No. 780,418. PATENTED JAN. 17, 1905.

W. GARLICK & A. J. JACKSON.

APPARATUS FOR DELIVERING TOWELS AND SOAP.

APPLICATION FILED JUNE 9, 1904.

7 SHEETS—SHEET 1.

FIG. 1

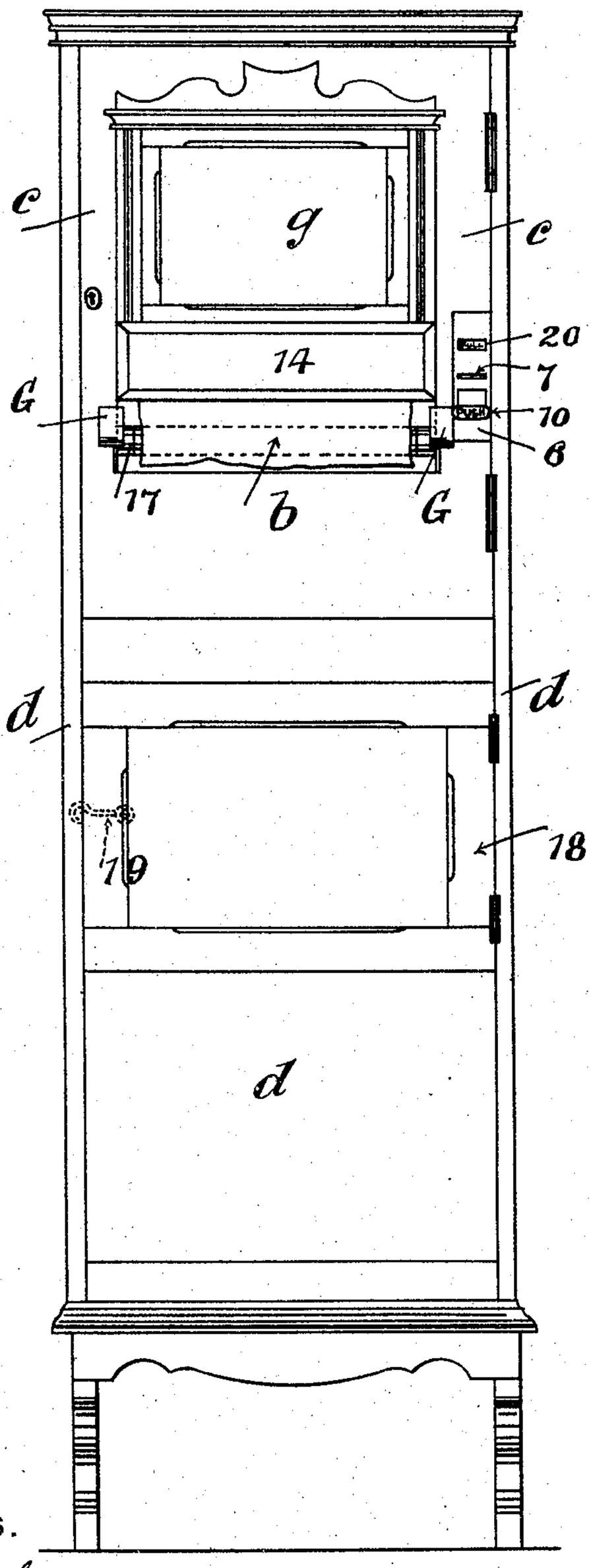
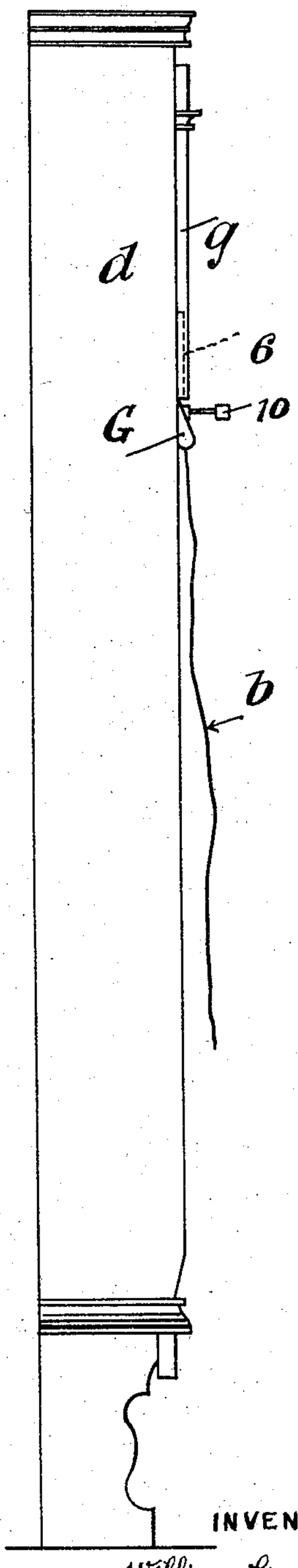


FIG. 2.



WITNESSES.

H. M. Kueh...

Paul Newhart

INVENTORS

William Garlick.
Arthur James Jackson

By his Attorneys, Richards & Co.

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7 SHEETS—SHEET 2.

FIG. 3.

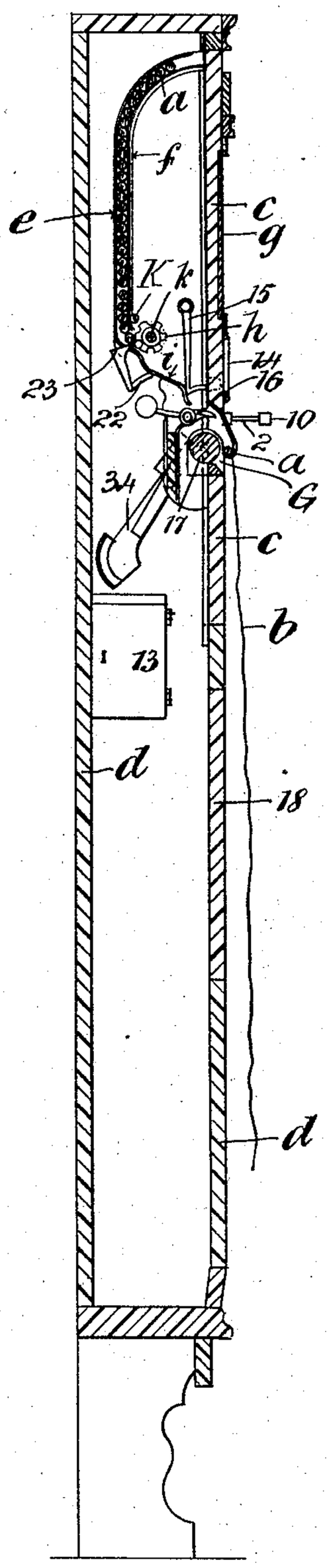

FIG. 4.

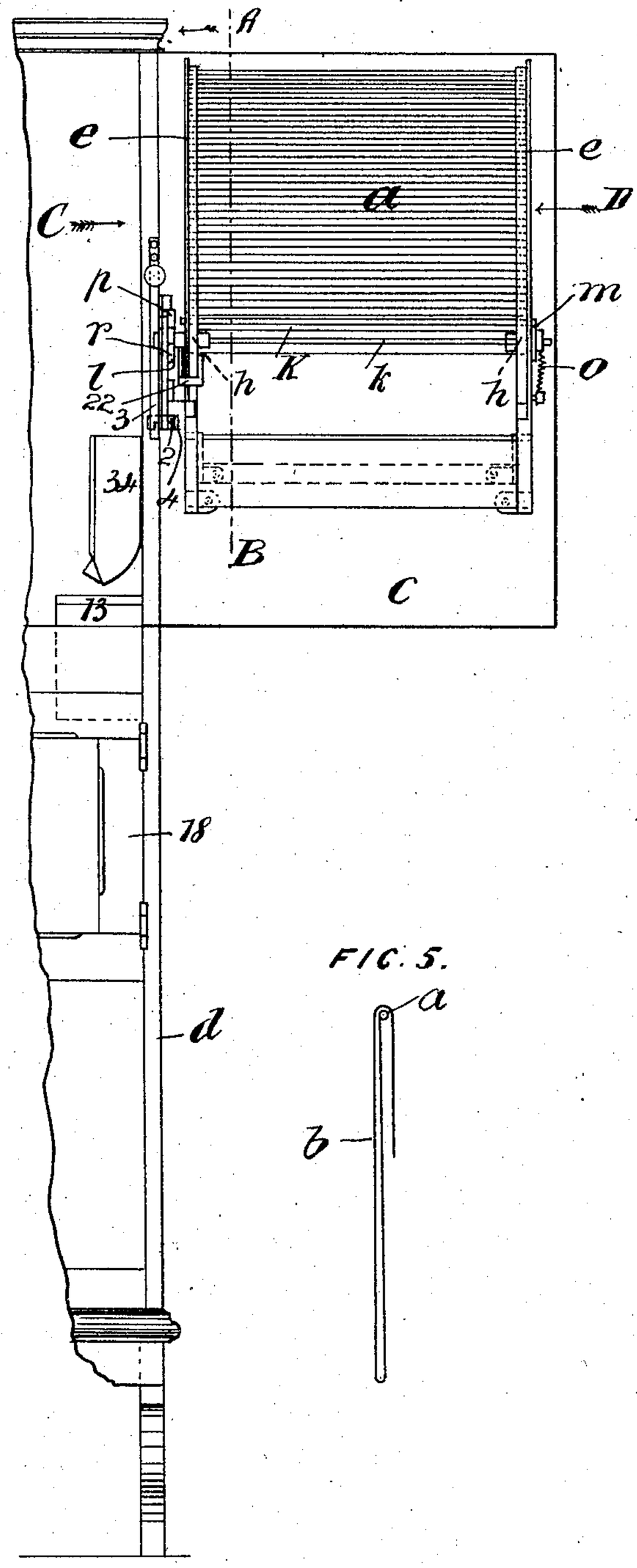

FIG. 5.

Witnesses
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7 SHEETS—SHEET 3.

FIG. 6.

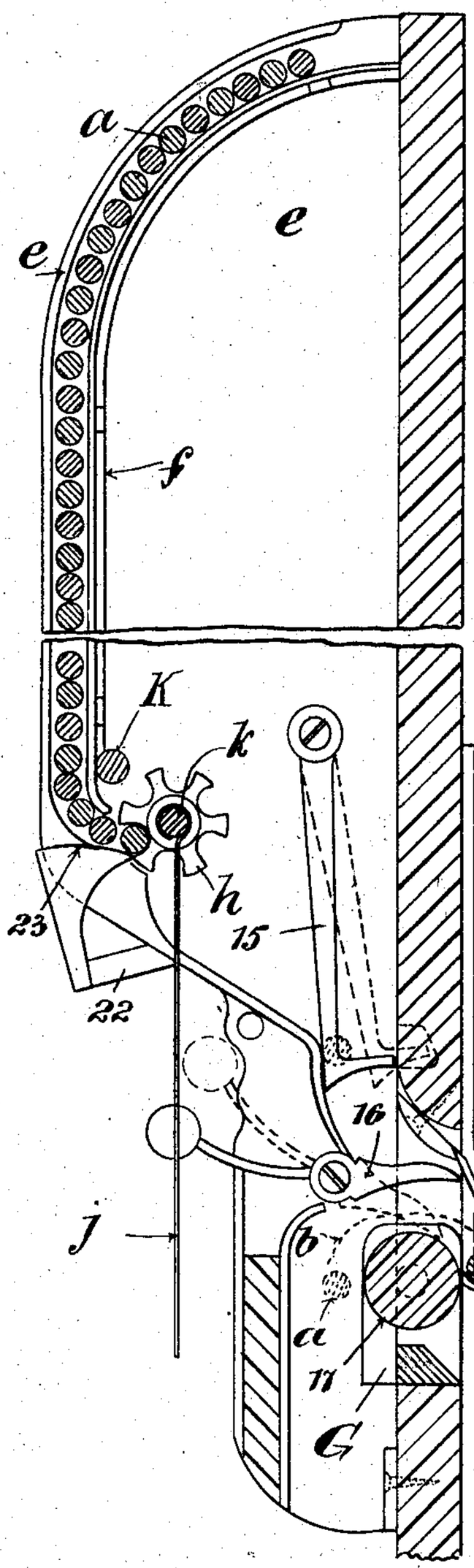
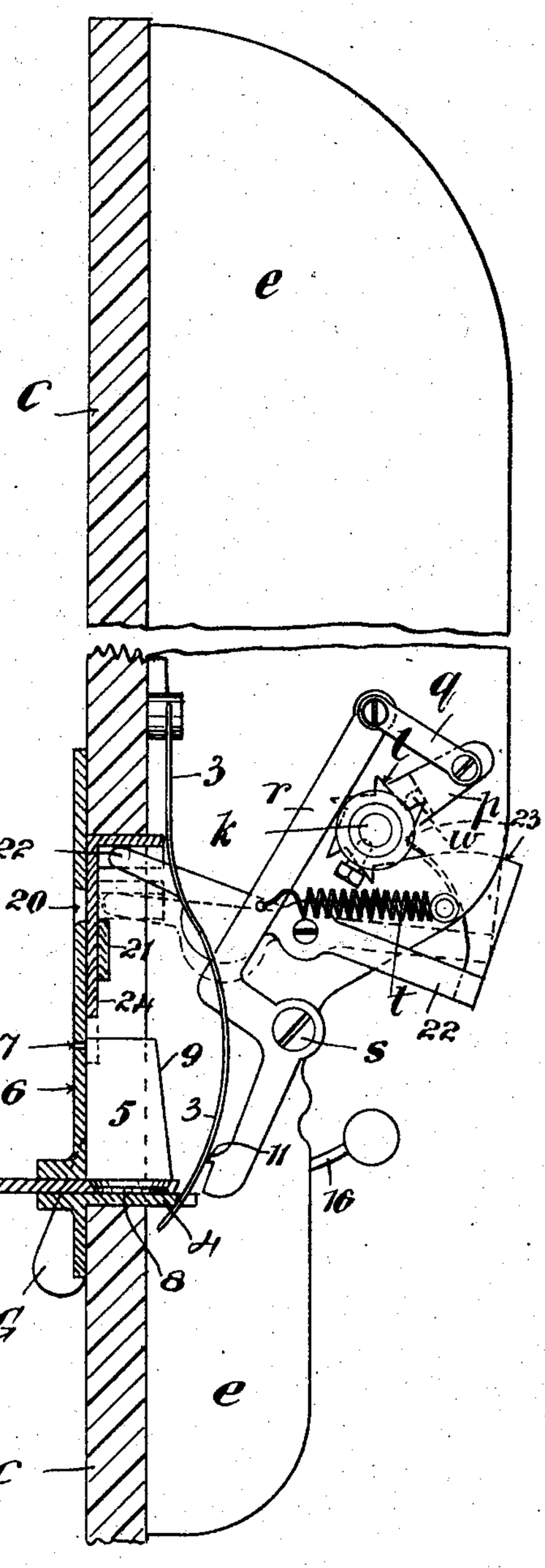


FIG. 7.



Witnesses
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Richardson

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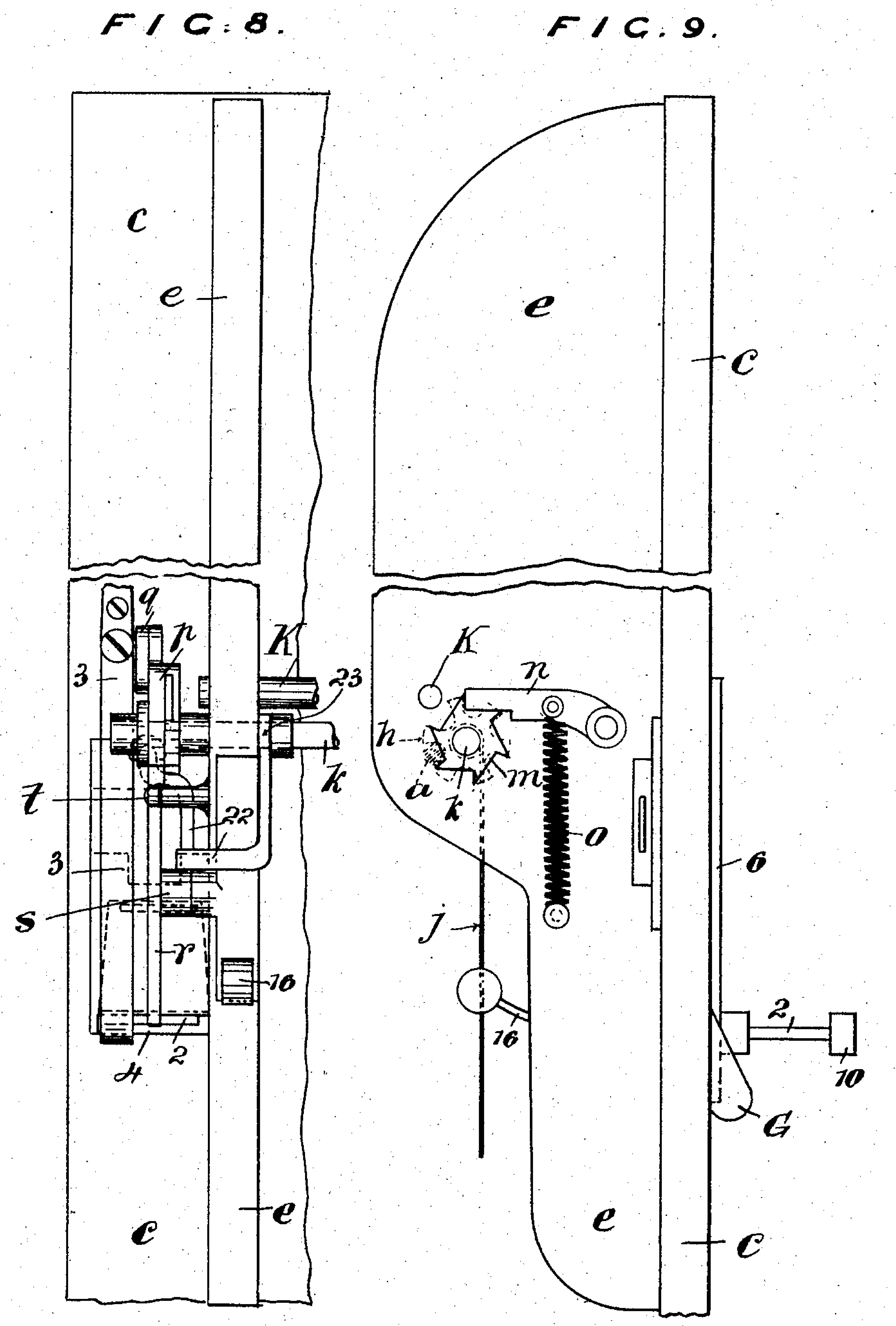
7 SHEETS—SHEET 4.



Witnesses

H. W. Kuehne

Paul Gerhardt

INVENTORS

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Arthur James Jackson

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Richardson

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7 SHEETS—SHEET 5.

FIG. 10.

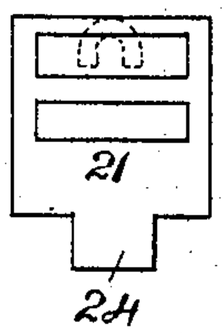


FIG. 11.

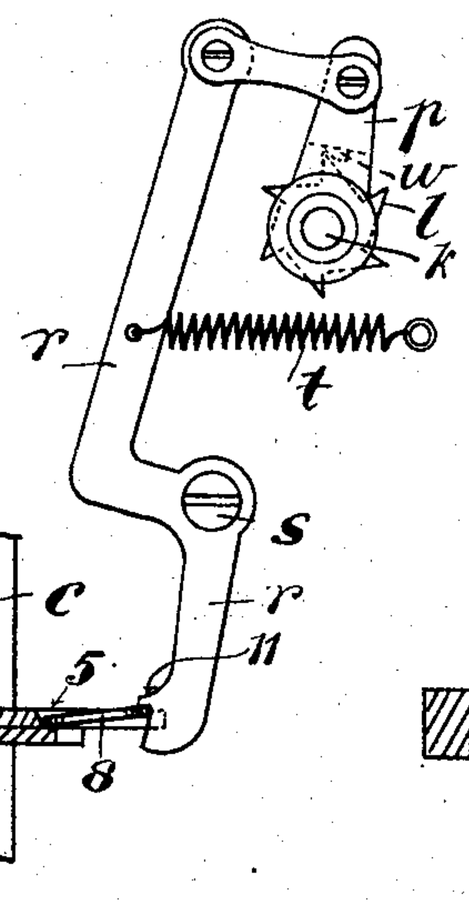


FIG. 12.

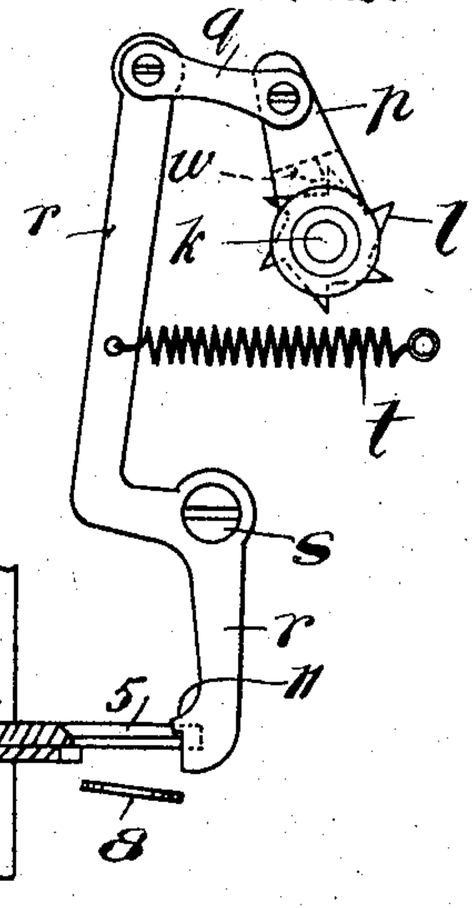


FIG. 13.

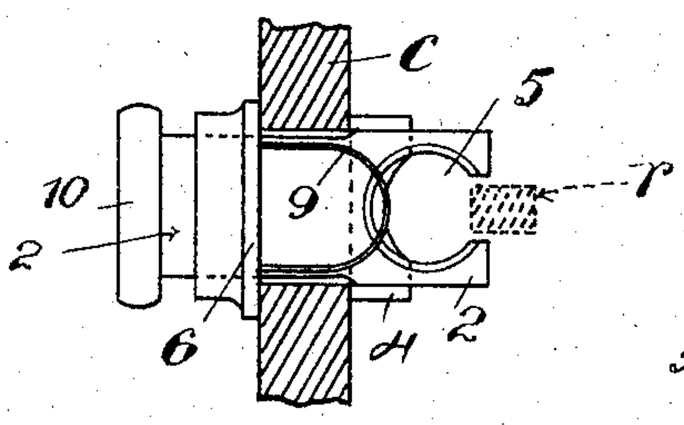


FIG. 14.

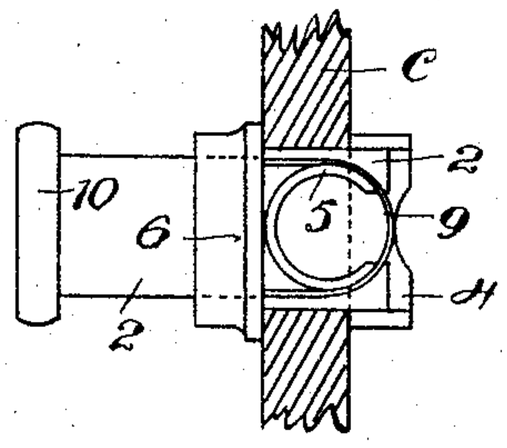
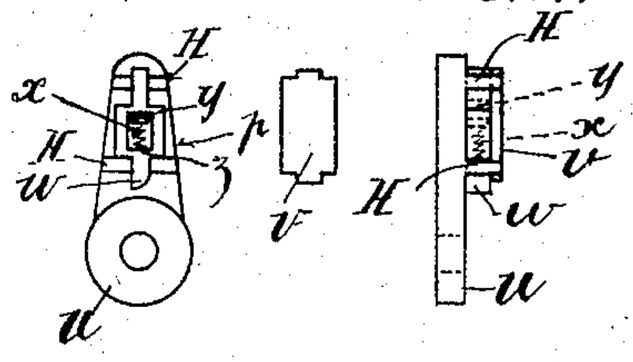


FIG. 15. FIG. 16. FIG. 17.



WITNESSES

H. M. Kuehne

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7 SHEETS—SHEET 6.

FIG. 18.

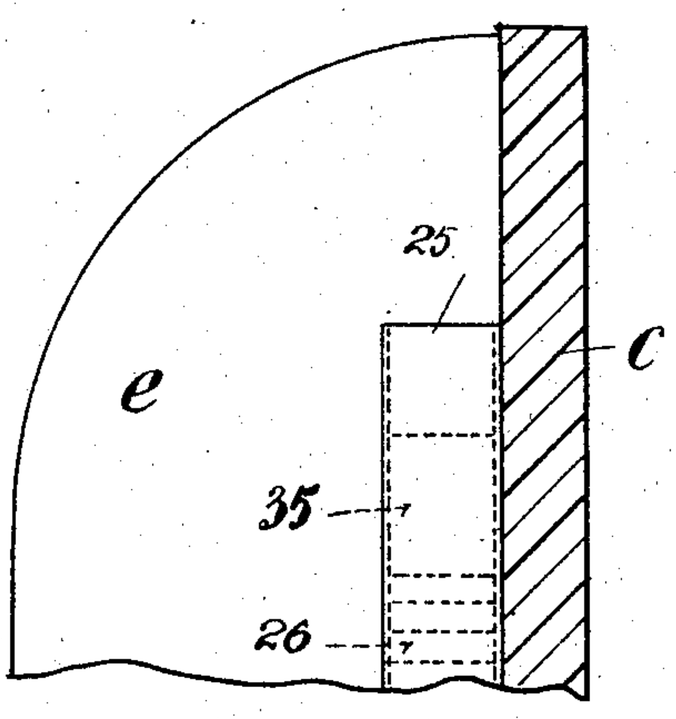
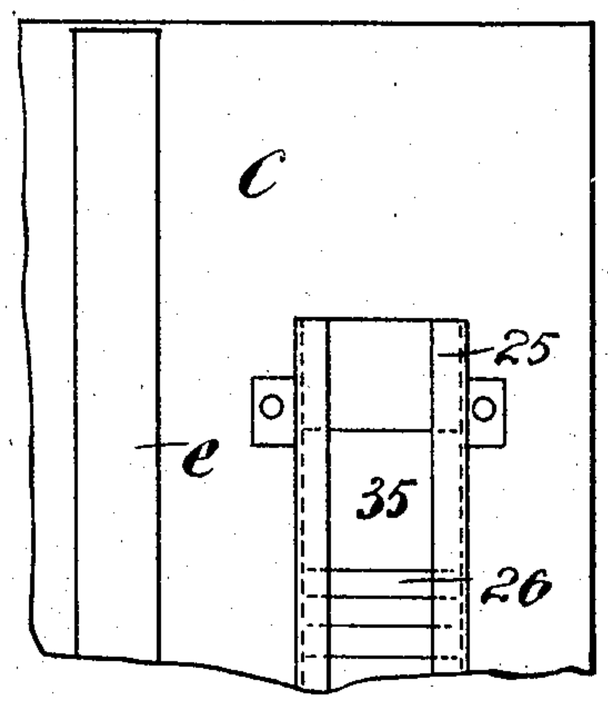
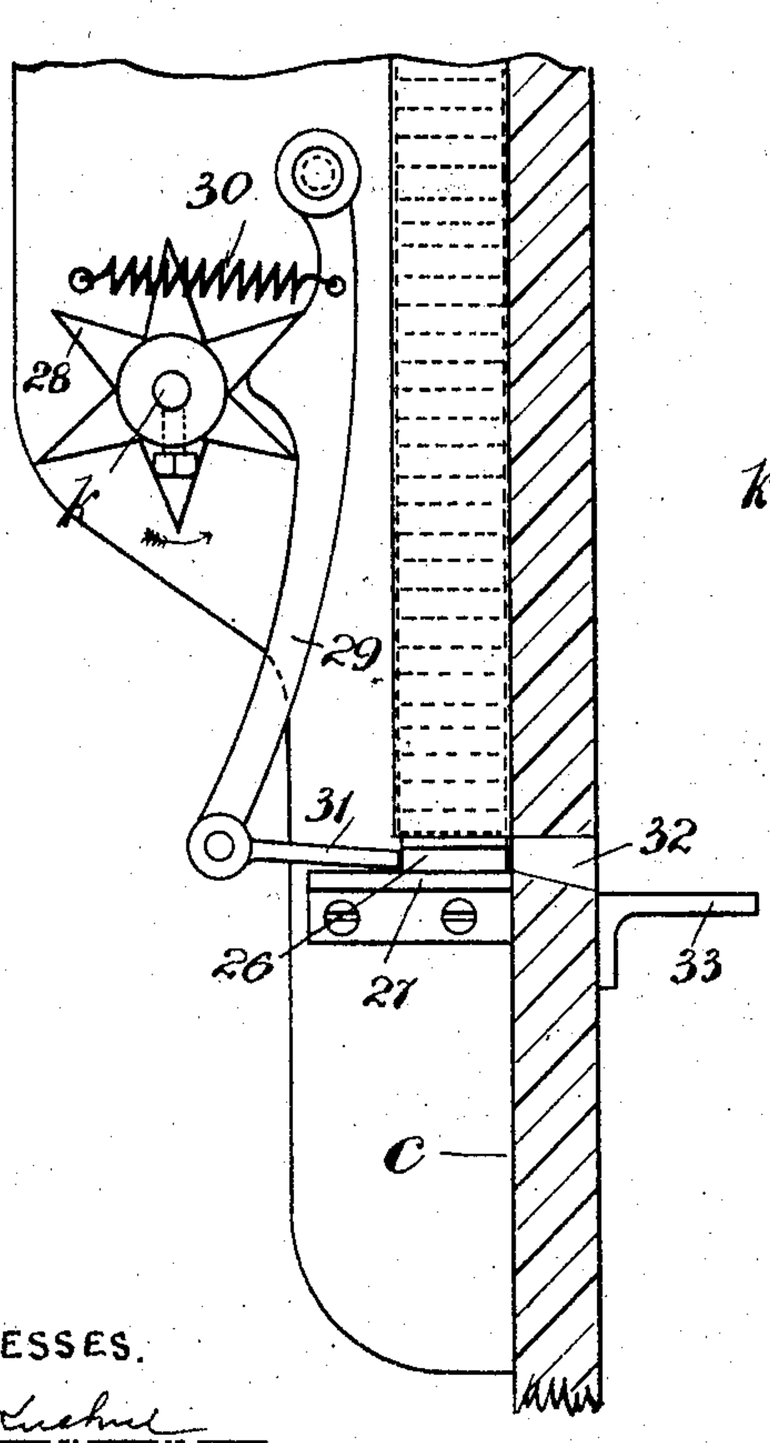
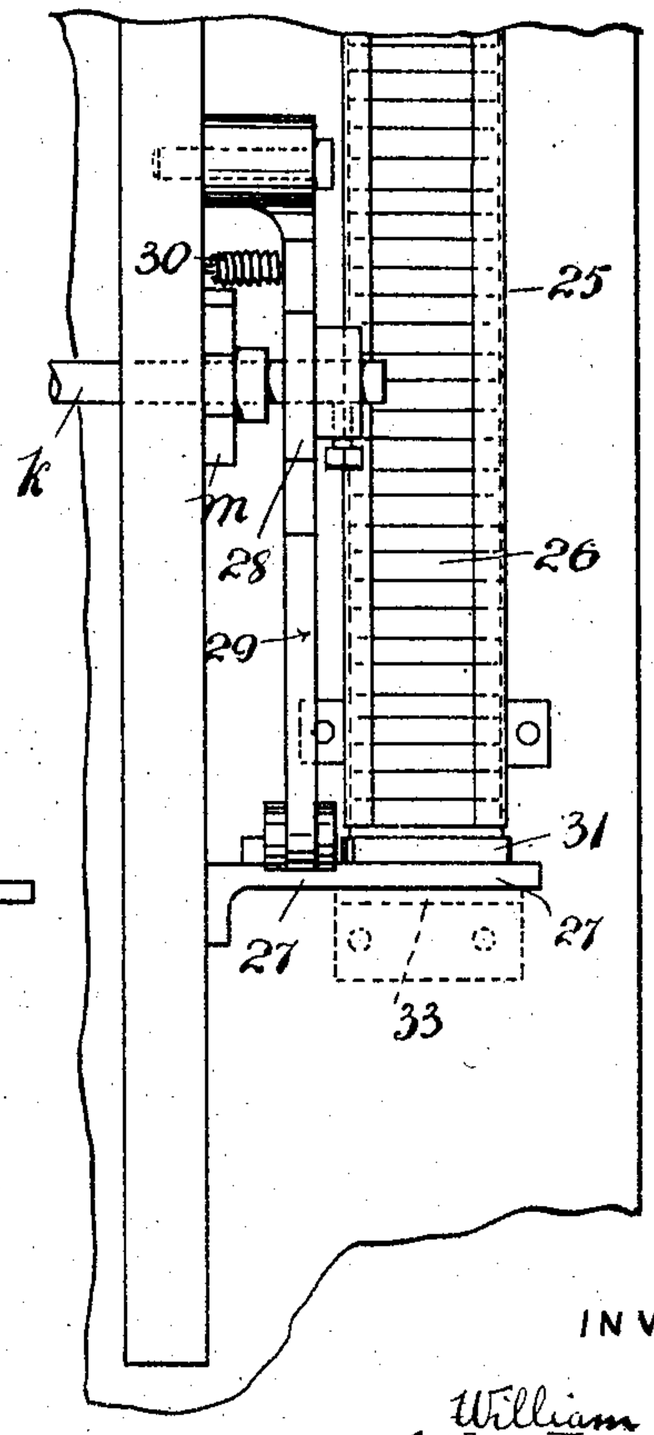


FIG. 19.







WITNESSES.

H. W. Kuehl

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No. 780,418. PATENTED JAN. 17, 1905.

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APPARATUS FOR DELIVERING TOWELS AND SOAP.

APPLICATION FILED JUNE 9, 1904.

7 SHEETS—SHEET 7.

FIG. 20.

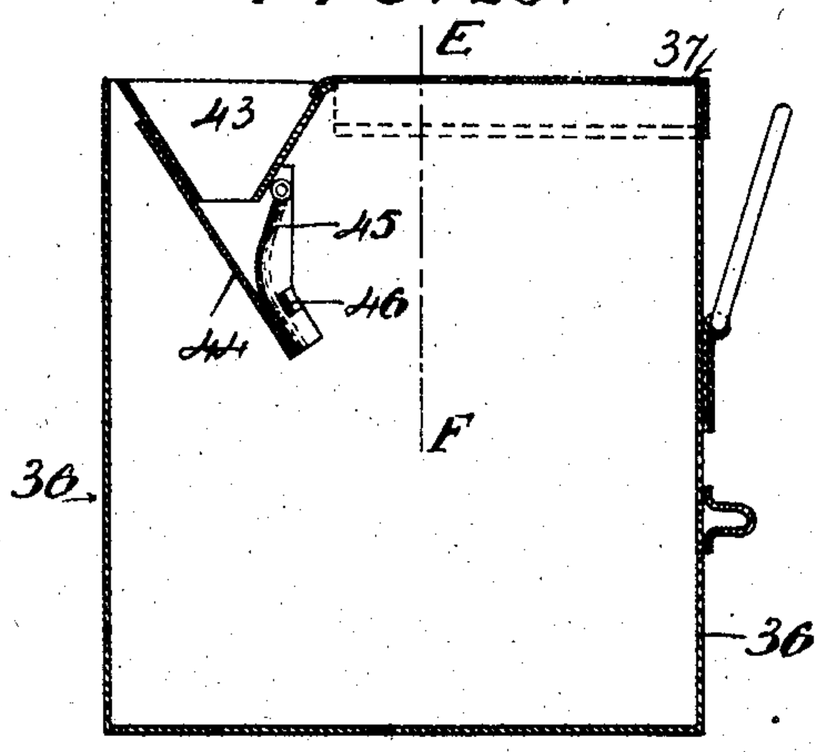


FIG. 21.

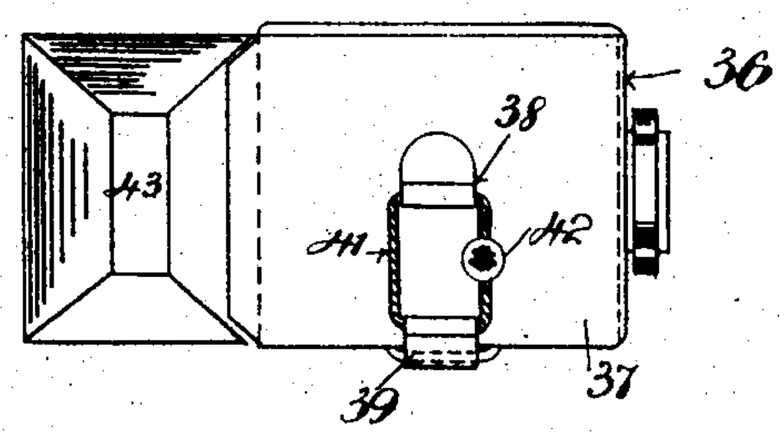


FIG. 22.

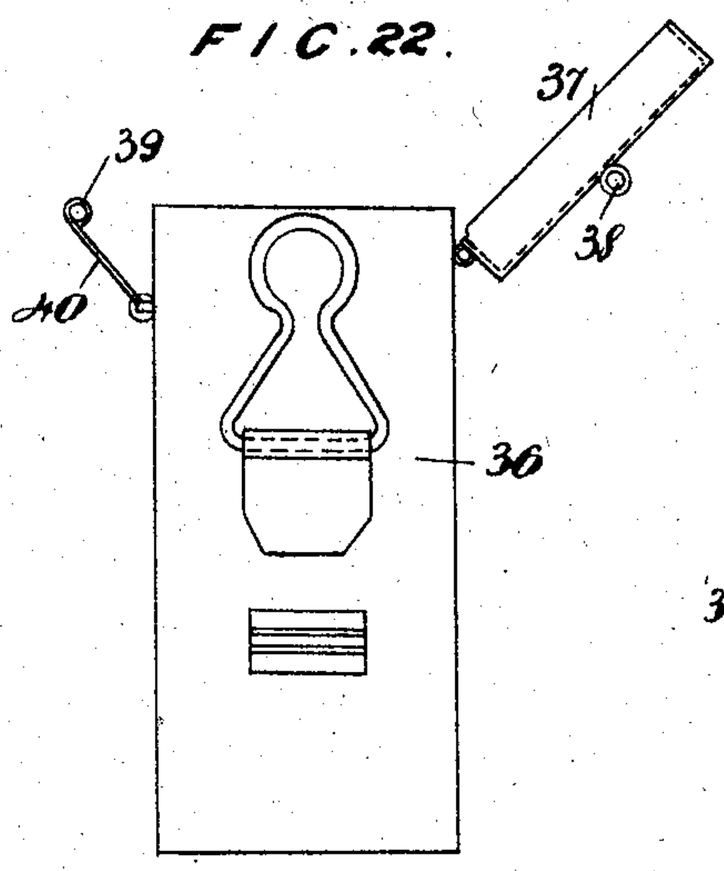
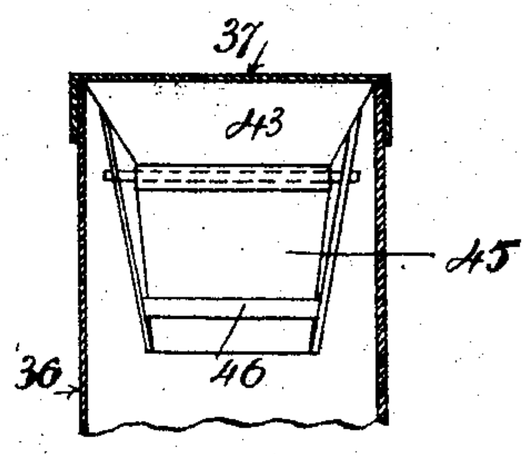


FIG. 23.



Witnesses
H. M. Kuehne
Paul Rauhut.

INVENTOR.
William Garlick
Arthur James Jackson
By his Attys
Richards & Co.

No. 780,418. Patented January 17, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM GARLICK AND ARTHUR J. JACKSON, OF ASHTON-ON-MERSEY, ENGLAND.

APPARATUS FOR DELIVERING TOWELS AND SOAP.

SPECIFICATION forming part of Letters Patent No. 780,418, dated January 17, 1905.

Application filed June 9, 1904. Serial No. 211,845.

To all whom it may concern:

Be it known that we, WILLIAM GARLICK, gentleman, residing at Heathfield, Ashton-on-Mersey, and ARTHUR JAMES JACKSON, manufacturer, residing at "Glenroy," Ashton-on-Mersey, in the county of Chester, England, subjects of the King of Great Britain and Ireland, have invented a certain new and useful Apparatus for Delivering Towels and Soap, (for which we have made applications for patents in Great Britain, No. 13,232, June 13, 1903, and No. 7,995, April 7, 1904,) of which the following is a specification.

This invention has reference to apparatus for automatically delivering clean towels and in some cases or in all cases, if desired, a small tablet of soap therewith on prepayment of a coin or coins.

During the course of the following description to render the invention more clear of comprehension reference will be made to the accompanying drawings, in which—

On Sheet 1, Figure 1 is an outside front elevation of a machine constructed in accordance with the invention. Fig. 2 is an end view thereof. On Sheet 2, Fig. 3 is a sectional end elevation. Fig. 4 is a view of the back of the door which carries the supply of clean towels and the operating mechanism for feeding them forward for use. Fig. 5 is an end view of one of the towel-rods and a clean towel carried thereon. On Sheet 3, Fig. 6 is a sectional view, on an enlarged scale, through the line A B, Fig. 4, looking in the direction of the arrow. Fig. 7 is an end view, similarly enlarged, looking in the direction of the arrow marked C, Fig. 4. On Sheet 4, Fig. 8 is a view at right angles to Fig. 7. Fig. 9 is an end view looking in the direction of the arrow D, Fig. 4. On Sheet 5, Figs. 10 to 17 are detail parts. On Sheet 6, Fig. 18 shows an end elevation with a reservoir for tablets of soap and the means whereby the tablets can be singly fed forward out of the machine for use. Fig. 19 is a view at right angles to Fig. 18. On Sheet 7, Fig. 20 is a sectional elevation of a coin-box which is adapted to resist fraudulent attempts to remove the contained coin. Fig. 21 is a plan view thereof; Fig. 22, an end view with the lid open; Fig. 23, a section on the line E F, Fig. 21, looking in the direction of the arrow.

In carrying the invention into effect a number of rods *a* are used, carrying towels *b* threaded thereon, to effect which a small loop is formed on one end of the towel, into which loop the rod *a* is inserted. As the towels would tend to obscure the mechanical parts of the machine, they are omitted from the drawings, the rods *a* alone being shown, except in the case of the first towel of the series, which is shown ready for use outside the casing of the apparatus. To begin with, each towel before being placed in the machine is folded over the rod to reduce its length, as shown in Fig. 5, the end of the towel being arranged toward the front of the casing. The back of the door *c* of the casing *d* is provided with grooved castings *e e*, down which grooves the towel-rods *a* can fall by gravity. The castings *e e* are spaced apart and stiffened or supported by a cross-stay K. It must be imagined that each towel-rod *a* carries its folded towel, as in Fig. 5. The cavity or recess at the back of the grooves carrying the towel-rods *a* may be masked by a sheet of thin metal *f*. The front of the door *c* is provided with a mirror *g* for use when making the toilet.

The grooves in the castings *e* are closed at the bottom by means of disks *h*, provided with a number of notches, into one of which notches or recesses the first towel-rod of the series is disposed, as shown in Fig. 6. Means are provided, actuated by the coin mechanism, to partially rotate the disks, so that the towel-rod *a* occupying the gaps is ejected and falls by gravity down the inclined surface *i*, through a slot *j* in the front of the door *c*, into cups or brackets G, secured to the front of the door *c*, when the folded-over end of the towel is protruded out of the slot, as shown in Figs. 1 and 6. By pulling on this end the full length of the towel can be withdrawn for use, as shown in Fig. 2. The back of the slot *j* is masked by a plate J, loosely hung on the shaft *k*. The notched disks *h* have then been rotated sufficiently to bring the next notch in the series to receive another towel-rod. For instance, the disks are provided with six

notches or gaps, so that the coin-actuated mechanism is arranged to rotate the disks one-sixth of a revolution each time it is brought into action. To effect this partial rotation of the notched disks *h*, they are mounted upon a shaft *k*, provided at each end with a ratchet-wheel *l m*. A pivoted pawl *n* engages with the ratchet-wheel *m* and is held in contact by a spring *o*. This pawl allows the ratchet-wheel *m* to revolve in the proper direction, but prevents any backward movement, and is used solely as a locking-pawl or detent. The ratchet-wheel *l* on the other end of the shaft *k* is rotated in the required direction by means of a pawl *p*, actuated by a link *q* and pivoted lever *r*. This pivoted lever is turned on its fulcrum *s* against the action of a spring *t* by the coin mechanism, as will be explained, and by means of the connecting-link *q* slides the pawl over one tooth of the ratchet-wheel *l*. On the lever *r* being released by the coin mechanism the spring *t* returns the lever to its normal position with a jerk, and the pawl *p* on such backward movement rotates the ratchet-wheels *l m*, and with them the shaft *k* and the notched disks *h*, a sixth of a revolution, sufficiently to forcibly eject the first towel-rod of the series, as described.

The pawl *p* may be of any suitable construction, the one shown in Figs. 15 to 17 being found very efficient. This consists of a boss *u*, loosely mounted on the shaft *k*, having a finger between which and a cover-plate *v* slides a tooth *w* against the action of a spring *x*. In Fig. 15 the cover-plate *v* is removed to show the tooth *w*, which is guided between projections H, formed on the finger, the spring *x* being compressed when the tooth is pushed upward between a fixed part *y* and the part *z* of the tooth. Fig. 17 is an end view of the pawl with the cover-plate *v* in position. As the pawl is rotated toward the front of the door *c* by the lever *r* and link *q* the spring-tooth is pushed inward when riding over the ratchet-tooth, as shown in Fig. 11, and is again thrust out by the spring *x* when it has cleared the tooth, as shown in Fig. 12, so as to enable the pawl to rotate the ratchet-wheel to the extent of one tooth by means of the pull of the spring *t*, acting on the lever *r*, when the lever is released by the coin mechanism.

The coin mechanism to effect the required movement of the lever *r* is as follows: The front of the apparatus is provided with a slide 2, which can be thrust inward against the action of a spring 3. The slide is supported and guided by a platform 4, and within the interior of the casing the slide is provided with a circular recess 5 to accommodate a coin or coins of the required value. The coin plate or slide 2 and supporting-platform 4 are shown in plan view in Figs. 13 and 14. The front part of the slide 2 is cut away to form a gap, and the end of the lever *r* is arranged opposite to this gap, (shown in dotted lines in Fig. 13,) so that when there is no coin in the recess in the slide 2 the inward movement of the slide has no effect on the lever *r* and its connected parts. The platform 4 forms part of a plate 6, secured to the door *c* of the casing *d*, and this plate has a coin-slot 7, the coin 8, or coins where more than one is used, after being inserted in the slot being guided by the curved plate 9 to fall flat in the recess in the slide 2. The protruding end 10 of the slide is preferably provided with a suitable instruction, such as the word "Push," and the front of the plate could also bear an announcement as to the value of the coin to be inserted in the slot.

On pushing the slide 2 inward the edge of the coin 8 comes into contact with the end of the lever *r*, operating the pawl *p*, turning the lever sufficiently on its pivot to cause the tooth *w* of the pawl *p* to ride up and over one of the teeth of the ratchet *l*, as shown in Figs. 11 and 12. To prevent the coin 8 from slipping off the end of the lever *r*, a projection or ledge 11 is formed on the lever. By the time the lever has been vibrated sufficiently to bring the spring-tooth *w* behind a tooth on the ratchet-wheel *l* the coin drops off the edge of the supporting-platform, as shown in Fig. 12, and the lever resiles abruptly by the pull of the spring *t*, the coin falling down the guiding-plate 12 into a suitable receptacle 13, Fig. 3. Directions are provided on a tablet 14 on the front of the casing to instruct users in the proper working of the apparatus.

The towel-rod *a*, bearing its clean towel, in its descent of the inclined surfaces *f* at each side of the castings *e* first comes into contact with a pivoted finger 15, which is turned on its fulcrum to allow the rod to pass, and then falls upon and depresses the loaded pivoted finger 16 in its passage to the brackets G, as shown in dotted lines. The pivoted fingers 15 and 16 are arranged on each side of the grooved castings *e* and are designed to prevent the lifting of either end of the towel-rod *a* when in the brackets *e* to any extent with a view to fraudulently removing the towel-rod and its attached towel out of the casing. When the towel has been used, the rod *a* is pushed out of the brackets G, over a roller 17, and into the interior of the casing, as is shown in dotted lines in Fig. 6.

To facilitate the removal of the towel-rods with their attached dirty towels from the bottom of the casing *d*, a hinged door 18, held by an interior catch or bolt 19, is provided. This door can be unfastened from the inside when the locked door *c* has been opened. If desired, a separate lock and key for the door 18 may be provided. Means are also provided for indicating when the supply of clean towels is exhausted. This is done conveniently by an aperture 20, formed in plate 6 of the coin

mechanism in the front of the casing, backed by a drop-shutter 21 bearing the words "Full" and "Empty" or other suitable wording. The shutter is normally raised in the position shown in Fig. 7 to display the word "Full" by means of a pivoted loaded lever 22, which is maintained in the position shown in Figs. 6 and 7 by means of the towel-rods *a* bearing on the head 23 of the lever. On the last of the towel-rods falling out of the notched disks *h* the loaded lever 22 drops, allowing the shutter 21 to fall, which not only brings the inscription "Empty" in front of the slot 20, but also blocks up the slot 7 by means of the tongue 24, as shown in dotted lines in Fig. 7. The front view of the shutter 21, showing two tablets for inscriptions, is shown in Fig. 10.

When it is desired to deliver with the clean towel a small wafer or tablet of soap, we provide a casing or receptacle 25 for the required number of soap tablets 26. This receptacle is secured to the inside of the door *c* of the casing *d* at the side opposite to the coin mechanism and which is marked with the arrow D, Fig. 4, suitable space being provided to accommodate the soap-receptacle. The arrangement is shown in Figs. 18 and 19. The lowest of the series of soap wafers 26 rests upon a platform 27. The shaft *k*, upon which are mounted the notched disks *h* and which is rotated by the coin mechanism, as described, is provided with a star-wheel 28, which is rotated with the shaft a sixth of a revolution every time the mechanism is operated to procure a clean towel. The star-wheel 28 is in contact with and vibrates a pivoted lever 29 against a spring 30, and a pusher 31, loosely pivoted to the end of the lever 29, thrusts the lowest tablet of soap out through an aperture 32 in the door *c* upon a table 33 outside the door *c*, from which it may be removed by the person paying for the clean towel. The spring 30 returns the lever 29 and pusher 31 into their normal positions. A weight 35 may be placed on the top of the soap tablets to prevent them sticking to the receptacle 25 and insure their being fed in turn to the pusher 31. The coin or coins after operating the mechanism drop upon a flat inclined plate 34, Figs. 3 and 4, which is curved at its end to direct the coins through an aperture in the locked box 13 into a special coin-receiver 36 contained in the box and which is separately illustrated in Figs. 20 to 23.

The coin-receiver 36 is provided with a hinged lid 37, having an eye 38 on the lid and another eye, 39, carried by a pivoted hasp 40. The lid can be sealed by means of a cord or tape 41 and a seal 42, which prevents the opening of the lid unless the cord is cut or the seal is broken. The coin-receiver is delivered empty and sealed to the collector, whose duty it is to lock it into the box 13 of the apparatus, removing the previous box, which he is obliged to deliver up with the seal unbroken.

The coin-receiver 36 is formed with an aperture 43, down which the coins fall after operating the coin mechanism. This aperture leads to an inclined chute 44 within the box, upon which rests a pivoted plate 45. The coin in its passage turns the plate on its pivots and falls into the box. The plate 45, as shown in dotted lines in Fig. 20, is prevented from opening any more than will just pass the coin by a cross-bar 46. The plate 45 thus practically blocks up the chute and resists any attempt to abstract coins either by shaking the box when inverted or by the insertion of a tool.

We declare that what we claim is—

1. An apparatus for delivering clean towels, provided with a number of towel-rods each carrying a towel threaded thereon, grooves or guides in the interior of a suitable casing down which the towel-rods slide by gravity with means for releasing and feeding each towel-rod singly into fixed cups or brackets which serve to prevent the removal of the towel-rods and attached towels out of the casing and guides to direct the towel-rod when thrust out of the brackets into the interior of the casing, substantially as described.

2. An apparatus for delivering clean towels and soap provided with a number of towel-rods each carrying a towel threaded thereon, grooves or guides in the interior of a suitable casing down which the towel-rods slide by gravity, a receptacle within the interior of the casing containing wafers or tablets of soap, and means for releasing and feeding each towel-rod singly into cups or brackets so as to protrude the towel out of the casing together with means for simultaneously delivering a tablet of soap substantially as described.

3. In apparatus for delivering clean towels, the provision of a number of towels carried by rods arranged to fall by gravity in grooves or guides, notched disks for retaining such rods, the means for partially rotating such notched disks to feed the towel-rods singly consisting of a pawl engaging with a ratchet-wheel on the shaft carrying the notched disks, a pivoted lever and link to actuate the pawl in one direction and a spring in the other direction, cups or brackets to receive each towel-rod as it is fed forward and so protrude the end of the towel out of the casing, and guides to direct the rod and the used towel into the interior of the casing, substantially as described.

4. In combination, in apparatus for delivering clean towels and soap therewith, a plurality of towels carried by rods arranged to fall by gravity in grooves or guides, notched disks for retaining such rods, means for partially rotating such notched disks to feed the towel-rods singly consisting of a pawl engaging with a ratchet-wheel on the shaft carrying the notched disks, the pivoted lever and link to actuate the pawl in one direction, and a spring in the reverse direction, cups or

brackets to receive each towel-rod as it is fed forward to protrude the end of the towel out of the casing, guides to direct the used towel into the interior of the casing, a receptacle for the tablets of soap, a lever actuating a pusher bearing against the lowest tablet of soap and a rotatable star-wheel vibrating the lever to eject the tablet of soap out of the casing, substantially as described.

5. In apparatus of the indicated nature, the means for rotating the shaft carrying the notched disks consisting of a pivoted lever vibrated to bring a pawl behind a tooth, of a ratchet-wheel on the shaft, and a spring to effect the reverse movement of the pawl-and-ratchet wheel to rotate the shaft with a jerk and expel the towel-rod out of the notched disks, together with means for preventing the removal of the towel-rods out of the casing and for locking the shaft so as to prevent reverse movement thereof, substantially as described and shown.

In witness whereof we have hereunto set our hands in presence of two witnesses.

WILLIAM GARLICK.
ARTHUR J. JACKSON.

Witnesses:
JOSHUA ENTWISLE,
ALFRED YATES.