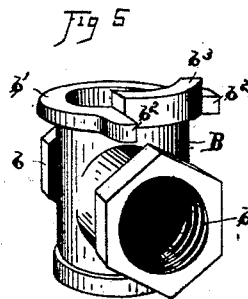
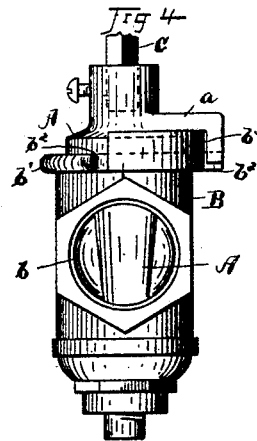
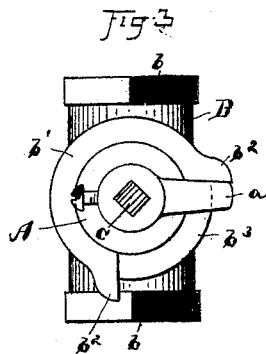
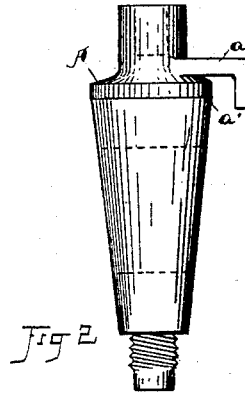
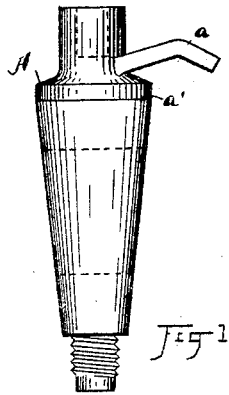


(No Model.)

I. N. & J. H. GLAUBER.
VALVE.

No. 459,201.

Patented Sept. 8, 1891.



Witnesses
P. B. Moser.
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UNITED STATES PATENT OFFICE.

ISAAC N. GLAUBER AND JOSEPH H. GLAUBER, OF CLEVELAND, OHIO.

VALVE.

SPECIFICATION forming part of Letters Patent No. 459,201, dated September 8, 1891.

Application filed October 2, 1890. Serial No. 366,846. (No model.)

To all whom it may concern:

Be it known that we, ISAAC N. GLAUBER and JOSEPH H. GLAUBER, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Shut-Off Valves; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to stop-valves for water pipes or mains; and the invention consists in a valve having a malleable arm cast integral therewith at or about its neck and adapted to be bent down into working position, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plain elevation of a valve with its arm substantially as it is cast and in such position with respect to the working face or surface of the valve that it does not interfere with the turning down and finishing of said face. Fig. 2 is a side elevation of the valve, taken after the wearing face or surface has been finished for use and the arm is bent into using position, as shown in Fig. 4. Fig. 3 is a plan view of the valve-casing and valve united. Fig. 4 is a side elevation thereof, both views showing a section of the angular turning-rod inserted in its seat in the end of the valve, and Fig. 5 is a perspective view of the valve-case with the plug removed.

We are aware that in the broader sense the construction of a valve-casing and a tapered valve seated in the casing and adapted to be used for the purposes of the valve herein shown and described is old and well known, and we do not lay claim to originality so far as these two elements thus defined are concerned; but we are not aware that either element was ever before known or made or possessed of the peculiar features of construction which are herein shown and described, and which constitute our invention.

In Fig. 1 we show the valve A as it appears when it comes from the mold, with the arm *a* at the neck of the valve cast integrally therewith and back from the wearing-surface *a'*, so as not to interfere with turning down and finishing said surface, as is required to make

it fluid-tight. This valve is cast out of brass, lead, or any other malleable metal suitable for this purpose, malleability of the metal being necessary so that the arm *a* can be cast in part therewith and afterward bent down into working position. If the metal were not malleable, it would not be practicable to form the arm thereon, as shown, and this would detract materially from the simplicity and cheapness of the construction; or if an otherwise substantially similar construction were employed, but with the malleable feature omitted, it would entail the attachment of the arm in some way as a separate piece, which would render the construction more expensive and might drive the device out of the market.

B is the valve-casing, provided with a suitable seat for the valve at right angles to the threaded openings *b* for the pipes, as usual. This casing has a flange or rim *b'* of more or less width about its top, and at proper intervals from each other are stops or lugs *b²*, projecting laterally from said flange. This flange also has a bearing-rib *b³* on its top extending between the said stops, and the arm *a* of the valve A is adapted to rest on said rib and to have its extremity bent between said stops and to be limited thereby, as clearly shown in Figs. 3 and 4. Two important purposes are served by this construction: first, it is necessary, by reason of the location of these valves a considerable distance beneath the surface of the earth, as is generally the case, to provide fixed stops, so that by turning the valve as far as it can go one way it will be opened and by turning it as far as it can go the other way it will be closed. Secondly, owing to the heavy weight of the turning-rod C upon the long tapered valve the said valve is liable to be turned and pressed so firmly into its seat that it becomes locked therein and cannot be moved except with great strain, if at all, by means of the said rod. This being the case, as is daily demonstrated in practical experience with this class of valves, we have conceived the idea of providing a bearing at the side of the valve which will take the downward pressure and thus relieve the tapering water-sealing surface of the load. This bearing consists in the arm *a* and the rib *b³*, on which the arm is caused to rest when the valve is seated. The arm, being malleable,

but yet firm, can be bent to any desired position, according as the valve enters its seat at more or less depth. Experience shows that hardly any two valves are turned so as to seat just alike, and they are liable to wear so as to seat more deeply. The malleable and flexible arm is admirably adapted to fix the rest or bearing as each case may require and to change it when necessary. Obviously a differently-arranged bearing might be employed without departing from the spirit of the invention; but the construction shown is preferred. The bearing or wearing surface of the valve having been turned down and smoothly finished and the valve placed in the casing, the arm *a* is bent by means of a hammer or other suitable tool to substantially the position seen in Figs. 2 and 4, thus bringing the horizontal part of the arm onto the rib *b* and the vertical extremity between stops *b* *b*. It will be seen that this construction enables us to make the valve and its stop and bearing mechanism in two pieces, both of which are cast, and hence cheap as well as effective and sufficient for all purposes. As before stated, each plug has to be turned round and round and ground down in its own seat, because it is impossible to cast the plugs and the seats therefor so nearly alike that the plugs can be used interchangeably. Hence if the lateral arm *a* were rigid or inflexible it would have to be formed originally as seen in Fig. 2 and in this position would engage the stops *b*² and make grinding down impossible, and thus defeat the invention; but by employing a flexible arm it can be cast as

seen in Fig 1 and the plug turned around in its seat as if no arm were on it. Then when the parts are ground and ready for seating, or when they are put in position by the plumber, the arm can be bent down more or less and just as much as may be required. This bending of the arm also helps to make relative adjustment of the plug and casing, as hereinbefore fully described.

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

1. A tapering shut-off valve having a flexible arm formed integral therewith near its upper end, and the said upper end constructed to be engaged by a key for turning the said valve, in combination with the casing for the valve, having stops engaged by said arm, substantially as described.

2. The valve-casing provided at its top with lateral stops to limit the rotation of the valve, in combination with a valve seated in said casing and having a flexible arm integral therewith at its upper end, said arm extending substantially at right angles from the valve and having its extremity bent down between said lateral stops, substantially as described.

Witness our hands to the foregoing specification this 27th day of September, 1890.

ISAAC N. GLAUBER.
JOSEPH H. GLAUBER.

Witnesses:

H. T. FISHER,
NELLIE L. MCLANE.