

(No Model.)

2 Sheets—Sheet 1.

A. J. FULLER.

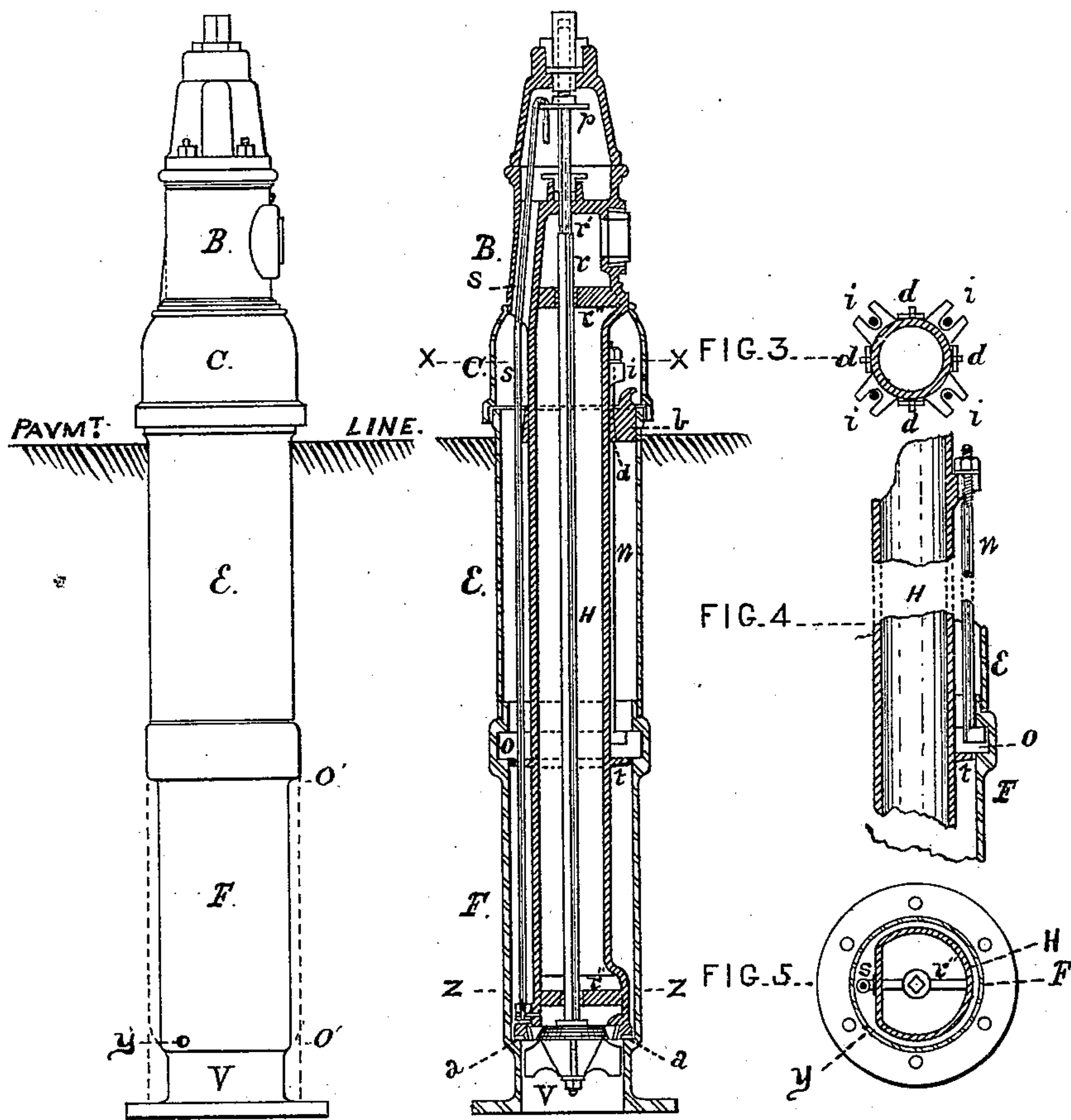
FIRE HYDRANT.

No. 246,489.

Patented Aug. 30, 1881.

FIG. 1.

FIG. 2.



Witnesses.

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J. Kay Little

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FIG. 7.

FIG. 6.

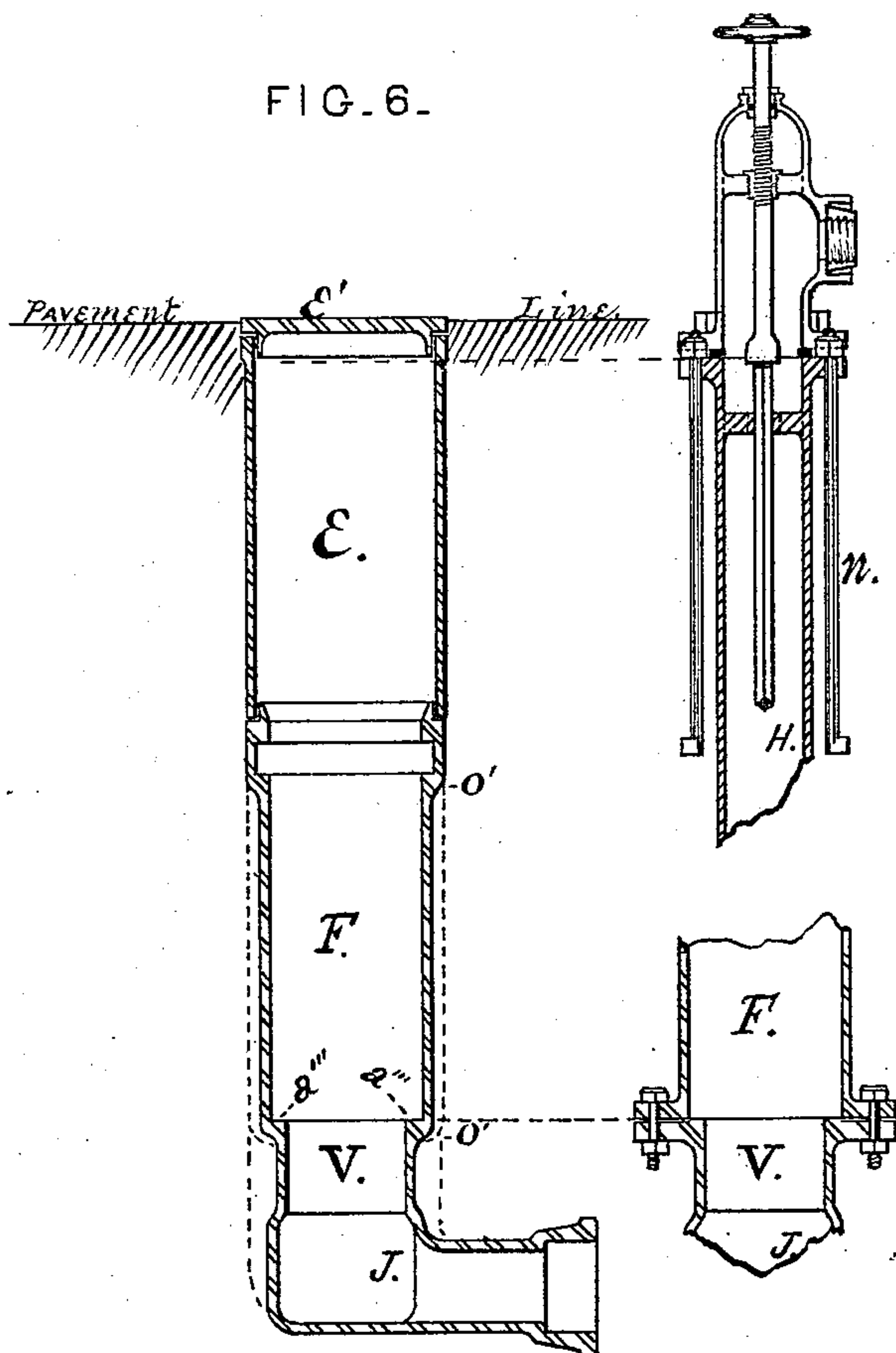
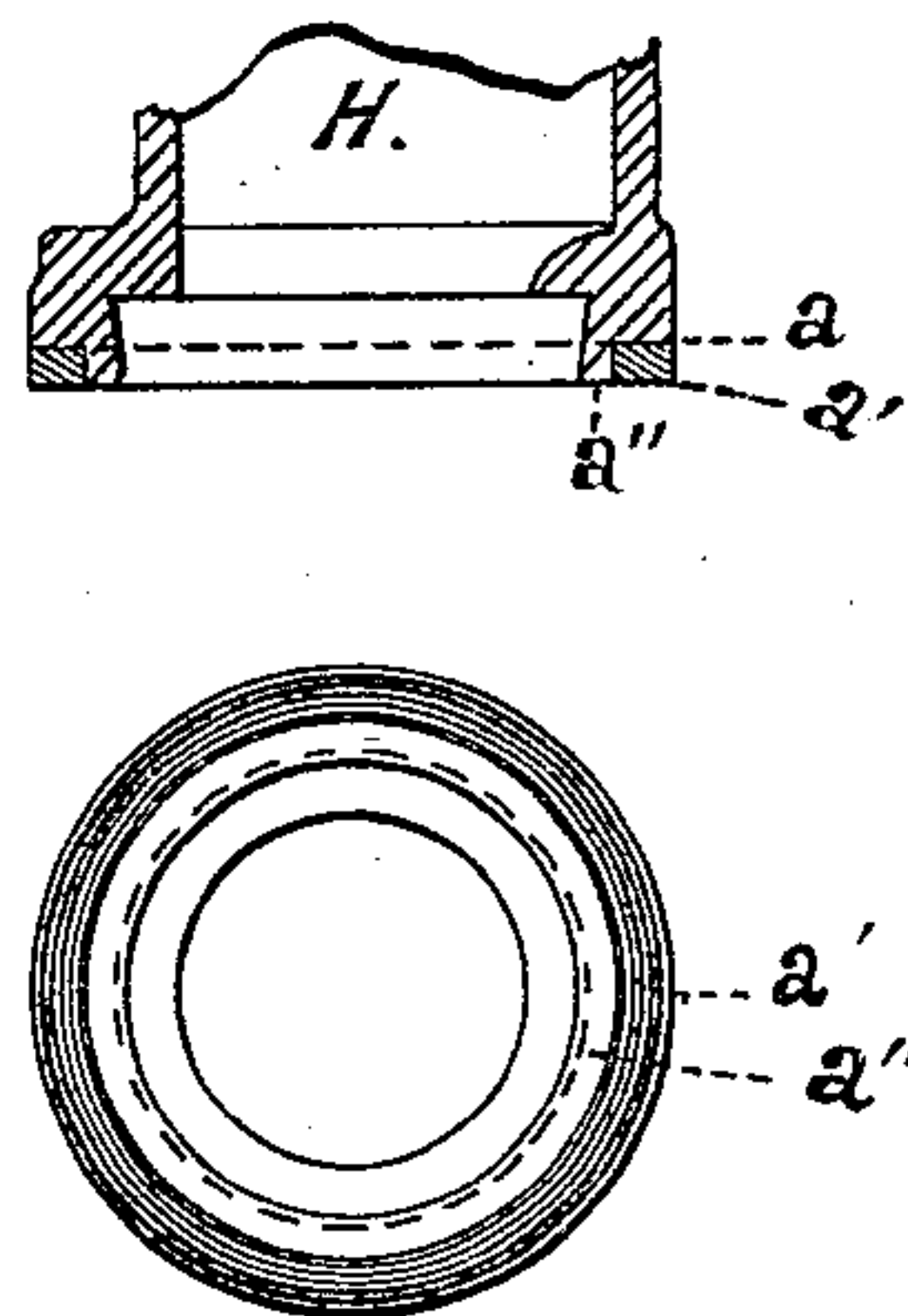


FIG. 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALLEN J. FULLER, OF PHILADELPHIA, PENNSYLVANIA.

FIRE-HYDRANT.

SPECIFICATION forming part of Letters Patent No. 246,489, dated August 30, 1881.

Application filed November 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, ALLEN J. FULLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Fire-Hydrants, which has for its object the making of a hydrant so that it can be repaired and replaced without digging it up or its entire removal from the ground, as hereinafter shown.

I am aware that fire-hydrants have been made with this object in view, but not in such manner as shown herewith.

Figure 1 is a full side view. Fig. 2 is a vertical sectional view. Fig. 3 is a horizontal sectional view at *x x*. Fig. 4 shows the manner in which the stand-pipe H is connected to the casing F by means of bolts *n*. Fig. 5 is a horizontal sectional view at *z z*. Figs. 6 and 7 are modifications of my invention, and Fig. 8 enlarged views of the lower end of the stand-pipe H.

Like letters indicate like portions of the several parts.

In my invention the "frost-casing" consists of several parts, as shown at C, E, and F, within which is the stand-pipe H, resting upon an annular ledge, *a'''*. The casing F has at its lower end a cylindrical-shaped chamber, V, within which the hydrant-valve rises and lowers, as shown in Fig. 2. At the top of said valve-chamber V there is a circular ledge or collar, *a'''*, upon which the stand-pipe H rests, forming a water-tight joint by means of a suitable packing, *a'*. The upper portion of the casing F has an inner annular ledge, *o*, facing the one at *a'''*, Fig. 6, to which the bolts *n* are fastened by means of suitably hooked or headed ends, for the purpose of securing the said stand-pipe H to casing F, and making the water-tight joint at *a'''*. The part E is a plain cylinder resting upon the upper portion, or suitable shoulder for the same, of the casing F, of which it is a detachable continuation, as shown. The cap C is above the surface of the ground, and, sliding over the top of the hydrant, rests upon the end of the casing E, and is for the purpose of closing the opening between the stand-pipe H and frost-casing E. It will be seen by this arrangement that the lower part of the casing F, being well into the ground, is

safe from any chance of injury by collision, frost, &c., thereby making it safe to bolt the stand-pipe H to it. The portion E, which is partly in and partly out of the ground, and covers that part of the casing where breaks and fractures are most likely to occur, may be easily and cheaply replaced, without disturbing the casing F or stand-pipe H, by simply removing the cap C over the top of the hydrant and in the same manner the cylinder E, after having removed the earth as far as the jointure of E and F, and in like manner replacing the same or new parts.

The stand-pipe H has at its lower end, *a*, an annular collar, *a''*, surrounded by a rubber or other suitable packing, *a'*, (see Fig. 8,) the said packing being compressed between the surfaces at *a*, Fig. 8, and *a'''*, Fig. 6, by means of four bolts, *n*, (more or less in number,) Fig. 4, passing through the lugs *i i i i* on the stand-pipe H, and fastened to the casing F, as shown in Figs. 3 and 4. By this arrangement I am enabled to make the bolts *n* of much shorter length, and in consequence much easier to remove and replace than would be the case if they extended all the way to the flange-joint or goose-neck, as is usually done in the improved hydrants of this class known to me, except where the stand-pipe is bolted to the casing at the surface of the ground, which is objectionable on account of the danger of a breakage or fracture at this point.

In Figs. 2 and 5 will be seen one side of the stand-pipe H, flattened near its lower end, which is for the purpose of making room for the frost-rod and socket S without enlarging the diameter of the casing F.

At *t*, Fig. 2, will be seen a sectional view of an annular collar surrounding the stand-pipe H, which is for the purpose of preventing the bolts *n* from dropping beyond the reach of the workmen when taking out or replacing the same; and at *d d d d*, Figs. 2 and 3, will be seen inclined planes to receive wedges, as shown at *d b*, Fig. 2, for the purpose of bracing the stand-pipe H within the casing E at its upper end.

Fig. 6 shows a modification of my improvement, having the lower part of the casing F and goose-neck J made in one casting, at the same time provided with the valve-chamber V and

ledges a''' and o , for the purposes above described, this form being preferable where new goose-necks are used, on account of a cheaper construction; but where old goose-necks are used then the flange must be used, as shown in Figs. 1 and 2, to conform to the shape and size of the goose-neck in the ground.

Fig. 7 shows the goose-neck J and valve-chamber V as being made of one piece, bolted to the casing F at the place of the ledge a''' or top of the valve-chamber V, the advantage being the convenience of truing or facing off the ledge a''' , so as to make a more perfect surface for the packing a' .

In Fig. 6, resting upon the top of the casing E, is a lid or cover, E' , flush with the pavement-line, showing a form of hydrant that may be used where the head and nozzle are attached to the stand-pipe in such manner as shown in Fig. 7. I do not claim as new the cover or casing being flush with the pavement-line or the nozzle attachment, being aware that such have been used before, except where they may be new when used with the casing E and F in conjunction with the stand-pipe H and bolts n .

The dotted lines at F, Figs. 1 and 6, show that the casing may be made of the same diameter at this point, as at E, thus avoiding the shoulders at O' , which, in ground subject to deep frosts, might cause leakage or fracture. At y , Fig. 1, is a small hole in the casing F, for the purpose of allowing the waste water to escape.

To remove the stand-pipe H for the purpose of repairing any of its parts, the cap is first removed, as above described, when the nuts on

the bolts n , passing through the lugs $i i i i$, can be easily unscrewed, and said bolts n removed by giving them a half-turn, so as to disengage them, after which the stand-pipe H may be lifted out bodily, and when the repairs are done be replaced in like manner, or a new stand-pipe with valve, frost-valve rods, &c., complete may be substituted for the old one, thus consuming but little time in comparison with the old methods of repairing hydrants.

I do not claim as new the valve-rod $r r'$ or frost rod and valve s , or the chamber P, or frost-rod braces r'' , and the upper portion of the stand-pipe B, being aware that similar devices have been used before; but such as are of public use I claim to use in connection with my improvements, as above described.

What I claim as new, and am desirous to secure by Letters Patent, is—

1. A hydrant-casing composed of sections C, E, and F, provided with ledges a''' and o , as and for the purpose described.

2. The stand-pipe H, provided with flattened side s' , collar t , lugs i , and inclined surface d , in combination with the sectional casing C, E, and F, bolts n , and wedges b , substantially as set forth.

3. The stand-pipe H, provided at its lower end with annular collar a'' and packing a' , in combination with the casing F, provided with ledge a''' , substantially as and for the purpose described.

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Witnesses:

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