

No. 680,812.

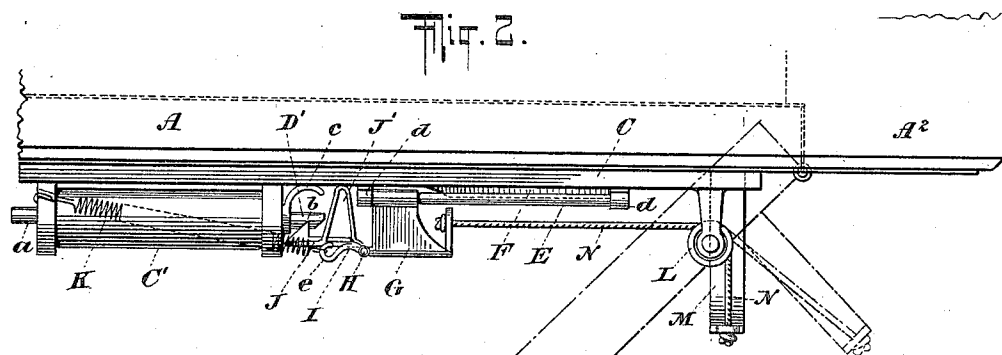
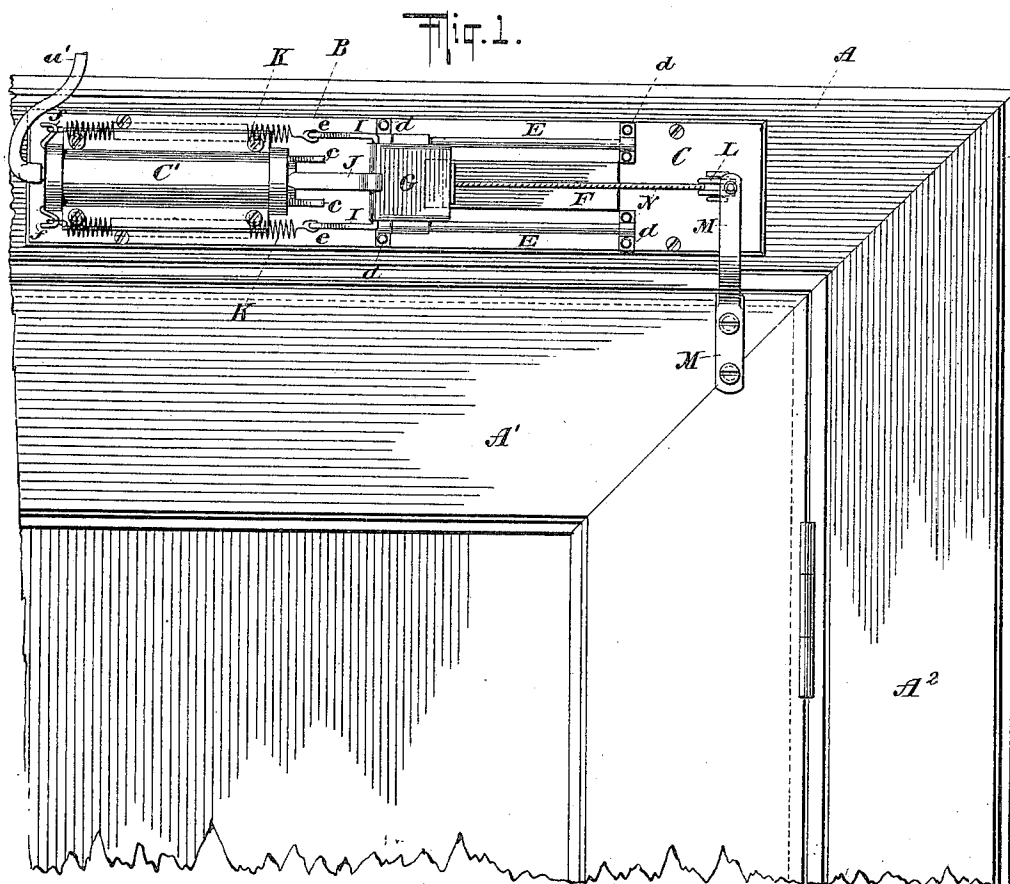
Patented Aug. 20, 1901.

M. SHERIDAN.
DISINFECTING APPARATUS.

(Application filed July 18, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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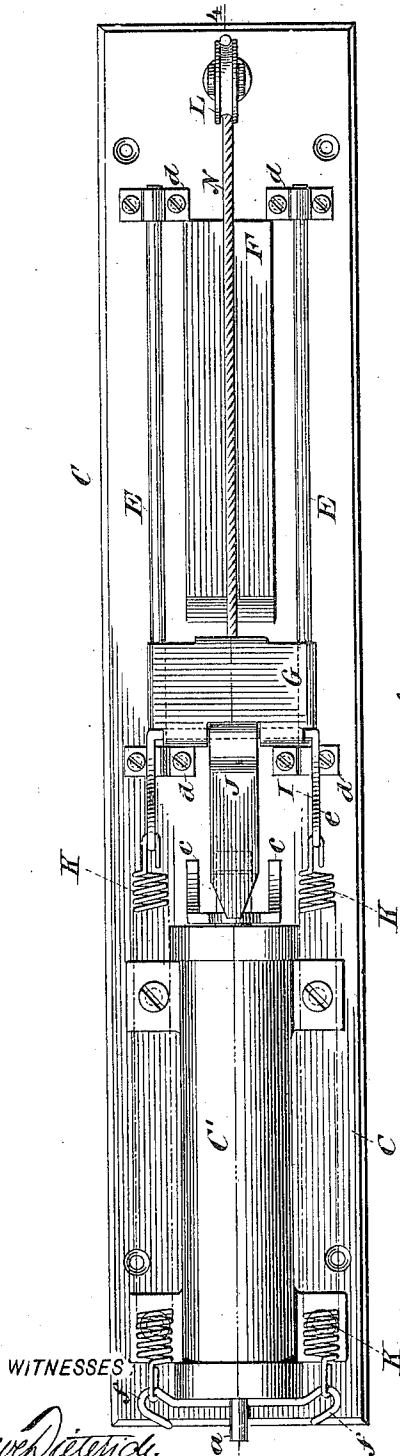
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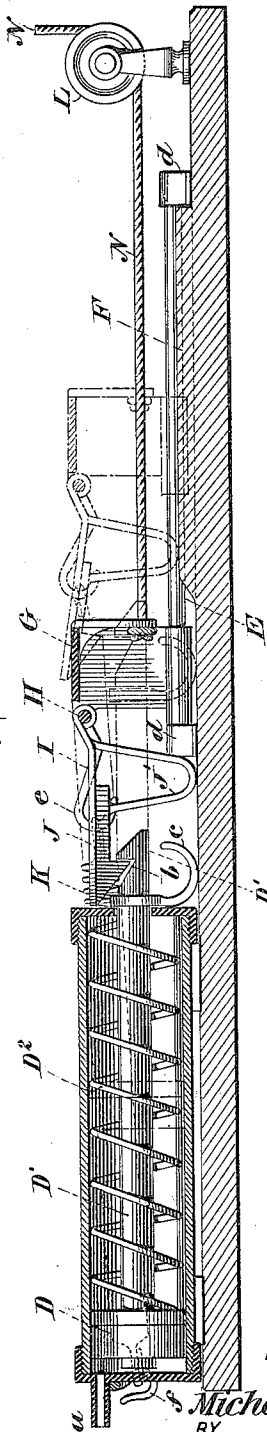
31



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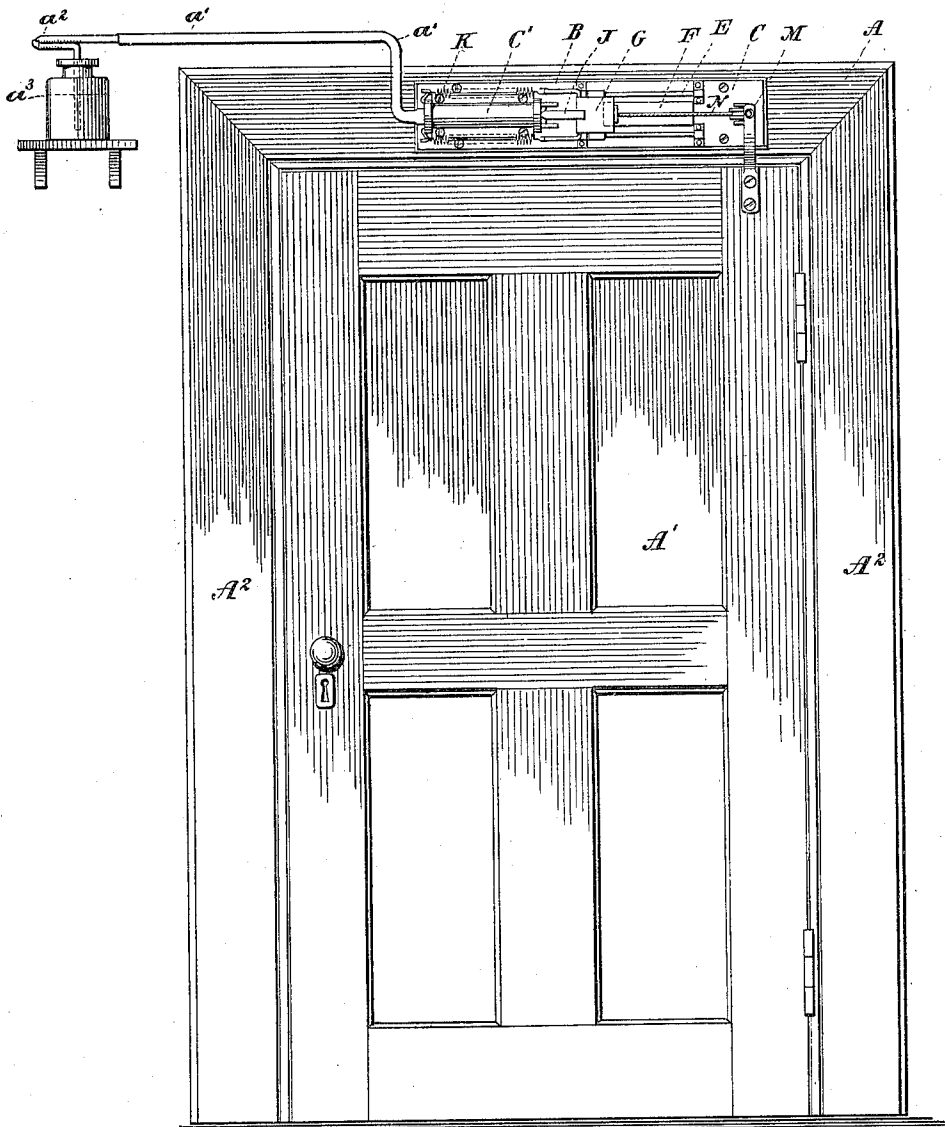
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3 Sheets—Sheet 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

MICHAEL SHERIDAN, OF NEW YORK, N. Y., ASSIGNOR TO WALLACE
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DISINFECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 680,812, dated August 20, 1901.

Application filed July 18, 1900. Serial No. 23,995. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL SHERIDAN, a citizen of the United States, residing at the city of New York, borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Disinfecting Apparatus, of which the following is a full, clear, and exact specification.

My invention relates to improvements in apparatus for dispensing and discharging disinfecting and deodorizing fluids into the atmosphere by means of compressed air; and said invention has for its object more particularly to provide a neat, compact, simple, and noiseless apparatus adapted to be operated by a door or analogous object by means of which a small quantity of fluid will be automatically discharged into the atmosphere from a suitable atomizing device whenever said door or other object is operated. The object above set forth I am enabled to attain by means of my invention, which consists in the novel details of construction and in the combination, connection, and arrangement of parts, as hereinafter more fully described and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, wherein like letters of reference indicate like parts, Figure 1 is a side view showing the upper portion of a door and a lintel with an apparatus constructed according to and embodying my invention applied thereto. Fig. 2 is a top view thereof, showing in dotted lines the door partly opened. Fig. 3 is an enlarged front view of the apparatus detached from the lintel. Fig. 4 is a section taken on the line 4 4 of Fig. 3, showing in dotted lines the piston-rod as being just released; and Fig. 5 is a general view of a door and frame completely equipped with my improved apparatus.

In said drawings, A designates the lintel of a door-frame, and A' the upper portion of a door which is hinged at its right-hand side to the post A².

Upon the front of the lintel A adjacent to the post A² is secured the apparatus B, consisting of the base C, upon the left-hand end of which is mounted a pump-cylinder C', having a nipple *a* at its base, adapted to receive one end of a tube or pipe *a'*, which is con-

nected at its other end to a suitable atomizing device *a*², attached to a receptacle *a*³, containing the fluid to be atomized. Within the pump-cylinder C' works a piston D, having a piston-rod D' secured thereto and extending through the head of the cylinder C', and within said cylinder C' and surrounding the piston-rod D' is disposed a distended coil-spring D², adapted to maintain the piston D normally adjacent to the base of said cylinder C'. The projecting end of the piston-rod D' is scarfed, and to the rear of said scarfed end is provided a notch or recess *b* and the downwardly-projecting guides *c c*, which contact with the surface of the base C and prevent the rotating of the piston D and rod D' within the cylinder C'.

In front of the cylinder C' are arranged the parallel longitudinal guides or rails E E, which are mounted slightly above the base C in supports *d d*, and between the guides or rails E E is a block F, having its end facing the head of the cylinder C' beveled.

G denotes a carriage supported upon and having the ends of its vertical sides loosely surrounding the guides E E, so as to permit of said carriage being reciprocated upon said guides E E. At the inner end of said carriage G is supported a shaft H, having projecting arms I I at its ends, provided with hooks *e e*, and J denotes a detent secured to the shaft H between the arms I I and provided with a depending support or leg J', and K K denote coil-springs or resilient bands, the outer ends of which are secured to hooks *f f*, projecting from the base of the cylinder C' adjacent to the base C, and their inner ends secured to the hooks *e e* of the arms I I, whereby to hold the detent J in engagement with the end of the piston-rod D' and to retract the carriage G after the detent J has released the end of the piston-rod D'.

Upon the base C near its right-hand end is secured a pulley L, and near the upper edge of the door A' is secured an upwardly and forwardly projecting arm M, and N denotes a flexible connection, of leather, cord, &c., one end of which is secured to the free end of the arm M, and its other end after being passed over the pulley L is secured to the carriage G.

The operation of the apparatus is as follows:

If we assume the apparatus and the door to be in the position indicated at Fig. 1, then as soon as the door is opened the arm M, being secured thereto, will in being moved away
 5 from the lintel A cause the flexible connection N to draw the carriage G away from the end of cylinder C', and the detent J on said carriage, which is in engagement with the end of the piston-rod D', to partly withdraw
 10 the same from the cylinder C'. As soon as the support J' rides up upon the beveled end of the block F the end of the detent J will be raised and its connection with the end of the piston-rod D' broken, whereupon the piston
 15 D and rod D' will be retracted to their former position by the action of the spring D², and thereby expel the air from the cylinder C' by way of the nipple a and pipe a' and operate the atomizer a². After the connection between the piston-rod D' and detent J is broken
 20 the carriage G will continue to travel upon guides E E until the same reaches the ends thereof, by which time the door will have been opened to its farthest extent. With
 25 the closing of the door, the tension on the connection N being relieved, the carriage G will by the action of the springs K K be returned to its initial position, and the detent J caused to again engage the end of the piston-rod D',
 30 and thus render the apparatus ready for a repetition of the operation above described.

It will be observed that the carriage G is permitted or caused to travel after the detent J, carried thereby, has released the end
 35 of the piston-rod D'. The object of this is to permit the piston D, which returns rather slowly owing to its being opposed by the air-cushion produced in the cylinder C', to be forced fully home by the spring D², and thus
 40 prevent the carriage from being jammed against the end of the piston before this has had the opportunity to occur.

It will of course be understood that the apparatus herein shown and described may be
 45 operated by other means than a door. A closet-lid or hinged platform will serve the same purpose, and where any of these means are not convenient or desirable the apparatus may be operated by hand.

50 Without limiting myself to the details of construction, which may be varied within the scope of the invention, what I claim, and desire to secure by Letters Patent, is—

1. In an apparatus of the character specified, the combination with an atomizing device
 55 of an air-forcing apparatus connected thereto having a recessed portion, a device adapted to engage said recessed portion, means for operating said device to engage the recessed portion and cause the air-forcing apparatus
 60 to draw in air, and means for releasing said device and retract the air-forcing apparatus to expel the air therefrom and operate the atomizer, substantially as specified.

65 2. In an apparatus of the character specified, the combination with an atomizing device, of an air-forcing apparatus connected

thereto, a reciprocating carriage, a connecting-section carried thereon; said connecting-section serving to maintain said carriage
 70 and air-forcing apparatus normally united, means for actuating said carriage to operate the air-forcing apparatus, and means for breaking the connection between said carriage and air-forcing apparatus whereby to
 75 cause the latter to operate the atomizing device, substantially as specified.

3. In an apparatus of the character specified, the combination with an atomizing device, of an air-pump connected thereto having
 80 a piston and rod therein, the end of said piston-rod projecting beyond the top of the pump, and provided with a recess, a carriage movably supported adjacent to the top of the pump, a detent pivotally secured thereto
 85 adapted to engage the recessed end of the piston-rod, means for operating said carriage to cause the detent to partly withdraw the piston-rod from the pump, means for releasing said detent of its engagement with
 90 the recessed end of said piston-rod, and means for retracting said carriage and rod and piston carried by said rod after the same is released from the detent, substantially as specified.

4. In an apparatus of the character specified, the combination with an atomizing device,
 95 of an air-pump connected thereto, a piston therein having a rod secured thereto extending through the end of said pump, a recess in its projecting end, guides arranged adjacent to the end of said pump, a carriage supported thereon and adapted to reciprocate
 100 toward and from the end of said pump, a detent pivotally supported upon said carriage adapted to engage the recessed end of the piston-rod, means for operating said carriage and detent to partly withdraw the piston-rod from the pump, a device adapted to release
 105 said detent of its engagement with the recessed end of the piston-rod, and spring means for retracting said carriage and piston and rod, and reestablish the connection between the carriage and the end of said piston-rod, substantially as specified.

5. In an apparatus of the character specified the combination with an atomizing device,
 110 of an apparatus adapted for securement to a rigid support comprising an air-pump connected to said atomizing device, a piston in said pump having a rod secured thereto extending through the end of said pump, a recess in its projecting end, guides arranged
 115 adjacent to the end of said pump, a carriage supported thereon, a detent adapted to engage the recessed end of the piston-rod, and a flexible connection having one end secured to the carriage aforesaid and its other end adapted for securement to a movable support
 120 whereby to operate the said carriage and the detent carried thereby to partly withdraw the piston-rod from the pump, a device adapted to release said detent of its engagement
 125 with the end of the piston-rod, and coil-springs

for retracting said carriage and piston and reestablish the connection between the carriage and the end of piston-rod, substantially as specified.

- 5 6. An apparatus for the purposes specified comprising a base, a cylinder mounted thereon, a piston working therein having a rod secured thereto extending through the end of said cylinder a distended coil-spring surrounding said rod within the cylinder, a recess and guides provided upon the projecting end of said rod, guides arranged adjacent to the end of said cylinder, a block arranged upon the base between said guides having a
10 beveled end, a carriage supported upon said guides, a shaft supported in said carriage having arms at its ends and a detent secured to said shaft intermediate the arms provided

upon its under side with a supporting-guide adapted to contact with the block between 20 the guides aforesaid, coil-springs having their ends secured to the base of the cylinder and to the arms of the shaft supported on the carriage, a pulley, and a flexible connection having one end secured to the carriage and its 25 other end passed over the pulley and adapted for securement to a movable support, substantially as specified.

Signed at the city of New York, in the county and State of New York, this 14th day of July, 30 1900.

MICHAEL SHERIDAN.

Witnesses:

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