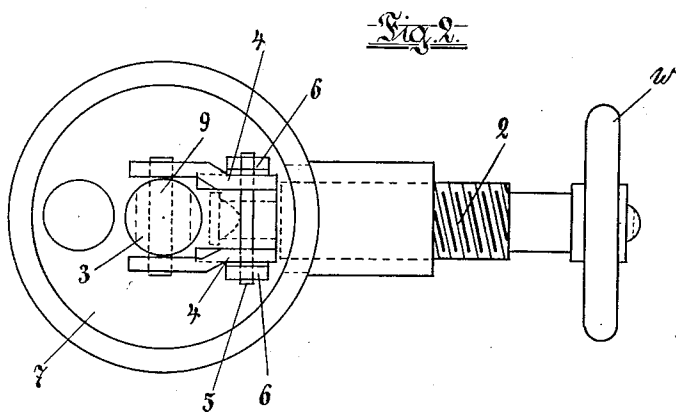
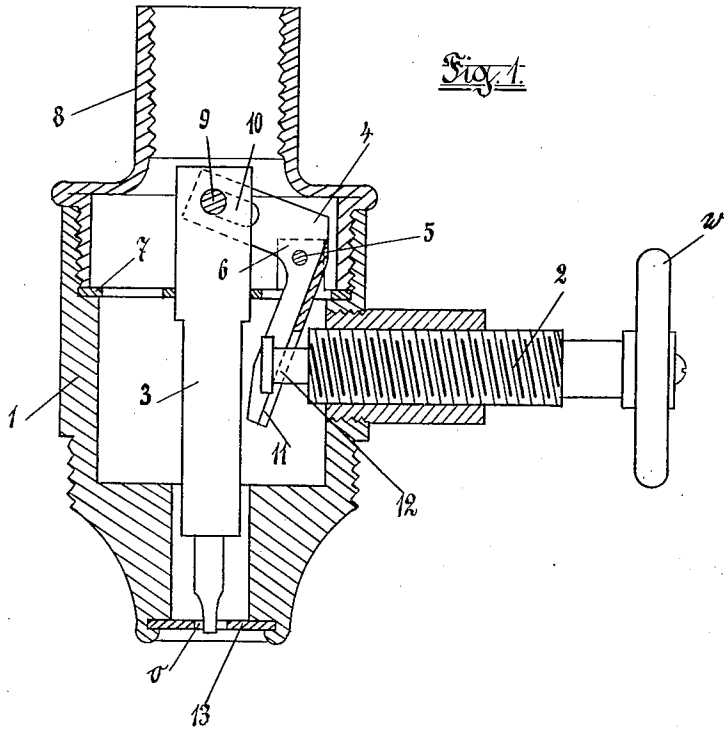


M. GRAETZ.
 REGULATING NOZZLE FOR INCANDESCENT GAS LAMPS.
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1,039,520.

Patented Sept. 24, 1912.



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UNITED STATES PATENT OFFICE.

MAX GRAETZ, OF BERLIN, GERMANY.

REGULATING-NOZZLE FOR INCANDESCENT GAS-LAMPS.

1,039,520.

Specification of Letters Patent.

Patented Sept. 24, 1912.

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To all whom it may concern:

Be it known that I, MAX GRAETZ, a subject of the German Emperor, residing at Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Regulating-Nozzles for Incandescent Gas-Lamps, of which the following is a specification.

My invention refers to incandescent lamps and more particularly to the mechanism or nozzle for controlling and regulating the flow of gas, especially as used in connection with inverted gas lamps. These nozzles are provided with a regulating, or adjusting screw which, by means of a bell-crank lever, actuates a valve stem adapted to increase or decrease the cross-sectional area of the discharge opening, as the valve stem is raised or lowered. Heretofore, however, the arrangement of the lever and relation of parts have been such that the nozzle did not answer the practical requirements concerning simplicity of construction and facility in the assembling of its parts. On the contrary, it has been extremely difficult to put the parts of the nozzle together; in fact the various parts of the nozzle had to be, each separately, mounted in the casing of the nozzle.

The object of my present invention is to so construct the nozzle that its parts can be readily assembled and taken apart. To this end, I place the fulcrum of the bell-crank lever above the regulating screw, when the nozzle is to be used for incandescent lamps of the inverted type. By this arrangement, it is possible, to provide that arm of the lever, which is in engagement with the regulating screw, merely with a U-shaped slot, adapted to loosely receive the end of the said regulating screw. Due to this construction, the bell-crank lever can be placed into the casing of the nozzle together with the valve stem, after the nipple, which serves as the connecting piece between the nozzle and the gas supply pipe, has first been unscrewed.

In the accompanying drawing, in which I have shown an embodiment of my new invention for the purpose of illustration, Figure 1 is a vertical central section through a nozzle constructed in accordance with my invention, whereas Fig. 2 is a plan view.

1 is the casing of the nozzle, provided with the discharge opening *o*, the cross-sectional area of which can be increased or decreased by raising or lowering the valve stem 3. The latter is guided in a perforated plate 7 held in position between a shoulder of the casing 1 and the threaded nipple 8, which latter forms the connection between the nozzle and the gas supply pipe (not shown).

2 is the regulating screw, which is provided, at its outer end, with a small hand wheel *w* and whose inner reduced end 12 enters a U-shaped slot 11, provided in the depending arm of the bell-crank lever 4. The latter is adapted to swing about the pivot pin 5, which is secured in two lugs 6, extending upwardly from the plate 7. The lugs may be made integral with the plate. The other arm of the bell-crank lever is bifurcated and engages the upper end of the valve stem 3. A pin 9 passing through the stem enters elongated slots 10 in the two parts of the forked end of the lever 4, only one slot 10 being shown in Fig. 1.

The operation of parts is obvious. When the regulating screw 2, by means of the small hand-wheel *w*, is turned in one or the other direction, the depending arm of the bell-crank lever 4 will be moved toward either the left, or the right, in Fig. 1, whereby the lever is swung about its pivot pin 5 in such a way, that the other arm of the lever will raise or lower the valve stem 3, thus increasing or decreasing the cross-sectional area of the discharge opening *o*. As shown, the extreme lower end of the stem 3 is flattened, and the stem itself is guided with its upper end in the perforated plate 7 and with its lower end in the plate 13 containing the discharge opening *o*. As the fulcrum of the lever 4 is placed above the regulating screw 2, the latter cannot interfere with the easy removal of the lever and the plate to which it is pivoted and the valve stem connected with the lever. In order to remove these parts from the casing 1 of the nozzle, it is only necessary to unscrew the nipple 8 from the casing 1, after which the plate 7 together with the stem 3 and bell-crank lever 4 can be easily lifted out of the casing 1 and just as easily replaced therein.

I claim:—
1. In a regulating nozzle for incandescent lamps and the like, the combination with the casing having a discharge opening of a movable valve stem adapted to increase and

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decrease the cross-sectional area of said discharge opening, a regulating screw, and a bell-crank lever in loose engagement both with said screw and said valve stem for transmitting thereto the movements of said screw and having its fulcrum located between said screw and the gas inlet to permit the easy removal and insertion of the movable parts.

10 2. In a regulating nozzle for incandescent lamps and the like, the combination with the casing having a discharge opening, of a removable valve stem adapted to increase and decrease the cross-sectional area of said
15 discharge opening, a perforated plate for guiding said valve stem, a regulating screw, and a bell-crank lever in loose engagement both with said screw and said valve stem for transmitting thereto the movements of said
20 screw and having its fulcrum located between said screw and the gas inlet to permit

the easy removal and insertion of the movable parts.

3. In a regulating nozzle for incandescent lamps and the like, the combination with the casing having a discharge opening, of a movable stem having a reduced lower end adapted to enter said discharge opening, a perforated plate for guiding said valve stem, a regulating screw, and a bell-crank lever pivoted on said plate and adapted to transmit the movements of said screw to said valve stem, and having its pivot located between said screw and the gas inlet to permit the easy removal and insertion of the movable parts.

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

MAX GRAETZ.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.