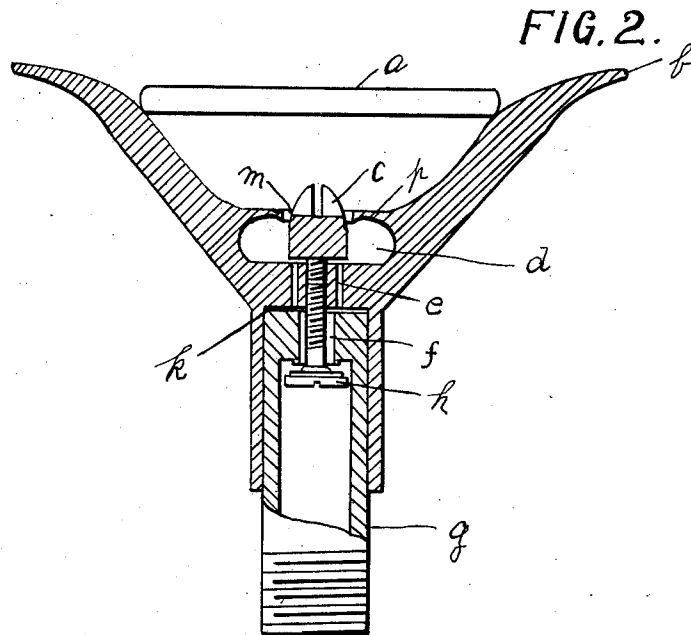
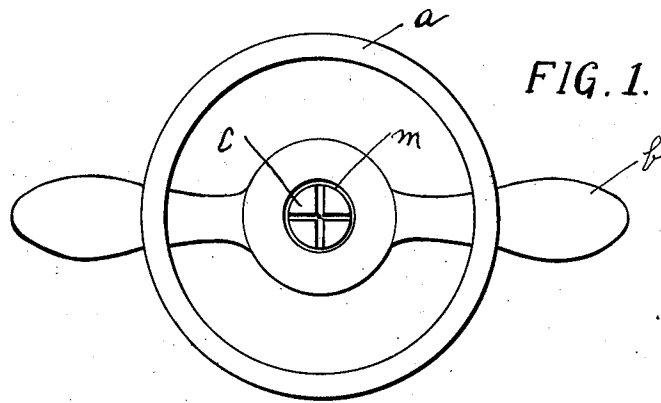


J. HALL, JR.
 DRINKING FOUNTAIN.
 APPLICATION FILED AUG. 14, 1911.

1,047,210.

Patented Dec. 17, 1912.



WITNESSES

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DRINKING-FOUNTAIN.

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Specification of Letters Patent.

Patented Dec. 17, 1912.

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To all whom it may concern:

Be it known that I, JOHN HALL, Jr., a citizen of the United States of America, residing at West Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Drinking-Fountains, of which the following is a specification.

This invention relates to a drinking fountain and is an improvement over the class of drinking fountains which is coming into wide use in public places as a means for avoiding the use of public drinking cups.

The fountain is arranged so that a person may take a drink therefrom in the most convenient manner possible.

The principal object of the invention is to provide a fountain of the character referred to which is convenient for use.

Another object is to simplify the structure of a fountain of the character referred to.

Other objects will appear from the detailed description and the claims annexed thereto.

Referring to the drawings,—Figure 1 is a plan view of the fountain assembled. Fig. 2 is a vertical sectional view taken through the center of the apparatus, showing the parts in their proper working order.

Referring to the drawings, *a* indicates a ring mounted upon the main casting *b*, which main casting is arranged as shown with the central opening *M* leading from a cored out portion of the casting *d* as is clearly apparent from the drawing. The lower end of the main casting is formed into a hollow cylindrical portion which is adapted to receive a pipe element *g*. Fig. 2 shows the pipe element *g* inserted in the hollow cylindrical portion. This element is closed at its upper portion except for a hole *f* which has a rim around its bottom as shown. A valve *h* is adapted as shown to cooperate with this rim and close the opening *f* in a manner to be described. The valve has a slotted head and its stem extends up through the hole *f* which is con-

siderably larger in diameter than the valve stem. The head of the valve is provided with a washer held firmly against the head by a suitable nut or retaining member. The valve stem screws into a centrally threaded hole in the main casting, as clearly shown in Fig. 2. The pipe element is adapted to be screwed into a pipe fitting suitable for connection with any desired water supply of the usual pressure. The main casting *b* fits over the pipe element *g* and slides freely thereon with rather a tight fit. The normal position of the parts is with the valve *h* closing the opening *f*, as will later be described.

Into the same centrally threaded hole in which the valve stem screws, a non-squirting device *C* is screwed. This device is formed as shown with a rounded upper end with slots cut at right angles, as is clear from the drawing. A consideration of the drawing and applicant's necessary operation herein described will make it clear that under normal conditions of operation the water surges into the chamber *d* around the surface thereof and is directed down against the cone-shaped piece *c*. At this point it is met by water which has passed over the same course and which is being pressed out through the annular opening formed by member *c* in the hole *m*. This meeting of the two forces tends to push water out of the annular opening in a suitable bubble without any tendency to squirt. The slots in member *c* allow the annular stream of water to work toward the center of the bubble to make the drinking stream solid. These holes also tend to prevent children from playfully squirting water from the fountain. If the finger or hand is held over the outlet it can not cover a material part of the outlet area because of the member *c* and the water shut off at one part of the outlet area has a chance to pass across through the slots in *c* to that part of the area which is left open and thereby be evenly distributed over that area. The greater part of this device when screwed in

the hole, is located within the cored out portion d . The upper portion of the device forms, in conjunction with the hole m , an annular opening through which the water leaves the cored out portion of the casting. There are small holes connecting the cored out portion d with the interior of the hollow cylindrical portion of the main casting. These holes may be arranged as desired. It might be desirable to have them connect with the hole f more directly. As shown, they are arranged in two pairs, each pair at right angles to the other.

Fig. 2 shows the parts in the position they occupy when a person is drinking. Ordinarily, however, the pressure of the water supply will act on the bottom of the valve head and on the surface h , the outlet through the holes e being restricted, of the main casting, to lift said main casting, which will carry the washer on the valve head against the rim and close the passage f . After this is done, the water pressure will act on valve head h to maintain the washer against the rim. In this operation it is seen that it takes more force to lift the main casting to close the valve, than it does to maintain the valve closed when once lifted. This is due to the inertia of the mass.

By the use of applicant's apparatus as arranged, the water pressure when lifting the casting acts on the surface provided by the valve head and also on the surface h of the casting. These two lifting surfaces, with a very moderate pressure, are sufficient to allow the valve to close and when the valve is once closed, the same moderate pressure of water will keep it closed, acting only on the valve head h , because of the difference of pressure required in the two instances. This is an important feature of applicant's invention, because by means of it, applicant's fountain can successfully operate with water pressures far below what it otherwise would require.

One of the principal features of applicant's fountain is the means by which squirting is absolutely prevented and a smooth bubble of the right height can be had without any possibility of squirting. The means by which this is done will now be described. The water (assuming the parts to be as in Fig. 2) enters by pipe element g up the opening f , works into small holes e and enters the cored out chamber d . The peculiar conformation of this chamber d , together with the device c and opening m , is the principal means by which the most desirable kind of a bubble can be obtained. The device c can be screwed up or down, to regulate the passage by which the water enters the chamber d . As the water leaves the holes e , it strikes the horizontal bottom

of the device c and is deflected sidewise as it enters chamber d . The bottom wall of this chamber, although shown horizontal, might be inclined upwardly or scooped downwardly to start the water coming in a horizontal direction into chamber d into a circular motion. The form of chamber shown will do this, but other forms will also, and it is not desired to limit the invention to the particular form shown. The surface of the chamber on the sides and upper part is more or less circular in form. The water will rush against this circular surface and follow it first upwardly and then downwardly. The surface adjacent the opening m being inclined downwardly, considering the direction which the water will travel. With this chamber as shown, the water will surge into the chamber and leave it by the annular opening shown, without the possibility of squirting.

Applicant has found by making a device exactly as shown and described, that no matter how high a water pressure the fountain is connected with, it will not squirt in the least. This seems to be due to the fact that the water leaves the chamber through the opening m in an annular form, the downwardly inclined surface of the chamber adjacent the opening forces water in a downwardly direction and this water opposes any direct rush of water out of the annular opening around the non-squirting device c . The slots in the latter seem to allow the water forming the drinking bubble, to be more nearly solid than it otherwise would be. The height of the bubble can be regulated by screwing c up or down as desired, as is clear from the drawing.

The operation is as follows: A person desiring to drink holds the face over the ring a and presses down on the handles provided. The ring prevents the lips from coming in contact with the nozzle. This downward pressure will open the valve h and the parts will be in the position shown in Fig. 2. The apparatus is self-closing, that is, the water pressure will act to close the valve without any action of the operator, excepting the release of the initial pressure. This closing operation has already been described. It can be seen that less pressure is required to open the fountain than it is desired to provide for closing it; for on opening the valve the water pressure on the surface of the head h only needs to be overcome. The parts are few, and a fountain of the kind described is easy to manufacture and low in cost.

While applicant has disclosed a specific embodiment of his invention, other embodiments thereof might be made which would include important features of the invention; therefore the following claims are drawn to

include not only the specific form, but all generic forms to which applicant is entitled.

Claims:

1. In a drinking fountain the combination
5 of a pipe element, a fountain element co-
operating therewith, said fountain element
being provided with a chamber adapted to
contain water, a passage for the water to
enter the chamber, a non-squirting device
10 arranged in said chamber and having a por-
tion extending to the open through an open-
ing leading from said chamber, said cham-
ber having surfaces to give the water enter-
ing a circular motion, and also to direct the
15 water downwardly and at an incline to the
axis of the non-squirting device, to prevent
water from being driven directly out of said
opening.

2. A drinking fountain comprising a pipe
20 element closed at one end except for a hole
smaller in diameter than the diameter of the
pipe element; a casting adapted to embrace
said pipe element and slide thereon, said
casting being provided with a valve adapted
25 to close the opening in the end of said pipe
element; a chamber in said casting to con-
tain water, said casting having passages
leading to the opening in said pipe element,
said pipe element being adapted to close
30 said passages.

3. In a drinking fountain the combination
with a main casting, a non-squirting device
adapted to fit in said main casting, a hollow
chamber surrounding said non-squirting de-
vice having an opening through said main
35 casting for the water to pass outwardly,
said non-squirting device being adjustable
in said casting, to control the opening from
said chamber; a pipe element adapted to be
connected to a water supply; a valve con-
trolling the passage of water through said
40 pipe element, said casting being adapted to
fit on said pipe element; said valve being
mounted in said casting to move with the
casting; said chamber having a circular sur-
face inclined upwardly on the sides and
downwardly adjacent to said opening.

4. In a drinking fountain the combination
of a casting, a threaded hole centrally there-
in, a valve the stem of which is threaded
50 and inserted in said hole; a pipe element
having a passage for water in the upper end
thereof, said valve adapted to close the
opening through said pipe element; a rim
around the hole in said element and a
55 washer on the valve adapted to engage said
rim; said casting adapted to embrace said
pipe element and slide freely thereon; being
also provided with small holes for the water
to pass as it comes from said opening to the
60 casting; a non-squirting device screwed into
said threaded hole, and adjustable to con-
trol said small holes and control the passage
of water therethrough; a chamber in said

casting having a curved contour, the surface 65
of said chamber being directed downwardly
at an angle to said non-squirting device said
casting being provided with a hole through
which said non-squirting device projects.

5. A drinking fountain comprising a cast- 70
ing, a circular chamber centrally in said
casting, a central opening from said cham-
ber, a threaded hole extending centrally
through said casting, leading from said
chamber, the bottom of said casting being 75
arranged to fit over a pipe element; small
holes extending from said chamber through
said casting and parallel with said threaded
hole; a valve, the stem of which is adapted
to enter said threaded hole, and the head of 80
which is adapted to close the opening
through said pipe element, said head being
provided with a washer and a retaining
means for said washer.

6. A drinking fountain comprising a pipe 85
element adapted to be connected to a suit-
able water supply; a main casting to fit over
and slide on said pipe element, said pipe
element and said casting being provided
with passages, so that water can pass from 90
the interior of said pipe element through
said casting; the passage in said pipe ele-
ment being larger in diameter than the en-
tering passages in said main casting, said
entering passages leading into an enlarged 95
chamber in said casting and opening from
said chamber centrally of the casting, for
the water to pass out and form a bubble suit-
able for drinking; a non-squirting device
adapted to fit centrally in said opening and 100
being adjustably mounted in said casting; a
valve adapted to close the opening through
said pipe element, said valve being mounted
in said casting; all arranged for the purpose
described. 105

7. A drinking fountain comprising a cast-
ing provided with a chamber having walls
circular in form; a non-squirting device
mounted centrally in said chamber; and ad-
justable in said casting, to control the inlet 110
opening for said chamber; an outlet from
said chamber, through which the non-squir-
ting device extends; the walls of said cham-
ber adjacent the non-squirting device ar-
ranged to direct the water surging into the 115
chamber from the inlet openings down-
wardly, and prevent any water from being
forced directly out of the outlet opening;
all for the purpose described.

8. A drinking fountain comprising a pipe 120
element adapted to be connected to a water
supply; a passage in the upper end thereof
for the water, a valve arranged to close said
passage; a casting movably mounted on said
pipe element and forming a support for said 125
valve; small openings through said casting;
a chamber in said casting, provided with
curved walls; an outlet opening from said

chamber; a non-squirting device adapted to form with said opening an annular outlet, said non-squirting device being slotted and adjustably mounted in said casting to control the small opening; the curved walls of said chamber adjacent said annular passage being arranged to deflect part of the water

downwardly and thus prevent the water in said chamber from being directly forced out of said annular opening.

JOHN HALL, JR.

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."
