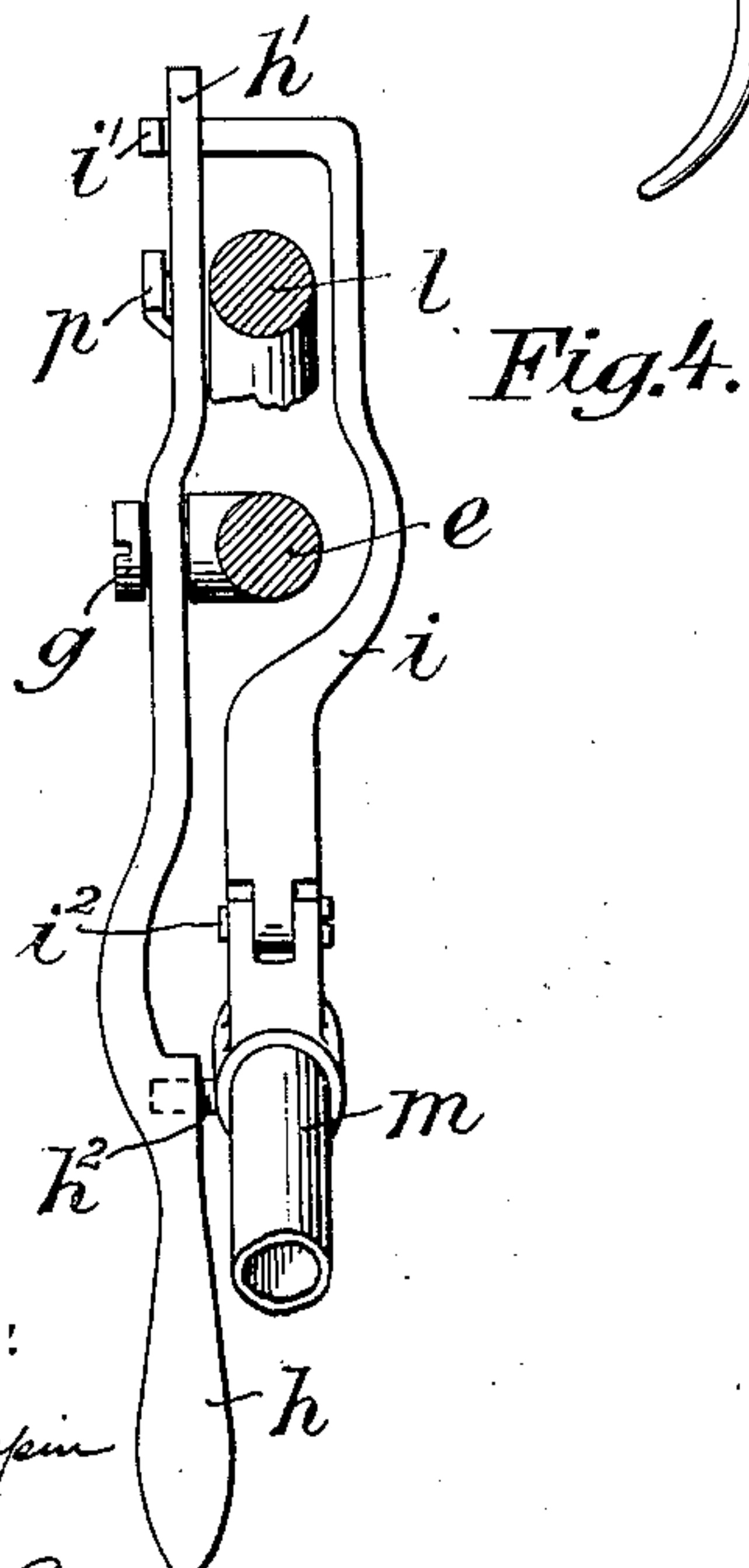


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2 SHEETS—SHEET 1.



James D. Antonio

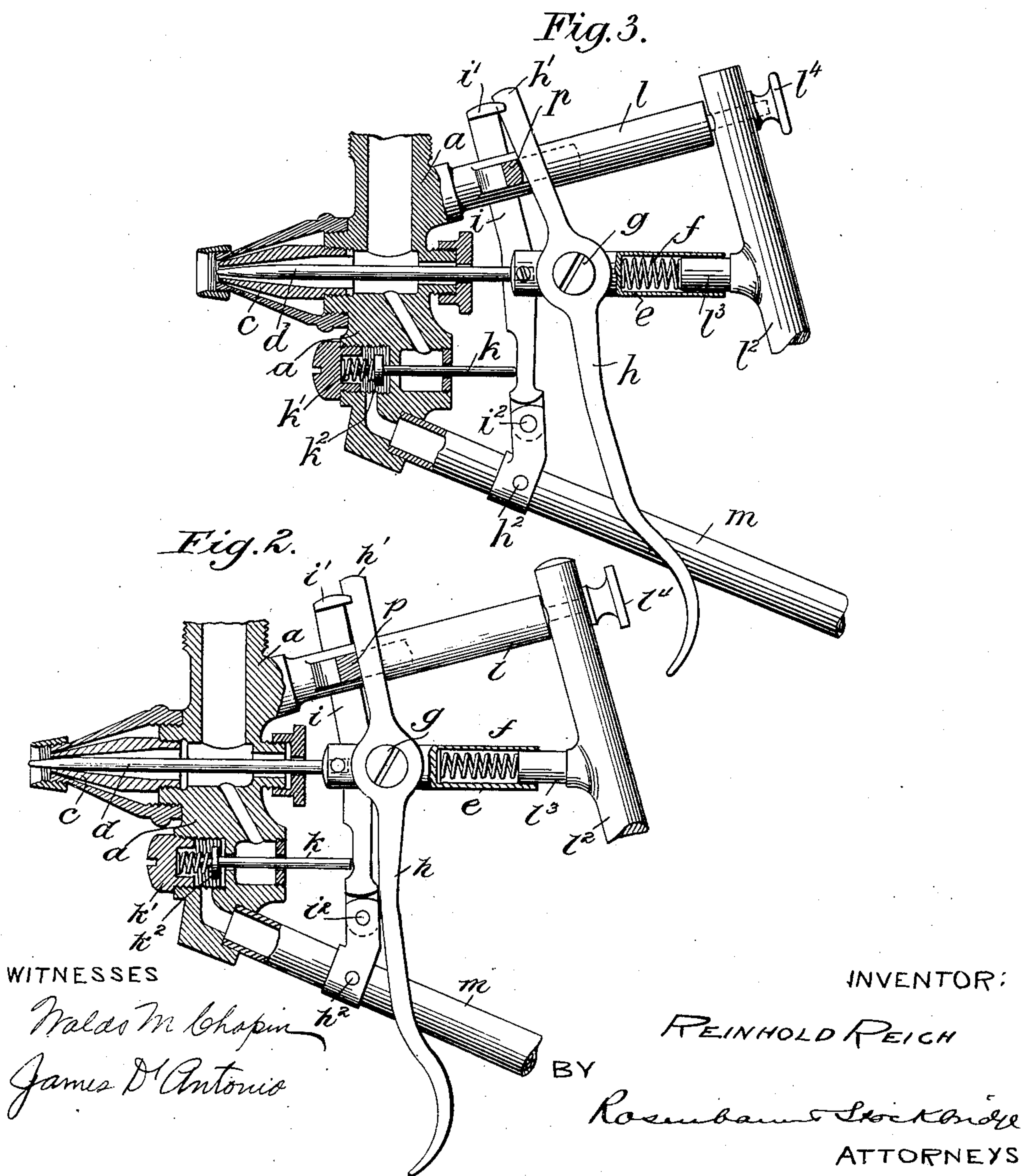
ATTORNEYS.

R. REICH.
 ATOMIZER FOR PAINT OR THE LIKE.
 APPLICATION FILED JAN. 28, 1908.

930,087.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

REINHOLD REICH, OF BERLIN, GERMANY.

ATOMIZER FOR PAINT OR THE LIKE.

No. 930,087.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed January 28, 1908. Serial No. 413,033.

To all whom it may concern:

Be it known that I, REINHOLD REICH, engineer, a subject of the King of Prussia, residing at 36 Alexandrinenstrasse, Berlin, Germany, have invented new and useful Improvements in Atomizers for Paint or the Like, of which the following is a specification.

This invention relates to an atomizer particularly adapted for spraying paint, in which first the compressed air valve and then the nozzle valve closing the outlet or nozzle for the liquid paint to be atomized, are opened by a lever. Hitherto the opening of the said two valves has been effected when the valve lever was moved, one after another without any noticeable interval, which was an objectionable feature in as far as it is of great importance to insure reliable working of atomizing apparatus that the compressed air should be first allowed sufficient time to act in order that the liquid paint may be properly atomized before the beginning of the work and its escape from the nozzle outlet. If, as was the case in hitherto known apparatus, the opening of the two valves is effected one after another without any interval, the person using the apparatus cannot determine at what moment the nozzle opening was uncovered, so that it frequently happens that at the beginning of the work, the liquid paint escapes in an insufficiently atomized condition and thus neat working is not insured.

According to this invention, the hand lever first depresses the free end of a one-armed lever resting against the compressed air valve spindle and thus opens the compressed air valve, until the hand lever strikes a fixed stop, and, by pivoting about it, opens the nozzle valve connected to the same. The compressed air valve is thus opened by pressure, and the nozzle valve by traction, and the resistance offered before the nozzle valve is opened, is so great that the operator is able first to let the compressed air act for a sufficiently long time before he starts the apparatus by opening the nozzle valve. In this way he is able to work in a very neat manner.

A constructional form of apparatus according to this invention is illustrated in the accompanying drawing, in which:—

Figure 1 is a side elevation of the apparatus, partly in section showing the valves closed. Fig. 2 is a similar view, broken off,

with the compressed air valve opened. Fig. 3 is a corresponding view with the two valves in open position, while Fig. 4 is a section on lines A—B of Fig. 1.

The apparatus casing *a* carries in the usual manner the tank *b* receiving the liquid to be atomized. The valve spindle *d* passes through the nozzle *c* and closes the nozzle valve in the manner shown in Fig. 1. The end of the valve spindle *d* opposite the nozzle, adjoins a sleeve *e* inclosing a helical spring *f*. The free end of the said sleeve *e* is guided by a pin *l*³ of a pipe or rod *l*² pivoted about a pin *l*¹, the said pipe *l*² forming, with a bar *l* the apparatus frame. After disconnecting a nut *l*⁴ the pipe *l*² can be moved into the dotted position shown in Fig. 1, whereupon the different parts of the apparatus can be easily taken to pieces.

About a screw-threaded pin *g* of the pipe *e* is pivoted the two-armed hand lever *h*, the free end *h'* of which rests against a projection *i'* of a one-armed lever *i* pivoted about a pin *i*². One end position of the lever *h* is limited by a fixed pin *h*². If the lever *h* is slightly raised, and thus caused to swing about the pin *g*, its free end *h'* will press against the one-armed lever *i*, which, on turning about the pin *i*², presses the valve spindle *k*, at the same time overcoming the spring *k'*, in the manner shown in Fig. 2, so that the compressed air valve is first opened, and the compressed air admitted through the pipe *m* can enter the apparatus in the well known manner. After the compressed air valve has been opened, one arm of the lever *h* comes to rest against the fixed stop *p* (Fig. 2). If the hand lever is moved still farther upward in spite of the resistance which becomes noticeable, then the hand lever turns about the fixed stop *p*, and acts as a one-armed lever, the sleeve *e* being caused to participate in the movement, the spring *f* being overcome, and the valve spindle *d* is brought into the position shown in Fig. 3. The two valves, namely the compressed air and the nozzle valve are then opened, in which state the apparatus begins to work.

The hand lever *h* can be conveniently moved by first opening only the compressed air valve and allowing the air to act for a sufficiently long time in order to make sure that, on opening the nozzle valve, the liquid will leave the nozzle opening in a properly atomized condition. The essential point is

that the one-armed lever *i* presses against the air valve spindle *k*, so that the said valve is opened under pressure, while the nozzle valve is brought into the open position by traction. The operator feels then exactly what is happening and always knows whether one or both valves is opened.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. In an atomizer of the class described, a needle valve, an air valve, a hand lever pivoted to the needle valve, a one armed lever for said air valve extending to the opposite side of the needle valve and having a hooked extremity adapted to constitute a fulcrum for said hand lever, and a spring for impelling said needle valve into its closed position.

2. In an atomizer of the class described, a liquid valve and an air valve, separate operating levers therefor, a spring for impelling the needle valve into closing relation, a freely removable lever constituting an abutment for said spring, and means on said needle valve engaging said air valve lever at the inception of movement of the former, said means constituting a fulcrum for said needle valve lever, when said air valve is opened.

3. In an atomizer of the class described, a needle valve, an air valve, a hand lever pivoted to the needle valve, and a one-armed lever for said air valve, extending on the opposite side of the needle valve and having its free extremity adapted to constitute a fulcrum for said hand lever, and means for impelling said needle valve into its closed relation.

4. In an atomizer of the class described, a needle valve, a spring for impelling the same into closing relation, a freely removable abutment for said spring, a hand lever pivoted to said needle valve, an air valve, and means for operating said air valve and adapted to have an abutting engagement with said hand lever to constitute a fulcrum therefor after the air valve is opened, whereby said air valve is opened before the needle valve and said needle valve is freely removable by removing said abutment.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

REINHOLD REICH.

Witnesses:

MAURICE LILIENFELD,
EMIL PAPENBRUSH.