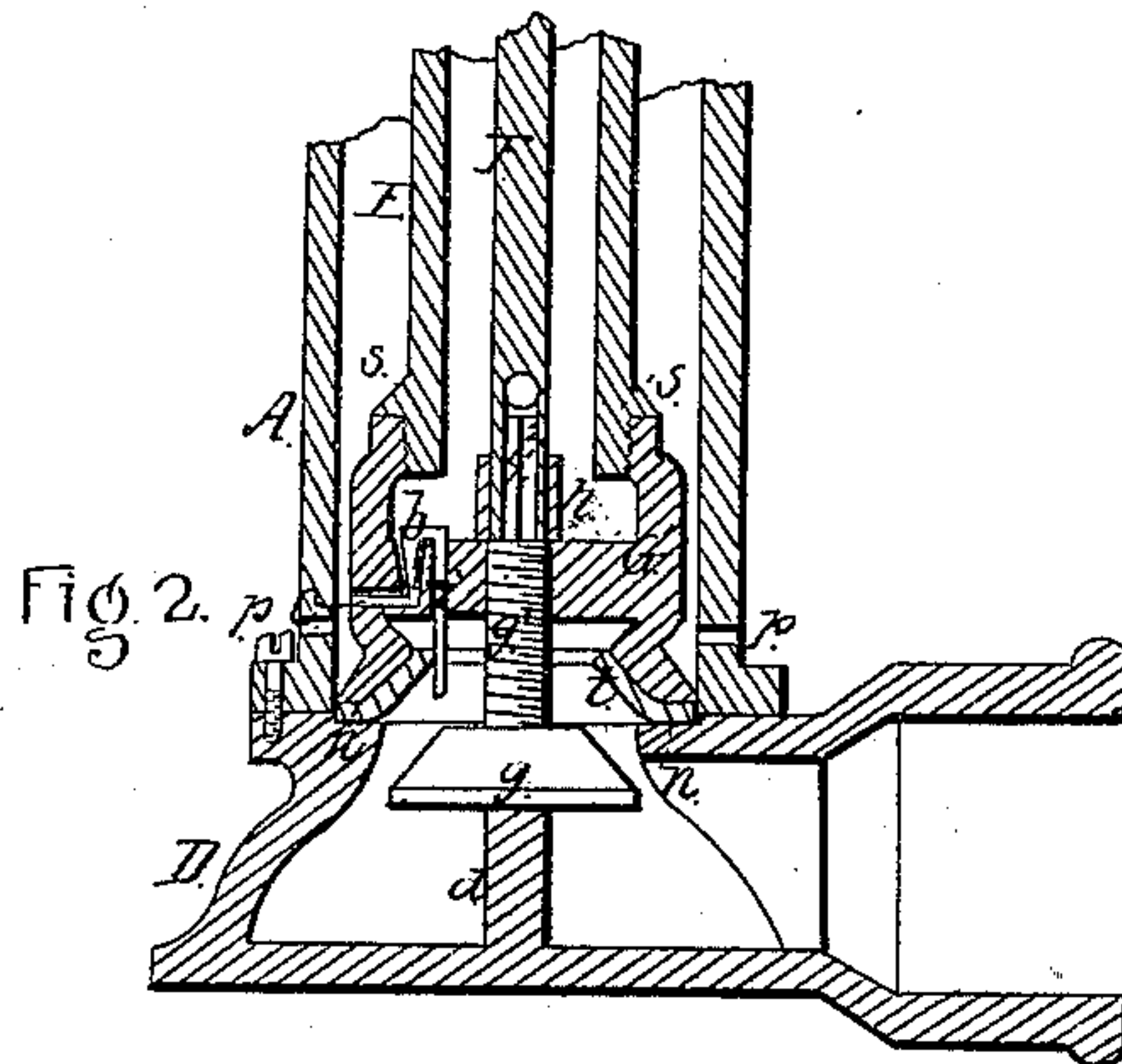
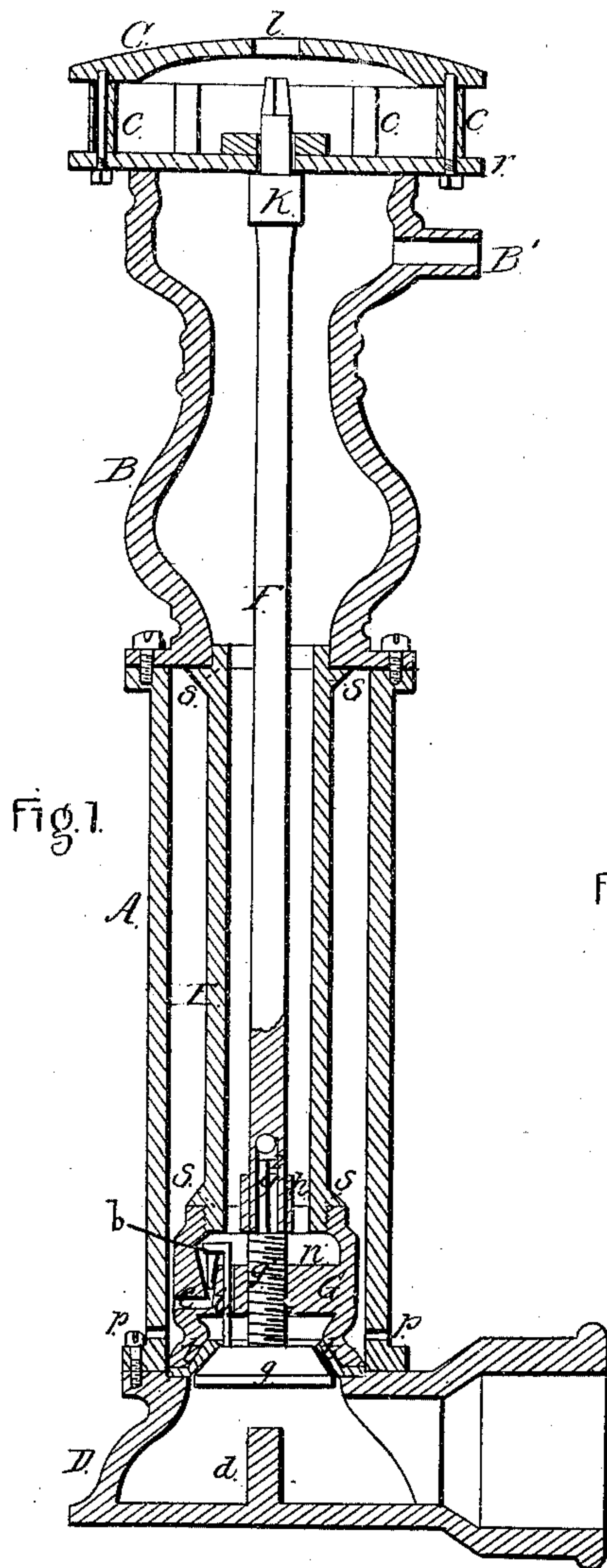


B. Holly,
Hydrant,

No 94,749,

Patented Sept. 14, 1869.



Witnesses:

W. T. Campbell
for W. Campbell

Inventor

B. Holly
by
Wm. Lincoln Holman

UNITED STATES PATENT OFFICE.

BIRDSILL HOLLY, OF LOCKPORT, NEW YORK.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 94,749, dated September 14, 1869.

CASE D.

To all whom it may concern:

Be it known that I, BIRDSILL HOLLY, of Lockport, in the county of Niagara and State of New York, have invented a new and Improved Hydrant; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a diametrical section through the improved hydrant, showing its main valve shut. Fig. 2 is a sectional view of the lower parts of the hydrant, showing the main valve open.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to certain novel improvements on hydrants wherein the water is conducted from a foot or chamber at the base of the hydrant-stock through a pipe which is inclosed centrally within a case, and thence into a cap or upper chamber, from which the water is drawn, and wherein a valve which is operated by a key-rod is arranged at the base of the said central pipe, for shutting communication between this pipe and the foot or base chamber.

The nature of my invention consists, first, in the employment of a leather valve-seat, and in so arranging such a valve that it may be held in place by the main valve, while lowering or adjusting the internal pipe to its place upon the foot-chamber of the hydrant, also in adapting such valve to serve as a packing beneath the lower end of the internal pipe, as will be hereinafter explained; secondly, in arranging above the main valve, and within the internal pipe, a trip-valve, which will be shut by its own gravity when the main valve is open to draw water, and which will be opened by this main valve when it is shut, whereby the water which is left in the hydrant when the main valve is shut is allowed to escape therefrom; thirdly, in connecting the several parts constituting the body of the hydrant in such manner that the joints at the extremities of the internal pipe can be readily made in the act of securing the upper section of the hy-

drant on the top of the casing inclosing the internal pipe, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the external casing of the lower portion of the hydrant, which casing is flanged at its extremities, and secured by bolts to a hollow foot, D, at one end, and to the upper section B at the other end. The foot D is constructed with a sleeve for having a pipe connected to it, and it is also constructed with a valve-post stop, *d*, and an annular shoulder, *n*, upon which latter the valve-box G on pipe E is supported and firmly held. The stop *d*, which rises from the bottom of the foot D, is intended for preventing the main valve *g* from being depressed too far from its seat.

The internal pipe E is constructed with annular shoulders or flanges, *s s*, near its ends, between one of which and the end of the pipe a screw-thread is cut, by means of which the valve-box G is secured tightly to this pipe. The opposite or upper end of the pipe E is fitted into the body portion B, and the shoulder *s* caused to bear against the bottom of portion B, as shown in Fig. 1.

The valve-box has a bridge extending diametrically across it inside, through which a screw-threaded stem, *g*¹, of valve *g* is tapped, upon the upper prismatic end *g*² of which stem the key-rod F is fitted, as shown.

There are also made through the bridge in the box G holes for receiving a trip-valve, *b*, and stem *i*, which latter passes freely through the bridge, and extends below it far enough to be struck by valve *g* and lifted thereby when it is raised to its seat, as shown in Fig. 1. The cone-valve *b*, formed on the upper end of the stem *i*, fits into a seat which is formed at the upper termination of a right-angular passage, *e*, through which water will escape from pipe E into the space between the pipe and casing A when valve *b* is raised from its seat. The water which flows through the passage *e* when valve *g* is shut escapes from the hydrant through the orifices *p*, made through the casing A near its lower end.

The lower end of the valve-box G is made flaring downwardly, and is lined with leather, *t*, cut in the form of a ring, and made of such diameter externally as to extend beneath the lower end of the valve-box, and serve as a packing between this end and the shoulder *n* on the top of the foot D, as shown in Figs. 1 and 2. The ring also serves as the seat for valve *g*, by its being arranged between the beveled perimeter of this valve and the correspondingly beveled edge surrounding the valve-opening. By this mode of applying the leather ring *t* it will be seen that when valve *g* is shut it will hold the ring in place, and allow it to be adjusted in place on the shoulder *n* in putting together the hydrant.

The body B is seated upon the flange *s*, surrounding the pipe E near its upper end, and also upon the upper end of the external pipe or casing A; consequently the internal pipe E will be held down firmly upon the packing-ring *t* and leakage prevented at this point.

The body B has a discharge-nozzle, B', and also a flat top, *r*, through which latter a hole is made centrally for allowing the upper prismatic end of key-rod F to protrude through this top. The collar *k'* prevents the withdrawal of the key-rod from its place in the hydrant.

C is a cap, which is supported on the top plate *r* by a number of tubular posts, *c*, arranged very near together around the rod F, and which is confined down in place by bolts

passed through the posts, and provided with nuts on their lower ends. The hole *l*, which is made centrally through the cap C, allows a key to be passed through it and applied to the upper end of the key-rod F. The posts *c* and cap C prevent the use of a spanner or wrench to turn rod F, and allow this rod to be turned only by an instrument made for the purpose.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The lining *t* to the seat of the main valve, adapted to serve the double purpose of a seat, and also a packing at the joint between the pipe E and the foot D, in combination with the external casing A, substantially as described.

2. The arrangement of the leather ring *t* between the valve *g* and the lower end of the valve-box G, in combination with the pipe E and external casing A, substantially as described.

3. The combination of the parts A B D E, substantially as set forth.

4. The cap C, applied on top of the hydrant and supported upon posts *c*, in combination with key-rod F and central orifice *l*, substantially as and for the purpose described.

BIRDSILL HOLLY.

Witnesses:

C. G. HILDRETH,
R. T. CAMPBELL.