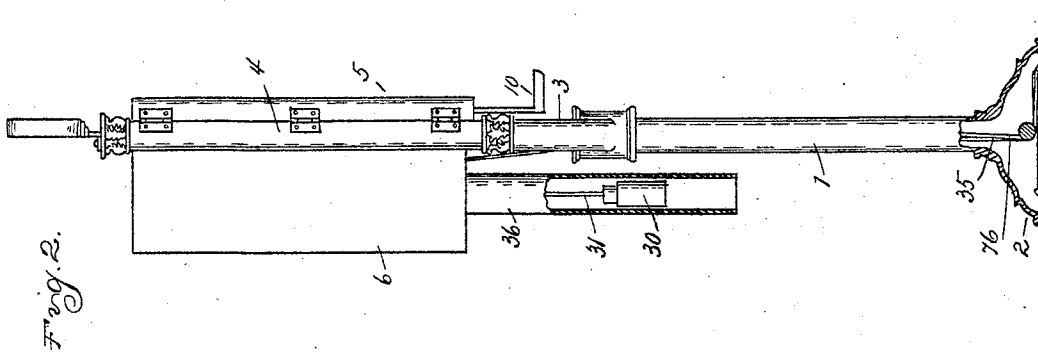
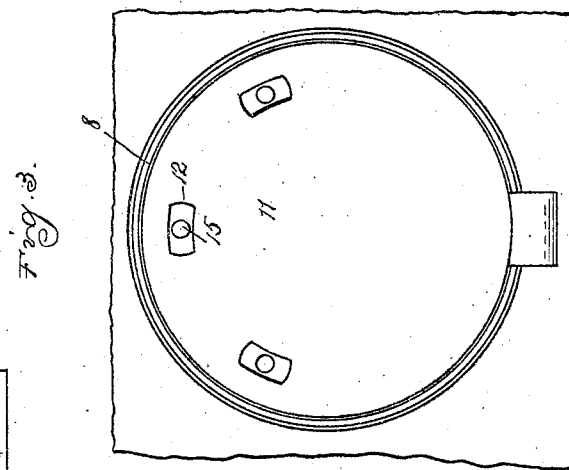
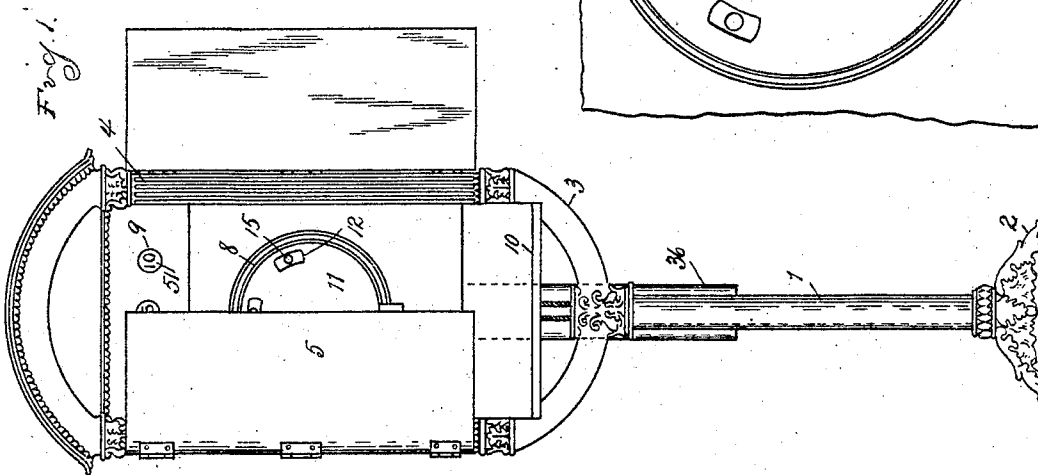


No. 794,775.

PATENTED JULY 18, 1905.

W. J. BOWERMAN.
SHOOTING GALLERY.
APPLICATION FILED NOV. 21, 1904.

3 SHEETS—SHEET 1.



WITNESSES
Ed. Smith
Ed. Dault

INVENTOR
William J. Bowerman

BY

James Whittmore
ATTY.

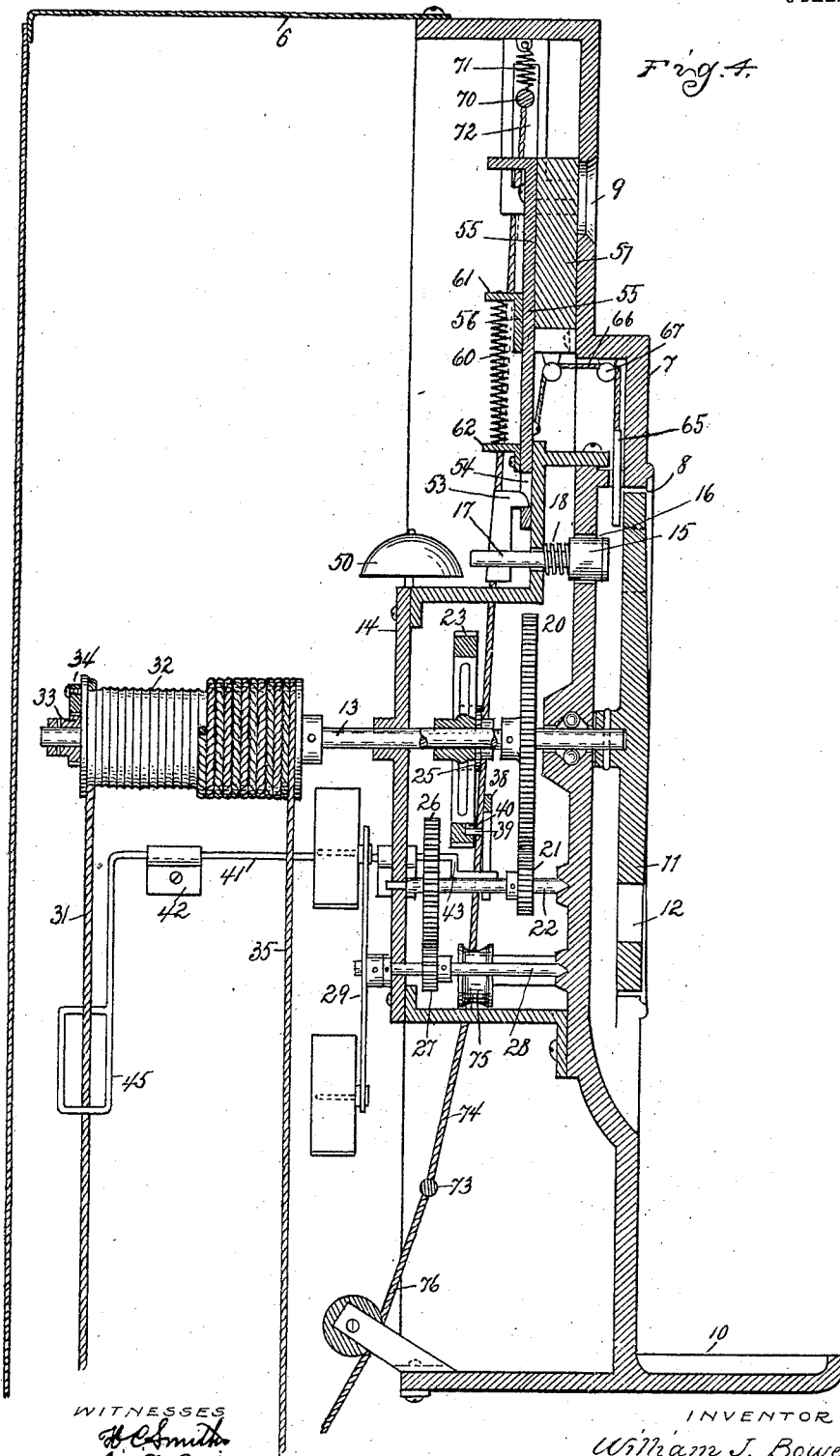
No. 794,775.

PATENTED JULY 18, 1905.

W. J. BOWERMAN.
SHOOTING GALLERY.

APPLICATION FILED NOV. 21, 1904.

3 SHEETS—SHEET 2.



WITNESSES
H. C. Smith
Ed. D. Cault

INVENTOR

William J. Bowerman

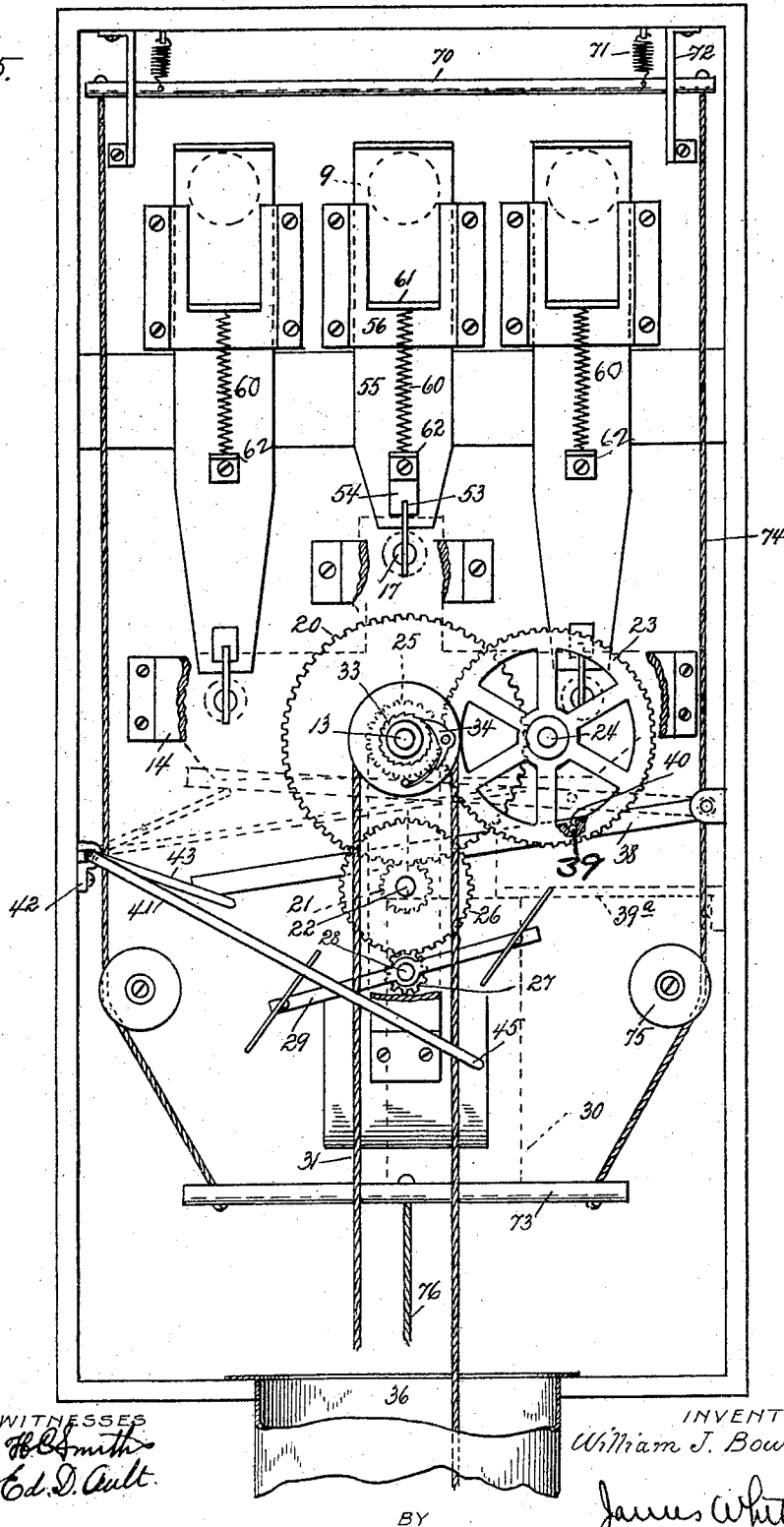
BY

James Whittman ATT'Y.

W. J. BOWERMAN.
SHOOTING GALLERY.
APPLICATION FILED NOV. 21, 1904.

3 SHEETS—SHEET 3.

Fig. 5.



WITNESSES
H. C. Smith
Ed. D. Ault.

INVENTOR
William J. Bowerman

James Whitman
ATTY.

UNITED STATES PATENT OFFICE.

WILLIAM J. BOWERMAN, OF DETROIT, MICHIGAN.

SHOOTING-GALLERY.

SPECIFICATION forming part of Letters Patent No. 794,775, dated July 18, 1905.

Application filed November 21, 1904. Serial No. 233,669.

To all whom it may concern:

Be it known that I, WILLIAM J. BOWERMAN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Shooting-Galleries, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention has reference generally to shooting-galleries, and particularly to a movable target therefor; and the invention consists in the novel and peculiar construction of the target, in means for operating the same; further, in mechanism for indicating when the target has been struck, and, still further, in the peculiar arrangement and combination of the various parts of the target mechanism, as will be fully hereinafter set forth, and illustrated in the drawings, in which—

Figure 1 is a front elevation of a target embodying my invention. Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is an enlarged front view of the target. Fig. 4 is a vertical central section through the upper portion of the target, and Fig. 5 is a rear elevation of the target with the back of the casing removed showing the target interior.

The preferable form in which the target is constructed is indicated in Fig. 1, consisting of a tubular standard 1, supported upon a suitable base 2, the oppositely and upwardly extending supporting-arms 3 at the top of the standard, and the ornamental open frame 4, mounted upon the arms and provided with a pair of swinging doors 5.

Arranged within the ornamental frame described and suitably secured thereto is a casing 6, the front 7 of which is of metallic plating forming the face of the target and at the same time a mask-plate against which stray bullets strike. The front of the casing is preferably formed with an annular inwardly-extending offset 8 to form a depressed central section in which the targets proper are adapted to be arranged. The mask-plate is further provided with one or more openings 9 above the targets, through which the signals may be

viewed, and with a tray 10 below the target proper, in which the spent bullets drop.

The target mechanism consists, primarily, of two members, one normally stationary and the other movable. The movable member I have shown in the form of a rotary disk 11, having one or more apertures, as 12, formed in it near its periphery, the disk being arranged within the central depressed portion of the mask-plate or target-front and mounted upon a shaft 13, journaled in the casing and within a framework 14, secured to the casing in any suitable manner.

The normally stationary member of the target consists, preferably, of a drum 15 of slightly less size than the aperture 12 and arranged within an opening 16 in the mask-plate or target-front in the path of the aperture in the disk. A shank or spindle 17, carried by the drum 15, projects through an opening in the framework 14, and a coil-spring 18 upon the spindle, interposed between the drum and framework, forms a yielding abutment for the drum or target proper and holds the latter in its normal position, as indicated in Fig. 4.

As the disk 11 rotates the aperture 12 therein will at some time in each of its revolutions register with the target proper, 15, and it is the object of the marksman to hit the inner target member by shooting at it through the opening in the rotary disk. When struck, the member 15 moves inwardly against the tension of the spring, and the shot is indicated by a visual signal, an audible signal, or both, as may be desired, the indicating mechanism being fully hereinafter described.

The means employed for rotating the outer or disk member of the target consists of a clockwork operated by a weight adapted to be wound or set by the attendant and after being started to operate for a determined period of time, when it is automatically stopped and locked. The preferred type of clockwork comprises a gear-wheel 20, fixed upon the shaft 13, a gear-pinion 21 upon a counter-shaft 22 in gear with wheel 20, a gear-wheel 23 upon a counter-shaft 24, meshing with a gear-pinion 25 on shaft 13, a gear-wheel 26 upon the

counter-shaft 22, meshing with a pinion 27 on the counter-shaft 28, and an escapement 29 on said latter shaft, all as plainly illustrated in Fig. 4. Any type of clockwork will answer the purpose of operating the target for a determined period of time, and while I have described a simple piece of mechanism for this purpose it will be obvious that other types could be used, if desired.

The weight for operating the clockwork (indicated by the reference-numeral 30) is attached to a cable 31, adapted to be wound about the drum 32, loosely sleeved upon an extension of the shaft 13.

33 designates a ratchet fixed upon the extremity of the shaft 13 immediately adjacent the drum, and 34 is a pawl pivoted to the drum and engaging the ratchet.

35 is a cable also wound upon the drum in a direction opposite to the weight-cable and serves as a winding device for elevating the weight. A tubular casing 36, depending from the casing 6, is preferably provided as a housing for the weight, while the winding-cable 35 extends downwardly through the tubular standard 1 and out through its base to a point a considerable distance from the target, where the person shooting stands and where it may be conveniently operated by the attendant or by the marksman when the target is used in connection with coin-controlled actuating mechanism.

The locking mechanism for the target is intended and so constructed as to stop all parts of the mechanism at a time when the opening or openings in the rotary disk are out of registration with the targets proper, so that when the target mechanism is not in use the targets cannot be shot at.

The locking means preferably employed consists of a lever 38, pivoted to the casing carrying a pin 39, adapted at a determined period to engage the notch 40 in the inner periphery of the gear-wheel 23.

39^a represents a metal bracket extending from the side of the casing into the path of the weight 30.

41 is an angle-shaped lever fulcrumed in the bracket 42 on the casing side carrying an offset portion 43, engaging beneath the lever 38. The lever 41 is further provided with a loop 45, through which the weight-cable passes, as indicated in Fig. 4.

As the weight is raised by pulling upon the winding-cable 35 it moves upwardly into engagement with the loop 45, raises said loop and its lever into the position indicated in dotted lines, and moves the pin 39 out of engagement with the gear-wheel 23, permitting upon the release of the winding-cable the operation of the mechanism. The stop 39^a is so placed and the other parts of the stopping mechanism so proportioned and arranged that

during the descent of the weight the gear-wheel 23 will make a determined number of revolutions and the pin on the lever 38 enter the notch in the gear-wheel, thus locking the mechanism when the apertures in the rotary disk are out of registration with the targets, the disk being preferably in the position as indicated in full lines in Fig. 4.

In practice I preferably employ an audible signal—as, for instance, a bell 50—and a visual signal or indicator in the form of an indicating-block, which are operated simultaneously upon the hitting of the inner target member. The bell, as indicated in Fig. 4, is immediately to the rear of the shank 17 of the target member 15, so that when said latter member is struck the shank will strike and ring the bell. Upon the shank 17 is rigidly secured a hook 53, which is in normal engagement with an opening 54 in the plate 55, mounted for vertical reciprocation in the guide 56.

57 is the indicator-block previously referred to, rigidly attached to the outer face of the plate 55, the upper portion of which is normally opposite the opening 9 in the casing-front and preferably bears a numeral thereon, as indicated in Fig. 1.

60 is a spring normally under tension between the bracket 61 upon the guide 56 and a lug 62 on the plate 55. 65 represents a cover-plate for the opening 12 of the rotary member of the target, suspended from a cord 66, which passes over the sheaves 67 upon the casing and is attached to the vertically-movable plate 55. The cover-plate is normally in the position indicated in Fig. 4, permitting the bullet to enter the opening 12 in the disk and strike the inner target member.

When the target proper, 15, is struck by a bullet, the latch 53 is immediately withdrawn from engagement with the plate 55 and the latter is thrown upwardly by the spring 60. The indicator-block 57, moving with the plate, displaces the numeral from the opening 9, indicating to the marksman simultaneously with the ringing of the bell that the target has been struck. At the same time the cover-plate 65 drops down opposite the drum 15, thereby indicating through the opening 12 that that particular target is not to be shot at until reset.

While I have described particularly a construction of target wherein one opening is formed in the rotary disk and a single target proper in the form of a drum arranged in the path of the aperture, it will be obvious that any number of openings may be formed in the disk and a corresponding number of inner target members provided, if so desired. In the drawings I have shown the target mechanism as having three openings in the disk and preferably, though not necessarily, three inner tar-

get members to be shot at, all of the same construction as the one described; also, a number of signals corresponding to the number of targets, the former being shown particularly in Fig. 5. The indicating-blocks obviously differ in length below the guide-plates, but above the guides are of the same height and are adapted to be reset separately or simultaneously by a single resetting device.

10 The preferable form of resetting mechanism consists of a bar 70, supported by springs 71, depending from the casing and provided with guides 72, also secured to the casing, a similar bar 73 in the lower part of the casing connected to the member 70 by the cords 74 passing over guide-sheaves 75 and an operating-cable 76. As shown, this cable is secured to the lower member 73, passes downwardly through the tubular standard 1, and out through its base with the winding-cable to a point where the marksman stands.

By drawing upon the indicator-cable the bar 70 is lowered against the tension of its springs, engages one or more of the indicator-plates, forcing the same downwardly until the latch or latches 53 of the targets proper engage the openings in the plates, when the mechanism is in readiness for further use.

What I claim as my invention is—

30 1. In a shooting-gallery, a target comprising two adjacently-arranged relatively movable members, one having an opening therein and the other visible periodically through said opening, and means for imparting relative movement to the members, and means for stopping said movement.

2. In a shooting-gallery, a target comprising a rotatable apertured disk, a normally stationary member in the rear of said disk in the path of movement of the aperture, means for rotating the disk, means for setting the rotating mechanism in operation, and means for automatically stopping said rotatable movement.

45 3. In a shooting-gallery, a target, an indicator associated therewith operating automatically upon the striking of the target, and a cover for the target.

4. In a shooting-gallery, an apertured casing, a target connected therewith comprising two adjacently-arranged and relatively movable members, one apertured and the other visible periodically through the aperture, and an automatically-operating indicator associated with said visible member, including a member adapted to be moved adjacent to and be visible through the aperture in the casing.

5. In a shooting-gallery, a target comprising two adjacently-arranged and relatively movable members, one apertured and the other visible periodically through the aperture, a movable member on said visible member in the path of said aperture, and a visible

and an audible indicator, both associated with said last-mentioned movable member and operating simultaneously and automatically upon the striking of said member. 65

6. In a shooting-gallery, a target comprising a rotatable apertured disk, a complementary member mounted for reciprocation at the rear of said disk in the path of movement of its aperture, and a gong adjacent to said complementary member adapted to be operated by the latter upon its reciprocation. 70

7. In a shooting-gallery, a target, an indicator associated therewith operating automatically upon the striking of the target, a cover for the target, and means for resetting the indicator, and removing said cover. 75

8. In a shooting-gallery, a target, comprising a movable apertured member, a plurality of normally stationary members at the rear of said movable member arranged in the path of its aperture, an indicator associated with each normally stationary member, operating automatically upon the striking of said member, and a single operating device for resetting the indicators. 80

9. In a shooting-gallery, a target comprising two adjacently-arranged and relatively movable members, one having an opening formed therein and the other adapted to register periodically with said opening, means for imparting relative movement to the members, and automatically-operating mechanism for locking the members out of registration after a determined period of operation. 85

10. In a shooting-gallery, the combination of an open center frame, a hollow supporting-standard therefor, the target mechanism arranged within the frame, an operating device for said mechanism extending through and beyond the standard. 90

11. In a shooting-gallery, the combination of an ornamental open center frame, doors for the frame-front, a hollow standard upon which the frame is mounted, an inclosing casing arranged within the frame center, the target mechanism within said casing, and actuating devices for said mechanism extending downwardly through the standard and outwardly from its base. 95

12. In a shooting-gallery, a rotatable apertured disk, a target to the rear of said disk adapted to register with said aperture, means for rotating the disk, and means for stopping said rotation when the target and aperture are out of registration. 100

13. In a shooting-gallery, a target comprising a relatively stationary member and a movable member arranged in advance of one another, the forward member having an aperture therein adapted to register with a mark on the rear member, means for actuating the movable member to bring said mark in registration with said aperture, and means for stop- 105 110 115 120 125

ping said movement when said mark and aperture are out of registration.

14. In a shooting-gallery, a target including a rotatable disk, means for rotating the disk, and automatic means for stopping said rotation after a predetermined interval.

15. In a shooting-gallery, a target including a rotatable member, actuating means for the rotatable member, a lock for retaining said rotatable member from movement, and re-

leasable means for the lock acting automatically upon setting in operation said actuating means.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. BOWERMAN.

Witnesses:

H. C. SMITH,
ED. D. AULT.