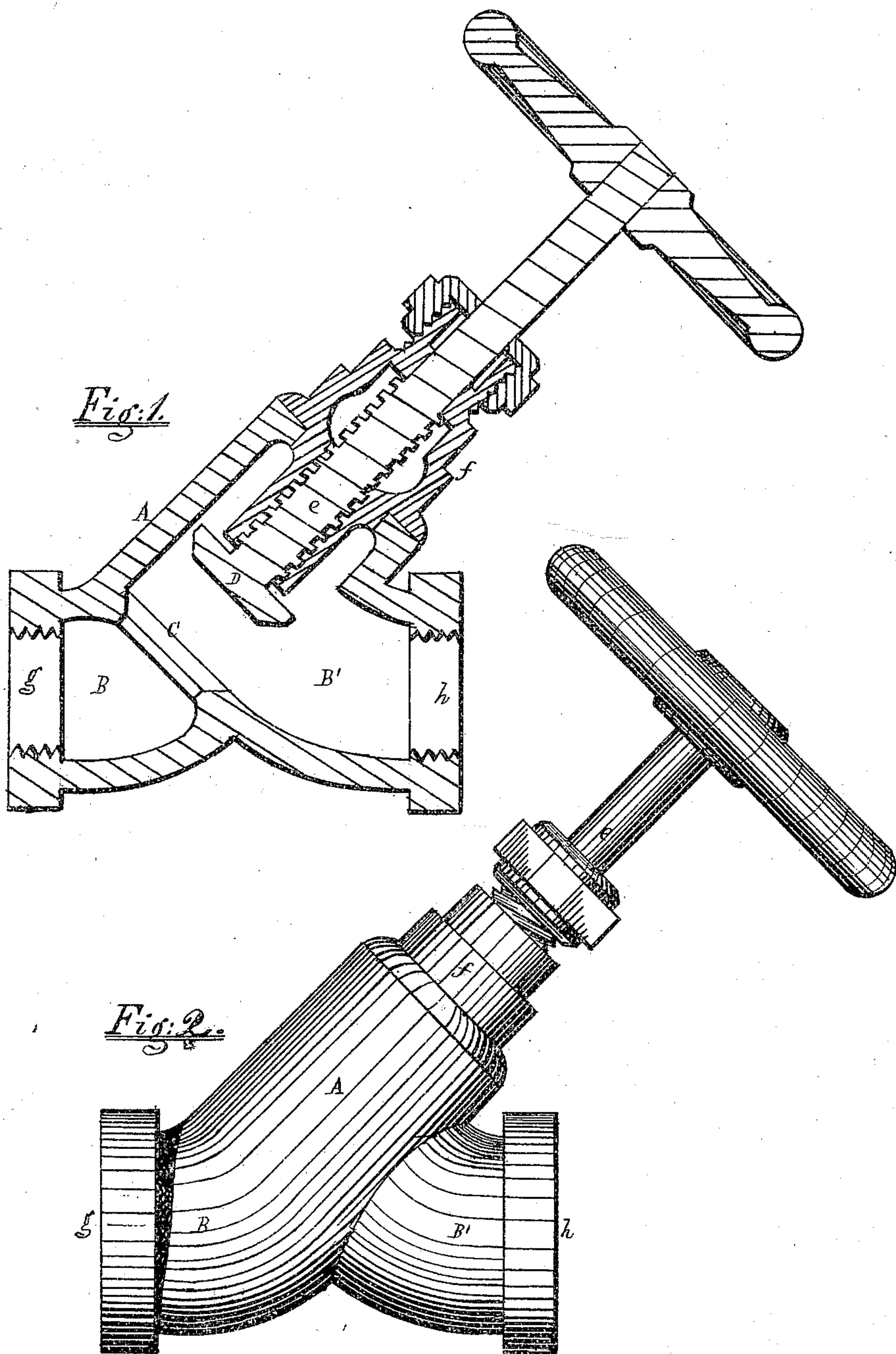


*J. H. Davis,*

*Globe Valve.*

*No. 99653.*

*Patented Feb. 2. 1870.*



*Witnesses.*

*A. C. Johnston,*  
*James G. Thompson.*

*Inventor.*

*J. H. Davis*



# United States Patent Office.

JOSEPH H. DAVIS, OF ALLEGHENY CITY, PENNSYLVANIA.

*Letters Patent No. 99,653, dated February 8, 1870.*

## IMPROVEMENT IN VALVE-COCKS MADE OF CAST-IRON AND SUBSEQUENTLY ANNEALED.

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 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: 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 the valve-cock, for which Letters Patent were granted to me, December 29, 1868, and which I now propose making of "cast-iron," and subsequently annealed.

Figure 2 is a side elevation of the same.

The body of the 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-chamber 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 cementing-chests, or chambers, and subjected to the process of cementation, which process is well understood by the skilful metallurgist.

The advantage of constructing valve-cocks of cast-iron, subsequently annealed, consists—

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

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

Third, a valve-cock, constructed of cast-iron, and subsequently annealed, 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, valve-cocks of every kind, form, and size may, with advantage, be constructed of cast-iron, and subsequently annealed, as herein described.

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

The skilful mechanic and manufacturer of 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.

Having thus described the nature and construction of my improvement,

What I claim as of my invention, is—

A new article of manufacture, viz: a valve-cock constructed of cast-iron, and subsequently annealed, substantially as herein described.

Witnesses:

A. C. JOHNSTON,  
JAS. G. THOMPSON.

JOS. H. DAVIS.