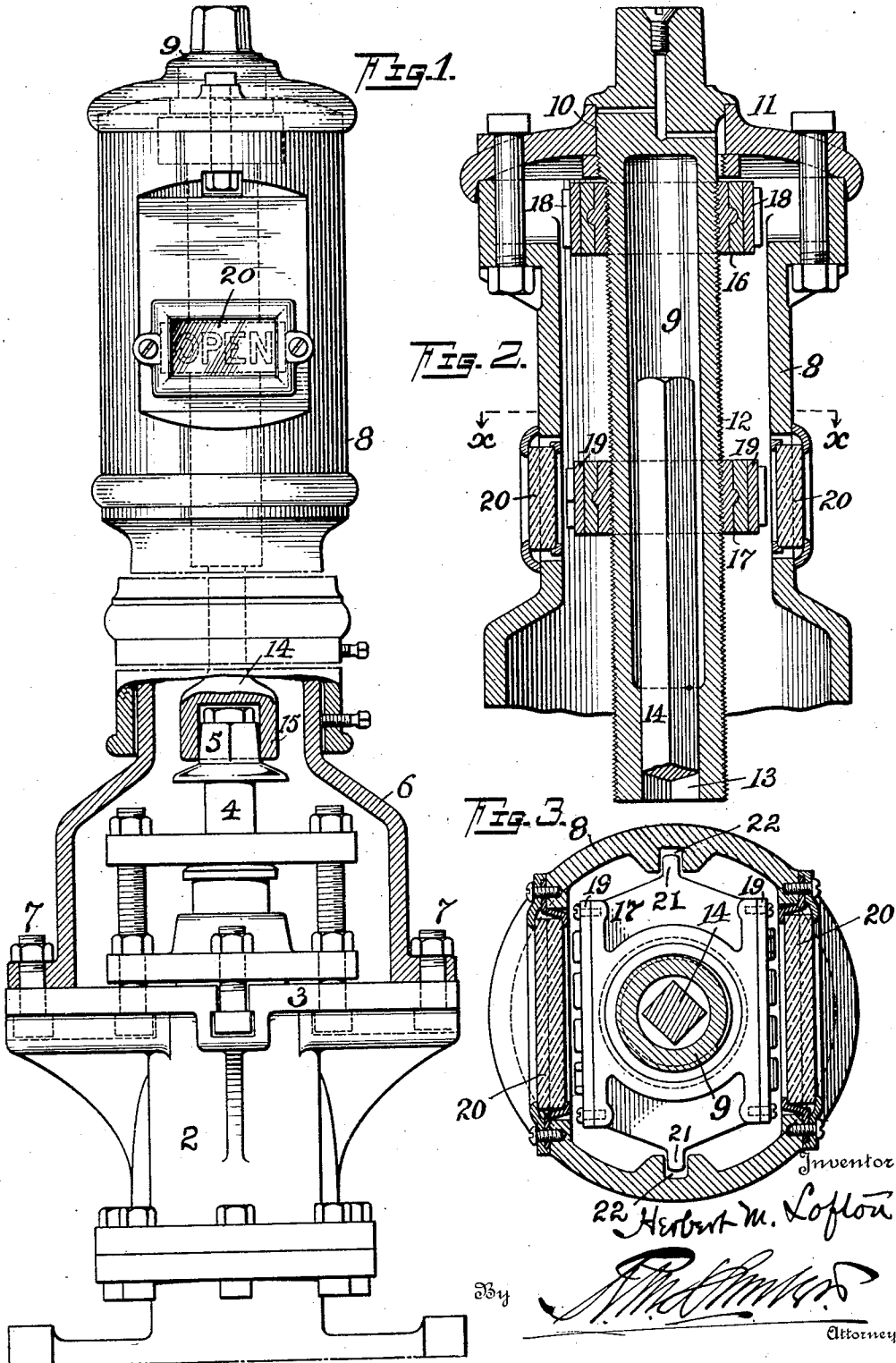


H. M. LOFTON.
INDICATOR POST.
APPLICATION FILED AUG. 29, 1919.

1,386,065.

Patented Aug. 2, 1921.



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INDICATOR-POST.

1,386,065.

Specification of Letters Patent.

Patented Aug. 2, 1921.

Application filed August 29, 1919. Serial No. 320,578.

To all whom it may concern:

Be it known that I, HERBERT M. LOFTON, a citizen of the United States, and resident of Chattanooga, county of Hamilton, and State of Tennessee, have invented an Improvement in Indicator-Posts, of which the following is a specification.

The object of my invention is to provide an indicator post for valves which shall be universally adaptable to various sized valves, and more particularly to valves requiring different numbers of turns of the spindle or stem to fully open and close the valve.

It is customary in hydraulic engineering to equip gate valves in buried water mains with means extending above ground for operating them, which means is known as an indicator post and adapted to indicate when the valve is fully open or fully closed; but as the valves have been of various sizes requiring different manipulations, it has been found costly to supply the demand in practice, because it has required an inconveniently large number of sizes of indicator posts. It is the special object of my invention to obviate the difficulty above pointed out, and this I accomplish by providing the post with adjustable indicators and operating means, whereby the "open" and "shut" positions of a large variety of valves may be accurately indicated by the same size of post, thereby greatly reducing the number of sizes of indicator posts necessary to meet all commercial demands. Incidentally to the advantages to be thus secured by my invention, there is the additional benefit to the manufacturer and jobber of not having to keep on hand an excessive stock of posts, since any post may be quickly adjusted to the valve to which it is to be used.

My invention consists of a suitable post construction adapted to be bolted to the valve and having means for operating the valve stem, said operating means provided with a rotatable screw-threaded sleeve, and two independent indicator or target castings screwed thereon and having indicators, said castings guided vertically in the post and held against rotation with the sleeve; the

construction being such that the indicators may be adjusted at various distances apart and in various positions upon the threaded sleeve, so that with a given number of revolutions of the sleeve (corresponding to those of the valve stem), the indicators will be brought into alinement with the windows in the post.

My invention also comprehends other features of construction which, together with those above enumerated, will be found fully described hereinafter and pointed out in the claims.

Referring to the drawings:—Figure 1 is an elevation of an indicator post embodying my invention and with part in section; Fig. 2 is a vertical sectional view through the upper part of the post on a plane through the windows and indicators; and Fig. 3 is a cross sectional view on line *x-x* of Fig. 2. 2 is the gate valve, and may be of any suitable construction. The valve casing is provided with a flange 3 at the top to which is bolted the indicator post by bolts 7. The valve stem is shown at 4 and is provided at top with a bonnet 5 of polygonal shape which is engaged by the socket 15 of the operating stem 14 of the indicator post.

The indicator post is usually made in two parts, a lower flanged portion 6 directly bolted to the valve casting and an upper section 8 which is adjustably sleeved and clamped in position upon the lower part 6, but this detail forms no part of my present invention. The upper section 8 of the post is the part which is located above the ground and hence is made more ornamental in design. On opposite sides of the section 8, I arrange window openings. These openings may be provided with windows of any suitable construction. 9 is a vertical sleeve or operating nut, and is suitably journaled at 10 in the cap 11 whereby it may be freely rotated. The sleeve at the bottom is made square as at 13 and receives the square stem 14, the latter being thus positively rotated with the sleeve or nut and yet free to slide vertically therein to adjust itself to the distance of the valve below the ground. These various constructions thus described may be

varied or modified as the details are not essential to my improvements.

Screwed upon the screw-threads 12 of the sleeve 9 are the two indicator or target castings 16 and 17, the former having secured thereon the "shut" targets 18, and the latter the "open" targets 19, said targets adapted to be brought in alinement with the windows 20 to indicate the "shut" and "open" positions of the valve. As indicated in Fig. 2, the targets are in adjusted positions indicating that the valve is open. The target castings 16 and 17 constitute nuts upon the sleeve 9 and are provided with lugs 21 which are guided in vertical grooves 22 in the inner walls of the post body 8 (Fig. 3). It will be seen that these castings 16 and 17 are raised and lowered simultaneously while being held against rotation, said operations being accomplished by rotating the sleeve 9 to the left in opening the valve and to the right in closing it, as is customary. The screw threads 12 of the sleeve 9 and the threads of the castings 16 and 17, may be of any suitable pitch found most convenient, and hence I do not limit myself in this respect, the only requirement necessary being to have sufficient threads to permit the greatest number of revolutions necessary in adapting the post to commercial valves.

Assuming that the adjustment of the parts shown in Fig. 2 is adapted to a valve requiring the greatest number of revolutions to open and close it, the construction will cause the "open" targets 19 to be lowered and the "shut" targets 18 also to be lowered so that they will come in alinement with the windows 20 when the valve has been fully closed. If now, the post is to be adapted to a valve requiring the least number of revolutions to open and close it, the cap 11 is removed and the target castings 16 and 17 adjusted on the sleeve so that they will be relatively nearer together and hence require a less number of turns of the sleeve 9 to bring the targets 18 and 19 in alternate alinement with the windows 20. Knowing approximately the number of turns to open or close the valve, it is an easy matter to adjust the target castings 16 and 17. The "shut" targets of target casting 16 being adjusted to the positions in front of the windows 20, the cap 11 and sleeve 9 may be lifted off after the valve has been turned to open position. The target casting 17 may then be adjusted on the sleeve 9 so that when the cap and sleeve are reapplied in position, the "open" targets come into alinement with the windows 20. A couple of trials will insure this adjustment and then the cap 11 is bolted in position and the post will be found to be in adjusted position to suit the valve. This same procedure may be had for valves requiring any intermediate number of revolutions to open and close them,

The essential feature of my invention resides in having the target castings 16 and 17 independently adjustable on the sleeve or nut 9 so as to obtain a large range of adjustment between the "open" and "shut" targets, and while I have shown an inexpensive construction for accomplishing this result, it will be manifest that I am in no way restricted to the same in securing the same or equivalent results.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that I do not restrict myself to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

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

1. In a device for operating valves of the character stated, an indicator post having a window and a rotatable screw-threaded sleeve, combined with two independent target castings to respectively indicate the open and shut positions of the valve, said castings screwed upon the sleeve and guided in the post so as to be adapted to be alternately brought into alinement with the window and adjustable to or from each other to suit valves requiring different numbers of turns in opening and closing them.

2. In a device for operating valves of the character stated, an indicator post having separate targets to indicate the open and shut positions of the valve, said targets held against rotating by the post, a hand rotatable part for opening and closing the valve, a valve operating stem reciprocated by the rotatable part, and connecting means arranged between the rotatable part and each of the targets for operating them, said targets adjustable relatively to and from each other independent of the valve operating stem to suit valves requiring different numbers of turns in opening and closing them.

3. In a device for operating valves of the character stated, an indicator post having a window, a rotary hand operable part carried by the post, a reciprocable valve stem operated by the rotating hand operable part for opening and closing the valve, separate targets for respectively indicating the open and closed positions of the valve when said targets are moved into position back of the window, means on the post for guiding the targets vertically independent of the valve stem, and connections between the rotary hand operable part and the respective targets for simultaneously moving them in the

same direction and alternately into alignment with the window, said connections providing capacity for relative adjustment of the targets to bring them into position before
5 the window with varying numbers of revolutions of the hand operable part to suit valves of various sizes.

In testimony of which invention, I hereunto set my hand.

HERBERT M. LOFTON.

Witnesses:

L. S. McCULLOHS,
L. D. LONG.