JAMES WALSH.

Improvement in Hydrants.

No. 128,192. Patented June 18, 1872.

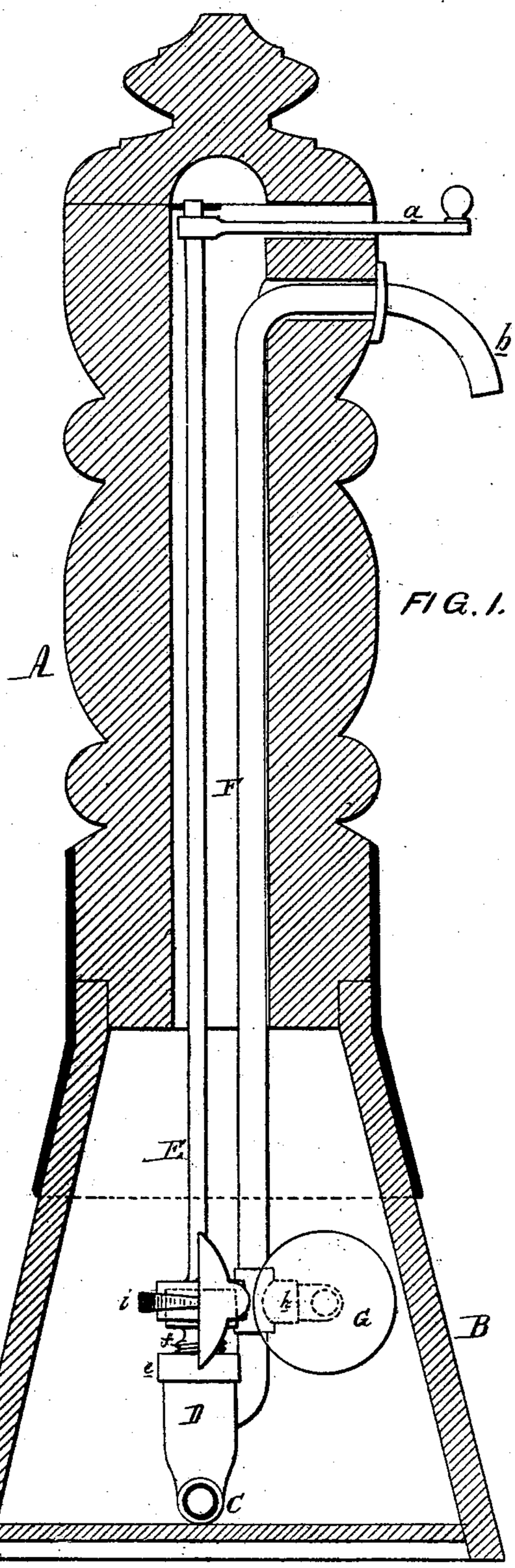

FIG. 1.

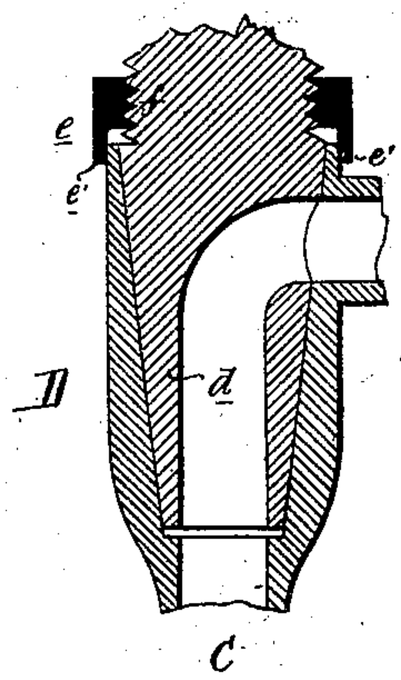

FIG. 4.

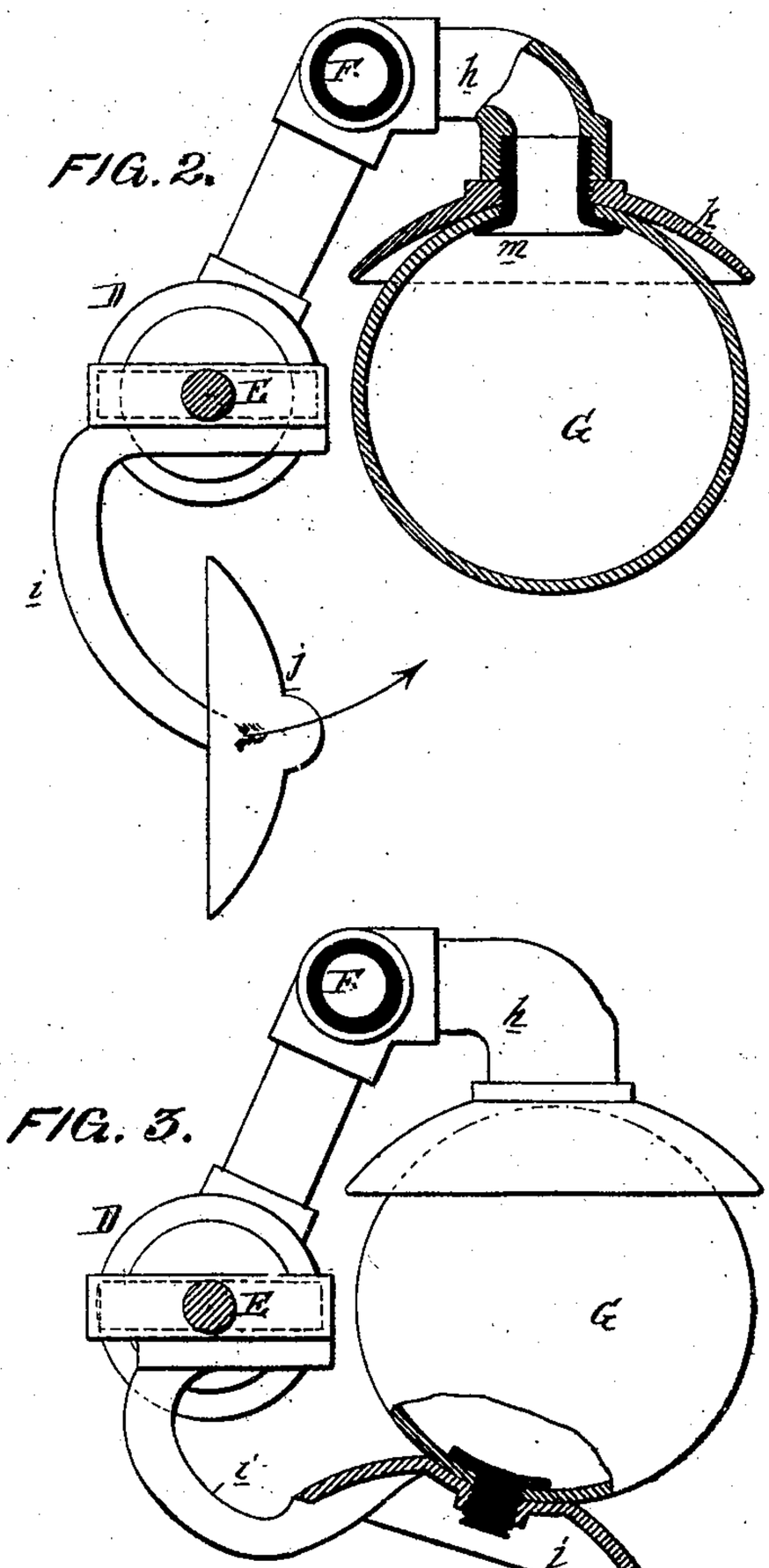

FIG. 2.

FIG. 3.

WITNESSES,

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UNITED STATES PATENT OFFICE.

JAMES WALSH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 128,192, dated June 18, 1872.

Specification describing certain Improvements in Hydrants, invented by JAMES WALSH, of Philadelphia, Pennsylvania.

Improvements in Hydrants.

My invention consists of certain improvements, fully described hereafter, in that class of hydrants in which the waste water remaining in the "upright pipe" after the closing of the valve or cock is discharged into a receiver, to prevent it from freezing in and bursting the said pipe, and returned to the latter prior to the opening of the said valve or cock; and my invention also consists of a device for preventing particles of sand or earth from obtaining access to the interior of the valve or cock, and causing the rapid wearing away of the same.

In the accompanying drawing, Figure 1 is a vertical section of a hydrant with my improvements; Figs. 2 and 3, enlarged sectional plan views of the lower portion of the same; and Fig. 4, an enlarged sectional view of the cock.

A represents the body of the hydrant; B, the box at the bottom of the same; C, the service-pipe, communicating with the bottom of the valve casing D; E, the rod for operating the valve, furnished at its upper end with the usual lever *a;* and F is the upright pipe, communicating at the bottom with the service-pipe through the cock D, and terminating at the top in a nozzle, *b*. The cock D is shown enlarged in Fig. 4, and consists of a simple casing, to which is adapted a conical plug, *d*, secured to the lower end of the operating-rod E, a partial turn of the latter cutting off or establishing communication between the service-pipe C and upright F.

This is the simplest and most effective cock that can be used in connection with a hydrant; but as heretofore constructed it has been entirely unprotected at the top, so that particles of sand, earth, and other gritty matter find their way into the joint between the plug and casing, causing the cutting away and rapid and unequal wear of both. This objection I have effectually overcome by covering and protecting the joint at the top by means of a nut or screw-cap, *e*, adapted to the threaded portion *f* of the plug, and having an overlapping flange or edge, *e'*, which extends over the top of the casing. (See Fig. 4.)

In order to prevent the waste water, after the closing of the cock, from standing in the upright pipe, where it is apt to freeze in and burst the said pipe during the severe winter months, I provide a receptacle, G, into which such waste water is discharged through a branch, *h*, from a point close to the bottom of the pipe, after the closing of the cock. For this purpose I use a compressible rubber receiver somewhat similar to that described in my patent of January 18, 1870, which, when released in the act of closing the cock, will expand sufficiently to receive the whole of the waste water from the upright pipe, and which can be compressed in the act of opening the cock, so as to return the whole of its water into the upright pipe, so that it may be empty and in a condition to receive another supply of waste water when the cock is again closed.

The devices for operating this compressible receiver are of the most simple character, and consist merely of an arm, *i*, secured to the operating rod E above the cock, and furnished at its outer end with an enlargement or disk, *j*, Figs. 1 and 2, which, when forced against the receiver by a motion of the arm in the direction of the arrow, compresses the same and forces out the water; but which, when moved in the opposite direction, releases and permits the filling of the said receiver. The receiver is secured to or within a concavo-convex disk, K, at the end of the branch-pipe *h*, which is of the same shape as and adapted for the reception of the disk on the operating-arm, so that the receiver, when compressed, will be flattened between these two disks and entirely emptied of its contents. If desired, the disk *j* on the operating-arm may be secured to the receiver, as shown in Fig. 3, instead of being merely caused to bear against the same, but either plan will answer. The receiver is secured to the disk K by a short flanged tube, *m*, screwed into the branch *h*, and arranged to clamp the edges of the receiver between its

flange and the interior of the disk, in a manner which is more fully described in another application which I have made for a patent.

I claim as my invention—

1. In a hydrant, the combination, substantially as described, of the compressible receiver G and an arm, *i*, operated by a rod, E, and furnished at its outer end with an enlargement or disk, *j*.

2. The combination, with the plug or plug-stem of a valve-cock, of a disk or nut, *e*, covering the joint, and having a flange which overlaps a part of the casing, substantially as described.

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

JAMES WALSH.

Witnesses:
WM. A. STEEL,
HARRY SMITH.