

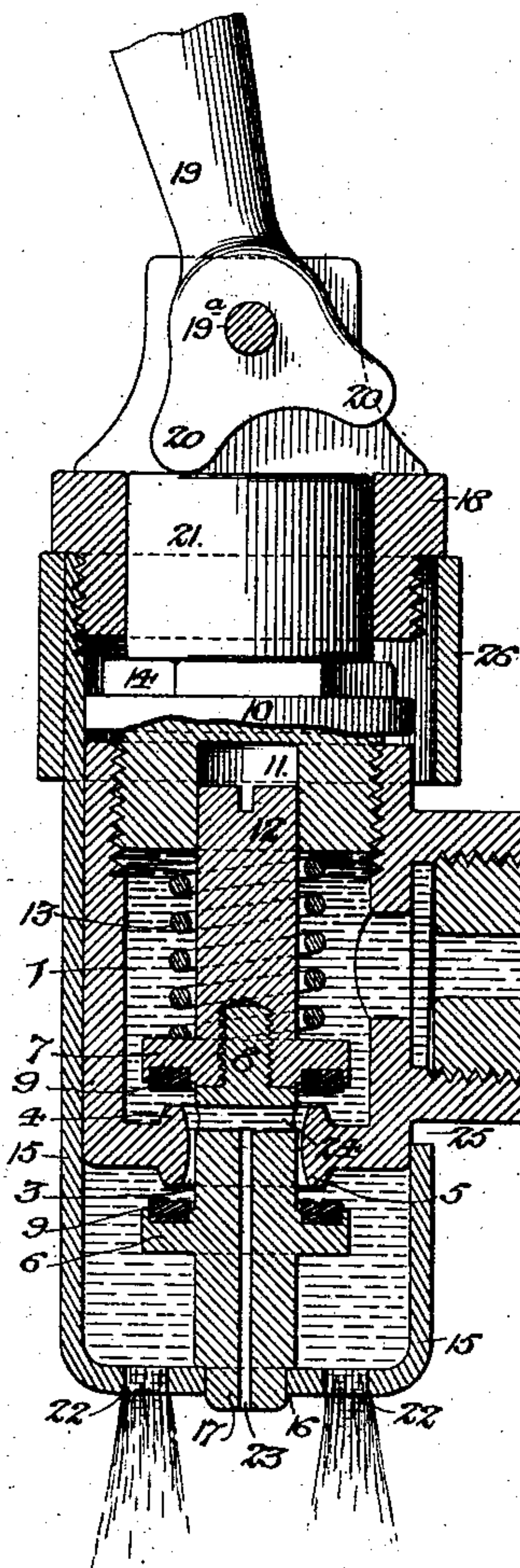
No. 696,329.

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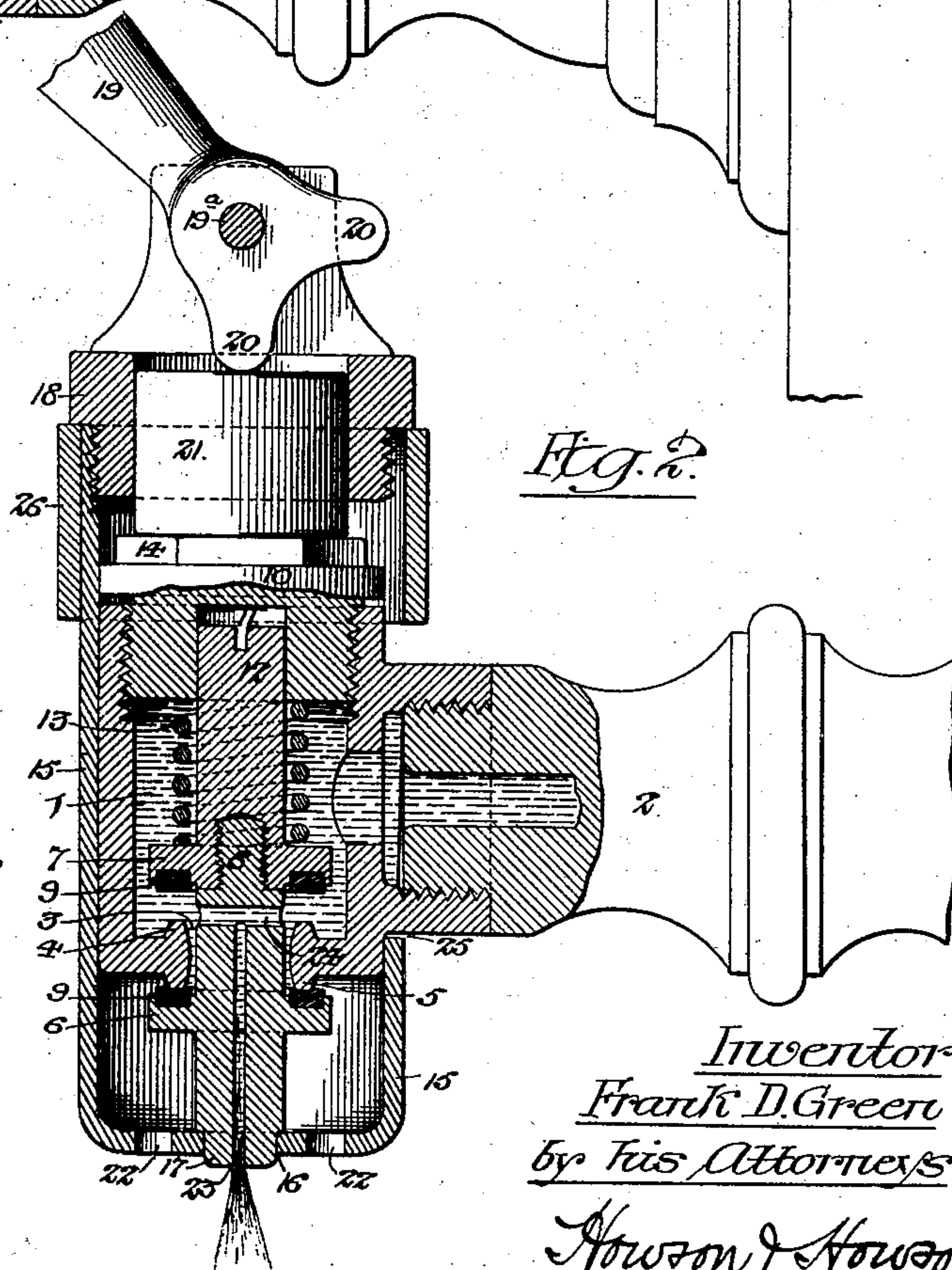
F. D. GREEN.  
DOUBLE STREAM DRAFT TUBE.

(Application filed July 29, 1901.)

(No Model.)

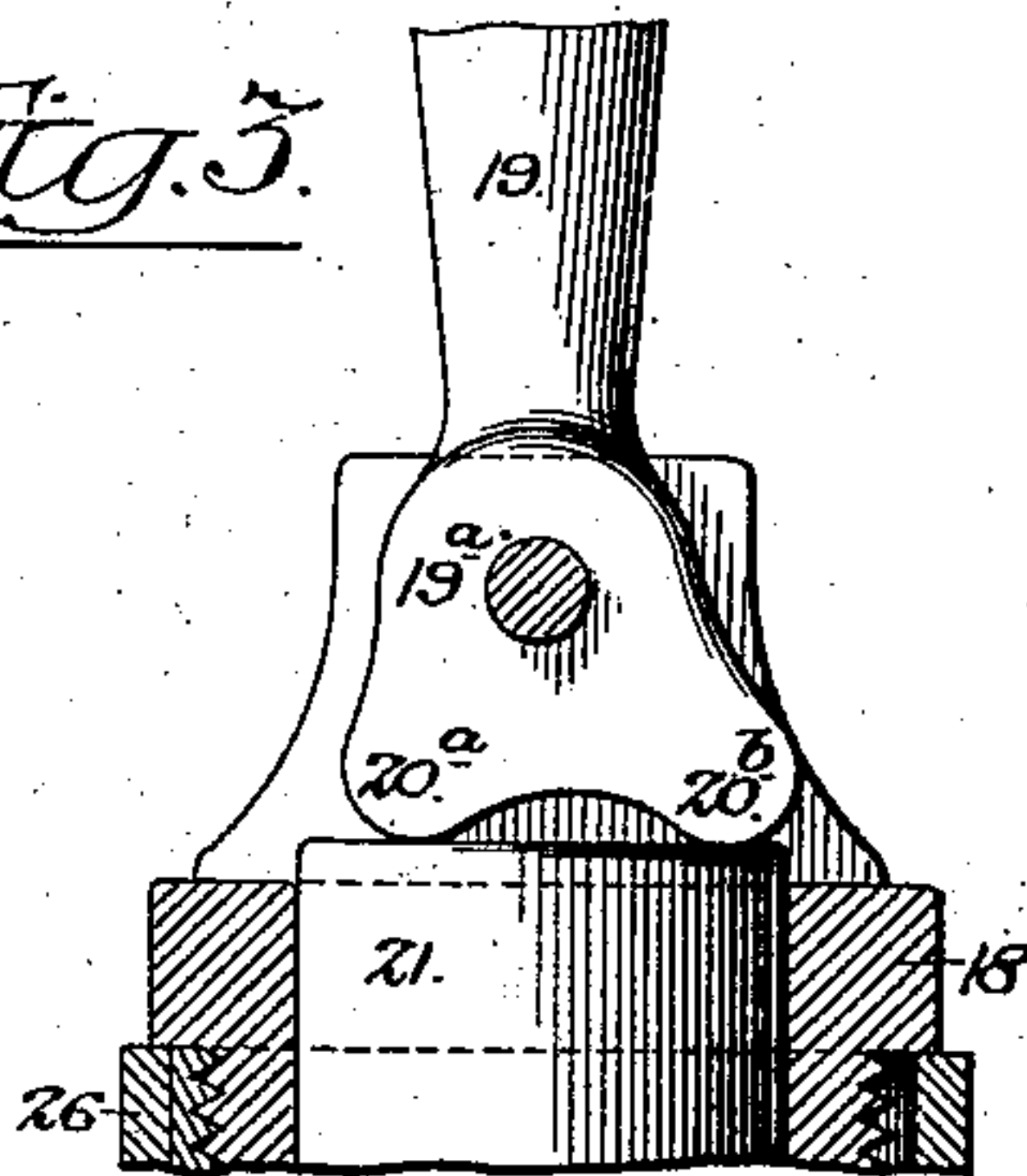


*Fig. 1.*



*Fig. 2.*

*Fig. 3.*



*Witnesses:-*

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# UNITED STATES PATENT OFFICE.

FRANK D. GREEN, OF PHILADELPHIA, PENNSYLVANIA.

## DOUBLE-STREAM DRAFT-TUBE.

SPECIFICATION forming part of Letters Patent No. 696,329, dated March 25, 1902.

Application filed July 29, 1901. Serial No. 70,104. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK D. GREEN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain  
5 Improvements in Double-Stream Draft-Tubes, of which the following is a specification.

My invention relates to certain improvements in double-stream draft-tubes particularly adapted for use with soda-water fountains, the object of my invention being to produce a structure of this character which shall be simple in design, of few parts, and easily operated.

15 My invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of my improved draft-tube with the parts in position to discharge the full flow or coarse stream of  
20 the liquid under pressure. Fig. 2 is a similar sectional view showing the parts in such position that a fine stream may be delivered, and Fig. 3 is a view illustrating a detail of my invention.

25 As is well known in dispensing soda-water, two objects must be attained in discharging the carbonated water onto the syrup, the first being to draw the water into the glass without disturbing the syrup and the second to discharge a fine stream under full pressure  
30 that will pass through the entire liquid contents of the glass and thoroughly incorporate the syrup at the bottom of the same with the carbonated water.

35 In the apparatus which I have devised a coarse or fine stream may be delivered at the will of the operator by the manipulation of a single handle, the partial movement of such handle bringing the parts into such position  
40 that the full stream will be delivered, while the full movement of such handle brings such parts into position to discharge the fine stream only.

In the accompanying drawings, 1 represents a valve-chest secured to the end of a supply-pipe 2, such valve-chest having an opening 3 for the passage of liquid under pressure from said pipe 2. On either side of the opening 3 seats 4 and 5 are provided for  
50 the valves 6 and 7, such valves being connected together at 8, the valve 6 having a threaded extension adapted to a threaded

opening in the valve 7. Each of the valves is provided with packing 9, whereby a perfect joint may be made with their respective  
55 seats.

The valve-chest 1 is closed at the upper end by means of a screw-plug 10, having a recess 11, to which the stem 12 of the upper valve 7 is adapted, and in order to keep said  
60 valve 7 to its seat I provide a spring 13, which is interposed between the screw-plug 10 and said valve 7. The screw-plug is provided with a squared or hexagonally-shaped head 14, so that it may be set in place with  
65 the aid of an ordinary spanner-wrench. The valve-stem 12 has a notched top, so that the valves may be readily separated with the aid of a screw-driver.

Surrounding the valve-chest 1 is a sleeve or  
70 casing 15, fitting said chest and having an aperture 16 at its lower end to receive the reduced end 17 of the stem of the valve 6. The said sleeve 15 is secured to the valve-chest by means of the screw-cap 18, threaded in the  
75 upper portion of the same and carrying an operating-handle 19, pivoted at 19<sup>a</sup> and having bearing-faces 20. Interposed between the bearing-faces of said handle and the valve-chest is a filling-block 21, and when said handle  
80 is moved in either direction the sleeve 15 will be raised and the valve 7 lifted from its seat. The connection between said sleeve and the stem of the valve 6 is such that there  
85 will be no pressure upon said stem when the sleeve is in the normal position, and the tension of the spring 13 and the pressure of liquid within the valve-chest will be sufficient to hold the valve 7 to its seat.

The lower portion of the sleeve or casing 15  
90 is perforated at 22 for the discharge of the full flow of liquid when the valves are in the position shown in Fig. 1, while the stem of the valve 6 has a contracted opening 23 for the discharge of the fine stream, such opening joining a cross-passage 24, which communicates with the interior of the valve-chest when the valve 6 is seated.

As the upper portion of the sleeve 15 is slotted at 25 to pass the supply-pipe 2, I provide a loose collar 26, which fits said tube and serves to prevent the spreading of the same due to the strain exerted upon it by the handle 19.  
100



The operation of my improved draft-tube is as follows: Under normal conditions the handle 19 is in the vertical raised position, and the valve 7 is tight against its seat, being held thereto by the tension of the spring 13 as well as the pressure of liquid within the valve-chest. To cause a coarse stream of liquid to be discharged from the sleeve or casing 15 through the perforations 22 of the same, the handle 19 is moved to the position shown in Fig. 1, opening the valve 7 and permitting a free discharge of the liquid under pressure from the pipe 2 through the opening 3 in the valve-chest. Such stream strikes the valve 6, which acts as a baffle and reduces the pressure of the liquid, so that it may be delivered through the perforations 22 of the sleeve 15 without force. When it is desired to discharge the fine stream of liquid in order to stir up the syrup and cause the beverage to foam, the handle 19 is moved to the position shown in Fig. 2, fully opening the valve 7 and seating the valve 6. When this is done, the lower portion of the opening 3 is closed, and the flow of liquid is diverted to the cross-passage 24 in the stem of the valve 6 and is discharged through the contracted opening 23 of said stem. After this has been accomplished the handle may be released and the parts will resume their normal position, the valve 7 being returned to its seat, cutting off the flow of the liquid under pressure.

In Figs. 1 and 2 I have shown a handle 19 having two bearing-faces 20, either of which, depending upon the direction of movement of said handle, may be brought to bear upon the block 21. In Fig. 3 I have shown a handle having the bearing-faces 20<sup>a</sup> and 20<sup>b</sup>. By moving said handle in one direction and causing the bearing-face 20<sup>a</sup> to engage the said block 21 the casing 15 will be raised and the valves brought to the position shown in Fig. 1. Now if the handle is moved in the opposite direction to its full extent, bringing the bearing-face 20<sup>b</sup> in contact with the block 21, the casing 15 will be raised to the limit of its movement and the valves brought into the position shown in Fig. 2.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination in a draft-tube, of the valve-chest having an outlet, a supply-pipe communicating with the valve-chest, a valve controlling the said valve-chest outlet upon one side of the same, means for holding said valve to its seat, a second valve adapted to close the valve-chest outlet from the other side of the same, said valves being fixed with relation to each other and having a connection whereby the movement of either valve is imparted directly to the other, said connection having a discharge-outlet which is brought into operative position when the second valve is seated, and means for operating said valves.

2. The combination in a draft-tube, of the valve-chest having an outlet, a supply-pipe leading to the valve-chest, a valve closing the

outlet from said valve-chest upon one side of the same, means for moving said valve vertically, a second valve adapted to close the outlet from the valve-chest upon the other side of the same, a stem connecting said valves whereby they may be moved in unison, a sleeve surrounding the valve-chest and in operative engagement with the said valve-stem, and means for raising said sleeve whereby the valve controlling the opening of the valve-chest may be raised from its seat, a further movement of said sleeve closing the lower valve.

3. The combination in a structure of the character described, of the valve-chest having a supply-pipe connected thereto and having a suitable outlet therefrom, valves controlling the discharge from said valve-chest and adapted to seat on the inside and outside of the opening leading from the same, a valve-stem connecting said valves whereby they may be moved in unison, said stem projecting below the lower valve, a movable sleeve surrounding said valve-chest and providing a seat for the end of the projecting valve-stem, and means for moving said sleeve whereby the valve may be operated.

4. The combination in a draft-tube, of the valve-chest having an outlet, a supply-pipe communicating with the valve-chest, a valve closing the outlet from said valve-chest and adapted to seat on the inside of the same, means for holding said valve to its seat, a stem carried by said valve whereby it may be guided, a second valve adapted to close the outlet in the valve-chest and adapted to a seat on the outside of the same, a stem connecting said valves whereby they may be moved in unison, said stem having a contracted opening and projecting below said lower valve, a movable sleeve surrounding the valve-chest, the lower portion of said valve-stem being in operative engagement with said sleeve, and means for raising the latter, the partial movement of the same bringing the valves to a mid-position permitting the discharge of a full stream of liquid, while the complete movement of said sleeve seats the outside valve against the opening of the valve-chest and permits the discharge of said liquid through the contracted opening of the valve-stem.

5. The combination in a valve structure of the character described having a valve-chest with an outlet for the discharge of liquid under pressure, a supply-pipe communicating with said valve-chest, a series of valves controlling the outlet of said valve-chest, said valves being operated simultaneously, a valve-stem having a discharge-opening connecting said valve, said stem also having a communicating through-opening midway of the valves, a movable sleeve forming a discharge-spout operatively connected to the valve-stem, said valve-stem having its discharge-opening beyond said sleeve, and means for moving said sleeve whereby the valves may be operated to discharge the liquid from



the valve-chest, the partial movement of said sleeve opening one valve and permitting the passage of the liquid from the valve-chest to the sleeve and thence from the openings therein, while the further movement of the sleeve closes the outlet from the valve-chest and causes a discharge of the liquid through the contracted opening in the valve-stem.

6. The combination in a valve structure of the character described having a valve-chest with an outlet, a series of valves controlling said outlet, a valve-stem connecting said valves and having a contracted opening therein, projections extending from said valves in line with the valve-stem, the upper projection serving to guide the valves, while the lower projection is provided with the contracted opening communicating with the portion between the valves, a spring for holding one of said valves to its seat, a movable sleeve surrounding the valve-chest and engaging the depending portion of the valve-stem, and means for imparting vertical movement to said sleeve whereby the valves may be operated, said valves moving in unison by the movement of said sleeve.

7. In a valve structure of the character described having a valve-chest, a series of valves carried thereby and movable in unison with each other, a movable casing or sleeve surrounding said valve-chest and controlling the position of the valves, a handle carried by said casing, and cams of different length carried by said handle and serving to impart movement to the sleeve when brought into contact with the valve-chest by the movement of the handle carrying the same, one of said cams serving to give partial movement to the sleeve whereby the valves may be brought to the mid-position, while the other cam will impart complete movement to the sleeve closing the valves against the outlet from the valve-chest and diverting the stream through the contracted opening of the valve-stem.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK D. GREEN.

Witnesses:

N. B. WILEY,  
W. R. HOOVER.