J. BURNS.

ATTACHMENT FOR PIPES, HOSE, OR FAUCETS.

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1,288,824.

Patented Dec. 24, 1918.

Fig. 1.

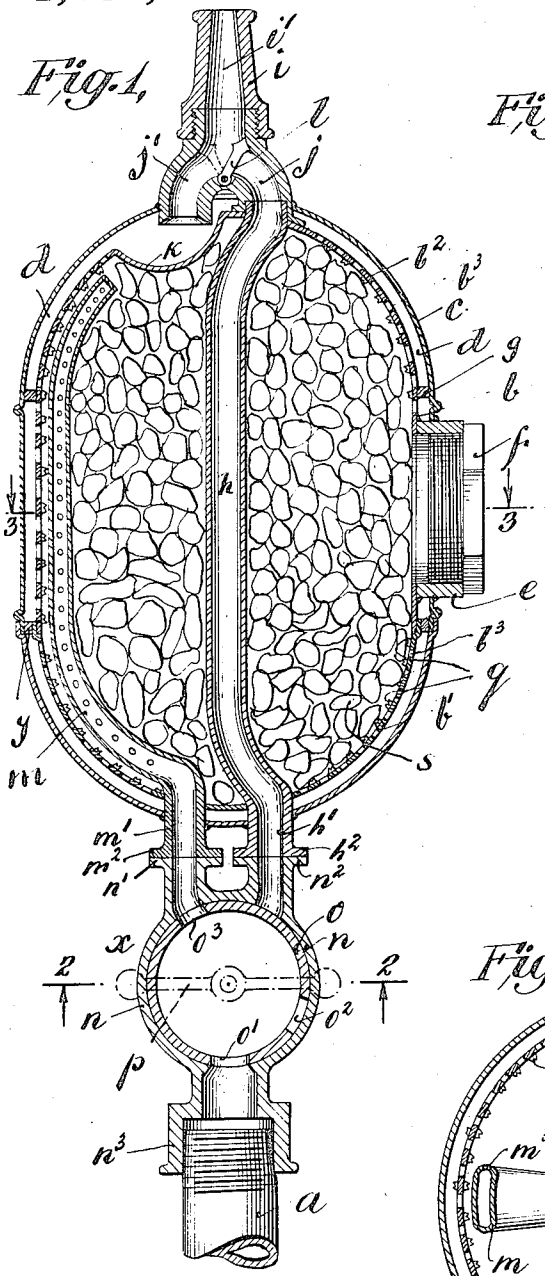


Fig. 4.

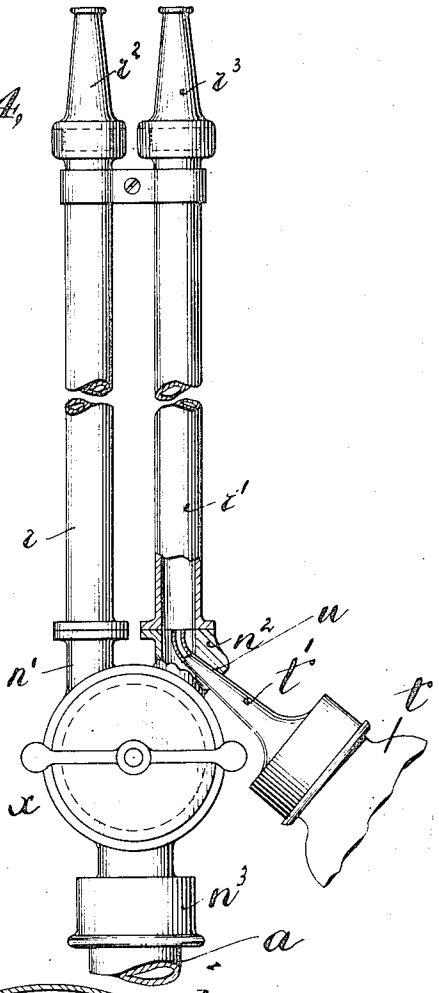


Fig. 3.

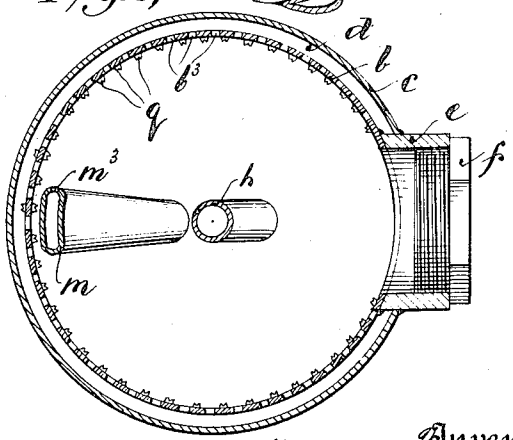
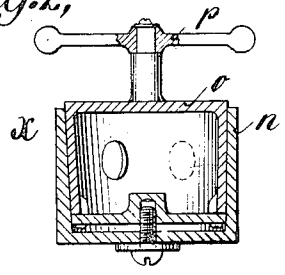


Fig. 2.



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ATTACHMENT FOR PIPES, HOSE, OR FAUCETS.

1,288,824. Specification of Letters Patent. Patented Dec. 24, 1918.

Application filed October 1, 1918. Serial No. 256,401.

To all whom it may concern:

Be it known that I, JAMES BURNS, a citizen of the United States of America, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Attachments for Pipes, Hose, or Faucets, of which the following is a specification.

The present invention relates to attachments for pipes or the like.

The object of my invention is to provide a device whereby at will either the pure liquid flowing through the supply or a mixture thereof with another liquid or substance contained in the device may be discharged through one and the same nozzle by the mere adjustment of a valve or cock.

My new device may be advantageously applied in wash rooms to a bath tub faucet or pipe so as to enable the mixture of water and soap and thus dispense with the use of soap cakes or separate receptacles containing liquid or powdered soap.

Another use of my device is its attachment to a garden hose so as to enable the squirting of a chemical mixture for the destruction of insects or for the fertilizing of the ground.

With these and other objects in view which will appear from the detailed description, my invention substantially consists in the provision of a receptacle having a mixing chamber and formed at one end with a nozzle and at its other end with a three way cock or valve adapted to be attached to a supply pipe or hose, so that by the mere adjustment of the cock or valve either the plain or pure liquid flowing through the pipe or a mixture thereof with the contents of the receptacle produced will be discharged.

My invention also consists in the construction, arrangement and combination of parts which will be hereinafter more fully described and set forth in the appended claims.

In the drawing which forms part of this specification, Figure 1 is a longitudinal section through the attachment; Fig. 2 is a cross section of a cock or valve on line 2—2 of Fig. 1; Fig. 3 is a cross section on line 3—3 of Fig. 1 and Fig. 4 is an elevation partly in section of a modified construction of the device.

Referring more specifically to Figs. 1, 2 and 3, *a* denotes a supply pipe or the like to which my attachment is adapted to be applied. The attachment consists substantially of a receptacle *b* of circular cross section with ends *b'*, b^2 of substantially semi-spherical shape. This receptacle is surrounded by a shell or casing *c* of substantially the same configuration but somewhat larger in size so as to form between itself and the receptacle *b* a chamber *d*. The receptacle *b* is on its entire circumference perforated as at b^3 through which perforations the interior of the receptacle *b* is in communication with the chamber *d* surrounding it. *e* denotes a mouthpiece through which the receptacle may be filled with the substance or liquid which is to be mixed with the liquid flowing through the pipe *a*. In this example the receptacle is assumed to contain comminuted pieces of soap *s*. The mouthpiece is adapted to be closed by a cover *f* screwing into the same. *g*, *g* are supports or spacers between the walls of the receptacle *b* and the shell *c*. Extending longitudinally and centrally through the receptacle *b* is a pipe *h*, the ends of which are curved somewhat laterally and project through the walls of the receptacle and the casing *c*. One end of the pipe *h* carries a nozzle *i* which at its inner end is formed with two passages *j*, *j'*. The passage *j* leads into the pipe *h* and the passage *j'* opens into the chamber *d*. The part of the wall of the receptacle *b* located immediately below the inner open end of the passage *j'* is slightly depressed as at *k* to widen the chamber *d* in order to permit the mixture to freely enter the passage *j'*. The branches *j* and *j'* both lead into a common discharge passage *i'* of the nozzle *i*. The flow from the passages *j*, *j'* into the passage *i'* is controlled by a self-acting trap valve *l* which is pivotally supported in the nozzle, and is capable when the liquid is discharged through the pipe *h* of being thrown to the left closing passage *j'* and preventing the liquid from entering the chamber *d*, and on the other hand when the mixture is discharged from the chamber *d* through the passage *j'* of being thrown to the opposite side closing the passage *h* and preventing the mixture from flowing back into the latter.

Arranged in the receptacle *b* is an oblong and flattened pipe or tube *m* which extends adjacent one side of and longitudinally parallel to the wall of said receptacle. The upper and lower ends of said pipe are curved

in conformity with the adjacent wall, the upper end being closed and terminating near the top of the receptacle b and the opposite end leading into a cylindrical part m' which projects outwardly through the walls of both the receptacle b and the shell c. The pipe end m' and the adjoining end h' of the pipe h have even end edges surrounded by flanges m^2, h^2 respectively which are adapted to be connected to corresponding flanged pipe sections n', n^2 projecting from a three way cock or valve x.

This valve comprises a casing n from which the pipe sections n', n^2 project and which at its opposite end is formed with a threaded mouthpiece n^3 capable of being screwed onto the pipe a or the like. The cock proper consists of a rotary hollow cone o suitably supported in the correspondingly shaped casing and formed on its outside with a handle p. The circumference of the cone o is provided with three perforations o', o^2, o^3 so admeasured and distributed as to close or open communication of passage n^4 of the mouthpiece n with either pipe h or passage m', so that the liquid flowing through the supply pipe a may pass either through pipe h or into the flat tube m.

The chamber m is at one of its longitudinal ends (Figs. 1 and 3) provided with a series of perforations m^3 so that the liquid entering the same through the cock will be discharged through the said perforations in form of jets directed substantially parallel or concentrically to the adjacent walls of the receptacle and by their force cause a whirling of the substance or liquid around the walls of the receptacle. Thereby a thorough mixture of the liquid entering the tube m with the contents of the receptacle will be produced.

When the cock is turned so as to close the passage m' leading into the chamber m and to open the passage leading into the pipe h the clear water or whatever other liquid is supplied through the supply pipe a will be discharged through the pipe h into the passage j throwing the valve l into the dotted line position and issuing from the nozzle i. When, on the other hand, the valve x is turned to close the passage h' and to open the passage m', the liquid passing through pipe a will enter the said tube m and thence issue in form of jets into the receptacle to mix with the contents of the latter. Through the perforations b', the mixture will pass into the chamber d and thence by the continuous pressure in the supply pipe enter the passage j' and throwing the valve l to the right, issue from the nozzle i.

If the receptacle is used to contain pieces of soap, the inner surface of the receptacle b may be roughened or provided with inwardly projecting prongs o which, when the soap is thrown against them, will scrape off particles that will easily dissolve in the water.

In the modification shown in Fig. 4, the receptacle b, c is entirely omitted. Here the three way valve or cock x has its pipe sections n' n^2 connected to two pipes r, r' each having a discharge nozzle r^2, r^3. A receptacle t adapted to contain the desired chemical or liquid is provided with a nozzle t' passed through an opening u^2 into the pipe r'. When the cock is adjusted to connect the supply pipe a with the pipe r then the pure liquid coming from the supply will be discharged through nozzle r^2. When the cock is adjusted to connect the pipe r' with the supply pipe a then the liquid of the supply pipe on entering the pipe r' and passing the opening of the nozzle t' will, by suction action, draw along the contents of the receptacle t, and the mixture will issue from the nozzle r^3.

What I claim and desire to secure by Letters Patent is:

1. The combination with a supply pipe or the like, of an attachment therefor, comprising a three way cock or valve to be connected to said supply pipe, two tubes or pipes whose communication with said supply pipe is controlled by said cock or valve, a perforated receptacle having a rough inner surface and formed with a chamber surrounding it, one of said pipes terminating in said receptacle and having discharge openings and a single nozzle communicating with the other of said pipes and with said chamber.

2. The combination with a supply pipe or the like, of an attachment therefor comprising a valve or cock to be connected to said supply pipe, two tubes or pipes controlled by said cock or valve, a perforated receptacle formed with a chamber surrounding said tubes, one of said pipes projecting through one end of said receptacle and terminating within the latter near the opposite end thereof, said pipe having perforations arranged in such a plane that the liquid ejected therethrough will receive substantially a circular course, and a nozzle carried by the free end of the other pipe, said nozzle having a branch communicating with the said chamber.

3. The combination with a supply pipe or the like, of an attachment therefor comprising a valve or cock to be connected to said supply pipe, two tubes or pipes controlled by said cock or valve, a perforated receptacle formed with a chamber surrounding said tubes, one of said pipes projecting through one end of said receptacle and terminating near the opposite end thereof, said pipe having perforations arranged in such a plane that the liquid ejected therethrough will receive substantially a circular course, and a nozzle carried by the other of said two

pipes and formed with two valve controlled passages, one of said passages communicating with said other pipe and the other passage communicating with the said chamber.

4. The combination with a supply pipe or the like, of an attachment therefor comprising a perforated receptacle having an outer chamber, a valve controlled double pipe leading from said supply pipe, one of the branches of said double pipe projecting into and extending along one side of said receptacle and having perforations arranged in a plane substantially perpendicular to the said side so that the liquid ejected through said perforations will receive substantially a circular course, and a nozzle carried by the other branch of said pipe and having valve controlled passages of which one leads into the said chamber.

5. An attachment for a supply pipe or the like, comprising a valve controlled double pipe or tube, a perforated receptacle of circular cross section having an annular outer chamber, a nozzle carried by and communicating with one of the branches of said pipe or tube and having a passage leading into said outer chamber, the other branch of said pipe or tube projecting into the said perforated receptacle adjacent and longitudinally of one side of the latter and having perforations arranged in a plane substantially perpendicular to the said adjacent side of the receptacle so that the liquid, when ejected through said perforations, will receive a circular course.

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

JAMES BURNS.

Witnesses:
E. D. JUNIOR,
MAX D. ORDMANN.