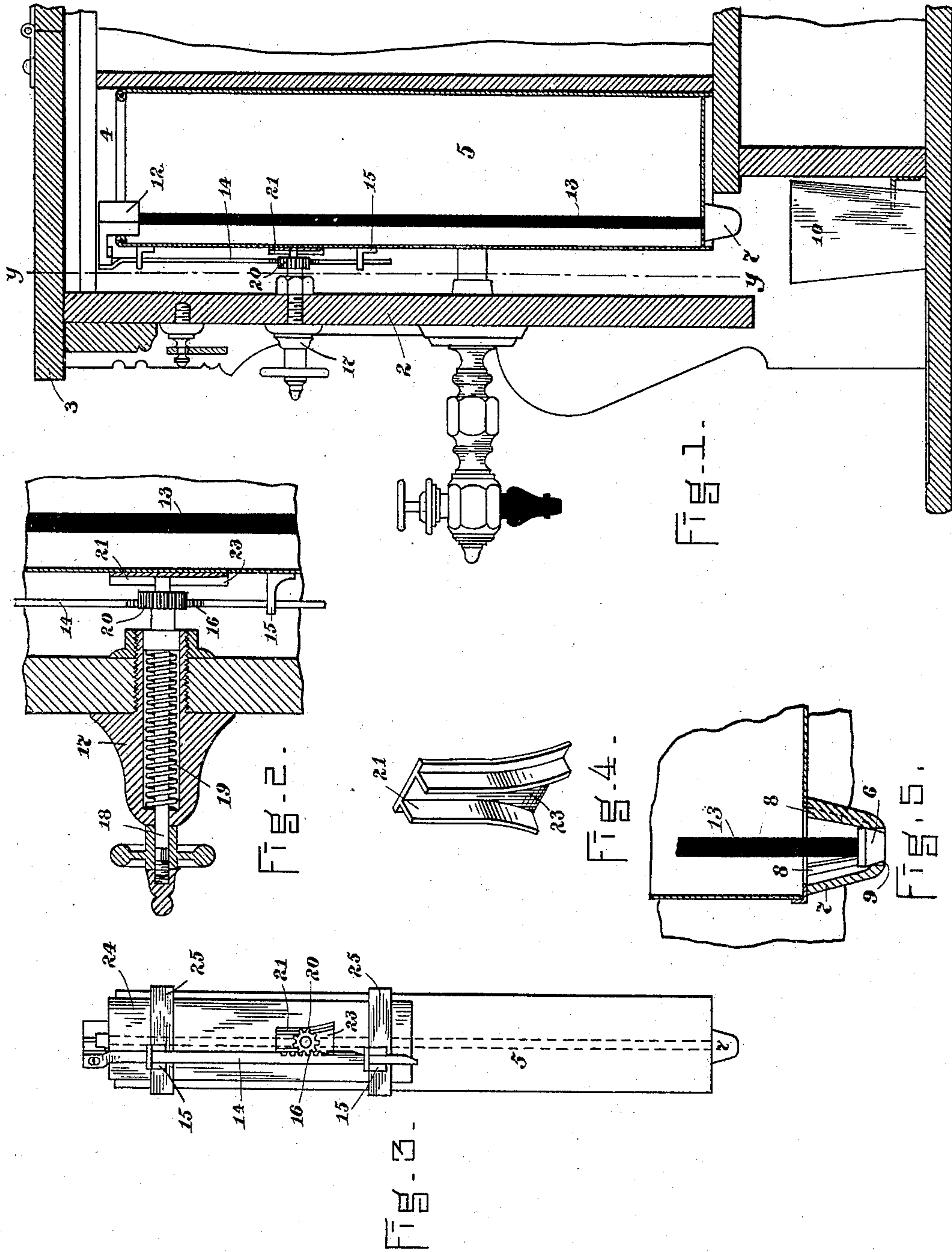


(No Model.)

A. D. PUFFER.
SODA WATER DRAFT APPARATUS.

No. 418,223.

Patented Dec. 31, 1889.



WITNESSES.

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SODA-WATER-DRAFT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 418,223, dated December 31, 1889.

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To all whom it may concern:

Be it known that I, ALVIN D. PUFFER, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Soda-Water-Draft Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to soda-water-draft apparatus, particularly that class termed "cabinet fountains," in which a series of removable sirup-cans located within the fountain and each furnished with a valve, are supplied externally of the fountain with mechanism which operates said valves.

My invention consists in the construction of the valve-rod and the actuating mechanism by which said rod, located in the sirup-can within the fountain, is positively and easily operated outside of and in front of the fountain, and caused to deliver the contents of said can into a vessel placed to receive it; further, in the arrangement by which the sirup-can with its valve and valve-rod can be instantly removed from the fountain, the valve-rod being disconnected from its actuating mechanism and engaging or disengaging, as required, when the can is removed to be replenished or when it is replaced after it has been filled.

The drawings herewith annexed represent in Figure 1 a vertical sectional elevation transversely of a soda-water-draft apparatus embodying my invention. Fig. 2 is an enlarged view of the actuating mechanism for the valve-rod in longitudinal section. Fig. 3 is a front elevation of one of the cans, showing a portion of the valve-rod and its actuating mechanism. Fig. 4 is a perspective view of the guide-plate, and Fig. 5 is a sectional elevation of the valve-case.

In the accompanying drawings, 2 represents the exterior front casing in part of a soda-water-draft apparatus.

3 is a hinged cover, by which access is had to the chamber 4, in which the sirup-cans 5 are located. The latter are narrow deep ves-

sels, open at the top, rectangular in shape, and arranged together side by side, the series extending the entire length of the fountain. The several cans are adapted to contain various kinds of sirup, and each one is provided with a valve 6, which is seated within a conical valve-case 7, provided with interior radial ribs 8 to guide the valve at this point, and, further, with a discharge-orifice 9, adapted to deliver into a drinking-vessel 10, aligned below it. These guides, located upon the wall of the valve-case, serve, when the valve is raised, to keep the latter in alignment with the seat and yet afford sufficient space for the liquid to pass readily around the valve upon all sides. Since these sirup-cans require replenishing, it is necessary that some simple and ready device should be provided by which the valve can be operated from the outside of the fountain and at the same time permit the cans to be removed from the fountain and replaced again, either for purposes of replenishing or to clean the can.

Since the valve must be located at the bottom of the can, and the latter is to be preferably open at the top, I have made the valve-rod 12, which carries the valve 6, of inverted-U shape, thus avoiding any opening through the walls of the sirup-can. Said valve-rod is composed of the rod 13, within the can, and the metallic bar 14, outside. The latter moves through guides 15 and has a toothed rack 16 cut upon one side at a point where it is desired to place the mechanism for actuating the valve-rod. The interior rod 13, carrying the valve, is maintained in place by the ribs 8, which act as guides at this point. The throw of the valve in the act of opening is limited by the teeth, which cease at such a point that the teeth on the gear contact with the uncut portion of the bar 14 and further movement in this direction is stopped. In closing the valve the throw is determined by the proper seating of said valve. The mechanism for operating the latter is as follows: Longitudinally in the front wall of the fountain are bored a series of holes, each to correspond with one of the sirup-cans and by preference to be centrally located with respect to the front end. Each hole is adapted to receive a tubular sleeve 17, with an ornamental head to abut against the exterior of the fountain and to co-operate with a nut interiorly, said nut

engaging the screw-threaded portion of the sleeve. Within the bore of said sleeve is fitted a short shaft 18, spring-actuated at 19, the pressure of the spring tending to press
 5 the inner end of said shaft against the front of the can, and thus hold the latter firmly in place against the ice-box in the rear. The outer end is furnished with a hand-operating wheel, while the inner one is supplied with a
 10 small gear or pinion 20, meshing in the toothed rack before mentioned. The pressure of the spring serves a further object—that is, to prevent the free axial movement of the shaft 18. Thus since the pressure of the spring is
 15 strong the shaft is pushed with sufficient force against the can front to prevent the turning of said shaft, and the valve can be held in any desired position and so remain until the shaft is manually operated.

20 To aid in causing the gear and shaft to easily and readily engage with each other, a plate 21 is affixed to the front of each can, and is formed with an upwardly-tapering or inverted-Y shaped slot 23. Thus the end of
 25 the shaft projecting beyond the gear enters the mouth of this slot and thence passes up into the straight portion as the can is lowered into place, thereby accurately centering the can and adjusting it in the same place each
 30 time when replaced. Further, this slot serves to bring the teeth of the rack and of the pinion into engagement. Hence, after the can is in place and the valve is to be opened by a slight turn of the wheel a positive movement
 35 of the valve is produced, while the latter can thus be held partially open or closed and the attendant is free to use both hands in adjusting the drinking vessels or goblets.

40 It is to be understood that each can is supplied with a valve and with similar mechanism, as above premised, for actuating said valve and which permits of ready removal of the can with its valve and valve-rod.

45 The operation of removing a can is as follows: Grasp the hand-wheel and pull it outwardly a short distance against the pressure of the spring 19. By such act the gear is disengaged from the rack, and the cover 3 having been previously thrown back the can is
 50 free to be lifted out. To replace the can, lower the same until the end of the spindle or shaft 18 enters the mouth of the slot 23 in the guide 21. Continuing the movement of the can downward, the end of the shaft, by
 55 wiping against either side of said slot, causes the can to be positioned, and thus brings the rack into contact with the gear. A slight turn in either direction of the shaft permits the teeth to mesh, when the operation is completed.
 60

65 In Fig. 3 I have represented a glass or porcelain sirup-can and have shown the manner in which I propose to attach the valve-rod removably to it. First, I place a flat metallic plate 24 upon the upper front end of the can and secure it thereto by bands of metal 25, drawn tightly about the body of the can. This

affords a firm metallic base upon which to secure the guides 15, and I am enabled to employ glass sirup-cans equally well as metallic
 70 ones. By such an arrangement a positive motion of the valve is obtained, while the several operating hand-wheels arranged upon the front of the fountain produce an ornamental effect and add to the general appearance of the apparatus.
 75

What I desire to claim is—

1. In soda-water-draft apparatus, the combination, with a removable sirup-can having a discharge-opening and a valve-rod which
 80 straddles one of the walls of the can, of an actuating-shaft extending transversely through the exterior shell of the fountain and adapted to have rotary as well as endwise movement, and thus engage with or be disengaged from
 85 the valve-rod which it controls, substantially as herein set forth.

2. In soda-water fountains, a removable sirup-can provided with a discharge-opening, in combination with a U-shaped valve-rod which controls the latter and has a rack
 90 formed on it, said valve-rod straddling the wall of the can, an actuating-shaft having rotary motion, furnished exteriorly with a hand-wheel, interiorly with a gear, and the
 95 spring which causes said gear to engage with the valve-rod, substantially as and for purposes herein described.

3. In soda-water fountains, a sirup-can having a valve-seat with ribs or guides 8, the
 100 guides exteriorly upon said can, and the upwardly-tapering guide-plate 21, combined with a U-shaped valve-rod toothed in part, the gear 20, which meshes therewith, and the spring-actuated shaft 18, extending trans-
 105 versely through the fountain-front and having rotary motion to operate the valve, substantially as herein specified.

4. The combination, with a soda-water fountain, the rotary shaft transversely of the
 110 front, having longitudinal movement there-through, with a hand-wheel exteriorly and a gear interiorly, the latter engaging the valve-rod, of the spring which thrusts said shaft inwardly against the can, a removable can 5,
 115 a valve supplied, as stated, to said cans, and the tapered guide-plate 21, all substantially as stated and described.

5. In soda-water-draft apparatus, a removable sirup-can, in combination with straps 25,
 120 girdling the same, guides 15 for said straps, the metallic plate 24, which unites the latter, the tapered guide-plate 21, a valve-stem partly outside and partly inside of the sirup-can, a valve-seat and valve, and mechanism
 125 operating said valve-stem, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALVIN D. PUFFER.

Witnesses:

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