

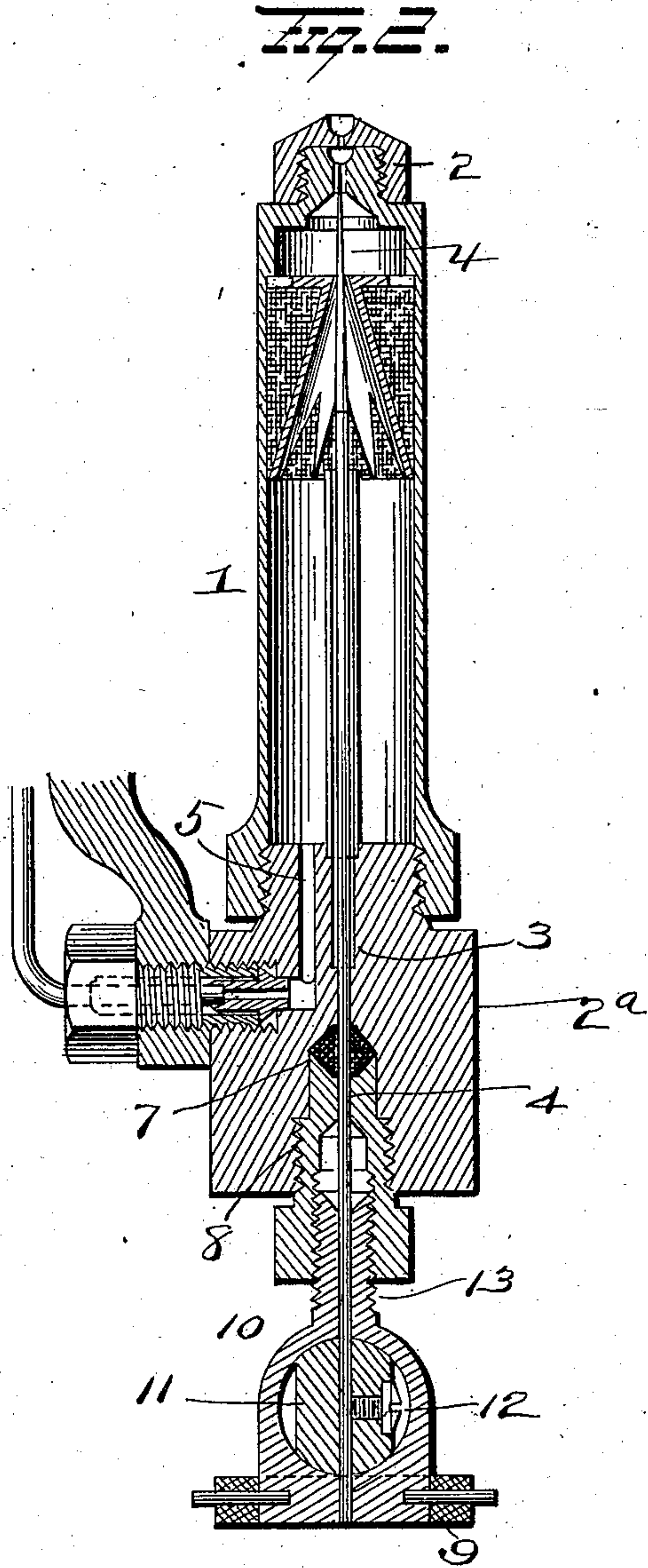
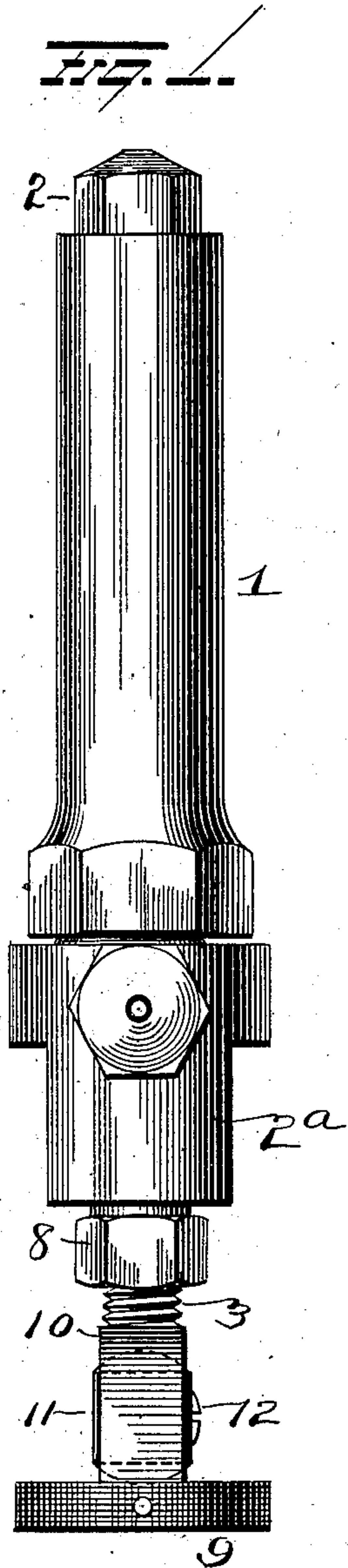
No. 721,447.

PATENTED FEB. 24, 1903.

H. C. HOWELLS, JR. & F. A. JOHNSON.
REGULATOR FOR NEEDLE VALVES.

APPLICATION FILED OCT. 21, 1901.

NO MODEL.



WITNESSES
E. D. Nottingham
G. F. Downing

INVENTORS
H. C. Howells, Jr.
F. A. Johnson
By H. A. Seymour Attorney

UNITED STATES PATENT OFFICE.

HENRY C. HOWELLS, JR., AND FRANK A. JOHNSON, OF NEW YORK, N. Y., ASSIGNORS, BY MESNE ASSIGNMENTS, TO WILLIAM E. WATKINS, TRUSTEE, OF MONTCLAIR, NEW JERSEY.

REGULATOR FOR NEEDLE-VALVES.

SPECIFICATION forming part of Letters Patent No. 721,447, dated February 24, 1903.

Application filed October 21, 1901. Serial No. 79,443. (No model.)

To all whom it may concern:

Be it known that we, HENRY C. HOWELLS, Jr., and FRANK A. JOHNSON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Regulators for Needle-Valves; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in regulators for needle-valves employed in connection with hydrocarbon-vaporizers; and it consists in a needle-valve, means for holding the needle against rotation, and a hand-wheel swiveled on the needle and adapted when rotated to move the needle longitudinally.

Our invention further consists in the parts and combinations of parts, as will be more fully explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation of a vaporizer, showing our improvement applied thereto; and Fig. 2 is a view in longitudinal section of same.

In the vaporizers now in use on hydrocarbon incandescent lamps the needle-valve is secured at its outer end to a hand-wheel and rotates or turns with the wheel. This rotary motion of the needle in contact with the nozzle or with the carbon deposited in the nozzle soon tends to twist and destroy or distort the very delicate needle-point on the valve; and the object of our invention is to so construct the actuating mechanism of the valve that the latter has simply a longitudinal movement imparted to it by the rotary motion of the hand-wheel.

1 represents the vaporizer, provided with the nozzle 2 and the plug 2^a. This plug is provided with a bore 3 for the passage of the needle-valve 4 and with a port 5 for the passage of the oil. The outer end of the bore for the needle-valve terminates in an enlarged recess 6 for the reception of asbestos packing 7, which latter is retained in place by the screw-nut 8. The opposing faces of the nut and the base of the recess 6 are made conical and slightly flattened at the apices of the cones, so that by screwing the nut 8 inwardly

the asbestos packing is expanded outwardly, completely fitting the stuffing-box and absolutely preventing the escape of any oil. The packing is also forced snugly against the needle-valve and by its contact or friction there-with prevents the needle from rotating except under the application of an abnormal power. The needle passes through the nut 8 and loosely through the needle-regulator 9. This regulator 9 is provided with an enlarged hollow body 10, open at its sides, as shown, within which rests the block 11, also having an opening for the passage of the needle-valve. The opening in the body 10 of the needle-regulator 9 is preferably circular in form, and the block 11 may be either spherical in shape or be rectangular with rounded ends, so as not to interfere in the slightest with the free rotation of the regulator 9. This block is clamped to the needle by set-screw 12. Hence it will be seen that by rotating the regulator the latter, due to its screw-threaded stem 13 engaging the female threads in the nut 8, rises and carries with it the needle-valve, the latter being prevented from rotating by the frictional contact with the packing. With this construction the regulator is simply swiveled on the needle and bearing against the block 11, clamped to the needle, causes the latter to move longitudinally as the wheel is turned.

It is evident that many slight changes might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of our invention. Hence we would have it understood that we do not wish to limit ourselves to the exact construction shown and described; but,

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a plug carrying a packing and a screw-nut for holding the packing in place and provided with an internally-threaded recess, of a valve-regulator threaded to engage in the recess of the nut and having a recess, a block swiveled in such recess and conforming in contour to the shape of the recess in the regulator, and the needle

passing through the packing, nut, regulator and block and adjustably secured to the block.

2. In a vaporizer the combination with a plug having a stuffing-box therein, and a
5 screw-nut closing the outer end of said box and provided with an internally-threaded recess, of a valve-regulator threaded to engage the recess of the nut, a device carried by and swiveled to said valve-regulator and a needle-
10 valve passing through the packing, nut, and valve-regulator and adjustably secured to said swiveled device.

3. In a vaporizer, the combination with a plug carrying suitable packing and a screw-
15 nut for holding said packing in place, of a

valve-regulating device having a threaded stem engaging the female threads of the screw-nut, and a needle-valve longitudinally adjustable in said valve-regulating device and swiveled therein, substantially as set 20 forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

HENRY C. HOWELLS., JR.
FRANK A. JOHNSON.

Witnesses:

PHILIP FRANK,
GEO. SMITH.