J. H. Davis,

Globe Valve.

No. 99,651. Patented Feb. 8, 1870.

fig. 1.

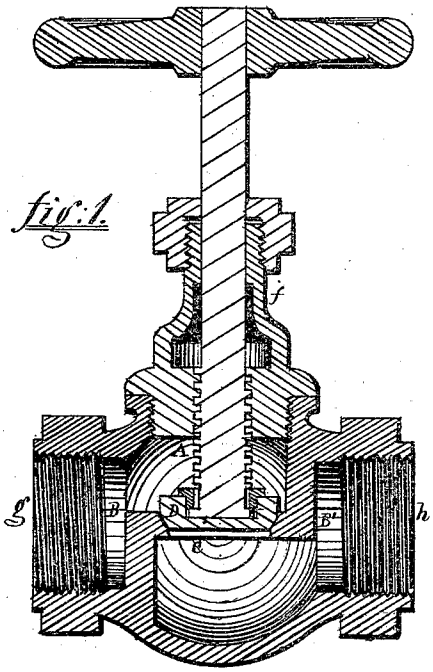
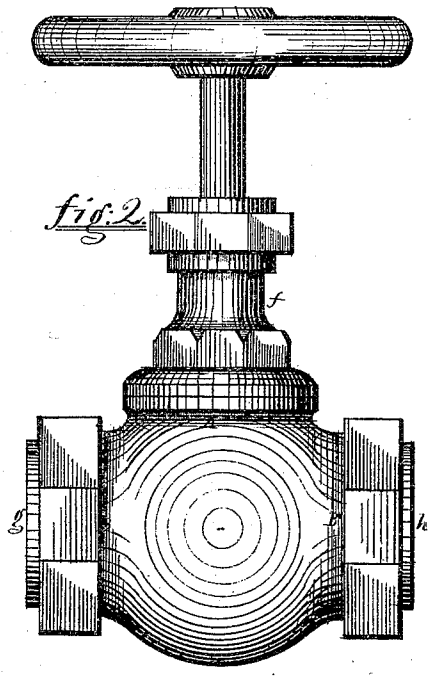


fig. 2.



Witnesses.

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JOSEPH H. DAVIS, OF ALLEGHENY CITY, PENNSYLVANIA.

Letters Patent No. 99,651, *dated February* 8, 1870.

IMPROVEMENT IN GLOBE-VALVE COCKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH H. DAVIS, of the city and county of Allegheny, and State of Pennsylvania, have invented a certain new and useful article of manufacture, viz: "Malleable Cast-Iron" and Steel "Globe-Valve Cocks"; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in making a new article of manufacture, viz: "globe-valve cocks," constructed of cast-iron, and subsequently annealed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction.

In the accompanying drawings, which form part of my specification—

Figure 1 is a vertical and longitudinal section of my improvement in "globe-valve cocks."

Figure 2 is a side elevation of the same.

The body of the "globe-valve cock," consisting of the chambers A, B, and B′, is made in one piece, and is cast in the usual way; the bore of the chambers A, B, and B′, are all of the same diameter.

The inlet *g* and outlet *h* are of such diameter that they will receive pipes, the bore of which may be equal to the opening C for the valve D.

The cap or mounting *f* of the valve A may be made of malleable iron, steel, or brass, and the valve D, and its stem, may also be made of the same metals.

The castings for the several parts of the valve should be made of that quality of pig-iron which is suitable for being converted into "malleable cast-iron" by any of the known methods, which malleable castings may afterwards be subjected to the process of "cementation," and thereby be converted into steel.

The castings, after being properly converted into "malleable cast-iron," are then carefully cleaned by placing them in a "rattling-mill" or "scouring-mill," such as are used by manufacturers of malleable castings. After being properly cleaned they are fitted up so as to finish and complete the valve in all its parts, as shown in the accompanying drawings.

Now, if it is desirable to convert the entire valve, or any of its parts, into steel, the different parts are separated and placed in suitable converting-chests or chambers, and subjected to the process of cementation, which process is well understood by the skilled metallurgist.

The advantage of constructing "globe-valve cocks" of malleable cast-iron consists—

First, in making a stronger and more durable "globe-valve cocks" than can be made of ordinary cast-iron or brass, for the tensile strength of malleable cast-iron is greater than either cast-iron or brass.

Second, a "globe-valve cock," constructed of malleable cast-iron or steel, may be made much lighter than when made of ordinary cast-iron or brass, thereby saving stock and cost of transportation.

Third, a "globe-valve cock," constructed of malleable cast-iron or steel, as hereinbefore described, can be made cheaper than when made of brass, and is equally susceptible of a fine finish, and at less cost for finishing.

Fourth, "globe-valve cocks" of every kind, form, and size, may with advantage be constructed of "malleable cast-iron or steel," as herein described, which is very difficult to accomplish with ordinary cast-iron.

Fifth, any one or more of the several parts of the "globe-valve cock" may be with ease, facility, and cheapness made of steel, by constructing it on them in the manner hereinbefore described.

The skilful mechanic and manufacturer of "globe-valve cocks" will readily see and understand from the foregoing description of my invention, that my improvement will be of great advantage to the consumer and user of valve-cocks.

It will be perceived that the excellence of this "globe-valve cock" depends upon the use of iron that has passed through the process of annealing, and that for this purpose malleable iron and steel are eqivalents. I, therefore, do not confine myself to material in either of these stages of manufacture; but

What I claim, as a new article of manufacture, is—

A "globe-valve cock," made of cast-iron, and subsequently annealed, all substantially as herein described.

JOS. H. DAVIS.

Witnesses:

A. C. JOHNSTON,

JAS. G. THOMPSON.