

A. C. SCHUERMANN.
 INTERCHANGEABLE SELF CLOSING AND COMPRESSION COCK.
 APPLICATION FILED MAR. 28, 1911.

Patented Aug. 20, 1912.

1,036,012.

Fig 1

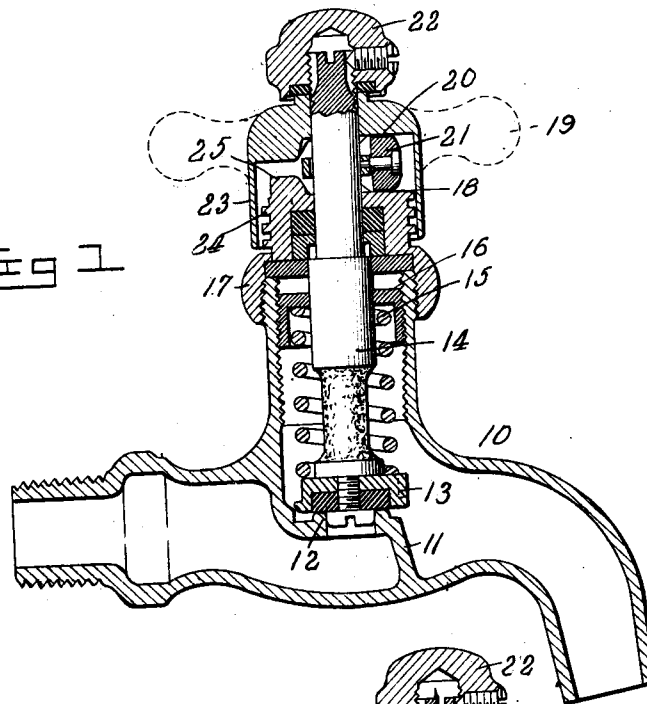
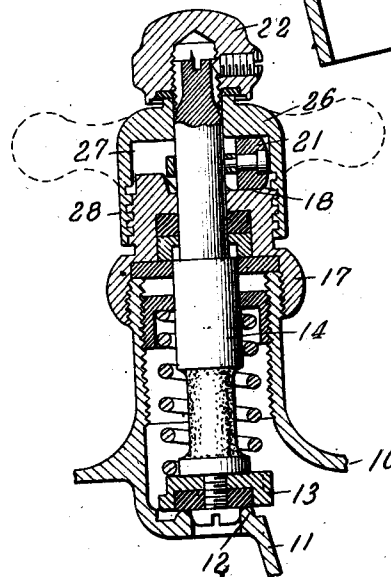


Fig 2



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INTERCHANGEABLE SELF-CLOSING AND COMPRESSION COCK.

1,036,012.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed March 28, 1911. Serial No. 617,405.

To all whom it may concern:

Be it known that I, ANTON C. SCHUERMANN, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented new and useful Improvements in Interchangeable Self-Closing and Compression Cocks, of which the following is a specification.

My invention consists of an interchangeable self or automatically closing and manually operable or non-automatically closing cock, which may be used either as a self-closing or a non-automatically closing cock by the simple change of one or more operating parts. Such a cock is of considerable advantage both to dealers and the trade, for there are many situations in which it is desirable that a self-closing cock may be so changed that it can be used as a compression cock, and vice versa. Among these situations may be mentioned one when a close regulation of flow is desired, and a self-closing cock is being used. By my invention the self-closing cock can be readily changed to a manually operable non-automatically closing cock. And besides these situations, which arise, mainly, after the valve or cock is in use, a dealer by keeping these valves in stock, materially lessens the amount of stock which it is necessary for him to keep on hand, for he may sell the same valve either as a manually operable closing or a self-closing cock.

In the accomplishment of my invention I have so organized the ordinary self-closing cock, that it may be changed into a non-automatically closing cock by a simple change of only one of its operating parts, and that one, is the most readily changed of them all. I provide two different forms of handles for use in connection with the cooperating parts of a self-closing cock. More specifically stated I have provided in connection with the gland nut, which usually carries inclined trackways or other surfaces cooperating with inclined surfaces on a handle associated with the valve stem for opening the self-closing cock, a screw-thread. The handle which is used when the cock is used as a self-closing cock does not engage these screw-threads, but the operating sur-

faces on the gland nut engage corresponding surfaces on the handle. The valve is opened when the handle is turned by hand, and closed when the handle is released by the pressure of a suitable spring or other means. I provide, however, an additional handle to take the place of the self-closing handle, which preferably has no cooperating operating surfaces or inclined trackways, but which is provided with screw-threads for engagement with the threads on the gland nut. Thus when the last mentioned handle is turned, the valve is opened or closed an amount dependent upon the angle through which the handle has been turned, and the pitch of the screw-threads, and rests in the position to which it has been moved when the handle is released.

In the accompanying drawings I have shown one embodiment of my invention.

Figure 1 is a central longitudinal section through the cock of my invention, the handle used making the cock self-closing. Figure 2 is a similar view of the cock in which the handle is used which makes the cock non-automatically closing, portions of the main casing of the cock being omitted for the sake of convenience in showing.

The main body of the casing of the cock is designated 10, the usual cross-partition 11, the valve seat 12 which it carries, the valve 13, the valve stem 14, the closing spring 15, the adjusting nut 16 for the spring, the gland nut 17, the lower trackway 18 on the gland nut, the handle 19, the upper trackway 20, the intervening cam rollers 21, and the abutment 22 secured to the stem and against which the handle bears. These parts thus designated are the usual parts of a well known type of self-closing cock. When the handle 19 is turned, the rollers 21 acting against the trackways 18 and 20 move the stem upwardly to open the valve. Immediately the handle is released, the pressure of the spring 15 between the valve disk 13 and the adjusting nut 16 acts to close the valve. The handle 19 of this self-closing cock is provided with a bonnet 23 projecting downwardly as is usual. This bonnet, however, is of sufficient internal diameter to permit the handle to move freely,

and without engagement with screw-threads 24 formed on the exterior surface of the reduced portion 25 of the gland nut 17 which carries the lower trackway 18. The threads are hidden by this bonnet, and protected from external injury. Accumulation of dirt and filth, upon these screw-threads is also prevented by the bonnet.

The substitute handle of my invention is shown applied in Fig. 2. Its main body 26 is socketed at 27 and provided with a depending bonnet 28, the handle in most respects being similar to the handle 19 of Fig. 1 for the self-closing cock; but as distinguished from that handle, the upper trackway 20 is omitted, and compression screw-threads for engagement with the compression screw-threads on the gland nut are formed on the interior of the bonnet. Thus when it is desired to change the self-closing cock of Fig. 1 to a non-automatically or manually operable closing cock, all that is necessary for one to do is to remove the handle 19 of that cock, and substitute the handle 26 for non-automatic operation. This handle is screwed on the threads 24 of the gland nut, and then the abutment 22 which is removed when removing the self-closing cock handle, is replaced and adjusted to bear against the handle 26 when the same is screwed up to its lowest position. Then when the valve is desired open, all that is necessary is to turn the handle 26, any degree desired, to open the valve a corresponding degree. When the handle is released the valve remains open in its adjusted position. When the valve is desired closed, the handle is turned in the opposite direction, and the spring 15 closes the valve as the handle is turned.

It will be apparent that I have devised an interchangeable automatically or self-closing and non-automatically closing cock which is possessed of many advantages, chief among them being its simplicity and cheapness. The cost of making the extra screw-threads is relatively small, and the cost of extra handle is also small. It should also be apparent that while I have described the best form of my invention now known to me, my invention may be carried out in many other ways which may be devised by the skilled men in the art. Therefore, while I have described my broad invention with specific reference to its specific embodiment, I desire to have it understood that the annexed claims are intended to cover all such embodiments of my invention as do not depart from its generic spirit.

What I claim is:—

1. A gland nut for valves comprising a lower internally screw-threaded portion, an upper portion shaped for a trackway on its

upper side, and screw-threads surrounding said upper portion.

2. An interchangeable self-closing and manually closing cock comprising a casing having a valve seat therein, a stem projecting into the casing, a valve on the stem adapted to engage the seat, a compression spring associated with the stem tending to seat the valve, a gland nut carried on the casing about the stem and having an externally threaded portion and an inclined trackway, a roller carried by the stem adapted to ride on the trackway, and interchangeable handles adapted for mounting on the stem and having inwardly extending bonnets for inclosing the threaded portions of the gland nut, one of said bonnets having interior threads adapted to engage the threads of the gland nut and the other bonnet having a smooth interior and a trackway opposed to the trackway of said gland nut and adapted to cooperate therewith and with said roller.

3. In an interchangeable self-closing and manually closing cock, a casing, a stem in the casing having a valve adapted to seat in the casing, a compression spring in the casing associated with the stem tending to seat the valve, a gland nut carried by the casing through which the stem passes, said nut having a reduced portion provided with external threads and an inclined trackway on its upper end, a handle adapted to be carried on the upper end of the stem and having a bonnet depending about the reduced portion of said gland nut, said bonnet being provided with a smooth interior and an inclined trackway opposed to said trackway of the gland nut, a roller carried on the stem between the trackways, and a second handle interchangeable with said first handle and having a bonnet with interior threads for engaging the threads of said nut and having a smooth inner face opposed to said trackway on said gland nut.

4. The combination with a casing having a valve seat therein, a stem in said casing, a valve on said stem, a spring associated with the stem tending to seat said valve, a gland nut on the casing about the stem provided with external threads and an inclined trackway, a roller carried by the stem for movement on the trackway, and a handle adapted to be adjustably mounted on the upper end of the stem and having a bonnet depending about said gland nut and provided with a smooth interior, and an inclined trackway opposed to said trackway of the gland nut and resting on said roller, of means for manually closing said valve comprising an interchangeable handle adapted for engagement on said stem and provided with a depending bonnet inclosing

the upper end of said gland nut and having
internal threads for threaded engagement
with the gland nut and being provided with
a smooth inner face opposed to said track-
5 way of the gland nut whereby said stem is
operated by the turning of said handle over
the threaded portion of said gland nut.

In testimony whereof I have hereunto set
my hand in presence of two subscribing
witnesses.

ANTON C. SCHUERMAN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."