W. GEE.

Soda-Water and Sirup Cocks.

No. 138,143. Patented April 22, 1873.

Fig: 2

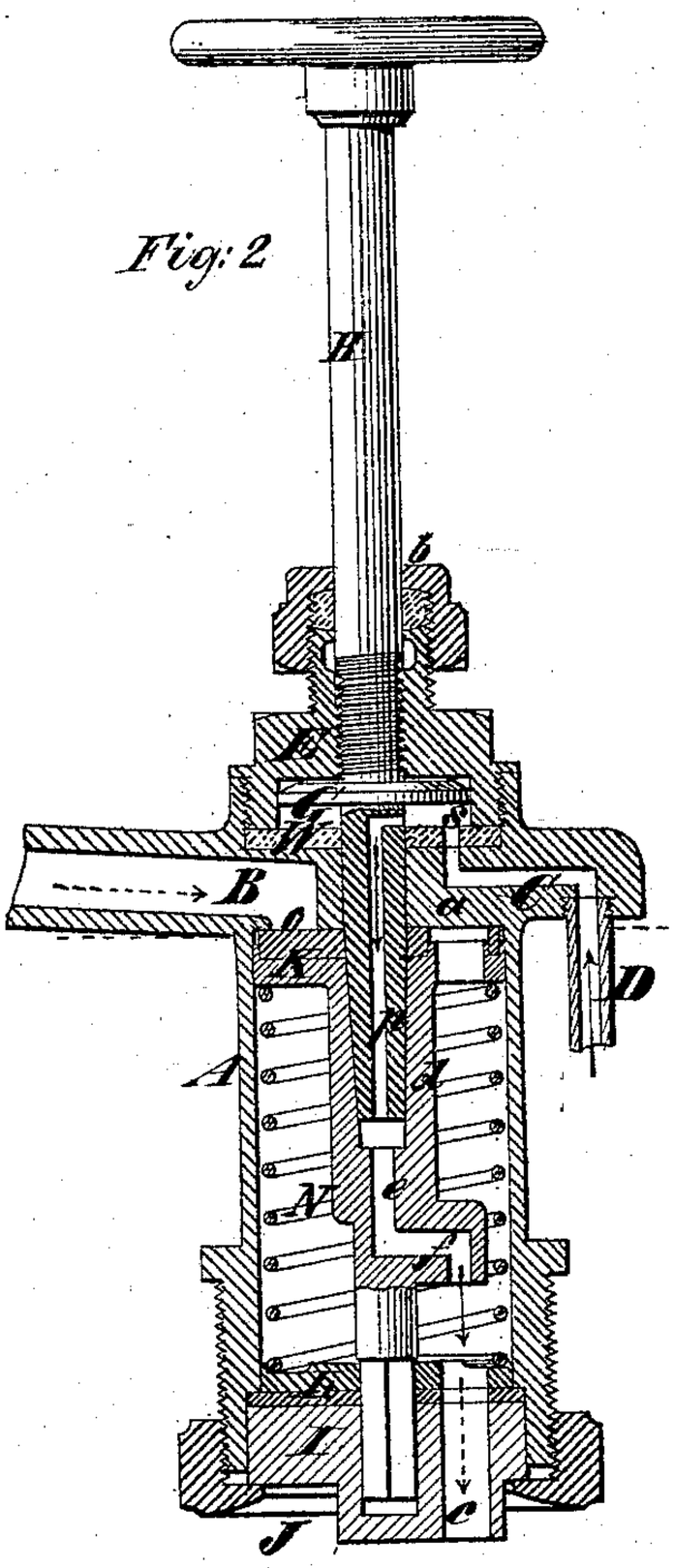


Fig: 1

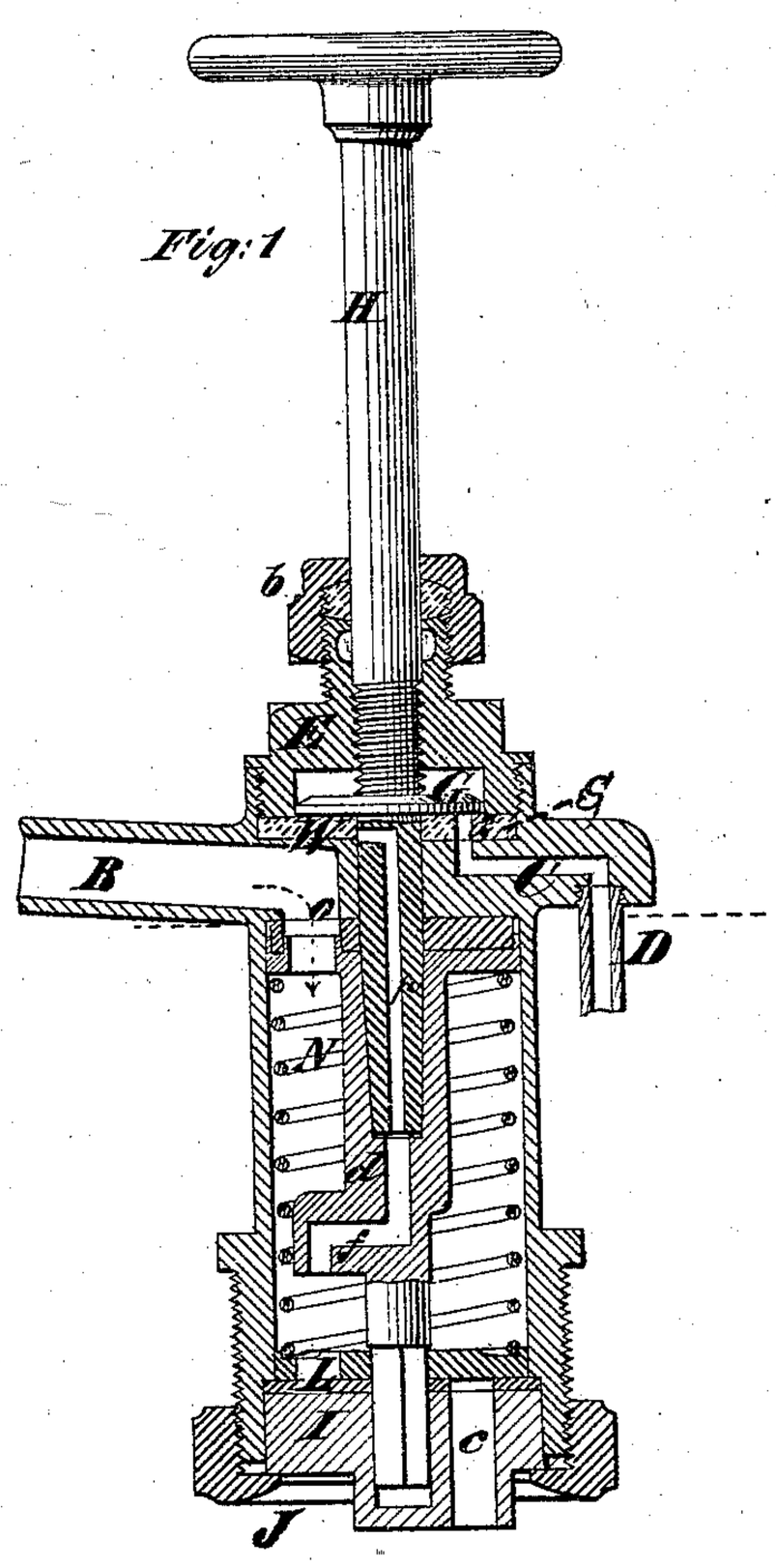


Fig: 4

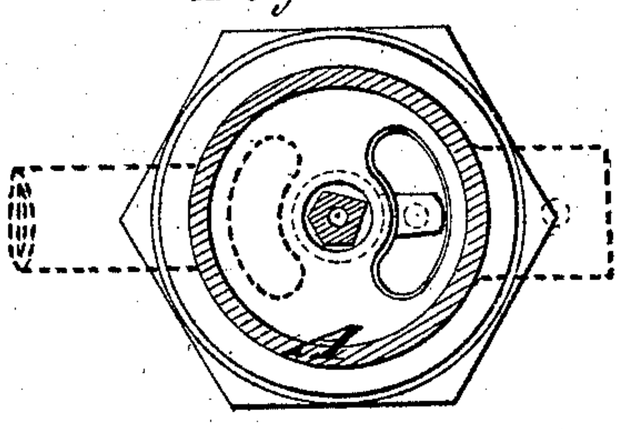
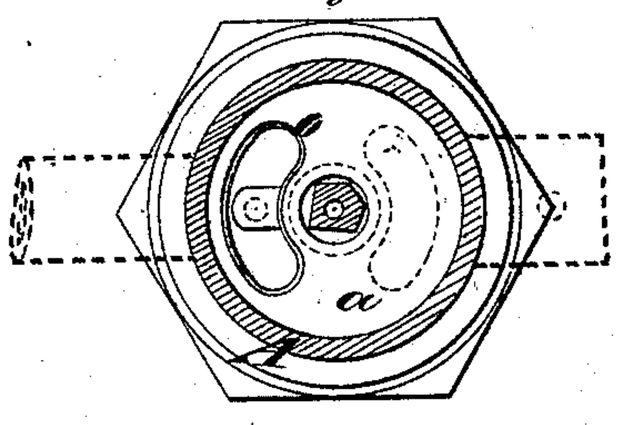


Fig: 3



Witnesses:
Fred Haynes
Fred Emerson

William Gee
per Wales, Brown & Allen
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM GEE, OF NEW YORK, N. Y.

IMPROVEMENT IN SODA-WATER AND SIRUP COCKS.

Specification forming part of Letters Patent No. **138,143,** dated April 22, 1873; application filed January 30, 1873.

To all whom it may concern:

Be it known that I, WILLIAM GEE, of the city, county, and State of New York, have invented an Improvement in Combined Soda-Water and Sirup Cocks, of which the following is a specification:

The main object of this invention is to produce a cock which shall thoroughly mix the sirup and soda-water together before delivering them. To this end it consists in a novel arrangement of passages and valves, including means for operating the latter, whereby the soda-water, in its egress, is made to pass through a portion of the sirup and carry with it the requisite quantity thereof to flavor the beverage, the sirup thus drawn off being thoroughly incorporated with the soda-water before delivery.

In the accompanying drawing, Figure 1 is a longitudinal section of a cock made according to my invention. Fig. 2 is a similar view, showing the valves in a different position. Fig. 3 is a transverse section of the cock with its valves in the same position as represented in Fig. 1, and Fig. 4 is a corresponding section with the valves situated as shown in Fig. 2.

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

A is the barrel or shell of the cock. It is of cylindrical form, and is furnished on one side, near the top, with a pipe, B, leading from the sirup-reservoir. This pipe communicates with an orifice, *o*, in a head, *a*, in the barrel of the cock. In the side of this head opposite the pipe B is a passage, which terminates in an upward extension, as represented. A pipe, D, from the soda-water vessel communicates with the outer end of this passage, and thereby conducts the water to the cock. It will be well here to remark that the course of the soda-water through the cock is indicated by arrows in full outline and that of the sirup by arrows in dotted outline. Above this head *a* just described there is a screw-socket, in which fits a piece, E, provided in the under side with a cavity for the main valve G of the cock to move up and down in, and furnished, also, with a stuffing-box, *b*, to maintain a tight joint around the operating-spindle H. A washer, W, of India rubber or other elastic material, is interposed between the head *a* of the barrel and the piece E, and constitutes the seat of the valve G, and also forms a packing to prevent any leakage around the spindle into the barrel. There is in this washer, opposite the end of the passage C, an orifice, S. In the lower end of the barrel is a block, I, which constitutes its bottom, and is secured in place by means of an overlapping nut, J, screwed onto the end of the barrel. This block answers as a bearing for the spindle H, and is provided with an outlet-orifice, *c*. K and L are two valves of corresponding form, which work, the one, K, upon a seat on the under side of the head *a*, and the other, L, on a seat on the upper side of the block I. The valve K is furnished with a stem, *d*, which has in it a passage, *e*, terminating in an elbow, *f*, near the bottom of the barrel A of the cock. This stem extends below the elbow just mentioned, and is squared to receive the valve L. These valves are furnished each with a segmental port, which may be brought opposite the orifice in its seat to permit the delivery of the sirup or soda-water. A spiral spring, N, interposed between the valves, holds them against their seats. The upper portion of the stem of the valve K is of sufficient size to receive the end portion of the spindle H, which is made of an irregular angular form, as shown in Figs. 3 and 4, so that it can be in but one position relatively to the valve K. In it there is a passage, *p*, which at one end leads to the passage in the end of the valve K, and just below the main valve G it terminates at the side of the spindle.

When the valves are in the position shown in Fig. 1, the sirup-valve K being open and the others closed, a quantity of sirup is admitted to the barrel A of the cock. If the spindle be turned in the proper direction the valve K will be shifted to close the orifice *o*, and the main valve G will be raised from its seat, but not sufficiently to establish communication between the soda-water pipe and the passage *p* in the spindle. The valve L will be, of course, shifted as well as the others, but not far enough to open the delivery-orifice *c*. By the raising of the valve G soda-water is admitted above the elastic washer W, and by its pressure preserves its tight fit around the spindle and prevents any leakage around it into the barrel.

The spindle is turned further, and thereby the valve L is shifted to open the delivery-orifice *c*, and the valve G is raised from its seat sufficiently to cause the mouth of the passage *p* in its spindle to project into the cavity in the piece E and communicate with the soda-water supply-pipe. By the shifting of the spindle the mouth of the elbow *f* is brought over the delivery-orifice, so that the soda-water, in its egress, passes through the sirup which is between them, and, in its passage from the cock, drags or carries the sirup (a little at a time) along with it, and the two enter the tumbler in a condition ready for use, the sirup being thoroughly incorporated with the soda-water. When the tumbler is full the spindle is turned in the reverse direction to cause the valve L to close the delivery-orifice and to bring the main valve down on the elastic washer.

The great point in the operation of this apparatus is that the sirup, instead of being driven out before the soda-water and mixed by striking the tumbler, is carried or dragged out with it.

Claims.

1. The elastic washer W furnished with an orifice, S, in combination with the valve G and the passage *p*, substantially as and for the purpose set forth.

2. The combination of the compression-valve G and slide-valves K and L, all operated by the same spindle, essentially as and for the purpose specified.

3. The elbow *f*, arranged over the outlet-orifice *c* a short distance above it, substantially as and for the purpose herein described.

WILLIAM GEE.

Witnesses:
MICHAEL RYAN,
FRED. HAYNES.