accordance with the number of discharges which are to occur during a predetermined period of time.

To the lower ring 14, the central opening of which is elliptical in form, for a purpose hereinafter described, there is secured a ring 18, having a series of openings equal in number to the number of cartridge-receiving openings in the base-ring, and in the intermediate ring 14 a number of tapering openings 19 are formed, one of such openings being arranged in alinement with each of the cartridge-receiving openings and the openings in the ring 18. In the openings of the ring 18 are secured the lower ends of vertically-disposed tubes 20, the upper ends of which are secured in similar openings in a top plate 21. Each of the tubes 20 is adapted for the reception of a hammer 22, comprising an elongated cylindrical weight having a pointed lower end for operative contact with the head of the cartridge, and in the upper end of each hammer is formed an annular groove 23 for the reception of a spring-finger 24, the outer end of which is secured to the top plate 21, and the inner end of which is free, said finger tending to assume a substantially radial position with respect to the center of the plate 21 and serving as a means for holding the hammer in an elevated position until such time as the spring is tripped and the hammer released to discharge the cartridge. For convenience in setting the hammers each of the tubes is slotted, as indicated at 25, for the reception of a screw or pin 26, projecting from the hammer 22, the head of the pin or screw serving as a handle to permit the elevation of the hammer, and the upper end of the hammer is conical or tapering in form, so that it may move the spring-finger to one side as the hammer is elevated, the stress of the spring causing it to return and move into locking position in the annular groove 23.

To the under side of the plate 21 is attached a clockwork mechanism 28, which may be of any suitable character and provided with a propelling-spring to effect its operation for any desired length of time. The winding-post 29 of the clockwork extends up through a suitable opening in the top plate 21 for convenience in winding.

30 indicates an arbor driven by the clockwork and carrying a revoluble arm 31 at a point above the plate 21. This arm revolves at a predetermined speed, making, for instance, a complete revolution in twelve hours and at the end of each hour engaging one of the spring-fingers 24 and effecting the release of a cartridge-discharging hammer. The number of cartridges and the intervals between firing may be altered in accordance with the conditions of use, and in some cases the intervals between firing may be unequal, so that at certain times during the night a discharge may be more frequently made.

Situated centrally of the tubes is a lamp 32, having an elliptical base-plate 33, which may be readily inserted through the previously-described elliptical opening in the ring 14 and then turned until properly seated on top of the ring, thus offering a convenient means of removal when it becomes necessary to renew the supply of oil or clean the lamp.

To the lower end of the arbor 30 is secured a preferably metallic casing 34, having a series of openings which are covered by screens 35 of translucent material, which may be of the same color, but preferably of different color, in order that an observer at a distance may be informed that the signal is in proper working order between intervals of firing.

The device as a whole is preferably surrounded by a protective casing comprising a cylindrical shell 40, having a closed top 41, provided with a carrying-handle 42. At the bottom of the casing are formed slots 43, having portions arranged in both horizontal and vertical plane adapted to engage the projecting ends of the thumb-screws 16, the whole forming a bayonet-joint, which may be readily engaged or disengaged when necessary. In the side of the casing are arranged lenses 45, one in alinement with each of the colored screens 35.

The operation of the device will be readily understood from the foregoing description. The cartridges are set in place, the hammers elevated and retained in position by the spring-fingers 24 until the latter are successively moved to disengaging position by the rotating arm 31, when the hammers fall and explode the cartridge. At the same time the revolving casing 34 will cause lights of different color to show successively through the various lenses, so that an observer at a distance may be informed that the apparatus is in proper working order.

While the construction herein described and illustrated in the accompanying drawings is the preferred form of the device, it is

obvious that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of our invention.

Having thus described our invention, what we claim is—

1. In a device of the class specified, a base-ring having a series of cartridge-supports, discharging-hammers, guiding-tubes for said hammers, spring holding-fingers adapted to support the hammers in an elevated position, and means for moving said fingers to releasing position.

2. In a device of the class specified, a base-ring having an annular series of cartridge-supports, a series of vertically-disposed tubes arranged above said supports, discharging-hammers guided in said tubes, spring holding-fingers for supporting the hammers in elevated position, and a clockwork mechanism including the revoluble arm adapted to successively engage said fingers.

3. In a device of the class specified, a base-ring having a series of cartridge-supports, a separable superstructure including a series of vertically-disposed tubes, a top plate to which the upper ends of said tubes are secured, weighted hammers disposed one in each of said tubes and each hammer having a peripheral notch or groove, spring holding-fingers carried by the top plate and adapted to engage with and support the hammers, and a clockwork mechanism including a revoluble arm adapted to successively engage said fingers.

4. In a device of the class specified, a base-ring having an annular series of cartridge-supports, a separable superstructure including a series of vertically-disposed and slotted tubes, weighted hammers guided in said tubes, pins projecting from the hammers through said slots and the upper end of each hammer being tapered and provided with a notch or groove, a top plate to which the upper ends of the several tubes are secured, spring-fingers adapted to engage and hold the hammers in elevated position, and a clockwork mechanism including a revoluble arm adapted to engage said fingers to effect a release of the hammers.

5. In a device of the class specified, the combination of the base-ring having an annular series of cartridge-supports, a superstructure comprising a lower ring, a top plate and a series of hammer-guiding tubes carried thereby, lugs depending from the ring and extending within the base-ring, thumb-screws for connecting the two rings, hammers guided in the tubes, spring holding-fingers for engaging said hammers, and a clockwork mechanism including a revoluble arm for engaging said fingers.

6. In a device of the class specified, an annular series of cartridge-supports, discharging-hammers, means for guiding and supporting the same, a lamp, and a casing surrounding

the lamp and provided with translucent portions.

7. In a device of the class specified, a base-ring having cartridge-supports, a series of 5 vertically-disposed tubes, discharging-hammers guided in said tubes, holding-fingers for supporting the hammers in an elevated position, a lamp, a casing surrounding the same and having translucent portions, a clockwork 10 mechanism operatively connected to said casing, and a revoluble arm also connected to the clockwork and adapted to engage the hammer-supporting fingers.

8. In a device of the class specified, the combination with a base-ring having a series of 15 cartridge-supports, discharging-hammers, means for guiding the hammers, holding-fingers for supporting the hammers in an elevated position, a lamp, a casing surrounding 20 the lamp and provided with varicolored panels of translucent material, a clockwork mechanism operatively connected to said casing, and a finger-releasing arm connected to said clockwork mechanism.

9. In a device of the class specified, a base-ring having cartridge-supports, vertically-arranged hammer-guides, discharging-hammers arranged within said guides, supporting-fingers for said hammers, a lamp, a casing 30 surrounding the lamp and provided with a plurality of translucent panels each of a different color, a clockwork mechanism oper-

atively connected to said casing, and a revoluble arm also connected to the clockwork mechanism and adapted to engage the finger-supporting hammers. 35

10. In a device of the class specified, the combination of the base-ring having cartridge-supports, a removable superstructure including a series of hammer-supporting 40 tubes, weighted hammers guided within said tubes, an upper plate to which all of the tubes are connected, hammer-supporting fingers carried by said plate, a lamp, a casing surrounding the lamp and having translucent 45 panels of different color, a clockwork mechanism carried by the upper plate and connected to said casing, a revoluble arm carried by the clockwork mechanism and adapted to engage the hammer-supporting fingers, 50 thumb-screws for connecting the base-ring and the superstructure, and an outer casing having at its lower end slots for the reception of the thumb-screw and provided with lenses in the plane of the translucent panels of the 55 inner casing, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

FRED A. ANDERSON.
AARON A. BROWN.

Witnesses:

CHAS. E. BLYDENBURGH,
WILLIAM M. FENLEY.