

No. 655,051.

Patented July 31, 1900.

A. W. BROWNE.  
FOUNTAIN SPITTOON.

(Application filed Oct. 17, 1898.)

(No Model.)

5 Sheets—Sheet 1.

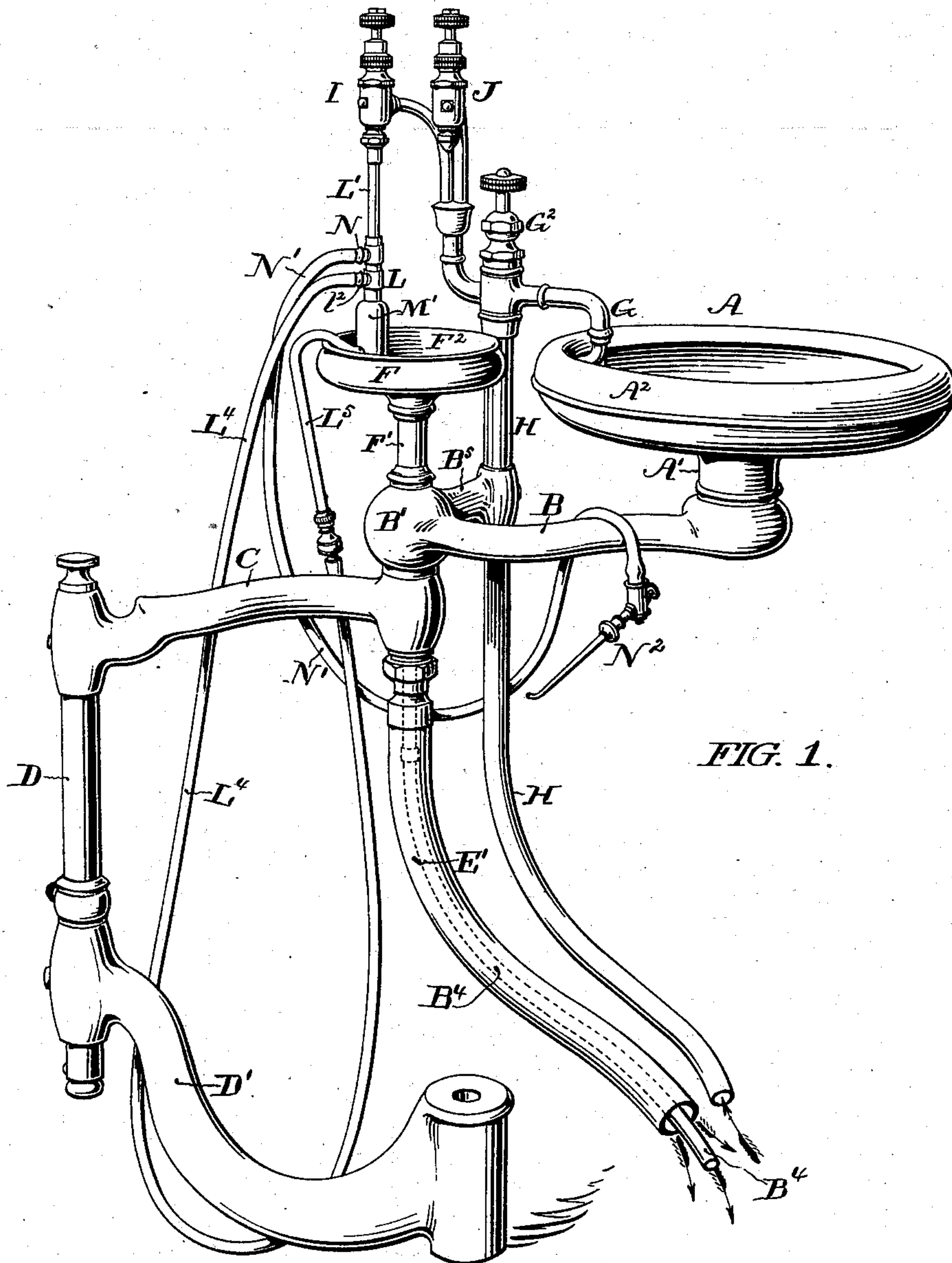


FIG. 1.

WITNESSES:

*John B. Ariles*  
*Robinson Tait*

INVENTOR:

*Arthur W. Browne*  
by *Edw. F. Simpson, Jr.*  
*Attorney.*

No. 655,051.

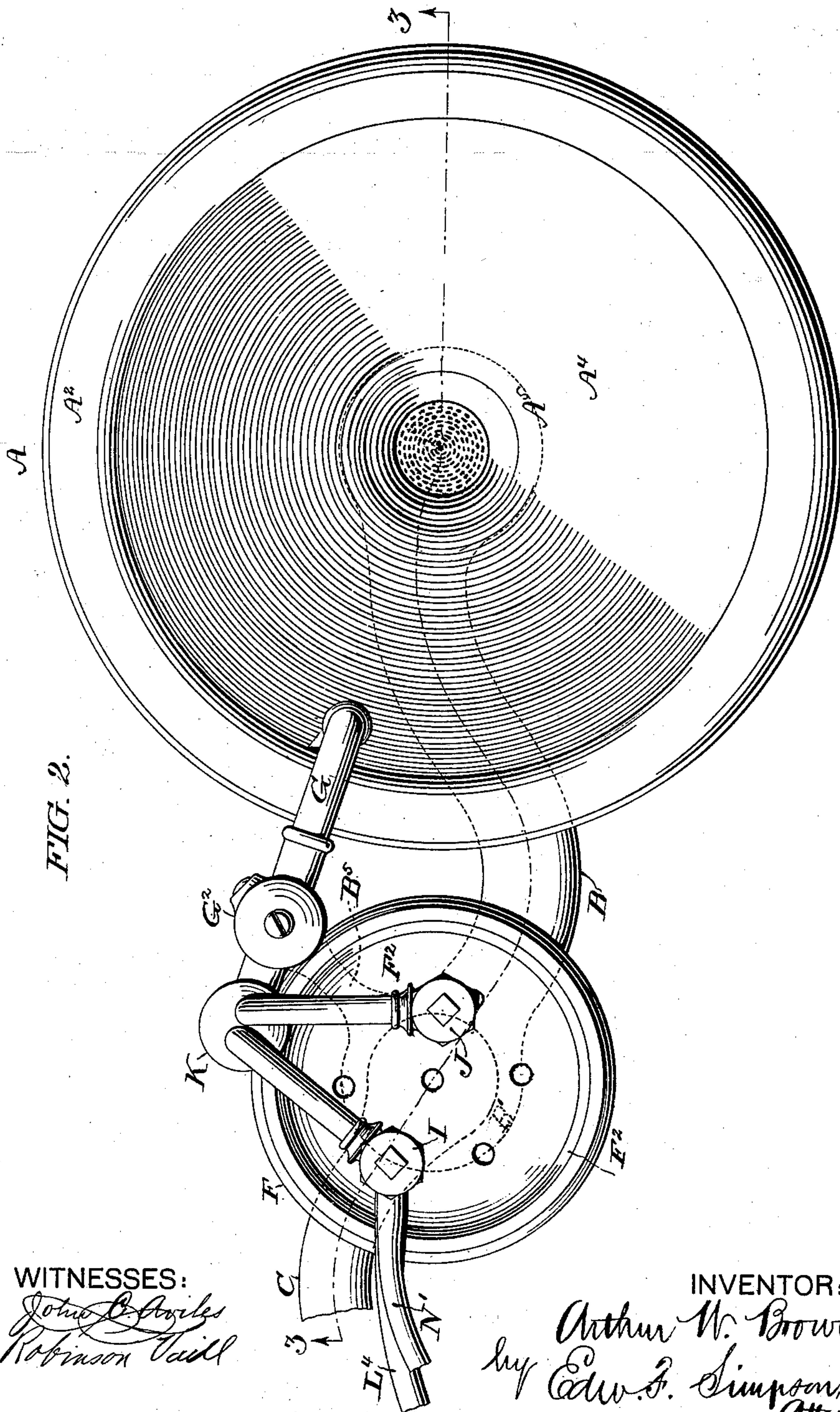
Patented July 31, 1900.

A. W. BROWNE.  
FOUNTAIN SPITTOON.

(Application filed Oct. 17, 1898.)

(No Model.)

5 Sheets—Sheet 2.



WITNESSES:

*John C. Boyle*  
*Robinson Vail*

INVENTOR:

*Arthur W. Browne*  
by *Edw. S. Simpson, Jr.*  
Attorney.



No. 655,051.

Patented July 31, 1900.

A. W. BROWNE.  
FOUNTAIN SPITTOON.

(Application filed Oct. 17, 1898.)

(No Model.)

5 Sheets—Sheet 3.

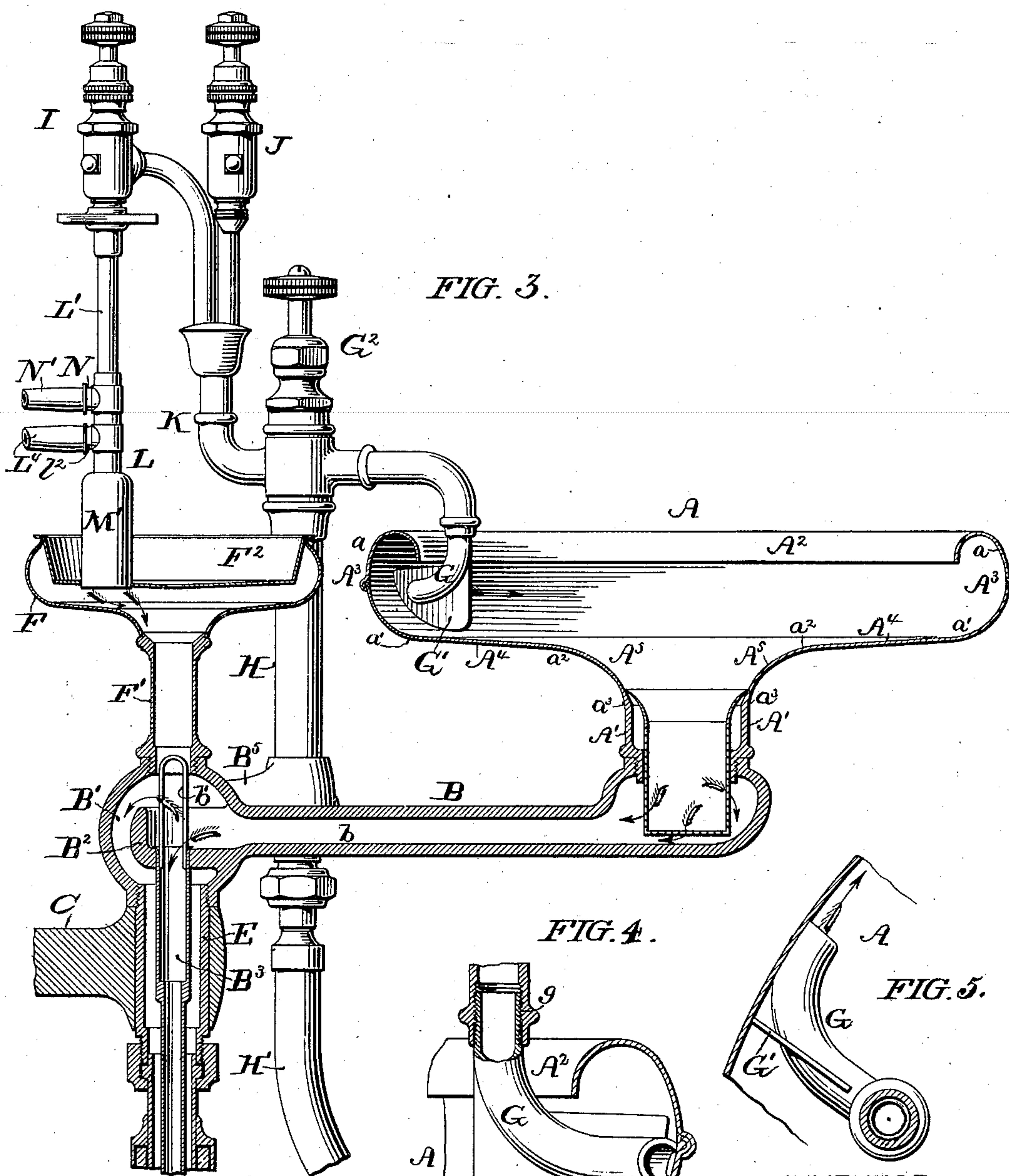


FIG. 3.

FIG. 4.

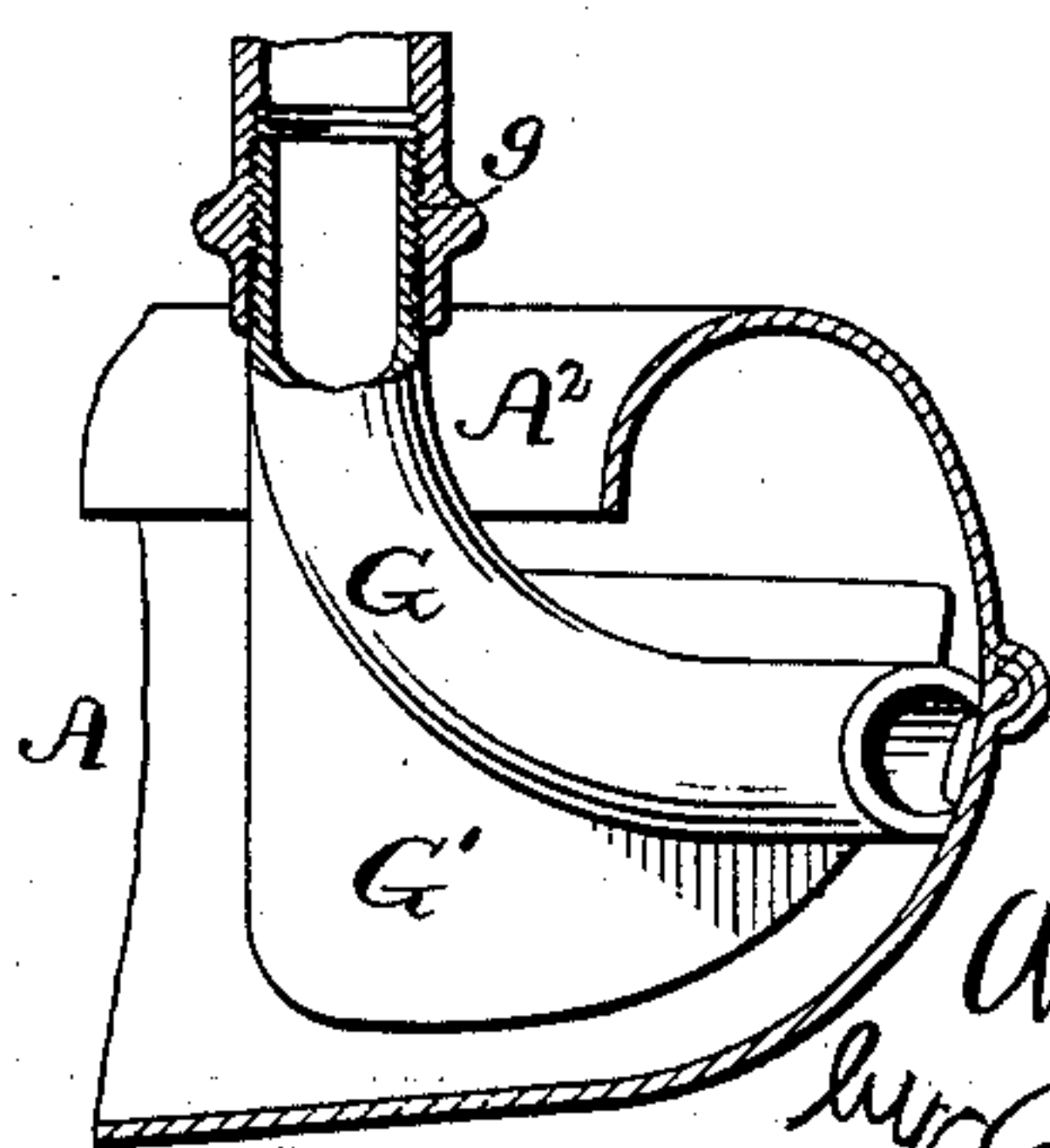
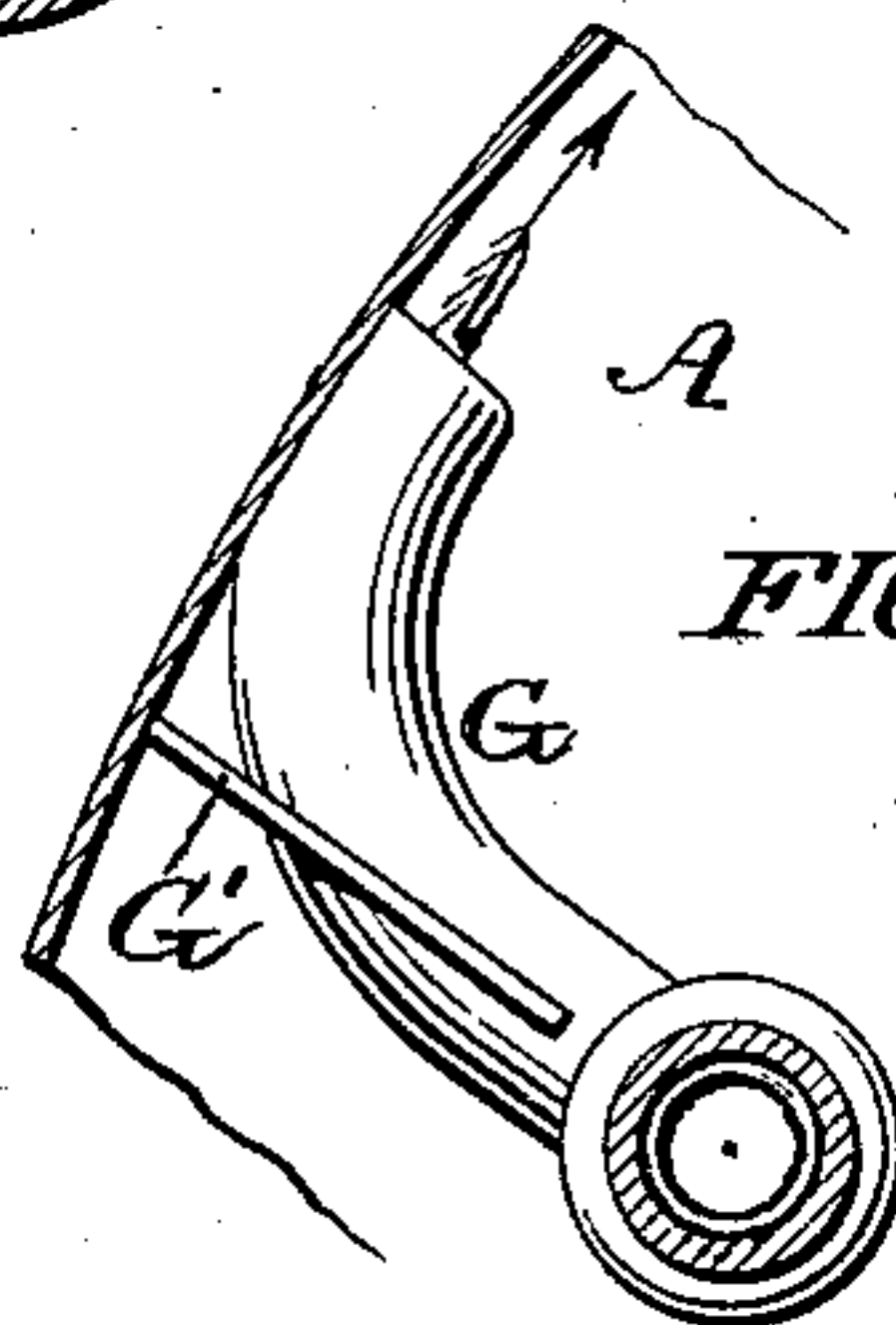


FIG. 5.



WITNESSES:

*John L. Ogles*  
*Robinson Hall*

INVENTOR:

*Arthur W. Browne*  
*by Edw. F. Simpson, Jr.*  
*Attorney.*

No. 655,051.

Patented July 31, 1900.

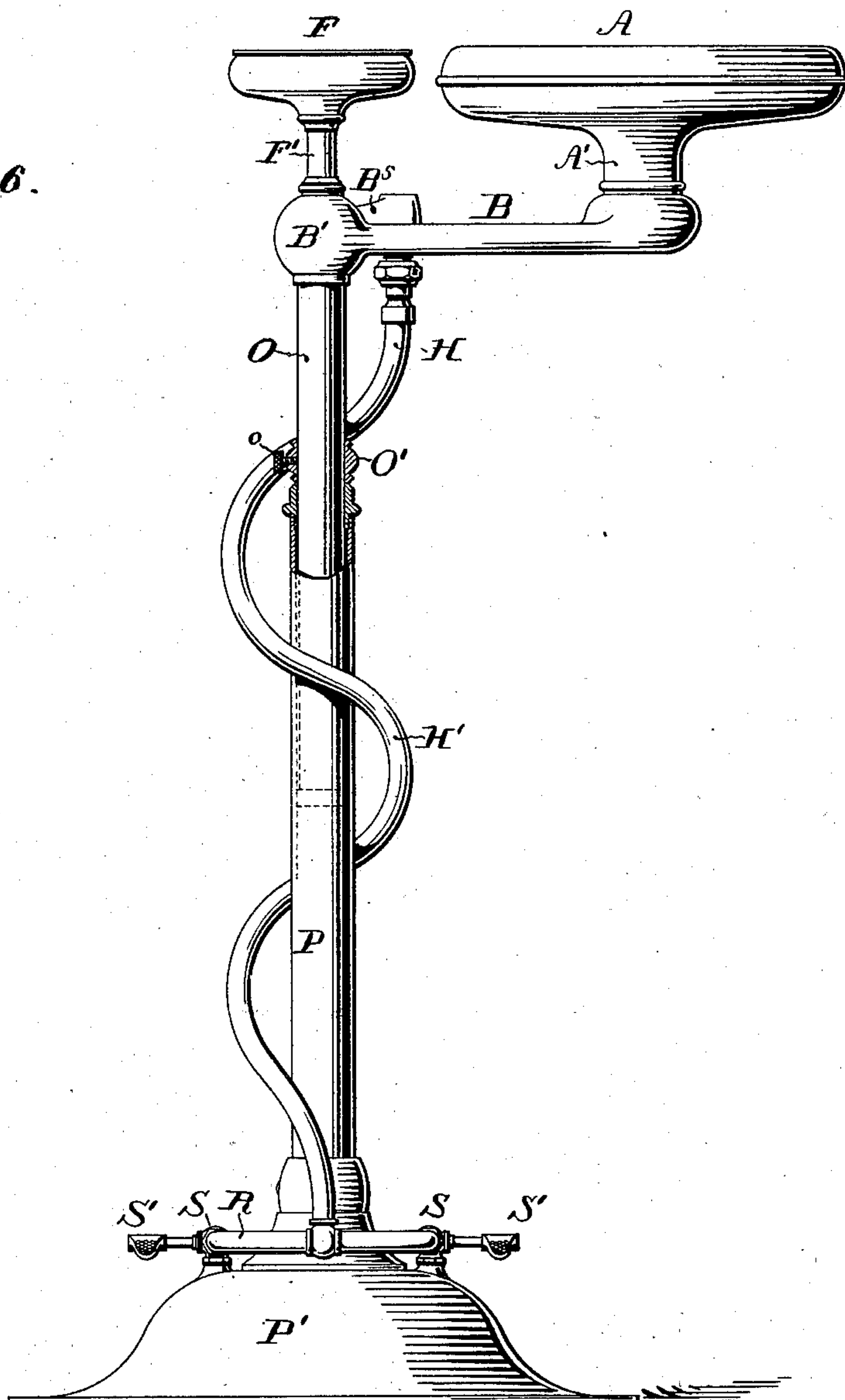
A. W. BROWNE.  
FOUNTAIN SPITTOON.

(Application filed Oct. 17, 1898.)

(No Model.)

5 Sheets—Sheet 4.

FIG. 6.



WITNESSES:

*John C. Aikes*  
*Robinson Vail*

INVENTOR:

*Arthur W. Browne*  
by *Edw. F. Simpson, Jr.*  
*Attorney.*

No. 655,051.

Patented July 31, 1900.

A. W. BROWNE.  
FOUNTAIN SPITTOON.

(Application filed Oct. 17, 1898.)

(No Model.)

5 Sheets—Sheet 5.

FIG. 7.

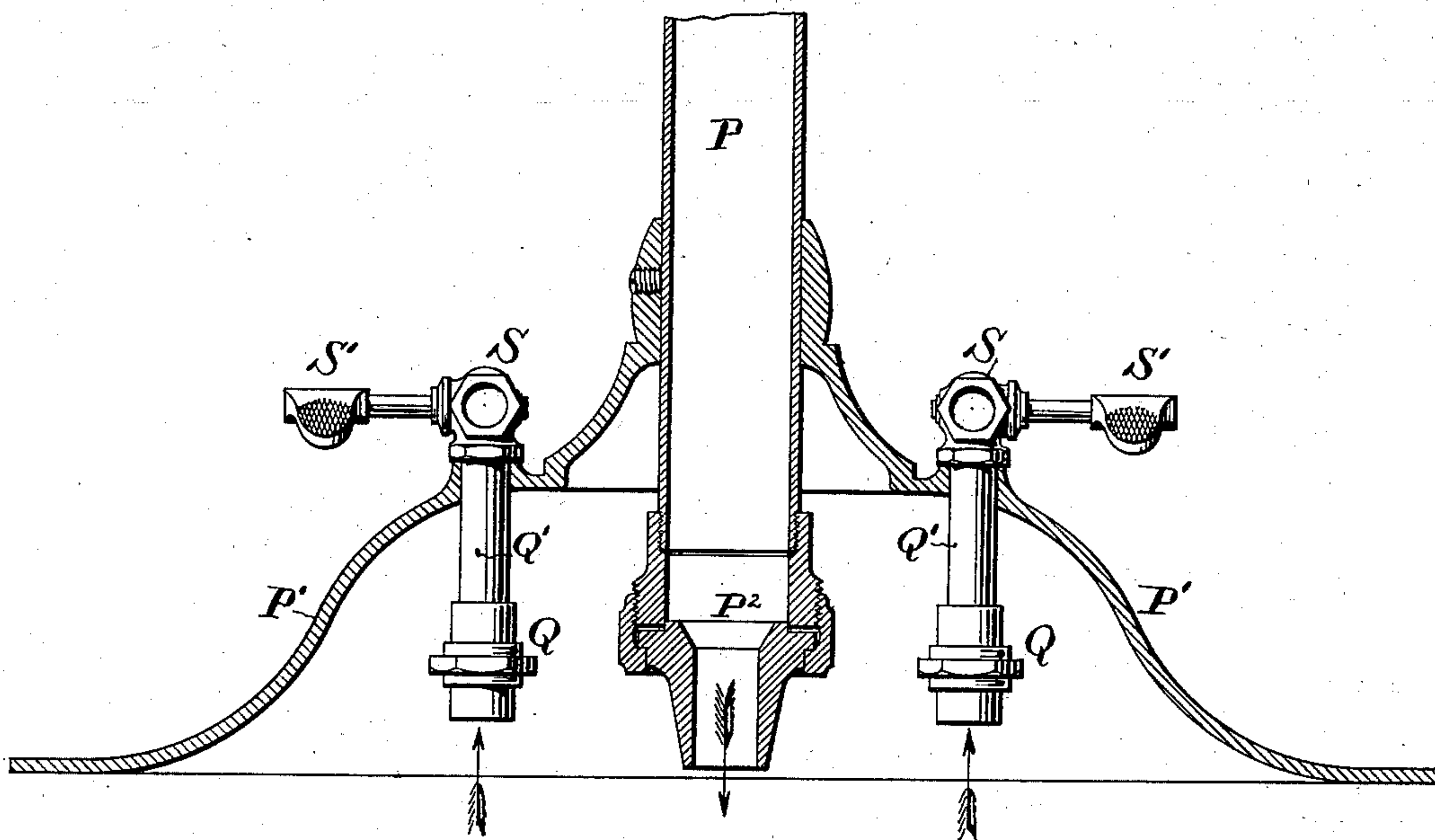
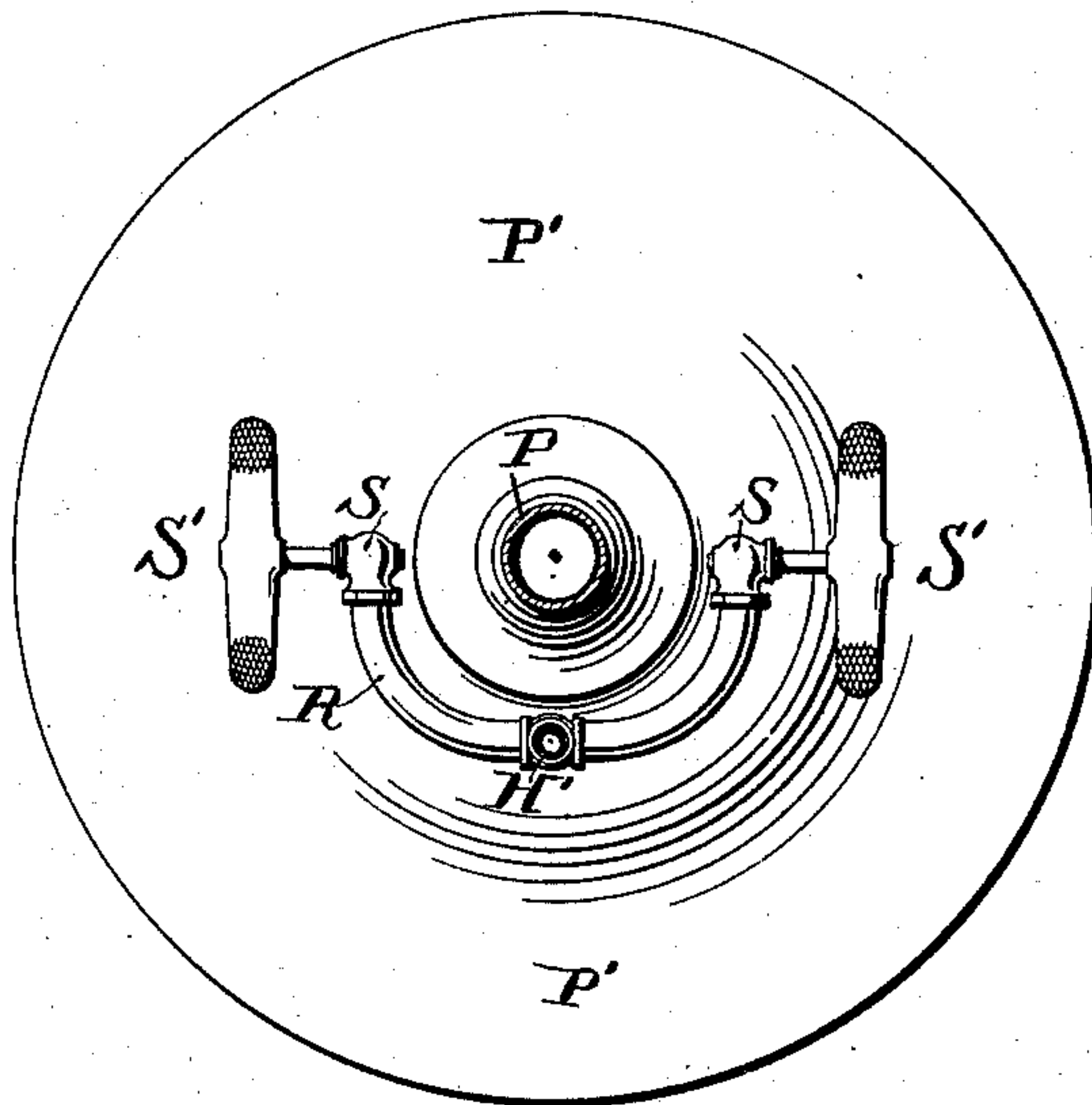


FIG. 8.



WITNESSES:

*John C. Aviles*  
*Robinson Hall*

INVENTOR:

*Arthur W. Browne,*  
*by Edw. P. Simpson, Jr.*  
*his Attorney.*



# UNITED STATES PATENT OFFICE.

ARTHUR W. BROWNE, OF NEW YORK, N. Y., ASSIGNOR TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## FOUNTAIN-SPITTOON.

SPECIFICATION forming part of Letters Patent No. 655,051, dated July 31, 1900.

Application filed October 17, 1898. Serial No. 693,719. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR W. BROWNE, a citizen of the United States, residing at New York, (Prince's Bay,) in the county of Richmond and State of New York, have invented certain new and useful Improvements in Fountain-Spittoons; 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.

My invention relates to dental fountain-spittoons; and it consists of certain improvements which will be hereinafter fully explained and then pointed out in the claims.

The object of my present invention is to generally improve this class of spittoons by rendering them more efficient and to overcome certain objections heretofore found existing.

I have in the accompanying drawings illustrated the preferred embodiment of my invention in two different forms.

In said drawings, Figure 1 is a perspective view of a form of spittoon adapted to be connected to a dental chair and known in the art as an "attached" fountain-spittoon. Fig. 2 is a top or plan view thereof. Fig. 3 is a central vertical sectional view of said spittoon, the section being taken on the curved line 3 3 of Fig. 2. Fig. 4 is a vertical sectional detail view of a portion of the spittoon-bowl, also on an enlarged scale, showing the water-sprayer or jet-tube and its guard-plate in side elevation. Fig. 5 is another detail view showing the said water-sprayer and guard-plate in plan. Fig. 6 is a view, mostly in side elevation and partly in vertical section, of another form of fountain-spittoon of the upright standard type. Fig. 7 is a vertical central sectional view of the lower or base portion thereof on an enlarged scale. Fig. 8 is a plan view of said lower or base portion on the same scale as Fig. 7.

I will first describe the attached spittoon illustrated by Figs. 1 to 5, inclusive. The spittoon-bowl A, which will be fully described hereinafter, is of peculiar and novel construction and is preferably detachably connected by way of its externally-threaded neck A' to

the outer end of a horizontal supporting-arm B, the inner end of which is swiveled to the outer end of a horizontal bracket-arm C. The inner end of the bracket-arm C is swiveled upon the upper end of an upright rod D, having vertically-adjustable and turning connection with the outer end of another bracket-arm D', adapted to be suitably connected to a dental chair in well-known manner. The supporting-arm D is hollow and at its inner end communicates with and is connected to a metal pipe E, mounted to turn in the outer end of the arm C, the flexible waste-pipe E' of the spittoon being coupled to the lower end of said pipe E. Thus, it will be seen, the discharge from the spittoon-bowl is by way of the horizontal supporting-arm B, the pipe E, and flexible waste-pipe E', the latter not being directly connected with the neck of the bowl. The inner end of the supporting-arm B is formed with a preferably-globular enlargement, forming a chamber B', which opens into the pipe E. A pocket or cup B<sup>2</sup> is formed in said chamber and constitutes the end of the conduit b of the supporting-arm. A small or interior waste-pipe B<sup>3</sup> passes through the bottom of the pocket B<sup>2</sup> and through the pipe E. I prefer to detachably fit the said interior waste-pipe B<sup>3</sup> in an opening in the bottom of the pocket and provide it with a loop or handle b', by which it may be withdrawn when desired. A flexible pipe B<sup>4</sup> (shown in dotted lines, Fig. 1) is connected to the lower end of the interior waste-pipe B<sup>3</sup> and extends a considerable distance in the flexible waste-pipe E', thus forming a continuation of the interior waste-pipe B<sup>3</sup>, which does not interfere with the movement or flexure of said flexible waste-pipe E'.

A holder or bowl F, preferably smaller than the spittoon-bowl proper and intended to support a drinking-glass and also serving other purposes, is supported by an upright tube F' upon the arm B directly over the enlargement B', said tube F' screwing into a threaded opening in the top of said enlargement, with the chamber of which said tube communicates.

The interior waste-pipe B<sup>3</sup> is of sufficient size to carry off all the water used in the



ordinary flushing of the spittoon-bowl, and this is accomplished absolutely without noise. In this way the usual objectionable gurgling of the water in fountain-spittoons as heretofore constructed is overcome, because the air carried with the water through the tubular supporting-arm B escapes to the open air by way of the tube F', instead of being carried down into the waste-pipe, where it would become entrapped and interfere with and back up the water in said waste-pipe.

Should the supply of water to the spittoon-bowl for any reason be too great to be carried off by the interior waste-pipe, the surplus water will overflow the pocket B<sup>2</sup> and escape by way of the outside waste-pipe E. When this occurs, the extra rush of water may cause more or less noise, as in the ordinary form of fountain-spittoon; but as this is not the normal condition of the spittoon when in operation it is of little consequence. The top of the pipe F' being at a point above the neck of the spittoon-bowl it will be impossible for the water to overflow said pipe F' and bowl F.

The spittoon-bowl is constructed as follows: The entire bowl, as usual, is circular in horizontal section from the top of its rim A<sup>2</sup> to the lower extremity of its neck A'. The body or side of the bowl is curved outwardly at A<sup>3</sup> in vertical section from about a line marked *a* to about *a'*. The chief peculiarity of the bowl lies in the fact that its bottom A<sup>4</sup> is flat and almost horizontal, for a purpose farther on to be made plain, and is curved inwardly and downwardly at A<sup>5</sup> and then merges into the tubular neck A'. The flat bottom A<sup>4</sup> commences at about the line marked *a'* and extends to, say, about *a*<sup>2</sup> on a practically-straight line, having a slight downward pitch toward the center of the bowl. I have discovered that for the purpose intended the pitch or inclination of the flat bottom toward the center of the bowl should best be approximately three and one-half degrees ( $3\frac{1}{2}^\circ$ ) from the horizontal, although this pitch may be varied slightly more or less. The inwardly and downwardly curved portion A<sup>5</sup> of the bowl extends from the before-mentioned line *a*<sup>2</sup> to about *a*<sup>3</sup>, where it merges into the tubular neck A', which forms the central opening of the bowl. Said curved portion A<sup>5</sup> constitutes in vertical section approximately a quadrant of a circle the diameter of which is approximately equal to the diameter of the tubular neck A'. The rim A<sup>2</sup> of the bowl is preferably rolled inwardly and downwardly.

An overhanging water-sprayer or jet-tube G is provided for flushing the bowl with water, and depends from an upright supporting-tube or supply-pipe H, which is supported in a short bracket B<sup>5</sup>, projecting from the inner end of the supporting-arm B. As shown, this supply-pipe H is supported independently of the bowls A and F. A flexible supply-pipe H' is coupled to the lower end of the supporting-tube H, beneath the bracket B<sup>5</sup>, and extends

downwardly alongside the flexible waste-pipe E, both of these tubes, it will be seen, being located to one side of the spittoon-bowl instead of being connected directly thereto, as is usual with fountain-spittoons of the attached type. The water-sprayer or jet-tube overhangs the spittoon-bowl and projects under the rolled rim A<sup>2</sup> thereof, the side of the outlet end of the tube resting against the inner side of the bowl under its rolled rim. For the purpose of placing the jet-tube in proper position under the rolled in and down rim of the bowl, and also for removing said bowl when desired, the lower portion of the jet-tube may have swiveling connection with its upper portion, as by screw-threads *g*, Fig. 4. By this construction a jet or stream of water is delivered against the inner side of the bowl and covers the entire bottom of the bowl with a thin film of water, which moves spirally around the bowl toward the central opening thereof, through which it passes after thoroughly flushing the bowl.

Owing to the novel construction of the spittoon-bowl, having the flat bottom and the particular curve A<sup>5</sup> about its central opening, a much smaller quantity of water is required to flush the bowl than is used by spittoon-bowls of usual construction, which are deeper and have more sloping bottoms. This construction also enables the water to quickly pass out of the bowl after it has properly circulated around and flushed the same. As the outlet end of the water-sprayer projects under the rolled rim of the bowl the water cannot be seen issuing from said sprayer, nor can that portion of the inside of the bowl which is not covered by the film of water be seen. Consequently a person looking into the bowl when the same is being flushed practically cannot see any metal of the bowl which is not covered by a thin film of water in circular motion.

Secured upon the jet-tube in rear of its outlet-opening is a guard-plate G', which extends approximately at a right angle to that part of the bowl near which it is placed. The surface of said plate near the side of the bowl is curved to correspond with the side and bottom of the bowl, but does not come in contact with the same, a suitable space being left between said plate and said bowl. When the bowl is being properly flushed, the water does not touch the guard-plate, but flows between the same and the bowl; but when too much water is accidentally turned on it strikes the guard-plate, and the whirl of water is prevented. When the water thus strikes the guard-plate, it produces a noise which calls the operator's attention to the fact that too much water is being used. In this way all danger of the water rushing over the rim of the bowl is avoided. A cock G<sup>2</sup> of any well-known or suitable construction is employed for turning on and off the supply of water and for regulating the amount of the same.

A saliva-ejector cock I and a drinking-wa-



ter cock J are supported directly over the drinking-glass holder or bowl F by a pipe K, connected to the supporting-tube or supply-pipe H. Depending from the saliva-ejector  
 5 cock I is a saliva-ejector L, which is connected to said cock by way of its stem L'. A nipple  $L^2$  is provided on the saliva-ejector stem L for the attachment of a flexible tube  $L^4$ , to the opposite end of which a mouth-tube  $L^5$   
 10 (see Fig. 1) is connected. A second nipple N opens into the stem L' of the saliva-ejector above the ejector-nozzle  $L'$ , and is designed for the attachment of a flexible tube N', to the opposite end of which is connected a syringe N<sup>2</sup>.  
 15

The manner of supporting the saliva-ejector shown herein will form the subject of an application which will be a division of the present application.

20 The upright standard form of spittoon illustrated in Figs. 6, 7, and 8 is similar to the spittoon just described, so far as the bowls, the supporting-arm B, and parts carried thereby are concerned. Instead, however, of swiveling the supporting-arm B upon the arm C, the said supporting-arm is connected directly to the upper end of an upright tube O, adapted to slide up and down and turn horizontally in a tubular upright stand-  
 25 ard P, supported upon the floor by means of a dome-like base P'. An adjustable collar O' on the tube O and a set-screw o are employed for maintaining the tube O and spittoon supported thereby in any vertical position to which they may be adjusted. The tube O and the standard P serve as the discharge for the spittoon, suitable connection being made inside the base by means of a coupling P<sup>2</sup> with the usual waste pipe or main,  
 30 (not shown, but which projects through an opening in the floor under the base.) Similar connection is made inside the base with the usual service pipe or main, and a flexible supply-pipe H', which may be coiled around the standard, conveys the water to the spittoon, as before described. In order to supply the spittoon with both hot or warm and cold water, two such connections Q may be provided, the one for hot or warm water from  
 35 any suitable source, such as a kitchen-range, and the other for cold water. Each of these connections or couplings Q Q is carried by short vertical pipes Q' Q', supported in the base, and above the base these pipes communicate with a branch or connecting pipe R, to the center of which the flexible supply-pipe H' is connected. Suitable valves S S are provided for turning on or off the water in the hot and cold water pipes, and the stems  
 40 of these valves are preferably provided with foot-actuated levers or pedals S', which extend on opposite sides of the valve-stems. In this way either hot or cold water may be supplied to the spittoon, particularly to be drawn from the faucet J and syringe N<sup>2</sup>, by manipulating the levers S' S', or any desired mixture of hot and cold water may be secured.  
 45  
 50  
 55  
 60  
 65

From the above description it will be apparent that my improved fountain-spittoon possesses marked advantages over apparatus  
 70 of the same character as heretofore constructed. For example, the cock for controlling the flush of the spittoon-bowl, as well as the cocks for the tumbler-supply and saliva-ejector, are completely removed from  
 75 the neighborhood of the bowl and are entirely out of the way of the patient's head when using the spittoon. In this way a smaller bowl may be used than usual. The spittoon-bowl has a very wide range of adjustment, and owing to the supply and waste  
 80 pipes being located to one side of the bowl instead of being connected directly to it the bowl may be moved over the arm or seat of a dental chair in convenient reach of a pa-  
 85 tient without moving said pipes with it. The objectionable gurgling of the water, which has heretofore been a source of much annoyance, has been obviated. The construction of the bowl not only enables a smaller quan-  
 90 tity of water to be used, as before stated, but its flat construction presents a pleasing appearance and is less bulky and more readily handled than spittoon-bowls of usual construction.  
 95

It will of course be obvious that my improved spittoon-bowl may be used upon any suitable or well-known fountain-spittoon, and also that the particular construction herein shown and described may be altered  
 100 in various ways while still keeping within the scope of my invention.

I claim as my invention—

1. The combination, in a fountain-spittoon, of the tubular horizontal supporting-arm swiveled at its inner end to a support, a spittoon-bowl connected to the outer end of said supporting-arm, the discharge from said bowl being by way of said supporting-arm, a rigid bracket projecting laterally from the inner  
 105 end of said supporting-arm, a supply-pipe supported by said bracket, and an overhanging water-sprayer carried by said supply-pipe and projecting into said spittoon-bowl for supplying the same with water, substantially as and for the purpose set forth.  
 110  
 115

2. The combination, in a fountain-spittoon, of the tubular horizontal supporting-arm formed with a chamber at its inner end, a spittoon-bowl carried at its outer end, a discharge-pipe communicating with said chamber of the supporting-arm, a pocket or cup formed in said chamber, and a smaller discharge-pipe inside the discharge-pipe and communicating with said pocket, substantially as and for the purpose set forth.  
 120  
 125

3. The combination, in a fountain-spittoon, of a tubular horizontal supporting-arm formed with a chamber at its inner end, a spittoon-bowl carried at its outer end, a discharge-pipe communicating with said chamber, a pocket or cup formed in said chamber, a smaller discharge-pipe inside said discharge-pipe communicating with said pocket or cup, and an  
 130  
 135



open tube projecting above said chamber and communicating therewith, substantially as and for the purpose set forth.

4. The combination in a fountain-spittoon 5 of a tubular horizontal supporting-arm having horizontal turning connection at its inner end with a support, a spittoon-bowl supported at the outer end of said arm; a glass-holder bowl supported at the inner end of said arm, 10 a vertical supply-pipe also supported by said arm independently of said spittoon-bowl and said glass-holder bowl, a water-sprayer for supplying the spittoon-bowl with water, and a faucet or faucets overhanging said glass- 15 holder bowl, both the water-sprayer and the faucet or faucets being connected to said vertical supply-pipe, and having no connection with either the spittoon-bowl or the glass-holder bowl, substantially as and for the purpose set forth. 20

5. The combination, in a fountain-spittoon, of a tubular horizontal supporting-arm formed with an enlargement at its inner end and having horizontal turning connection at said inner 25 end with a support, a discharge-pipe connected to said enlargement, a spittoon-bowl carried at the outer end of said supporting-arm, a glass-holder bowl connected to and communicating with said enlargement and 30 supported above the same, a bracket projecting laterally from said enlargement, a vertical supply-pipe supported by said bracket, a water-sprayer for supplying the spittoon-bowl with water connected to said supply- 35 pipe and having no connection with said bowl, and a faucet or faucets connected to said supply-pipe and overhanging said glass-holder bowl, substantially as and for the purpose set forth.

40 6. In a fountain-spittoon, the combination of the bowl, an overhanging water-sprayer for supplying the same with water and consisting of a curved jet-tube, and a guard-plate secured to said jet-tube in rear of its 45 outlet-opening, and extending at an angle

to the side of said bowl, substantially as and for the purpose set forth.

7. In a fountain-spittoon, the combination of the bowl consisting of the circular body, 50 the outwardly-curved side, the flat and almost-horizontal bottom having a downward pitch toward the center of the bowl of approximately three and one-half degrees ( $3\frac{1}{2}^\circ$ ), the inwardly and downwardly curved portion 55 near the center of the bowl, and the tubular neck, and a spiral jet tube or nozzle inside the bowl and adapted to deliver a jet of water against the outwardly-curved side of the bowl, which serves to collect and convey the 60 water in a spiral direction toward the almost-flat bottom of the bowl, said bottom serving to spread and retard the water and cause it to flow toward the center of the bowl, the passage of the water down the tubular neck 65 of the bowl being accelerated by the inwardly and downwardly curved portion of the bowl near the center thereof, whereby the bowl may be completely and noiselessly flushed by the use of but a comparatively-small 70 amount of water under low pressure, substantially as described.

8. In a spittoon-bowl which from top to bottom is circular in horizontal section, the combination of the outwardly-curved side, the 75 conical bottom declined toward the axis of the bowl at an angle of substantially three and one-half degrees ( $3\frac{1}{2}^\circ$ ) therewith, a circular discharge-orifice formed by an annular flange curved tangentially from said bottom, concentric with and terminating below the 80 same, and means to discharge a jet of water within and against the side of the bowl and tangentially with respect to said bowl, substantially as and for the purpose described.

In testimony whereof I affix my signature 85 in presence of two witnesses.

ARTHUR W. BROWNE.

Witnesses:

SEYMOUR CASE,  
M. A. COLE.



It is hereby certified that in Letters Patent No. 655,051, granted July 31, 1900, upon the application of Arthur W. Browne, of New York, N. Y., for an improvement in "Fountain-Spittoons," an error appears in the printed specification requiring correction, as follows: On page 1, in line 60, the reference letter "D" should read *B*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 21st day of August, A. D., 1900.

[SEAL.]

F. L. CAMPBELL,  
*Assistant Secretary of the Interior.*

Countersigned:

WALTER H. CHAMBERLIN,  
*Acting Commissioner of Patents.*