J. D. KEEGAN & W. D. GREANELLE.

Hydrants.

No. 152,846. Patented July 7, 1874.

Fig. 1.

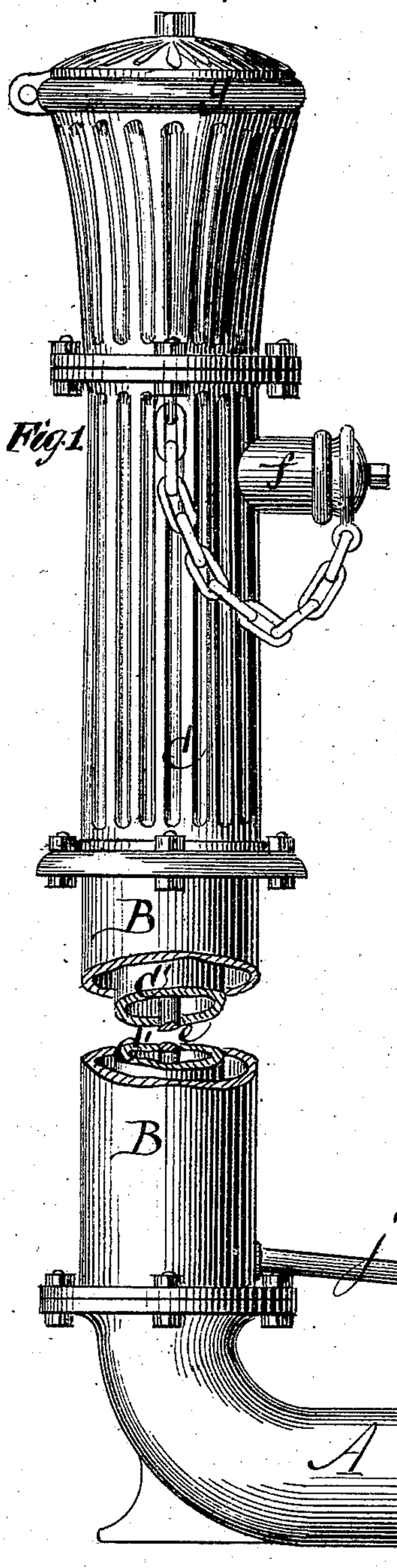


Fig. 2.

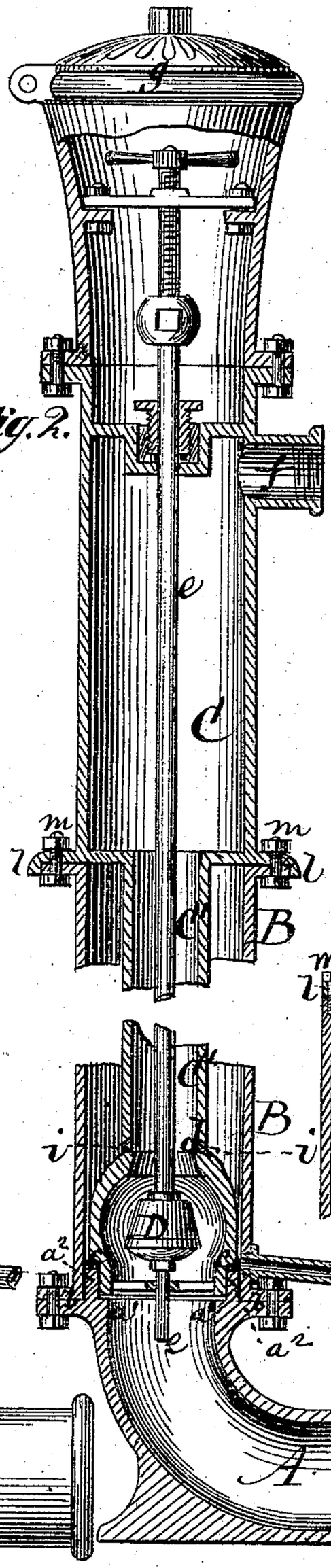


Fig. 3.

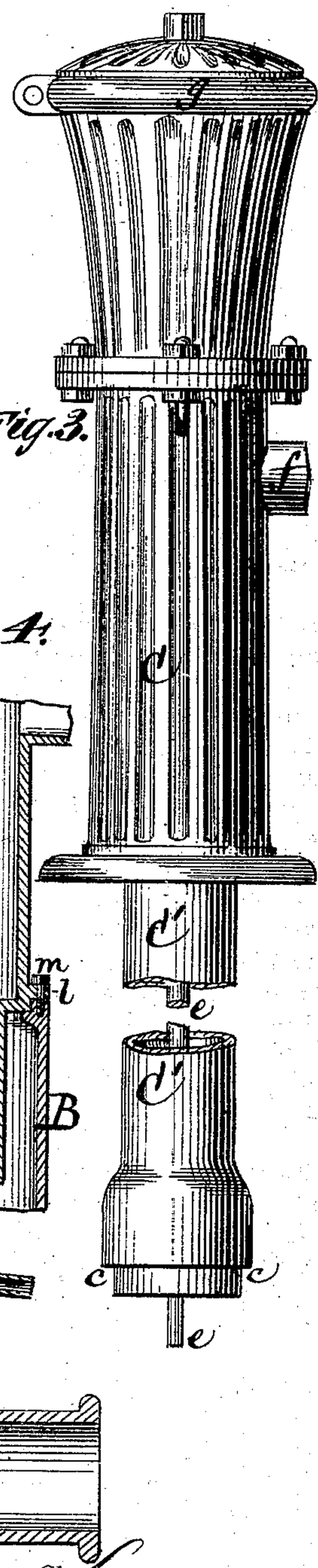
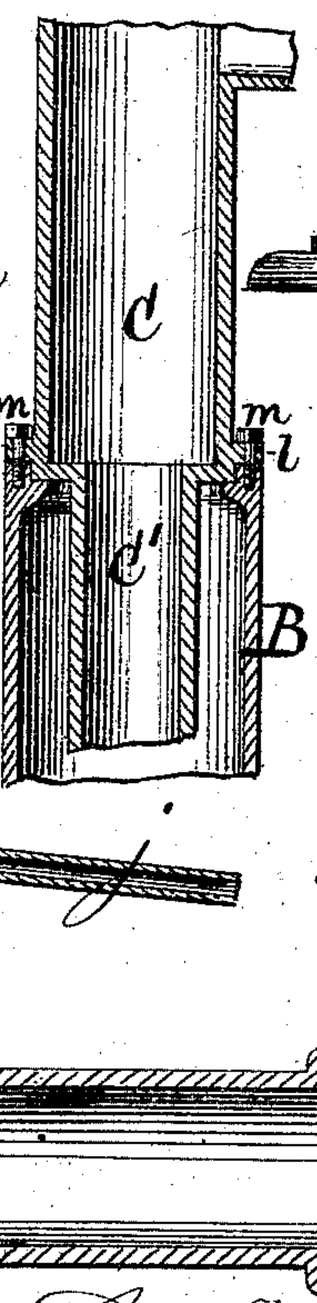


Fig. 4.



Witnesses
John Becker.
Fred. Haynes

James D. Keegan
Walling D. Greanelle
by their Attorneys
Brown & Allen

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JAMES D. KEEGAN AND WALLING D. GREANELLE, OF NEW YORK, N. Y.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. **152,846**, dated July 7, 1874; application filed April 6, 1874.

To all whom it may concern:

Be it known that we, JAMES D. KEEGAN and WALLING D. GREANELLE, of New York, in the county and State of New York, have jointly invented certain Improvements in Hydrants, of which the following is a specification:

Our invention relates to certain improvements whereby the hydrant is rendered easily accessible without the necessity for removing the earth around its foot, and specially relates to that class wherein the hydrant is provided with an outer case or jacket for its protection below the surface, said case or jacket remaining permanently in the ground, and the hydrant being bolted thereto, so as to be readily removed when necessary, such features being old and well known in the arts; but our invention consists in forming upon the enlarged or valve portion of the hydrant an annular flange, which has its seat upon a ring rising from the top portion of the main water-main, so that an annular space will be between the outer surface of the valve-chamber and the interior surface of a pipe connecting the hydrant proper with the water-main, the object being to prevent rusting of the said surfaces should they be in contact with each other, as is now the case.

In the accompanying drawings, Figure 1 is a side elevation of a hydrant embodying our invention. Fig. 2 is a vertical section of the same. Fig. 3 is a side elevation of the hydrant without the jacket. Fig. 4 is a detail view hereinafter particularly referred to.

The case or jacket B is connected to the water-main A below the surface of the ground by flanges *b* and bolts in the usual manner, and extends up to the surface of the ground, where the hydrant C C′ is secured to it by means of flanges *l* and bolts *m*. If desired, instead of having flanges formed on both the jacket and the hydrant, as in Fig. 2, the flange may be on the hydrant only, and the upper edge of the jacket may be thickened and formed with a shoulder for the reception of the portion of the hydrant near the flange *l*, so that the bolts may screw directly therein, as in Fig. 4, thereby rendering the use of nuts unnecessary.

The portion C of the hydrant which is above ground is of about a size corresponding with that of the jacket; but the portion C′, which is below the surface, is smaller than the inside caliber of the jacket, except at the lower end, where it is enlarged into a conical or approximate spherical form to provide for a valve, and has a shoulder, *c*, formed on its lower end for engagement with a shoulder, *a*, and an annular rib, a^2, formed on the water-main A, as shown in Fig. 2. In the conical or spherical enlargement is formed a valve-seat, *d*, for engagement with the valve D.

Both the valve and valve-seat are ground to fit each other closely, so as to render packing unnecessary, and this is only accomplished in our invention by the construction of the valve-chamber with respect to the casing B. An annular space is created between the two, so that all rusting of the parts is prevented, and each is nicely supported.

The shoulder upon the main, which enables us to create the space, is such that it necessitates a similar construction of the base of the valve-chamber.

The valve D is attached to a rod, *e*, which passes through a suitable stuffing-box above the spout *f*, and is provided with a handle for turning it, said handle being accessible through the lid or cover *g*. Immediately above the valve-seat orifices *i* are formed, for the escape of waste-water into the jacket, which may have a waste-pipe, *j*, connecting with a sewer or cess-pool.

It will readily be seen that this invention may be applied to hydrants of every description and constructed of any suitable material.

By forming the connection of the hydrant and the case at a point above the surface of the ground by means of the flange *l* and bolts *m*, the hydrant may be detached without removing the earth around the foot.

Across the lower end of the conical or spherical lower portion of the hydrant, ex-

tends a bar provided with a perforation, through which the lower portion of the valve-rod E passes, and is thus prevented from displacement.

We claim as our invention—

In a hydrant, the lower portion of the valve-chamber formed with the shoulder *c*, and resting on the water-main, in combination with the shoulder a^1 and vertical ring or rib a^2 on the water-main, whereby is produced an intermediate space between the valve-chamber and the jacket B, as set forth.

J. D. KEEGAN.
W. D. GREANELLE.

Witnesses:
MICHAEL RYAN,
FRED. HAYNES.