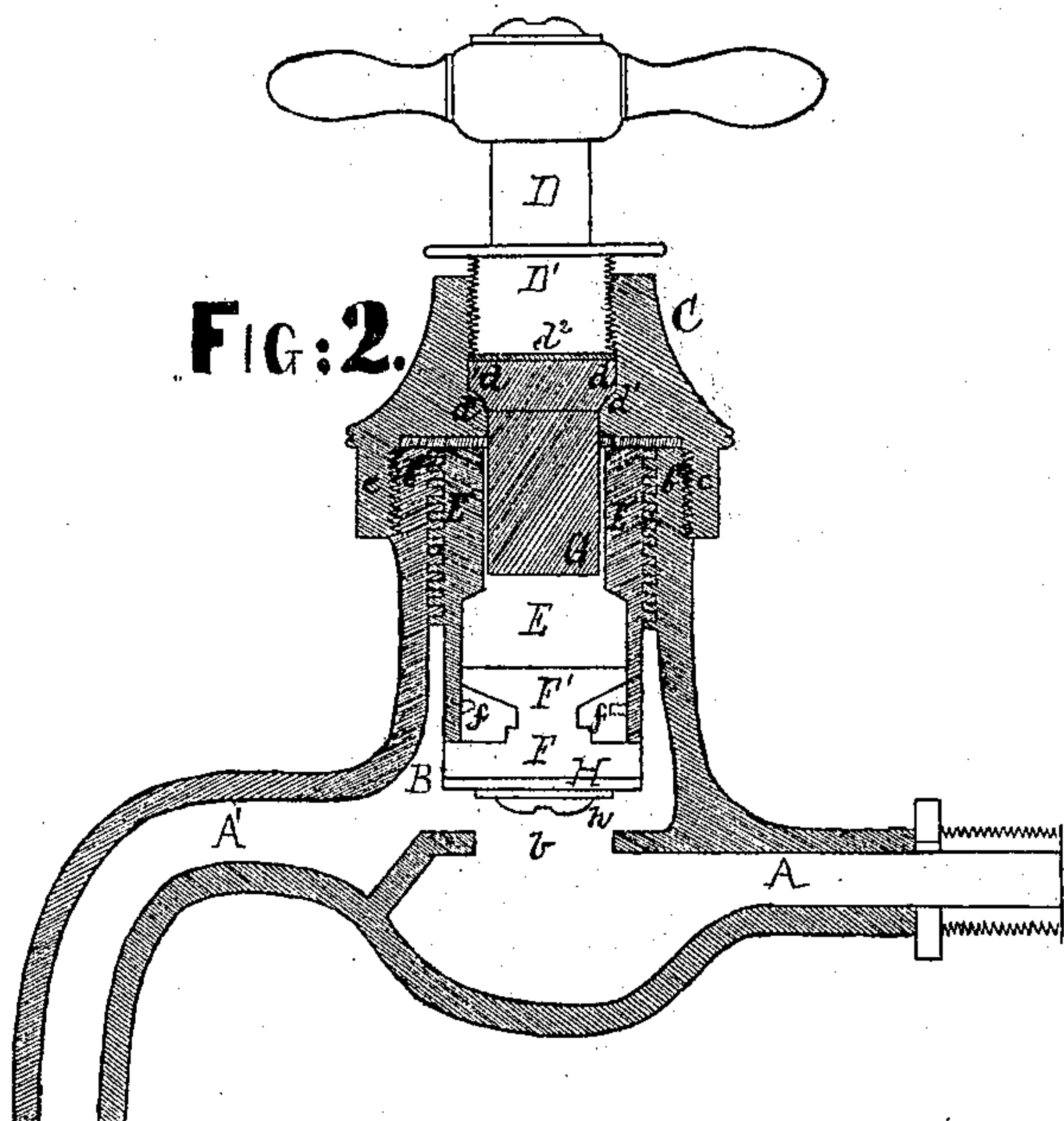
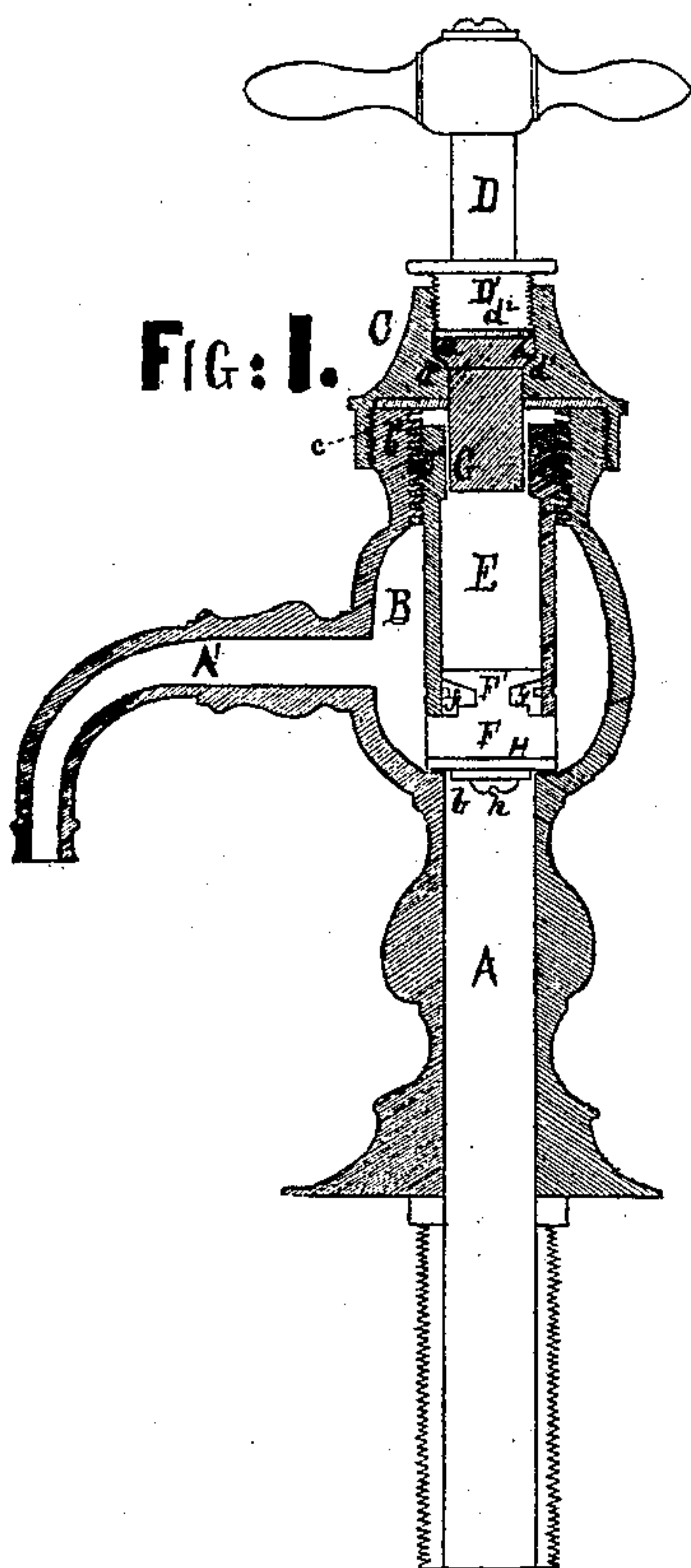


*T. Somerville,*

*Faucet.*

No. 10,533.

*Patented Apr. 5. 1870.*



**WITNESSES.**

Edwin James.

Alfred Holmead Jr

INVENTOR.

Thomas Somerville:

per J. E. F. Holmead

Attorney.



# United States Patent Office.

THOMAS SOMERVILLE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
TO HIMSELF AND ROBERT LEITCH, OF SAME PLACE.

Letters Patent No. 101,533, dated April 5, 1870.

## IMPROVEMENT IN FAUCETS.

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, THOMAS SOMERVILLE, of Washington city and District of Columbia, have invented certain new and useful Improvements in Faucets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon making part of this specification, in which—

Figure 1 is a vertical sectional view through the center of a basin, cock, or faucet, showing distinctly the features that constitute my improvement.

Figure 2 is a vertical sectional view, my improvements being shown as applied to a cask or barrel-faucet.

My invention consists in an improvement in that class of faucets in which the valve that controls the flow of liquid is regulated by a screw-spindle or stem.

My improvements consist—

1. In forming a perfectly tight joint between the spindle and the cap through which it passes and in which it works, without the introduction of elastic or equivalent packing. This joint, which is a ground one, is formed by a shoulder on the spindle, the under surface of which is slightly curved or beveled, and a corresponding recess in the cap. By this means I form a safe and durable joint, and one that effectually prevents the water, or other liquid, from improperly passing to and through the upper section of the faucet.

My improvement also consists in constructing the valve or valve-plug circular in form, and with a broad, well-defined screw-thread cut on its outer surface, which meshes with and fits corresponding threads on the inner surface of the valve-chamber. The valve-opening which receives the spindle is square or angular. The valve or plug is to be provided with a swivel base or head. By this construction of valve the surface on which the screw-threads are cut, being so much greater than when they are formed in and around the center opening of the valve, allows of a more durable and substantial thread being used, which, in view of the immense wear incident to the continuous working of the valve, is most important, and the swivel base or head of the valve prevents all undue friction at its point of contact with the seat, which is also most desirable.

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

In each figure of the drawing—

A represents the receiving-pipe or chamber which connects with the valve-case or chamber B, through an opening, *b*, and

A', is the discharge-pipe, or nozzle. These are all of the ordinary form and construction.

C is the cap, and is provided with a female screw-thread, *c*, by means of which it is connected with the screw-neck, *b*<sup>2</sup>, of the valve-chamber B.

D is the spindle or stem which works in, and is securely attached to, the center opening of the cap by means of a screw-nut, D'. On this spindle D is a shoulder, *d*, the lower surface of which is beveled, or cut slightly circular, as shown in the drawing. When the spindle is inserted in the cap, this shoulder rests in a recess or seat, *d'*, arranged in the cap C. The contour or form of this recess *d'* corresponds exactly with the shoulder *d*. In manufacturing, this shoulder *d* and recess *d'* are so finished by the application of pumice-stone, or other equivalent substance, that, when fitted together in the faucet, they shall form a ground joint. Thus it will be observed that I am enabled to form a perfectly tight and durable joint connection, between the stem or spindle and the cap, and one that prevents the passage of all water, or other fluid, into the cap and through its upper section without the aid of elastic or other packing, which, in use, has proven so ineffective, since the pressure which it is called upon to resist soon forces it out of its original position, causing, as a consequence, a loose or leaky joint.

The great advantage of this arrangement is found in the fact that the shoulder works into its seat, and not away from it. Thus all friction wear, to which the joint is necessarily subjected, has the tendency to tighten it as it carries the shoulder deeper into the seat, consequently never leaving a loose joint, as would be the case were the relative position of the shoulder and seat reversed. Between the upper face of the shoulder *d* and the cap-nut D', a washer, *d*<sup>2</sup>, may be introduced.

E is the valve or valve-plug, which is circular in form and hollow.

E' is a coarse, well-defined screw-thread cut around the outer surface of the upper section of the valve or plug E, and which meshes with, or fits and works in, a corresponding screw-thread cut on the inner surface of the upper section of the valve-chamber B.

F is a swivel base, or head of the valve, and is provided with a T-shaped bearing F', which enters the valve, and is secured therein by means of screws *f f*. These screws work under the arms of the T-shaped bearing F', allowing of the freest revolution of the valve on its base. The upper section of the interior opening of the valve is not like its lower section, circular, but square or angular, in order to give it a wrench bearing on the spindle or stem D, as shown at G.

The great advantages of this arrangement of valve are that instead of cutting the screw-thread, as is usual with this class of faucets, around the end of the spindle at G, and a female screw in the upper section



of the center opening of the valve, it is cut around the outer surface of the valve, which, being of so much larger dimensions, allows of a coarse or heavy thread, one better adapted to the constant wear to which the valve is necessarily subjected, while the swivel base F entirely protects the lower surface of the valve from all undue friction at its point of contact with its seat B.

H is a washer, which may be attached to the lower section of the valve by a screw, *h*, as is the usual custom.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The spindle or stem D, having a shoulder *d*, and the cap C with its recess or seat *d'*, when said shoulder and seat are so attached that the shoulder shall work

down into the seat, and so finished as to furnish a ground joint which is perfectly tight without the use of elastic or other packing, substantially as described.

2. The spindle or stem D, and valve or plug E, when the latter has a swivel base or head, F, and is constructed with a screw-thread, E', on its outer surface which works in the female screw-thread cut in the valve-chamber B, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOS. SOMERVILLE.

Witnesses:

JAS. W. SOMERVILLE,  
JOHN T. C. CLARK.