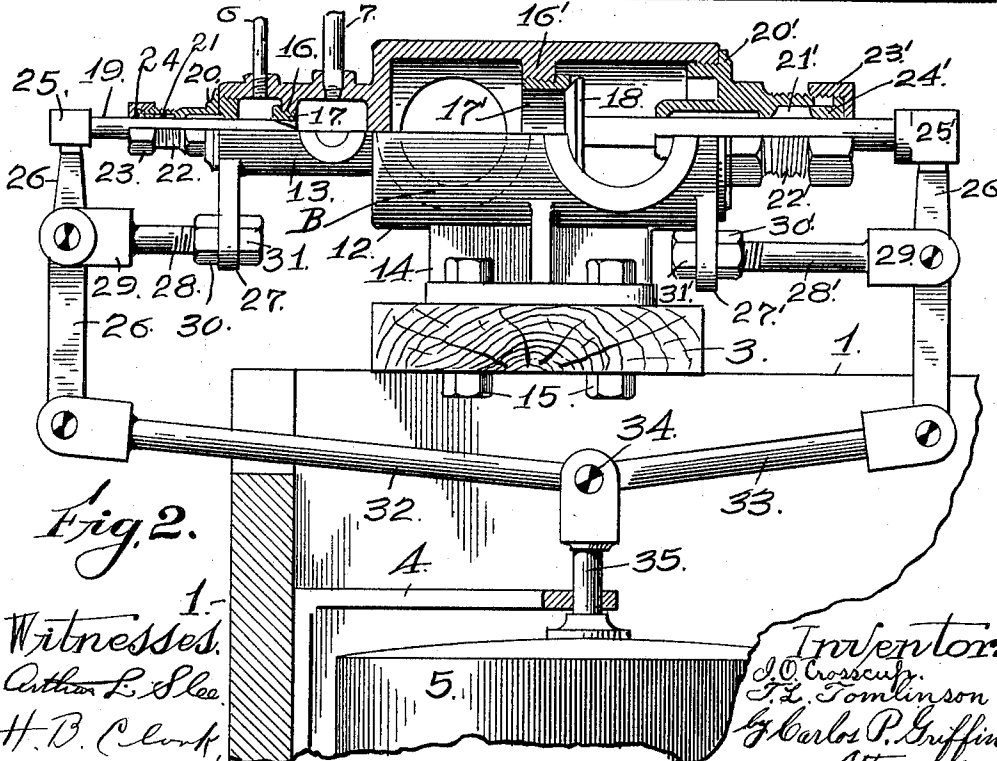
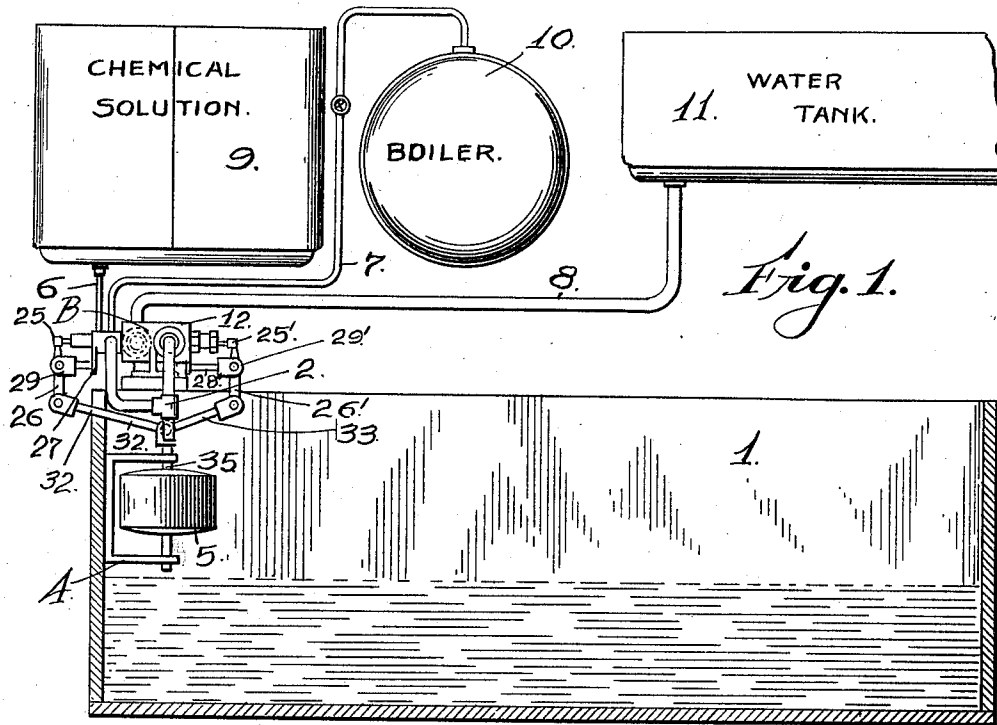


T. L. TOMLINSON & I. O. CROSSCUP.
 AUTOMATIC MIXING VALVE.
 APPLICATION FILED OCT. 12, 1911.

1,037,135.

Patented Aug. 27, 1912.



Witnesses:
 Arthur L. Slee
 H. B. Clark,

Inventors
 I. O. Crosscup
 T. L. Tomlinson
 by Charles P. Griffin
 Attorney

UNITED STATES PATENT OFFICE.

THOMAS LAWRENCE TOMLINSON, OF OAKLAND, AND IRA OSCAR CROSSCUP, OF SAN FRANCISCO, CALIFORNIA.

AUTOMATIC MIXING-VALVE.

1,037,135.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed October 12, 1911. Serial No. 654,400.

To all whom it may concern:

Be it known that we, THOMAS L. TOMLINSON and IRA O. CROSSCUP, citizens of the United States, residing at Oakland and San Francisco, respectively, in the counties of Alameda and San Francisco, respectively, and State of California, have invented a new and useful Automatic Mixing-Valve, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to a valve, used for the purpose of discharging certain quantities of a chemical solution into certain definite quantities of water, the chemical and water being mixed before being discharged into a storage tank.

An object of the invention is to provide a valve which may be easily adjusted to supply more or less of one fluid relative to the other, as may be required.

A further object of the invention is to provide a valve which may be readily cleaned should the chemical solution used therein become clogged or congealed in the passage way of the valve.

In the drawings in which the same numeral of reference is applied to the same portion throughout the several views, Figure 1 is a view partly in section of the chemical supply tank, steam boiler, water supply tank, valve and storage tank, illustrating the operation of the valve in connection therewith, and Fig. 2 is an enlarged view partly in section of the valve.

The numeral 1 represents the storage tank into which the discharge pipe 2 leads. The valve B is supported upon a cross bar 3, secured on the top of the tank 1. Secured on the inside of the tank 1 is a bracket 4, which forms a guide and support for the float 5, said float operating to open and close the water and chemical valves 18 and 19, to supply the necessary quantity of each fluid.

Connected with the valve casing are three pipes, 6, 7 and 8. The pipe 6 is connected with a chemical solution tank 9 for the storage of the chemical solution to be used and with the smaller end 13 of the valve casing. The pipe 7 is connected with the smaller end of the valve casing and with a suitable steam boiler 10 for the purpose of supplying the necessary steam to heat the chemical solution should it congeal in the

valve and for the purpose of blowing out any of said solution should it collect in said valve the pipe 7 has a suitable valve to prevent the same from passing through the mixing valve, except when required. The pipe 8 is connected with the large end 12 of the valve casing and with a water supply tank 11. The valve is made up of a casing having a large end 12 and small end 13 separated by a wall, a bracket 14 being cast integral therewith. This bracket has flanges and is suitably secured by means of bolts 15 to a support 3, extending across the top of the tank 1. Each end 12 and 13 of the casing is provided with a web as indicated at 16 and 16'. The web 16 is threaded to receive a bushing 17 and the web 16' is threaded to receive a bushing 17'. The bushings are made of such material as will best resist wear and corrosion from water and chemicals passed through the valve. The bushings 17 and 17' form seats for valves. The large bushing 17' forms a seat for the valve 18, while the bushing 17 forms a seat for the needle valve 19.

Each end of the casing has an opening therein, in one of which openings a head 20 is screwed, while in the other opening a head 20' is screwed. Each head is cored out as indicated at 21 and 21' for the purpose of receiving packing material to prevent leakage around the valve stems. The head 20 has a cap 23 thereon and the head 20' has a cap 23' thereon, said caps having flanged rings 24 and 24' respectively for the purpose of pressing the packing material into its seat.

The stem of the valve 19 is provided with a head 25 and stem of the valve 18 with a head 25', each of said heads having an opening therein. Depending from the valve at the ends are brackets 27 and 27', the former supporting a rod 28, adjusted by means of nuts 30 and 31 and having a slotted head 29, while the latter supports a rod 28', adjusted by means of nuts 30' and 31' and having a slotted head 29'. The head 29 supports a lever 26, which projects into the opening in the head 25 and the rod 28' supports a lever 26' which projects into the head 25'.

The lever 26 is connected with a rod 32 and the lever 26' is connected with a rod 33, said rods being pivoted at 34 to a rod 35 connected with the float 5. By adjusting

the position of the rods 28 and 28' in the brackets 27 and 27' respectively, by means of the nuts thereon, the flow of water and chemical solution may be varied with respect to each other and the float will cause the valves to remain open until the mixed solution of chemical and water rises in the tank 1 to such a point as will cause the float to close the valves.

10 Having thus described our invention what we claim as new and desire to secure by Letters Patent of the United States, is as follows:

15 1. In a mixing valve, a casing having two chambers therein, a valve in each of said chambers, a lever connected with each of the valves and pivoted to the casing, a float, and a long link and a short link connecting the float and the respective levers to open and close the valves as the float falls or rises, as described.

25 2. In a mixing valve, a casing having two chambers therein, a valve in each chamber, two levers pivoted to the casing and connected with the respective valves, a float, means to adjust the position of the levers

with reference to the chambered portion of the casing, and links connecting the float and the respective levers to open and close the valves, as described.

30 3. In a mixing valve, a casing having two chambers therein, liquid supply pipes connected with the respective chambers, a steam pipe connected with one of said chambers, a valve in each chamber, two levers supported by the casing and connected with the respective valves, a float, means to adjust the position of the respective levers with reference to the chambered portion of the casing, and links connecting the respective levers and float to open and close the valves, as described.

In testimony whereof we have hereunto set our hands this 4th day of October A. D. 1911, in the presence of the two subscribed witnesses.

THOMAS LAWRENCE TOMLINSON.
IRA OSCAR GROSSCUP.

Witnesses:

A. SINNOTT,
S. V. HALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."