

(No Model.)

Z. E. COFFIN. HYDRANT.

No. 330,377.

Patented Nov. 17, 1885.

FIG. 2.

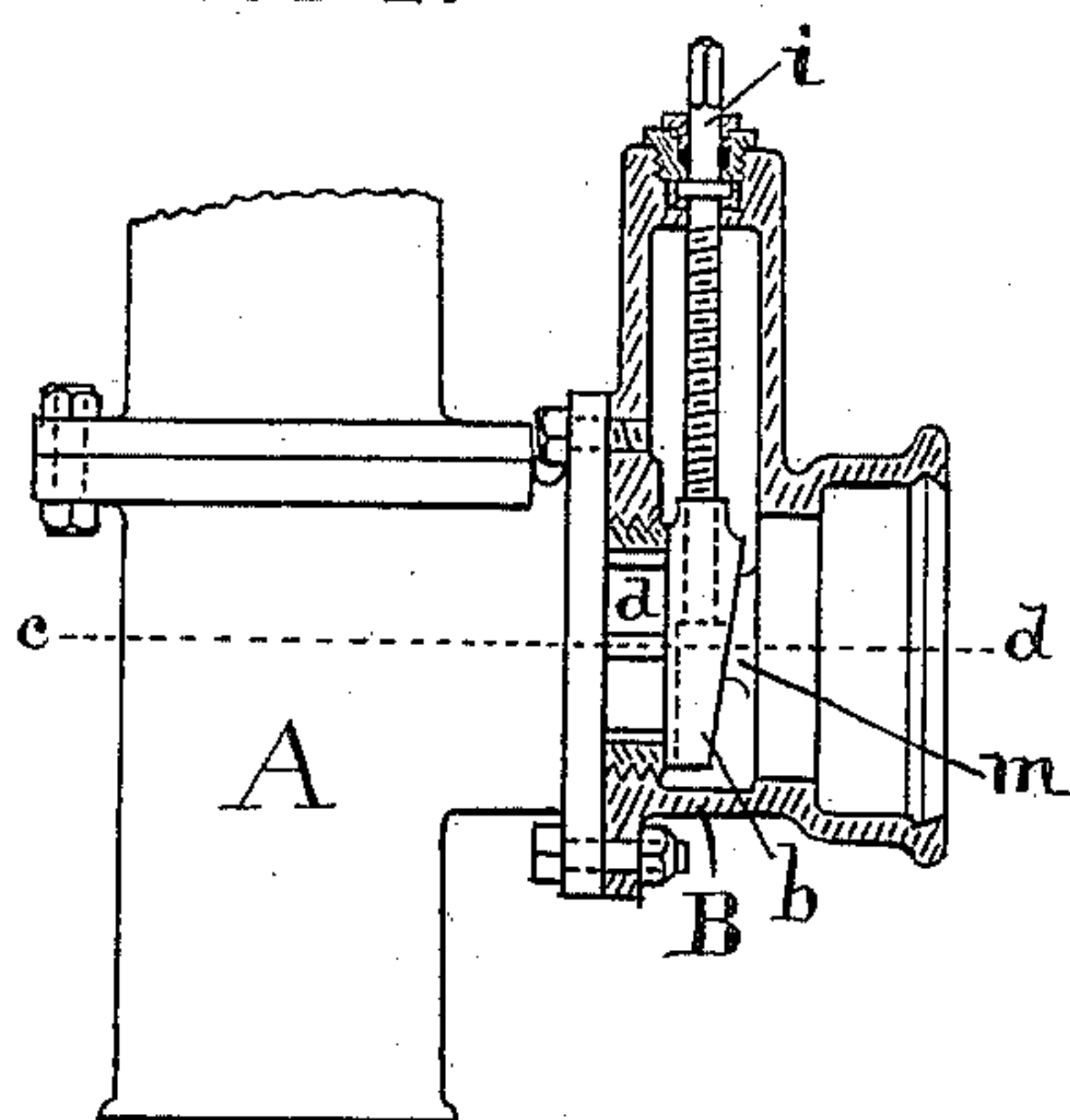


FIG. 1.

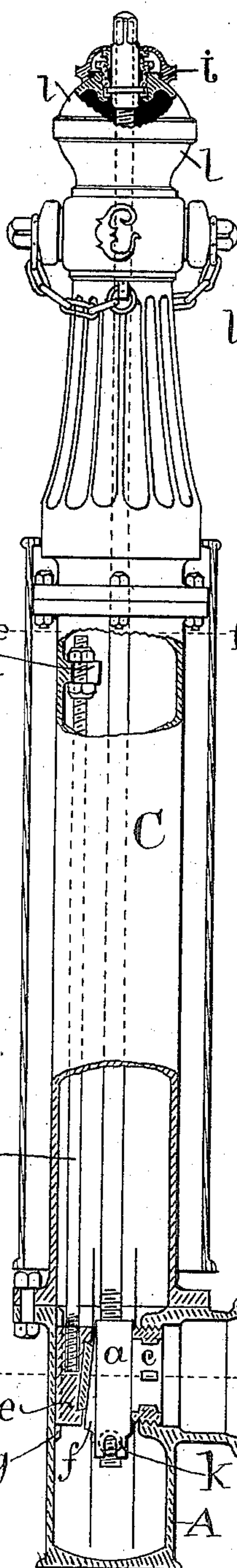


FIG. 3.

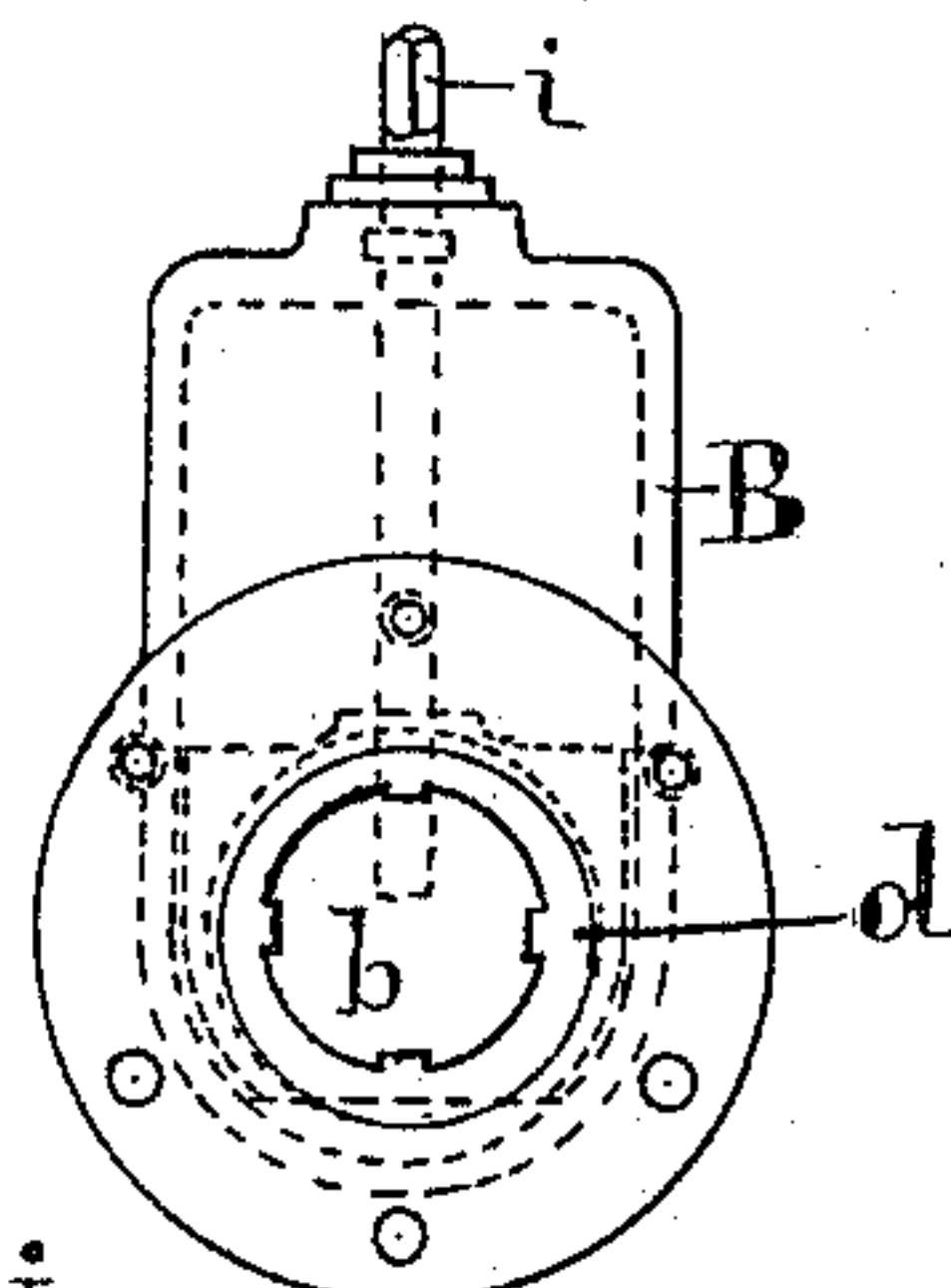


FIG. 11.

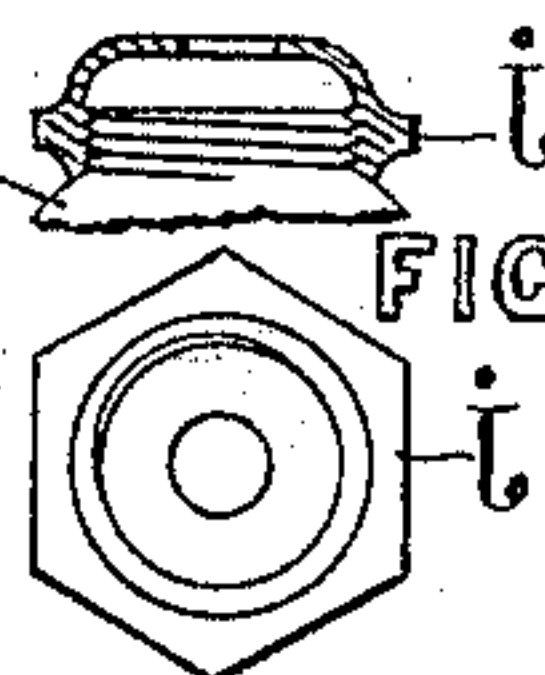


FIG. 4.

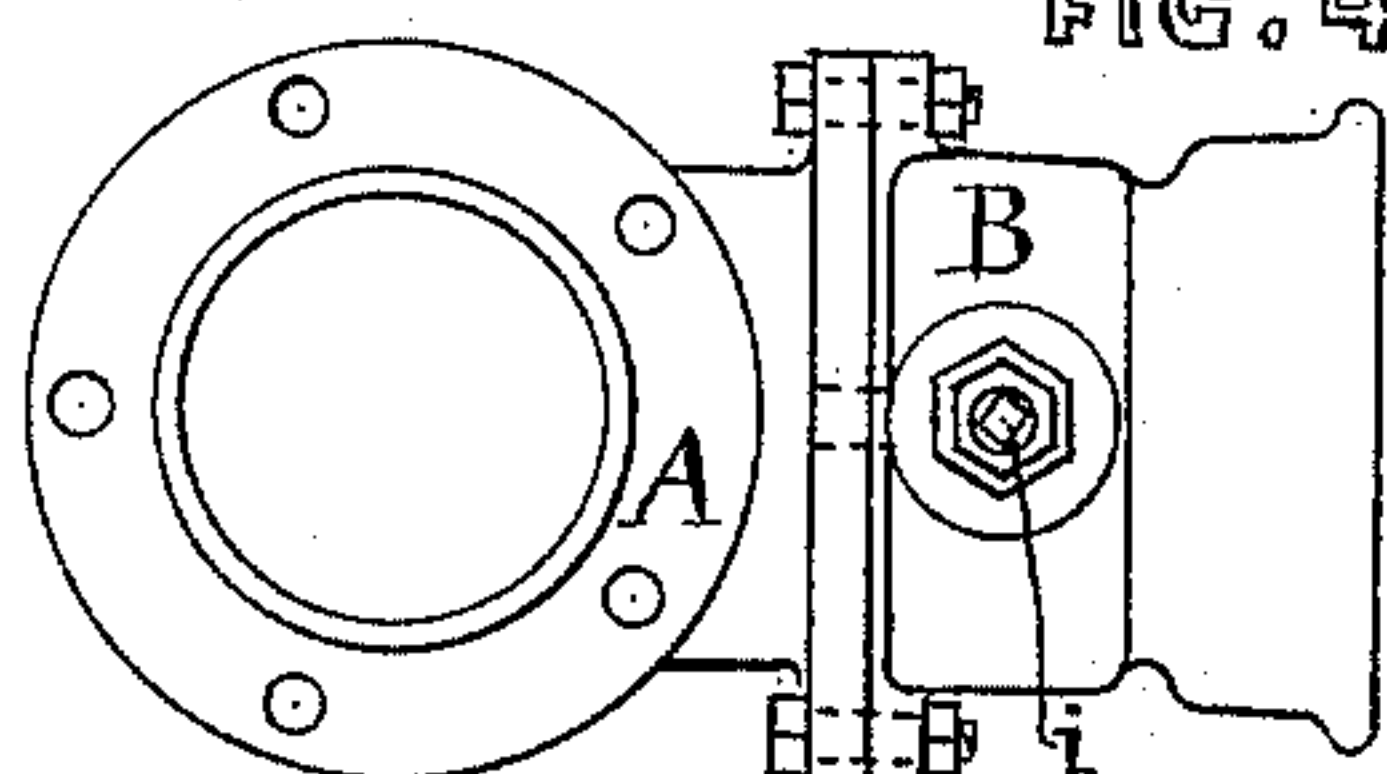


FIG. 6.

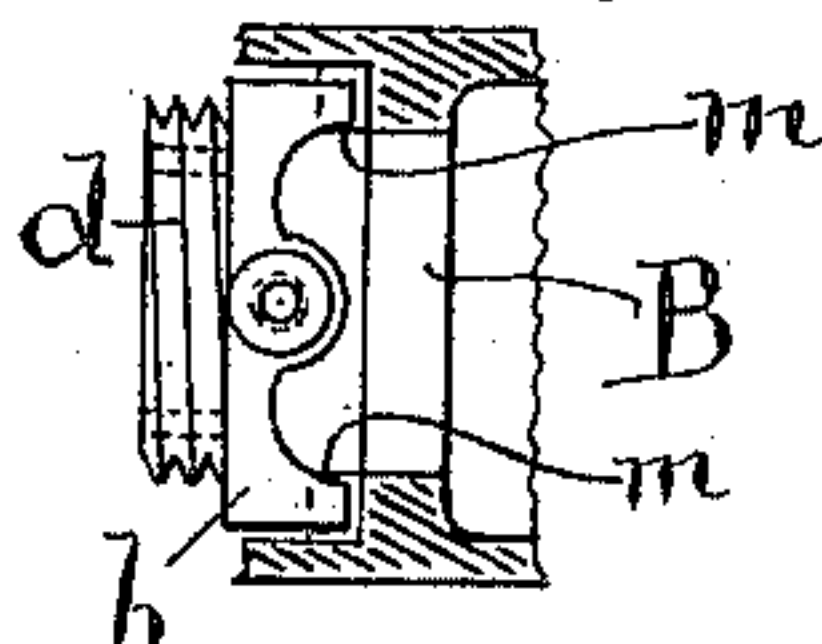


FIG. 7.

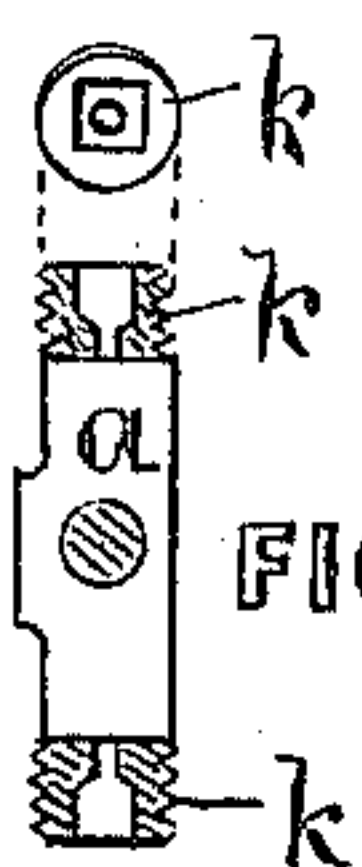


FIG. 8.

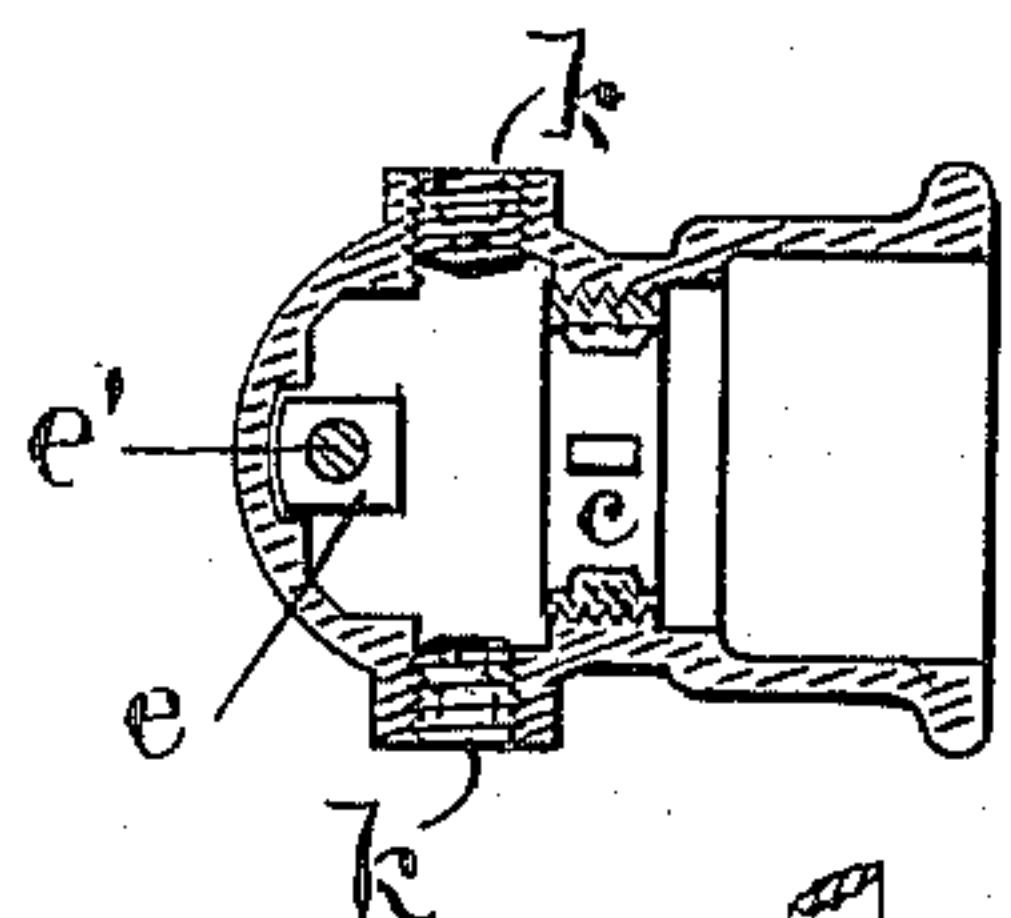


FIG. 10.

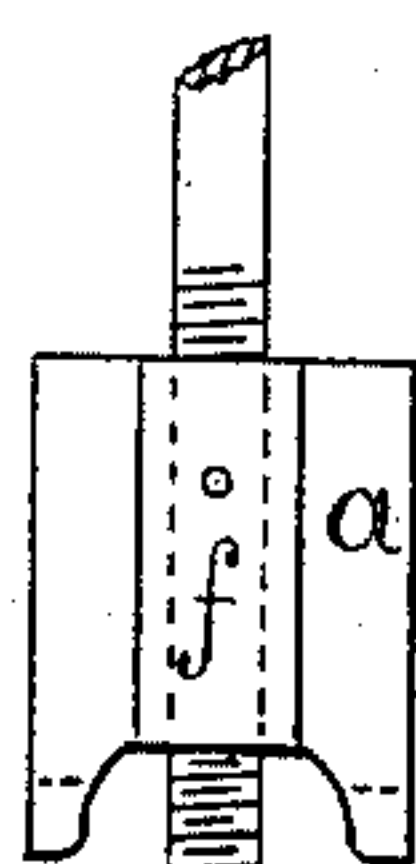


FIG. 5.

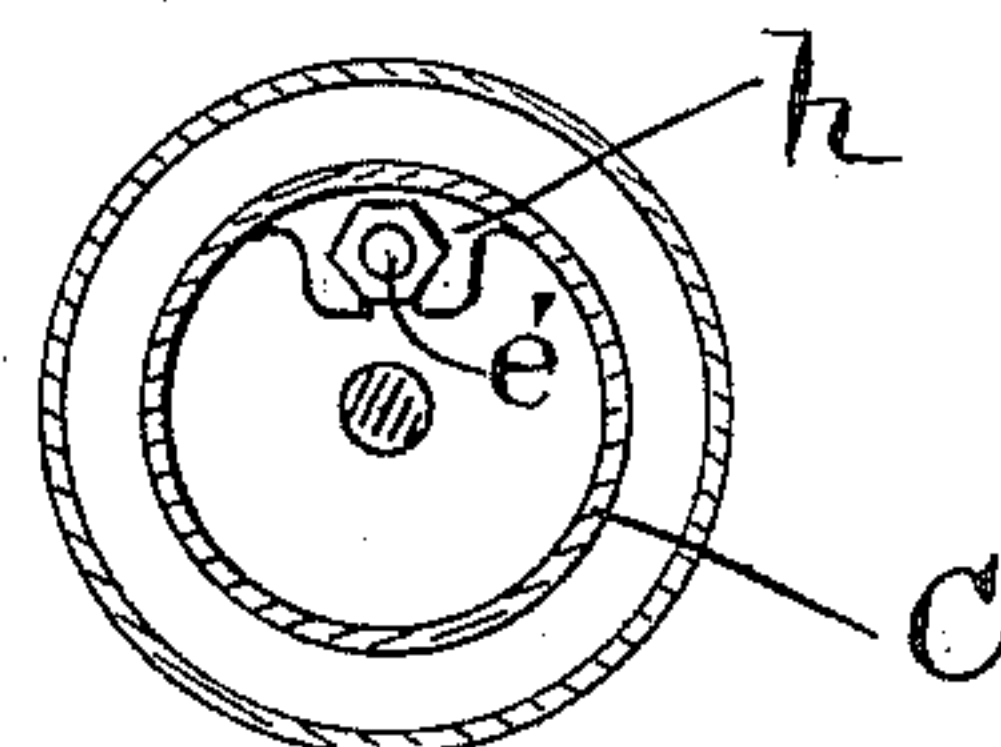
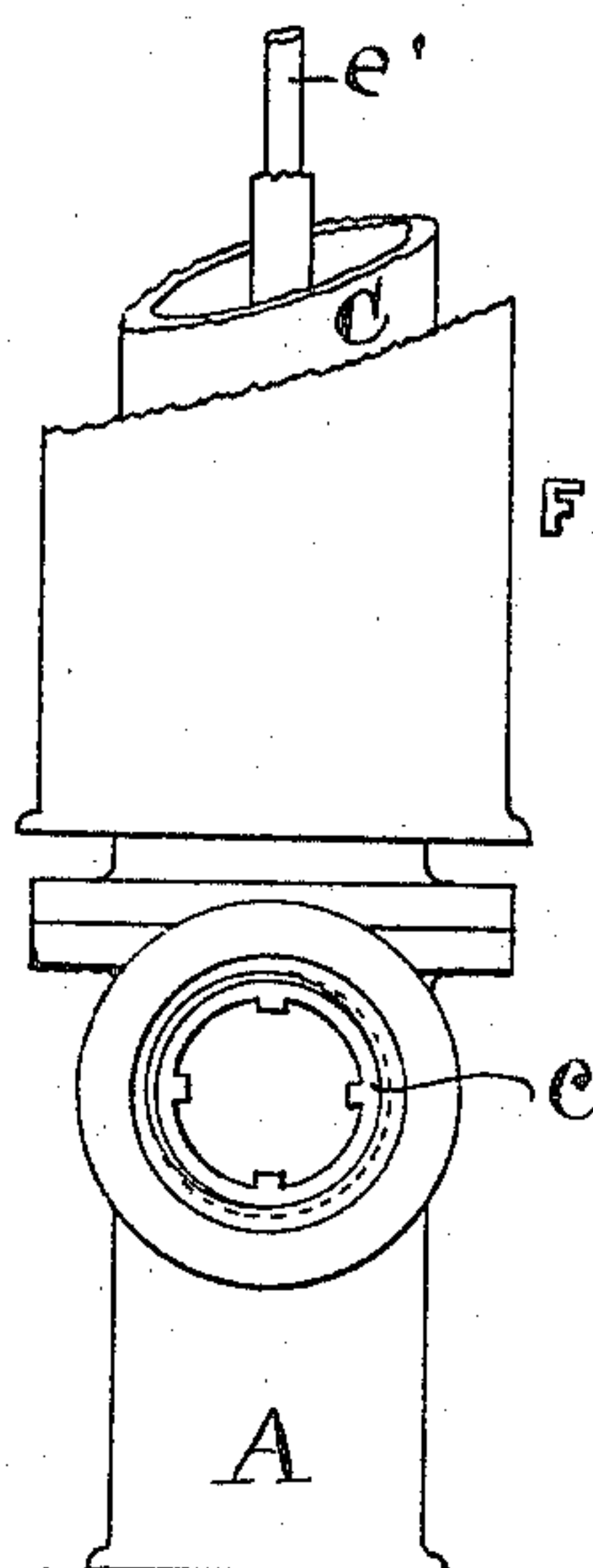


FIG. 9.



WITNESSES.

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HYDRANT.

SPECIFICATION forming part of Letters Patent No. 330,377, dated November 17, 1885.

Application filed February 2, 1885. Serial No. 154,643. (No model.)

To all whom it may concern:

Be it known that I, ZEBULON ERASTUS COFFIN, of the city of Boston, county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Hydrants; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, and to the letters of reference marked thereon.

The object of my invention is a hydrant of extreme simplicity and efficiency of construction and operation; and the nature of the improvements relates to construction and means of adjustment and of operating the valves, and accessibility of parts for repair and adjustment, &c., as hereinafter more specifically set forth.

Referring to the drawings, Figure 1 is a sectional elevation, part B being removed and the usual pipe-receiving bell substituted. Fig. 2 is a similar sectional elevation showing the complete base in two parts with supplemental valve. Fig. 3 is an elevation of same; Fig. 4, a plan of same; Fig. 5, a sectional plan at line *e f*, showing lug *h*, adjusting-screw rod, &c. Fig. 6 shows a plan of valve *b*, seat *d*, &c. Fig. 7 shows a plan of valve *a*, section and elevation of adjusting-screw waste. Fig. 8 is a sectional plan at line *a b*, valve excepted. Fig. 9 is an elevation of lower part corresponding to Fig. 1, but viewed at right angles. Fig. 10 is a back view of valve *a*, &c. Fig. 11 comprises a part of the hydrant top in elevation, with section and inverted plan of the combined set-nut and guard *j*.

Like letters refer to the same or corresponding parts in all the figures.

The upper part of the hydrant is of one of my usual patterns, and is bolted in the usual manner to the body or waist C. In this part C is a lug, *h*, which forms a support for the adjusting-screw rod *e'*. On the lower end of this rod is a wedge, *e*. This wedge has suitable guides, *g*, in the lower part or base of the hydrant to prevent lateral displacement. It bears upon the inner surface of the base A and upon valve *a* when that is drawn upward to its seat. (See Fig. 1.) An adjustable seat, *c*, is screw-threaded upon its exterior or periphery and provided with lugs within, and is tightly fitted with a screw-threaded orifice,

which leads to the inlet pipe or nozzle, as in Fig. 1, or to the supplemental valve opening or chamber in the complete hydrant, as in Fig. 2.

The lugs within valve-seat *c* serve to hold any key or tool fitted thereto, whereby it may be turned to screw it in or out. By this means the valve is adjustable to its proper central position, and specially with reference to the wasteway K.

By turning the nuts on the upper part of rod *e'*, which is screw-threaded, the wedge *e* is elevated or depressed, so as to cause the valve *a* to seat at the desired height, but especially at a given height with reference to the wasteway K. This wasteway K is formed by a screw-socket bib, or, as I prefer to call it, an "adjusting-screw waste." It is a tube-like bushing screw-threaded without, and having an orifice through it enlarged at the outer end in an angular or other suitable form to receive a wrench or key by which it may be screwed out or in. It is named from the double function it performs—viz., it serves as a wasteway to relieve the hydrant of water when the valve is closed, and it is also an adjustable guide to the valve *a*, holding it in its lateral adjustment to the opposite guide and adjusting its own contact as a valve-seat to the side of the valve, so that when the valve is in the position shown in Fig. 1 the valve is closed and the waste is open. If the valve be opened by the downward movement, which is effected by means of the screw-valve rod, the wasteway is immediately closed. Great inconvenience is experienced in having to shut off the water of water-works systems by the usual section-gates. Therefore in my present improvement instead of making the lower part of the hydrant single, as shown in Fig. 1, I make it in two parts, A and B, as shown in Fig. 2. Here part A is like the same part in Fig. 1, except it is fitted with flange and bolts to the part B, instead of having the direct pipe-connecting nozzle shown in Fig. 1. The part B has a screw-seat, *d*, similar to seat *c*, and a valve with incline or inclines on its back similar to valve *a*, only these inclines are fitted to others, *m*, in the case, as shown in Fig. 2, though adjustable wedges may be used, if preferred. The part B of the hydrant-base is provided with a nozzle or flange to receive the pipe, as desired.

The valve *b* is operated by the screw *i* upward for opening.

When the hydrant, as illustrated in Fig. 2, &c., is set and connected to the supply-pipe, by closing valve *b* the water is shut off from that part of the hydrant containing valve *a*. This being done, all parts of the hydrant except part B are accessible for examination and repairs. Even the part A, containing valve *a*, may be unbolted and taken away, while the water remains under full pressure in the pipe beyond valve *b*. Even the seat *d* of valve *b* is accessible, and by means of its screw and the screw-valve stem may be readjusted, if the water-pressure is not too great.

To both guard from injury and prevent from turning back the stuffing-box gland at the top of the hydrant, I provide the guard or cap *j*, which is also a set-nut. Being turned down upon the gland, it is both guarded from injury and held from turning back. Notice that waste K is closed as soon as valve *a* begins to open. Opposite or right and left screws are used on guard *j* and the gland.

I claim—

1. The hydrant as constructed, having the main and supplemental slide-valves *a b*, parts A C, and adjustable seats, as described, in combination with the wedge-backs, as arranged for accessibility and adjustment by means described, all substantially as and for the purposes set forth.

2. The slide-valve *a*, seated against the inlet and provided with incline *f* and adjustable wedge *e*, operated by the adjusting-screw rod

e', in combination with the hydrant-barrel C A, substantially as described.

3. The hydrant as constructed—viz., having the adjustable screw-seat *c* in the inlet, the valve *a*, having the incline *f* upon its back and fitted to the wedge *e*, connected to the adjusting-screw rod *e'*, and the lug *h*, substantially as described.

4. The adjusting-screw rod *e'*, wedge *e*, and lug *h*, in combination with valve *a* and its seat, substantially as described.

5. The described waste nipple constructed and applied as an adjusting-screw and guide for valve *a* and as a valve-seat for the waste-way and its valve *a*, substantially as described.

6. The adjusting-screw waste K, in combination with the valve *a* and the adjusting-screw rod *e'*, and wedge *e* and independent parts, substantially as described.

7. The combination of the adjustable screw-seat *c*, the valve *a*, and wedge *e*, with their inclines, the adjusting-screw rod *e'*, lug *h*, and adjusting-screw waste K, substantially as described.

8. The combination of valve *a* and the waste-way K, as constructed and relatively adjusted by means of seat *c*, and wedge *e*, substantially as described.

9. The valve *a*, in combination with the three adjusting devices—viz., seat *c*, wedge *e*, and screw K, substantially as described.

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Witnesses:

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