

C. A. TABER.
 CHEMICAL MIXING HOPPER.
 APPLICATION FILED OCT. 19, 1908.

946,809.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 1.

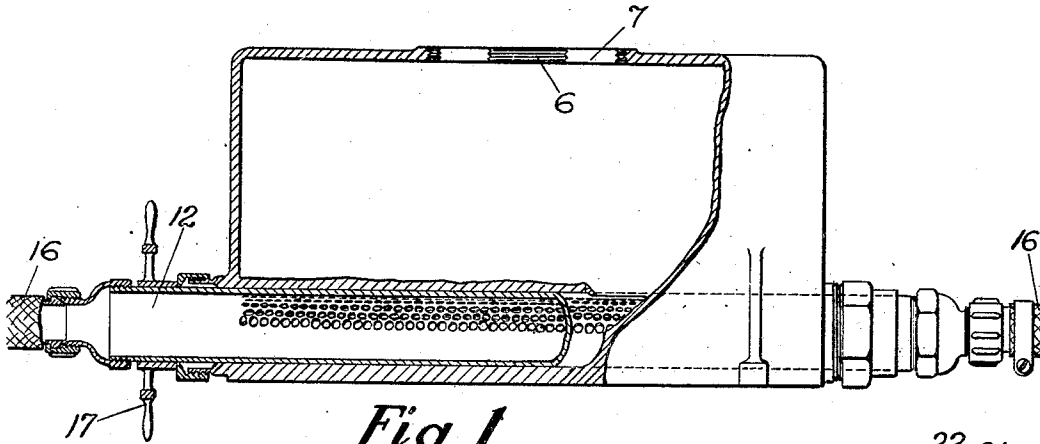


Fig 1

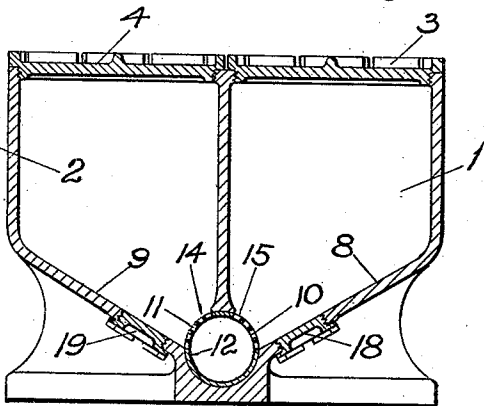


Fig 2

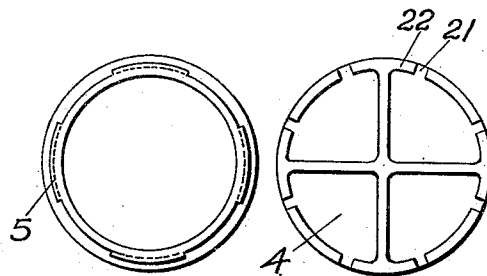


Fig 3

Fig 4



Fig 5

Fig 6

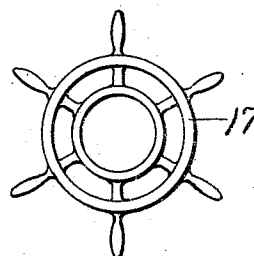


Fig 7

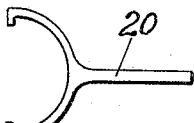


Fig 8

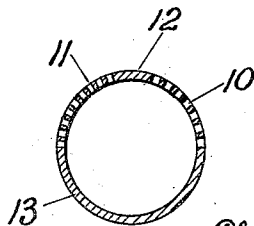


Fig 9

Witnesses:
 Olof Johnson
 H. E. Talbot.

Inventor:
 Charles Augustus Taber.

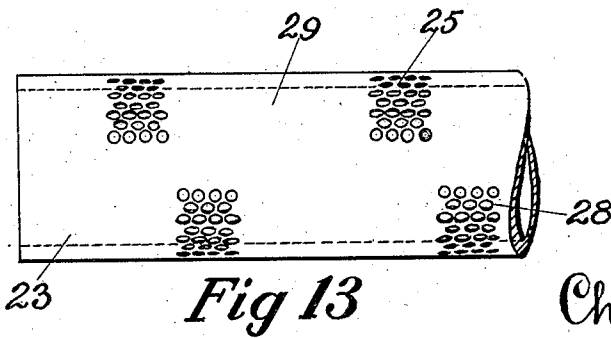
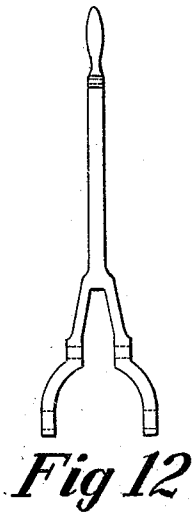
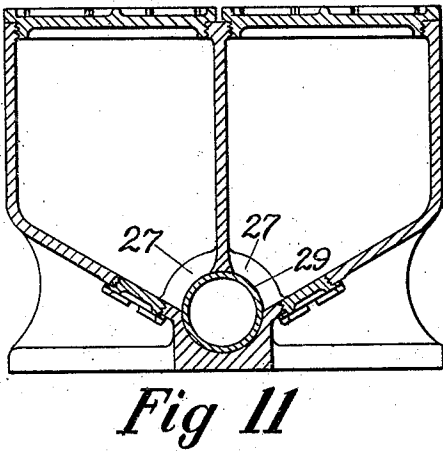
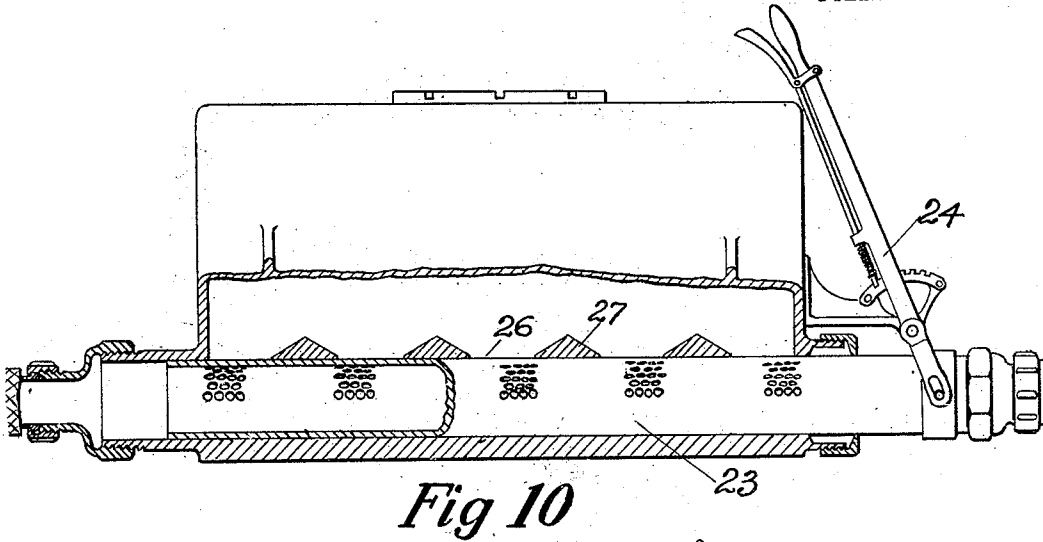
By *Paul Talbot*
 His Attorney

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2 SHEETS—SHEET 2.



Inventor:
Charles Augustus Taber.

Witnesses:
Olof Johnson
H. E. Talbot.

By *Paul Talbot*
His Attorney

UNITED STATES PATENT OFFICE.

CHARLES AUGUSTUS TABER, OF OAKLAND, CALIFORNIA.

CHEMICAL-MIXING HOPPER.

946,809.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed October 19, 1908. Serial No. 458,494.

To all whom it may concern:

Be it known that I, CHARLES AUGUSTUS TABER, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in a Chemical-Mixing Hopper, of which the following is a complete specification.

My invention relates to a chemical mixing hopper for fire extinguishing purposes. The use of chemical compounds for extinguishing fires has proved efficient and reliable, however, these compounds are usually in a limited quantity and are used more particularly to the extinguishing of small fires which have not passed beyond the point of control with a few gallons of chemicals. By the use of my device a large stream of water may be mixed with chemicals while passing through the hopper and in view of the construction hereinafter more fully set forth. The operation of the mixing of the chemicals may be continuous and may be adjusted so that the desired quantity of chemical matter may be introduced into the water, or a clear stream may be passed through without any chemical matter whatever and if desired both hoppers may be placed in action at the same time.

My device may be mounted in a convenient position in a hose wagon or a specially designed truck attached to be placed in readiness for action to go along with the usual fire apparatus will more advantageously carry out the effective operation of my device, if desired the hoppers may be stationary and may be kept in convenient places acting in connection with hose racks and like fire fighting apparatus.

The objects of my invention are to provide a chemical mixing hopper adapted to effect the mixture while the stream is passing therethrough, to provide a device for mixing chemicals in a stream of water, to provide a continuously operated chemical mixing hopper ready attached to the ordinary hose and to provide a chemical mixer which may be adjusted for continuous operation. I accomplish these as well as minor objects by the construction now preferred by me and illustrated in the accompanying drawings in which—

Figure 1 is an elevation and partial section of the preferred form of my device; Fig. 2 is a transverse section of my device; Figs. 3 and 4 are detailed views of the covers;

Figs. 5 and 6 are detailed views of the drain plugs; Fig. 7 is a detailed view of the adjusting wheel; Fig. 8 is a view of the spanner wrench used in tightening the covers of my device; Fig. 9 is a transverse section of the mixing tube; Fig. 10 is an elevation of a modification of my device in which the mixing tube is slidably instead of rotatably mounted; Fig. 11 is a transverse section of a modification shown in Fig. 10; Fig. 12 is a view of the adjusting lever of my device; Fig. 13 is a fragmentary view showing the disposition of the ports or apertures in the mixing tube when slidably mounted.

Similar reference numerals refer to similar parts throughout the several views of my device as illustrated in the accompanying drawings.

My invention consists essentially of a pair of hoppers 1 and 2 having quickly adjusted covers 3 and 4 which are provided with thread portions 5 engaging the thread portions 6 in the opening 7 provided in the upper surface of the hoppers. The threads on both the covers 3 and 4 and the openings 7 are segmental thus said covers need be turned but a portion of a revolution to be adjusted tightly against their seats. The hoppers 1 and 2 are provided with inclined surfaces 8 and 9 allowing the chemical powder which is placed therein to freely gravitate to the bottom of said hoppers when saturated with water or other liquid and to thus form a chemical mixture which passes through the rows of apertures 10 and 11 provided in the mixing tube 12. The disposition of said apertures permits an adjustment and also affords a means whereby either of said hoppers 1 or 2 may be placed in operation or both may be closed as desired. The hopper not in use is closed by bringing the blank surface 13 of said mixing tube 12 to completely cover either the opening 14 or 15 provided at the bottom of said hoppers 1 or 2 and by further revolving said mixing tube 12 both of said hoppers 1 and 2 are closed from communication with the hose 16 which is secured to said mixing tube 12. To facilitate revolving said mixing tube for the adjustment described above I have provided a wheel 17 rigidly secured to said mixing tube and accessible from the exterior of my device. I have provided drain plugs 18 and 19 to facilitate removing the water from said hoppers 1 and 2 thus by closing one of said hoppers and draining the water therefrom

said hopper may be filled while the other of said hoppers is in operation, the covers 3 and 4 may be adjusted to position by the spanner wrench 20 engaging the notches 21 provided in the rim 22 of the cover.

In Figs. 10, 11, 12 and 13 I have shown a modification of my device in which the mixing tube 23 is longitudinally adjusted by the levers 24 accessible from the outside of the hoppers and adapted to bring the rows of apertures 25 which are segmentally arranged on a mixing tube 23 in communication with the openings 26 which are disposed between the bars 27 at the base of each of said hoppers which are otherwise constructed substantially the same as heretofore described.

It is obvious that on moving both the apertures 25 and 28 each of which may be placed into communication with the hoppers or by bringing the blank space 29 in communication with the openings 27 both hoppers may be closed and as the apertures 25 and 28 which are differently disposed longitudinally on the mixing tube 23.

I do not wish to be limited to the specific construction as herein set forth but wish to depart from such details as are within the scope of my patent.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a chemical mixing device, a pair of hoppers, a tube at the bottom of both of said hoppers provided with ports communicating with said hoppers, means for adjusting said ports in said tubes to place one or both of said hoppers out of communication with the

water passing through said mixing tube and also to adjust the mixture of chemicals from said hoppers.

2. In a chemical mixing hopper, a pair of hoppers having a common division wall therebetween and an apertured bottom on each side of said division wall, a cylindrical mixing tube movably mounted relative to said hoppers having ports therein registering with the apertures in the bottom of each of said hoppers and having a hose connected to each end of said tube and means whereby said tube may be moved permitting a continuous flow through said ports and apertures and through said tube to vary the contents flowing from said hopper with the contents flowing through said tube.

3. In a chemical mixing hopper, a pair of hoppers having a common division wall therebetween and an apertured bottom on each side of said division wall, a cylindrical mixing tube movably mounted relative to said hoppers having ports communicating with said apertures and disposed in said tube to vary the opening between the hoppers and tube by the movement of said tube and to close the aperture in one or both of said hoppers whereby said hoppers may be filled and adjusted while said tube is under pressure.

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

CHARLES AUGUSTUS TABER.

Witnesses:

HERMAN FRED SCHOTTLER,
ALBERT HENRY VORRATH.