

(No Model.)

2 Sheets—Sheet 1.

J. C. BOYLE.
SALUTING DEVICE.

No. 556,248.

Patented Mar. 10, 1896.

Fig: 1.

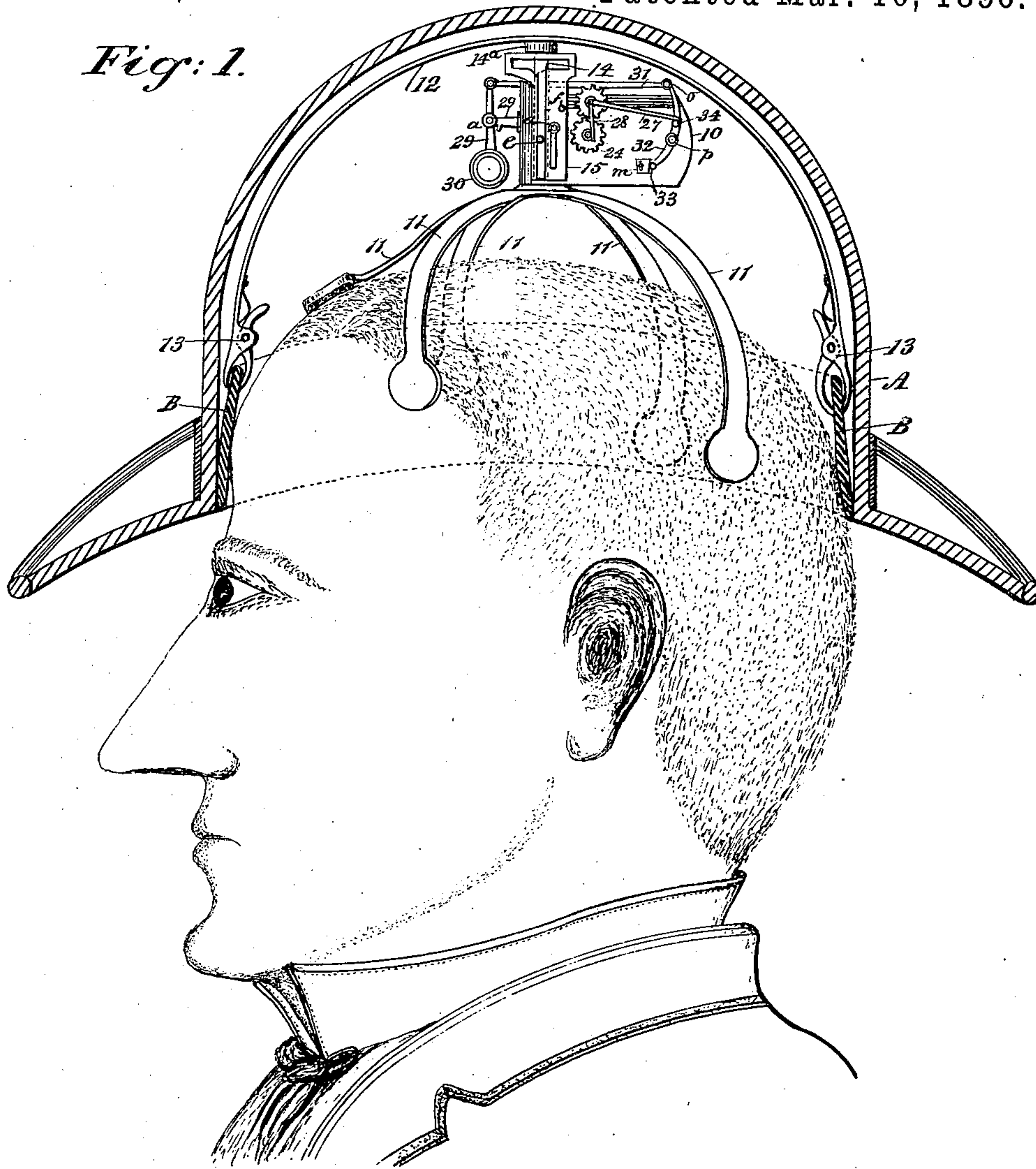
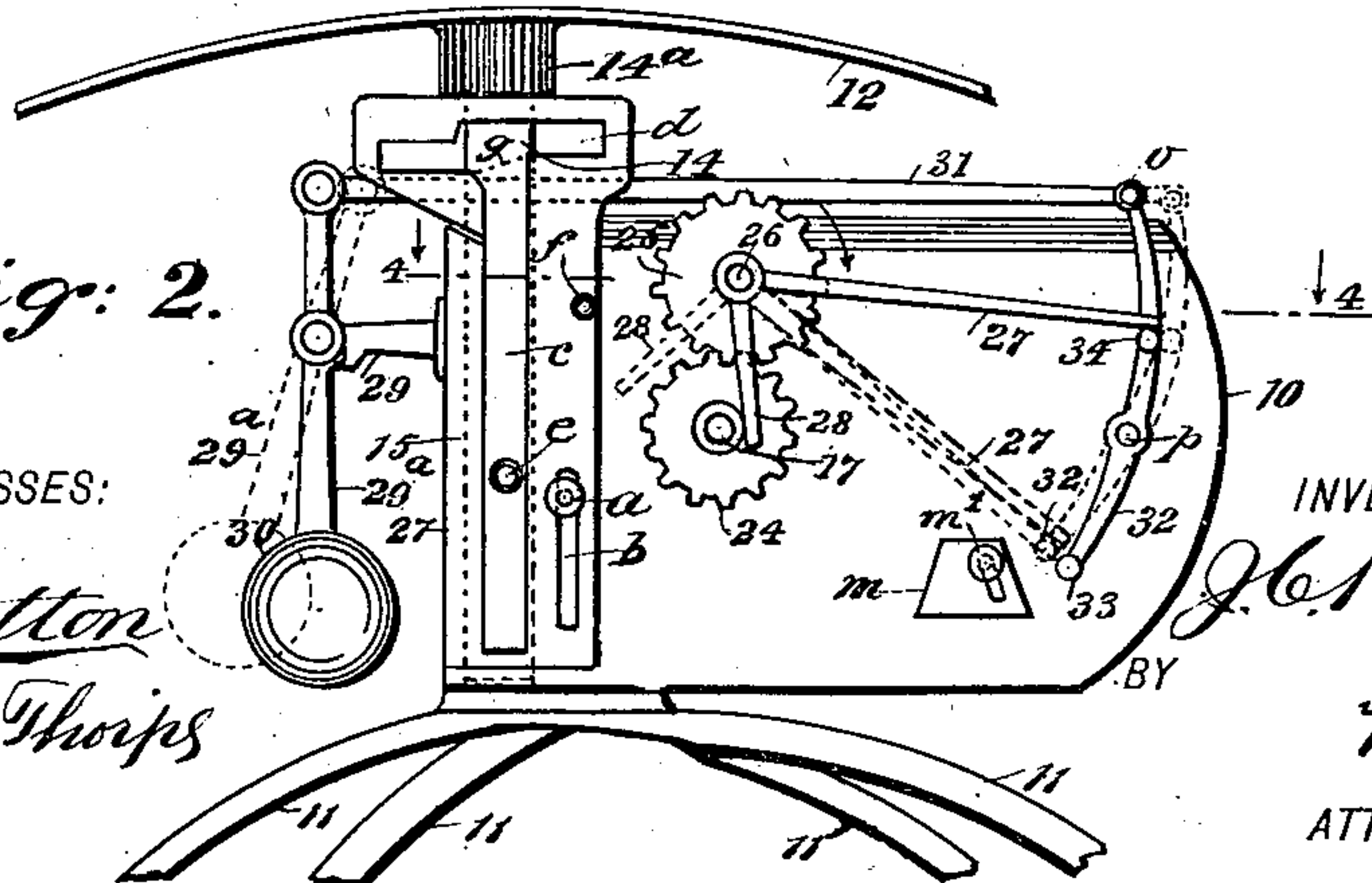


Fig: 2.

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BY *Wm. P. Patton*
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig: 3.

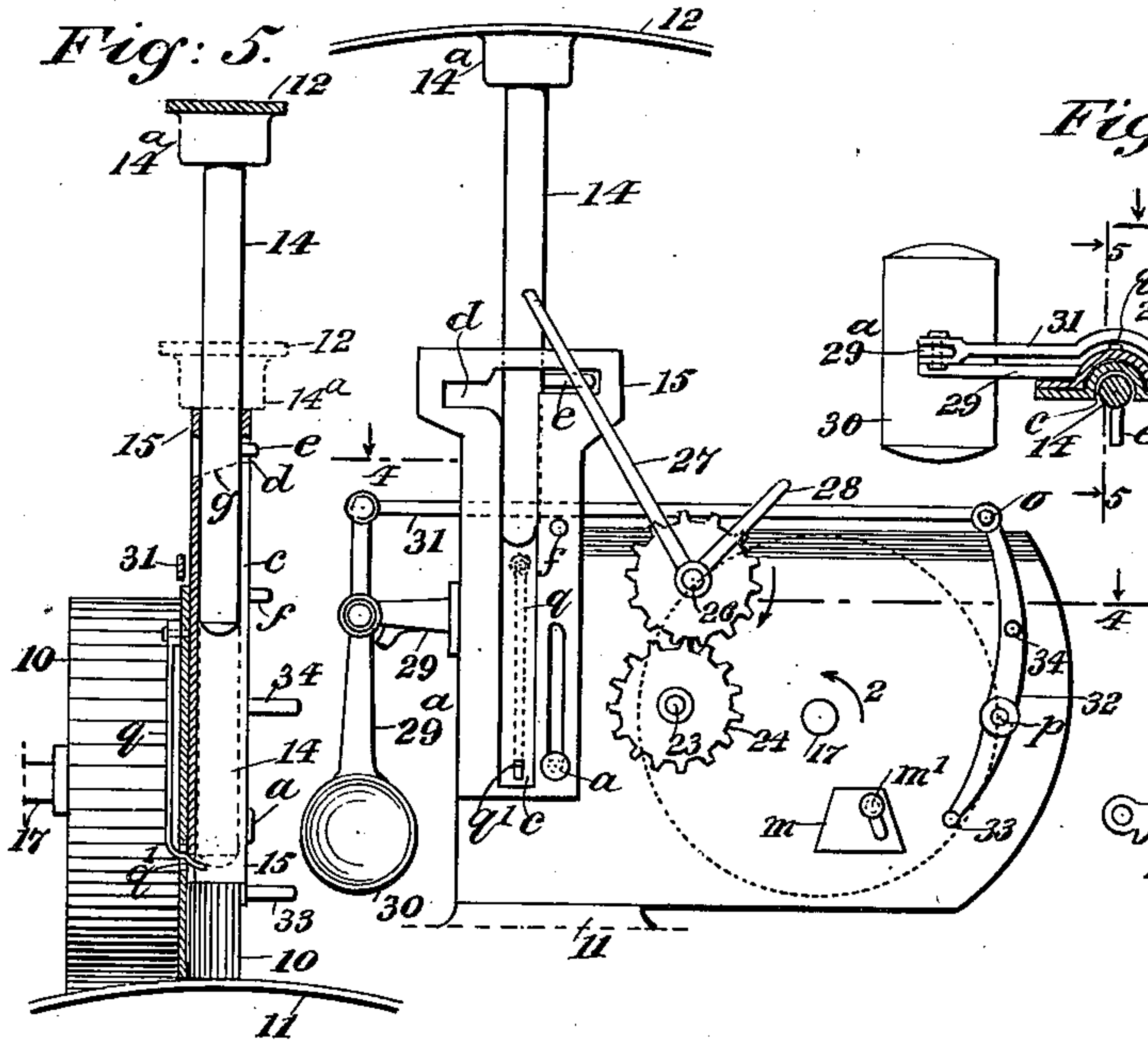


Fig: 4.

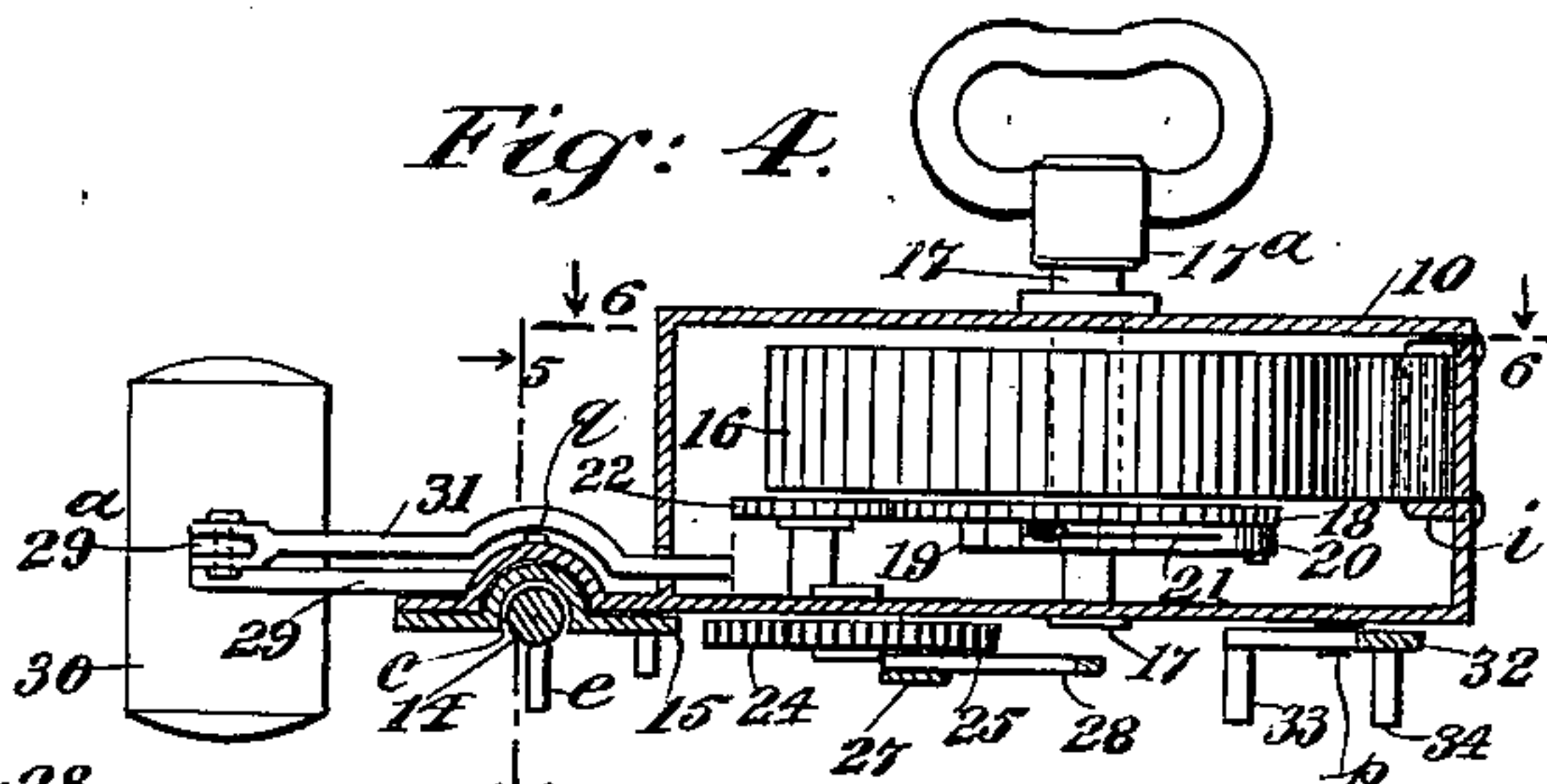


Fig: 7.

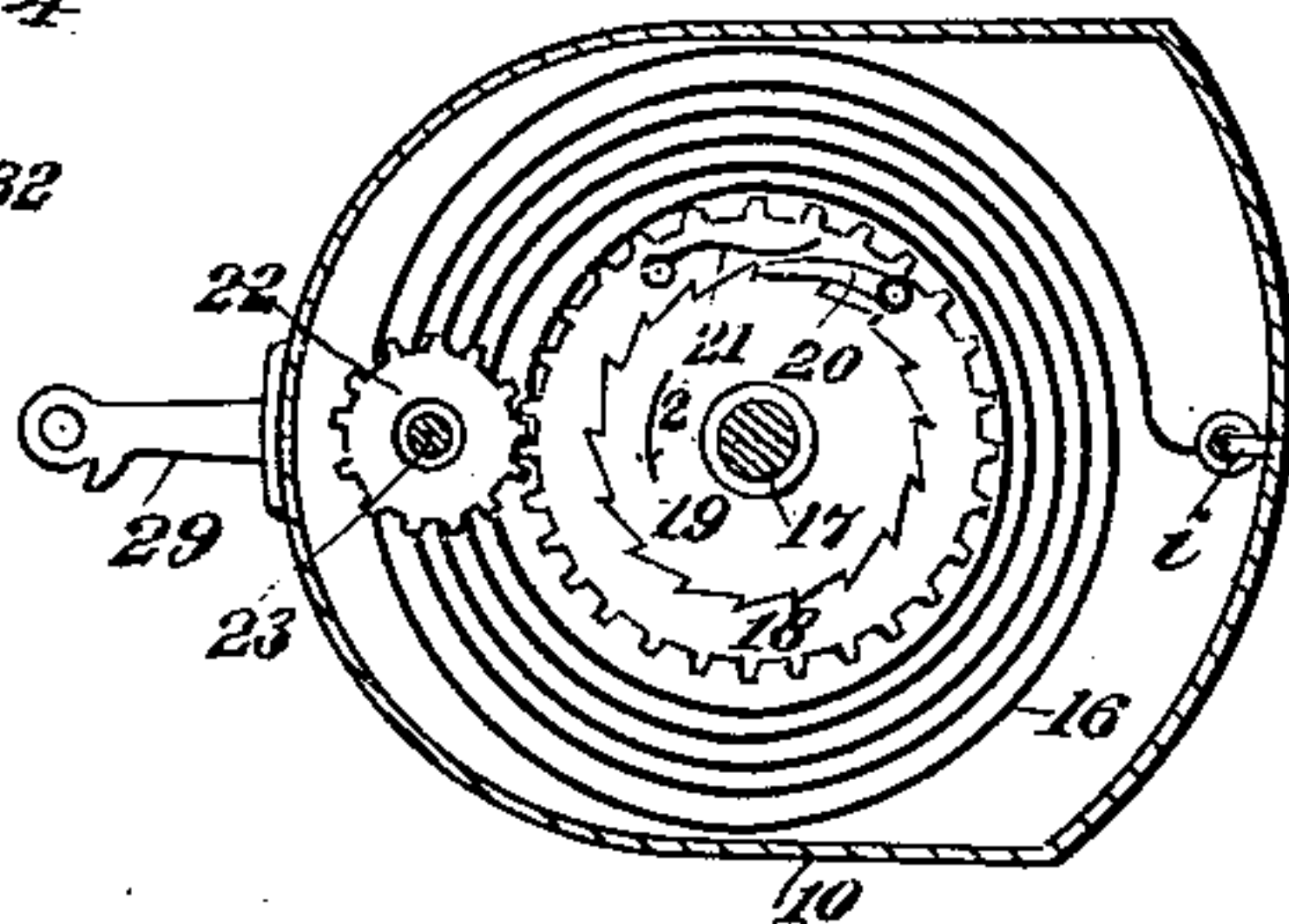


Fig: 6.

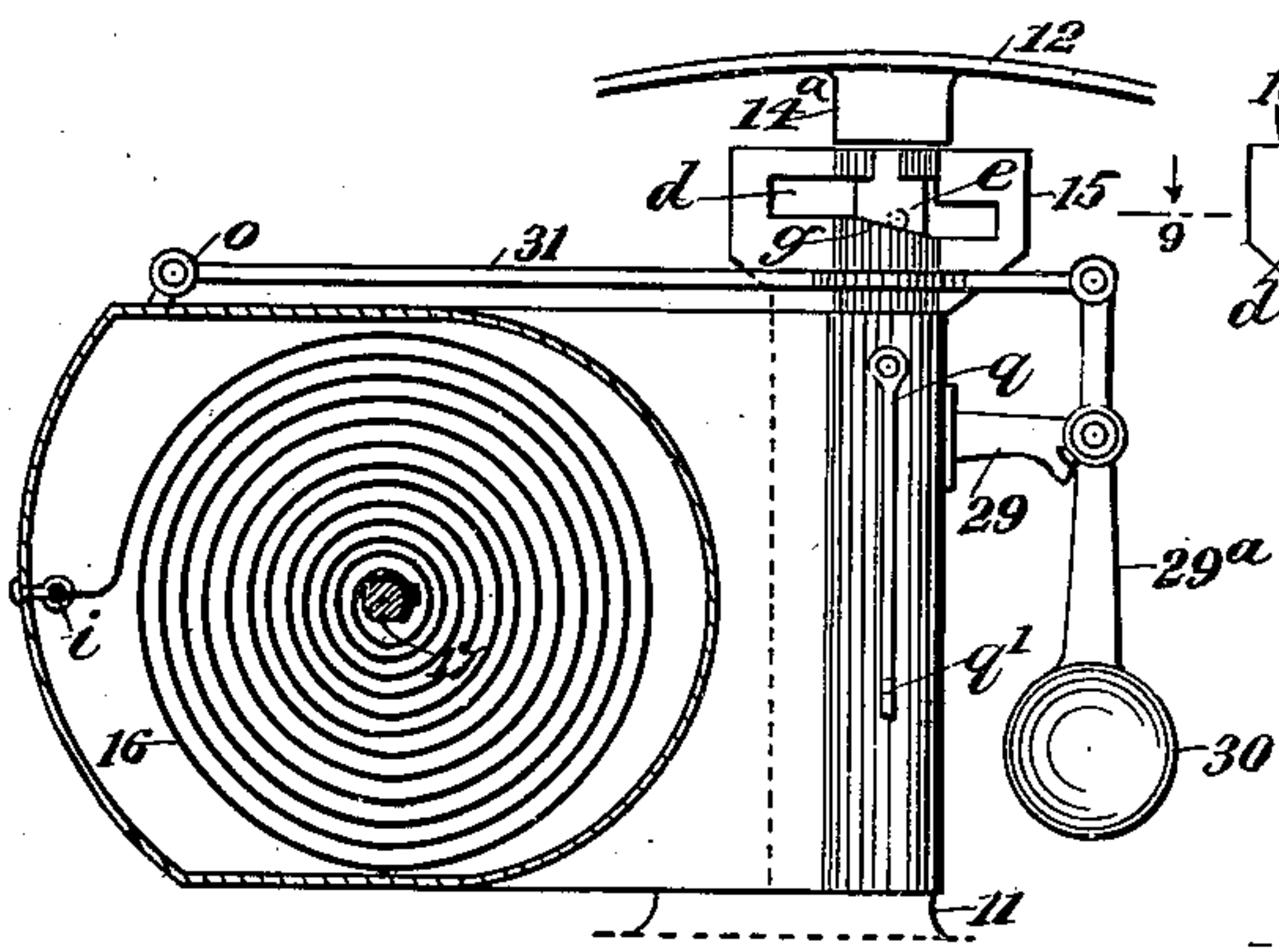


Fig: 8.

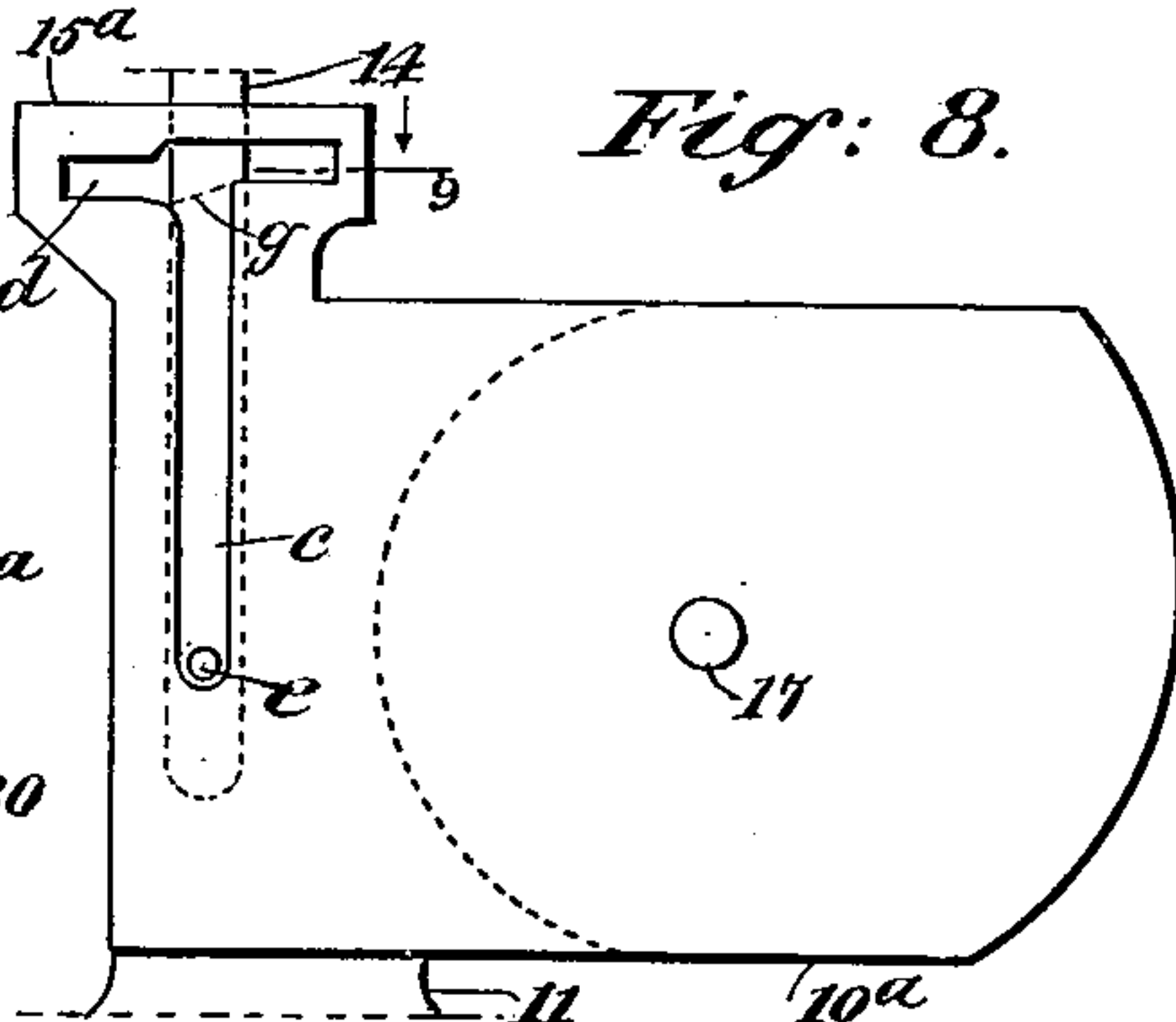
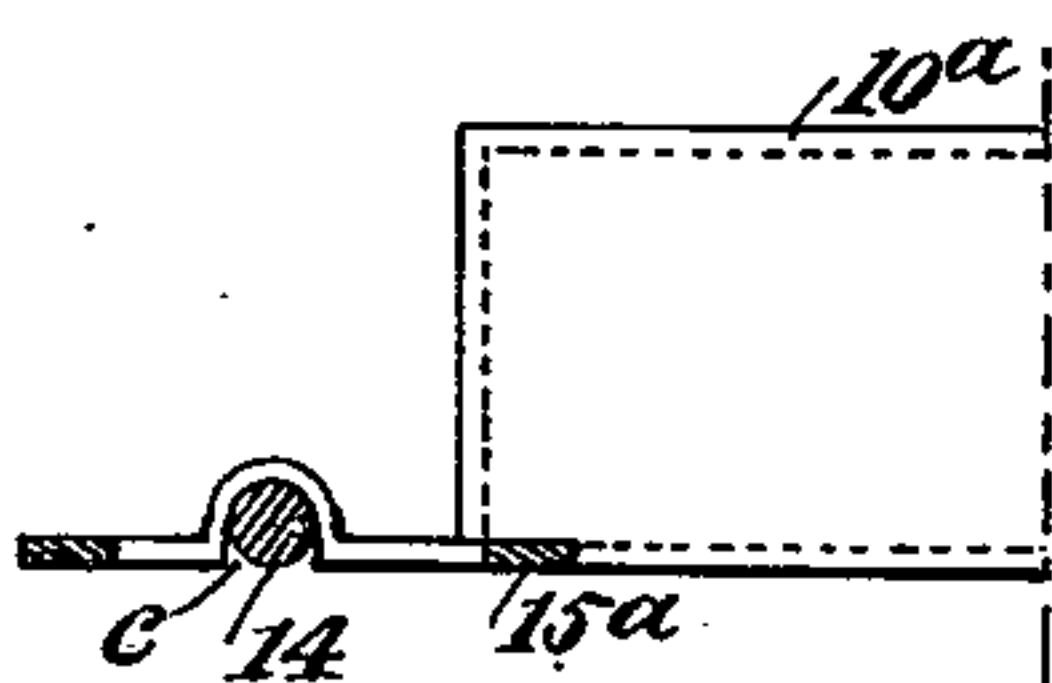


Fig: 9.



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UNITED STATES PATENT OFFICE.

JAMES C. BOYLE, OF SPOKANE, WASHINGTON, ASSIGNOR OF ONE-HALF TO
JOHN NEILL, OF SAME PLACE.

SALUTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 556,248, dated March 10, 1896.

Application filed September 18, 1895. Serial No. 562,908. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. BOYLE, of Spokane, in the county of Spokane and State of Washington, have invented a new and Improved Saluting Device, of which the following is a full, clear, and exact description.

This invention relates to a novel device for automatically effecting polite salutations by the elevation and rotation of the hat on the head of the saluting party when said person bows to the person or persons saluted, the actuation of the hat being produced by mechanism therein and without the use of the hands in any manner.

The improvement is also available as a unique and attractive advertising medium, and may be employed for such a purpose.

The invention consists in the novel construction, arrangement and combinations of parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side view of a hat containing the improvement and in position on the head of a person. Fig. 2 is an enlarged detached side view of features of the improvement, some portions of the same being broken away. Fig. 3 is a side view of parts shown in Fig. 2, showing a changed adjustment of the same. Fig. 4 is a partly-sectional plan view essentially on the line 4 4 in Figs. 2 and 3. Fig. 5 is a transverse sectional view of details substantially on the line 5 5 in Fig. 4. Fig. 6 is a side view of the device having one side wall removed on the line 6 6 in Fig. 4. Fig. 7 is a side view of the gear-case having one of its side walls removed, showing contained mechanism. Fig. 8 is a side view of a gear-case slightly modified in construction, and Fig. 9 is a partly-sectional plan view of a portion of the case shown in Fig. 8 on the line 9 9 in said figure.

To carry into effect the broad feature of this invention, which comprehends the automatic elevation and rotation of a man's hat to effect a unique salutation, I preferably employ mechanism held in a case removably clamped on the head of the wearer of the

hat, while the hat is detachably secured to the working parts of the device that raise the hat, completely rotate it, and deposit it correctly on the head of the wearer every time said person bows his head and then assumes an erect posture, all parts of the novel device being completely inclosed in and concealed by the hat.

Referring to the drawings, 10 represents a suitable case formed of any available material and preferably having parallel sides. The case 10 is provided to hold the driving mechanism of the hat lifting and rotating device, and in order to adapt the latter for effective service it is necessary that the case be maintained stationary and temporarily attached to the wearer's head. To this end a suitable number of curved spring-fingers 11 are secured to the lower part of the case, and are adapted to gently clasp the head of the wearer with their free lower ends, as indicated in Fig. 1.

The portion of the mechanism that has direct connection with the hat A comprises a bow-piece 12, having a suitable curvature to permit its ends, whereon are clasps 13, to extend within the hat down its sides when the bow-piece is therein located, so that the clasps 13, which may be of any approved style, are in position to grip the sweat-band B of the hat at diametrically-opposite points, as indicated in Fig. 1, said points of clasped engagement being at or near the transverse center of the hat-body, whereby the hat will be poised on the bow-piece when the latter is mounted on the post 14, as will presently be explained.

One side wall of the case 10 near its front edge is indented vertically to produce a circular-bottomed channel therein, as indicated in Fig. 4, and in said channel the upright guide-plate 15 is located, the latter having a corresponding indentation which produces a swell or rib on the side nearest the case side wall that loosely engages the channel when the guide-plate is in operative position.

The guide-plate 15 is held in sliding engagement with the case side wall by a headed screw *a*, that passes through a slot *b* formed in the guide-plate, and thence into the case-wall, said screw and the slot it works in limiting the upward movement of the guide-

plate. A vertically-elongated depression *c* is formed in the guide-plate 15 forwardly of the slot *b* and parallel to it, the depression *c* merging at its upper end in a transverse slot *d* that extends a proper distance each side of the vertical slot.

The post 14, which depends from the bow-piece 12 at the top of its arch, slides in the channel of the guide-plate 15, and as said channel terminates where the depression *c* intersects the cross-slot *d* it will be seen that the post is adapted to reciprocate in the guide-plate behind the top cross-bar of the latter, produced by the cross-slot *d*. A lift-pin *e* is inserted through the vertical depression *c* of the guide-plate 15 and firmly engages the post 14, preferably at right angles thereto, and the pin *e* if moved upwardly in the depression *c* may enter the cross-slot *d* and be swung therein, so as to pass through and ride on the upper edge of the indented wall that forms the upright channel of the guide-plate. The pin *e* is in service rotatably moved in direction of a curved arrow in Fig. 4, or toward the rear of the case 10, and after it passes through the slot *d*, as clearly indicated in Fig. 3, it will ride on an incline *g* formed on the upper edge of the depression *c* in the guide-plate 15, the incline sloping downward and forward, as represented in full lines in Fig. 6 and in dotted lines in Fig. 3.

It is preferred to provide a collar 14^a on the post 14 where it is affixed to the bow-piece 12, which collar rests on the upper edge of the guide-plate when parts of the device are in normal positions, so that the bow-piece and post will be correspondingly elevated when the guide-plate 15 is slid upwardly.

A corner is rounded on the guide-plate where the forward edge of the depression *c* intersects the cross-slot *d*, which will facilitate the entrance of the pin *e* within the depression *c* after it has made a revolution, so that by a proper application of power to the pin *e* the bow-piece 12 and hat *A* may be lifted from the head of the wearer, receive a complete rotation, and drop by gravity into normal position on the head of the wearer.

The guide-plate 15 is furnished not only to control the rotation of the post 14 and bow-piece 12, but is also designed to afford means for supporting said post upright and permit it to receive a considerable elevation, which may be necessary in order to adapt the device to lift a hat clear of the head if seated low down on the forehead of the wearer.

To adapt the guide-plate 15 to receive an upward sliding movement there is a stud *f* projected from it at a suitable point above the slot *b* and near the rear edge of the guide-plate, so as to be in the path of a lifting-arm, which will be hereinafter described.

The preferred means for communicating an upward sliding and rotary swinging movement to the bow-piece 12 consists essentially of a coiled spring 16, that is affixed at one end *h* to the winding-arbor 17, that is journaled

in the sides of the case 10, the other end of said spring being shackled, as at *i*, to the inner surface and rear side of the case, as clearly shown in Figs. 6 and 7. On the arbor 17, at one side of the spring 16, a spur gear-wheel 18 is mounted and secured, and between the spur-wheel and side of the case 10 the ratchet-wheel 19 is also affixed on the arbor, a pawl 20 being pivoted on the wheel 18, so that its toe may engage with the teeth of the ratchet-wheel, said engagement being enforced by a spring 21 in the usual manner. The spur-wheel 18 meshes with a toothed pinion 22, which is supported to rotate on the side of the case 10 by a short journal-shaft 23, that projects through the wall of the case it is journaled in, and on the outer end of said shaft a gear-wheel 24 is secured.

A gear-wheel 25 is supported to rotate on the outer side of the case 10, in mesh with the wheel 24 and above it, by a journal-stud 26, and on the wheel 25 a lifting-arm 27 is secured at one end so as to radially project from the gear-wheel, having sufficient length to impinge the pin *e* when the wheel it is projected from receives rotary motion in direction of an arrow in Figs. 2 and 3. A shorter arm 28 is also extended from the gear-wheel 25 nearly in the same vertical plane with the arm 27 and nearly at right angles thereto, the short arm 28 being designed to impinge the pin *f* on its lower side and slide the guide-plate 15 upward a proper degree before the arm 27 has contact with the pin *e*.

On the rear side of the channel in the front portion of the case 10 a weak finger-spring *q* is secured, which extends down to pass its bent lower end or toe *q'* through the case-wall and also through a slot in the lower end of the guide-plate 15, the said end of the spring being adapted to afford support to the lower end of the post 14 when the guide-plate is elevated by the arm 28.

On the front wall of the case 10 an arm 29 projects forwardly, affording support at its outer end to another arm, 29^a, that is pivoted thereto intermediate of its ends. The lower end of the arm 29^a is attached to a gravity-block 30, proportioned in weight to afford effective service, and on the upper extremity of the arm 29 a pusher-rod 31 is pivoted by its forward end.

A rock-arm 32 is pivoted intermediately of its ends, as at *p*, on the side of the case, and also at its upper end *o* on the rear end of the pusher-rod 31, said rock-arm hanging pendent, so that its lower portion may vibrate near a check-block *m*, that is pivoted on the side wall of the case 10, and serves to prevent the free rocking movement of the arm mentioned. The check-block *m* is preferably a wedge-shaped piece which is slotted to receive a pivot-screw *m'*, whereon the block is suspended from the wall of the case, and it will be seen that the slot of the block is near one side edge of the same, so that if said edge is nearest the lower end of the arm 32 the latter

will be free to rock; but should the block *m* be reversed in position, as shown in Fig. 1, the arm will be impinged by the edge of the block that is farthest from the pivot, and thus be prevented from free swinging movement in a forward direction.

For the correct operation of the mechanism there is a pin 33 projected outwardly from the lower end of the rock-arm 32, which pin will have contact with the free end of the lifting-arm 27 when the arm 29^a is swung outward, as shown by dotted lines in Fig. 2, and thus arrest rotary movement of the gear-wheel 25; and when the gravity-block is free to assume a normal position and dispose the arm it is attached to in a vertical plane the pin 33 will be released from the end of the arm 27. Above the pivot *p* a stud 34 is extended outwardly from the arm 32, which stud will receive the end of the arm 27 when said arm and the arm 29^a are in normal position, and thus will prevent a movement of the gearing until the block 30 is outwardly swung.

There is a turn-button or other equivalent means provided at 17^a on the outer end of the arbor 17 for rotation of the latter, and when turned in direction of the arrow 2 in Figs. 3 and 7 will wrap the spring 16 to provide power for driving the attached gearing.

If the hat A with the entire device within it is adjusted on the head of the wearer of the same so as to cause the depending spring-fingers 11 to clasp the person's head, as indicated in Fig. 1, and dispose the case 10 in a vertical plane extending from front to rear of the hat, and the spring 16 has previously been wound, the device will be ready for service providing the check-block *m* is adjusted to permit the vibration of the rock-arm 32.

Should the wearer of the hat having the novel mechanism within it and engaging his head, as before explained, desire to salute another party, it will only be necessary for him to bow his head to cause the weight-block 30 to swing forwardly. The swinging of the block 30, as stated, will, by the consequent vibration rearwardly of the upper end of the arm 29^a, push the rod 31 backward and release the stud 34 on the rock-arm 32 from an engagement with the lifting-arm 27, so that the latter will, by stress of the spring 16, be forcibly rocked down into contact with the pin 33, as indicated by dotted lines in Fig. 2, the arm 28 having been correspondingly moved toward the lift-pin *f*, as also shown by dotted lines in the same figure. When the person making a salutation with the improvement applied to his hat resumes an erect posture after bowing, the weight 30 will swing back into a normal position, which will draw the upper end of the rock-arm 32 forwardly and move its lower end rearwardly far enough to release the arm 27 from the pin 33. The gear-wheel 25 will now be moved by the spring 16, so as to impinge the short arm 28 on the lower side of the stud *f*, which will cause the guide-plate 15 to slide upward, carrying the post

14 with it. Just before the arm 28 passes the stud *f* the detent-spring *q* will press its curved toe *q'* through the slot in the front plate of the case 10 and project said toe below the rounded lower end of the post 14. The lifting-arm 27 is now brought into contact with the pin *e*, and the pressure of the said arm on the pin *e* causes the post 14 to move upwardly in the depression *c* of the guide-plate 15 until it enters the slot *d*. The lift-pin *e* will now be swung through the rear portion of the cross-slot *d* by the arm 27, and by the impetus given to the pin and post 14 by said arm the post, bow-piece, and hat A will receive a rotary movement sufficient to bring the pin *e* into the depression *c*, when the gravity of the parts will cause the hat to drop into its normal position on the wearer's head.

Should it be desired to effect a more restricted upward sliding movement of the bow-piece 12 and the attached hat, the guide-plate 15 can be held from sliding, or be formed integral with the front side wall of the case 10^a, as shown in Figs. 7 and 8, there being a vertical depression *c* and cross-slot *d* produced in the upward projection 15^a of said side wall, and an indented upright channel also formed therein, extending inwardly from the outer face of the side it is formed in, so that the post 14 may be located in the channel and its lift-pin *e* move in the depression *c*, as before explained, other parts of the device being similar to those already described.

The operation of the modified form of the mechanism is the same as when a slidable guide-plate is used, only the upward movement of the lift-pin *e* and post 14 is less in extent than when said movable plate is provided. In reference to this modified form it will be seen that the guide-plate 15 being dispensed with the bar 14 will reach its highest position by a single operation of the arm 27, and that since the plate 15 is not used the arm 28 will be useless and may also be omitted from this form of the apparatus.

There may be a sign or placard placed on the hat having the improvements within it, and the saluting device be used to attract attention of the public on a crowded thoroughfare to the advertisement on the hat, the novelty of its apparent self-movement calling attention to the hat and its placard.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An automatic device for effecting salutations, comprising power-moved mechanism adapted for removable attachment on the head of a person, and a device in the head-gear of said person, actuated by the mechanism when the person bows, and operating to lift, turn and then lower the head-gear, as specified.

2. An automatic device for effecting salutations, comprising a support, means for holding said support on the head of a person, spring-actuated gearing on the support, an

attachment in the head-gear of said person, adapted to rotate on the support, and means, substantially as described, for transmitting motion from the gearing to the head-gear attachment, whereby said head-gear is lifted, 5 turned and lowered when the wearer bows, as specified.

3. In a device for effecting automatic salutations, the combination with a case, of spring- 10 actuated rotary gearing in and on said case, a clamping device on the case, adapted to engage the head of a person, a lifting-arm, a gear-wheel outside of the case and on which the arm is carried, an attachment in the per- 15 son's head-gear, the same being rotatably mounted on the case and clamped to the sweat-band of the head-gear, a vertically-slidable post, a laterally-projecting pin adapted to be engaged by the lifting-arm when said arm is 20 swung around by the gearing, and means for normally restraining the gearing and adapted to release it upon the bowing of the head, as specified.

4. The combination of a clamp adapted to 25 engage a person's head, a motor carried by said clamp and capable of operation to raise a hat from the head, and a trip normally restraining the motor and capable of operation to release the same, substantially as described.

30 5. The combination of actuated gearing, two arms moving with said gearing, a vertically-movable guide-plate, a bar carried by and independently movable in said guide-plate, the guide-plate and bar being respect- 35 ively adapted to be engaged by the arms, and means for controlling the arms, substantially as described.

6. The combination of a motor, a guide-plate having a vertically-elongated depres-

sion, the upper edge of which is inclined, a 40 bar movable longitudinally in the depression and having a pin adapted to receive the operative force of the motor, and means for controlling the motor, substantially as described.

7. The combination of a motor, a guide- 45 plate having a semicircular inclined part at its upper portion, a bar movable on the guide-plate and having a pin adapted to receive the operative force of the motor, and means for controlling the motor, substantially as de- 50 scribed.

8. The combination with a frame, of a motor capable of operation to raise a hat, and a balanced trip normally restraining said motor, the trip being released when disturbed 55 in its equilibrium by the rocking of the frame, substantially as described.

9. The combination with a frame, of a motor, a longitudinally-movable bar, an arm actuated by the motor and capable of raising 60 the bar, and a balanced trip normally restraining the arm, the trip being released when disturbed in its equilibrium by the rocking of the frame, substantially as described.

10. The combination with a frame, of actu- 65 ated gearing, an arm moving with said gearing, a longitudinally-movable bar capable of being lifted by the arm, means for restraining the operation of the arm, and a balanced weight the same being connected to actuate 70 said means and being capable of rocking to release the arm by and upon the rocking of said frame, substantially as described.

JAMES C. BOYLE.

Witnesses:

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HARRY J. GIBBON.