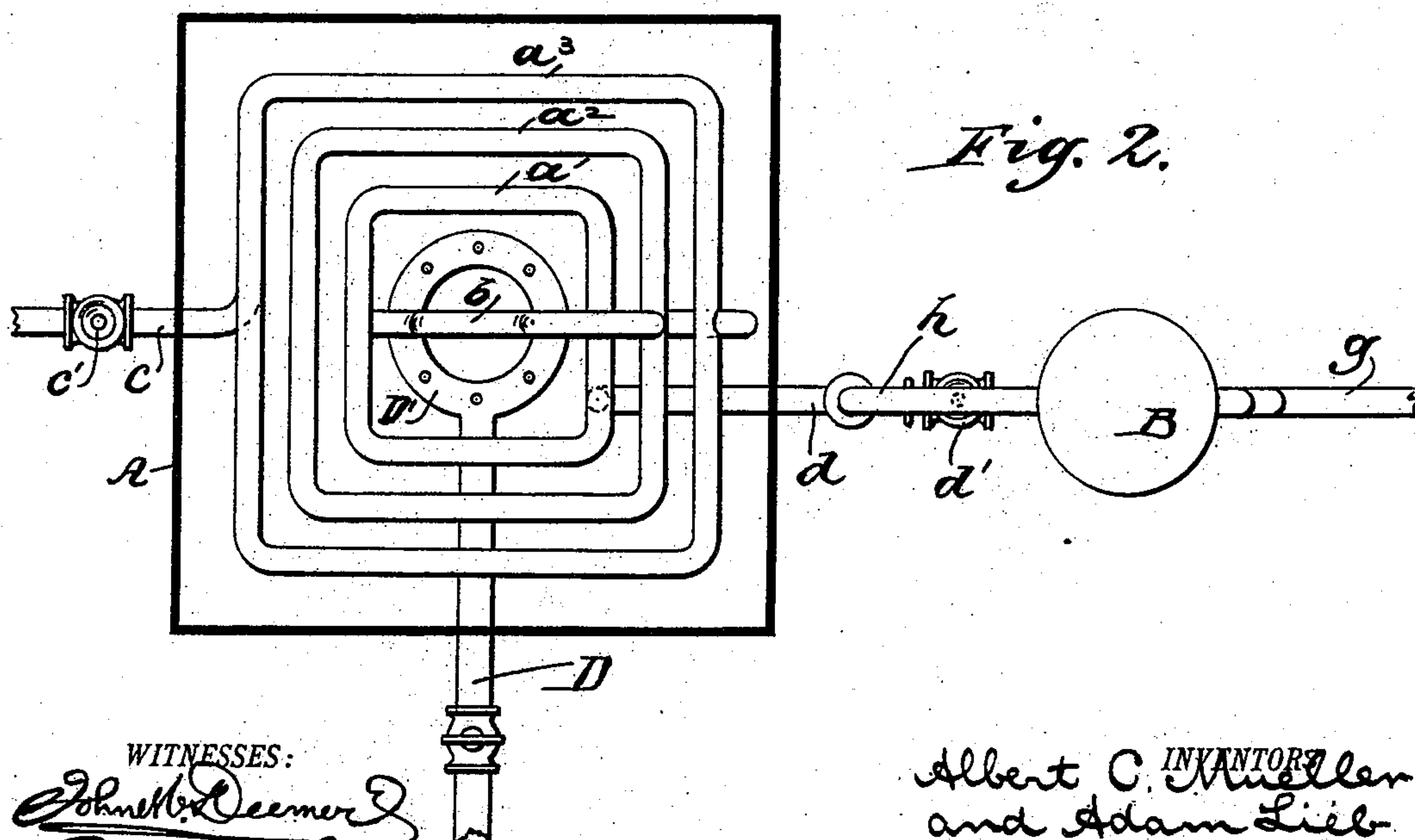
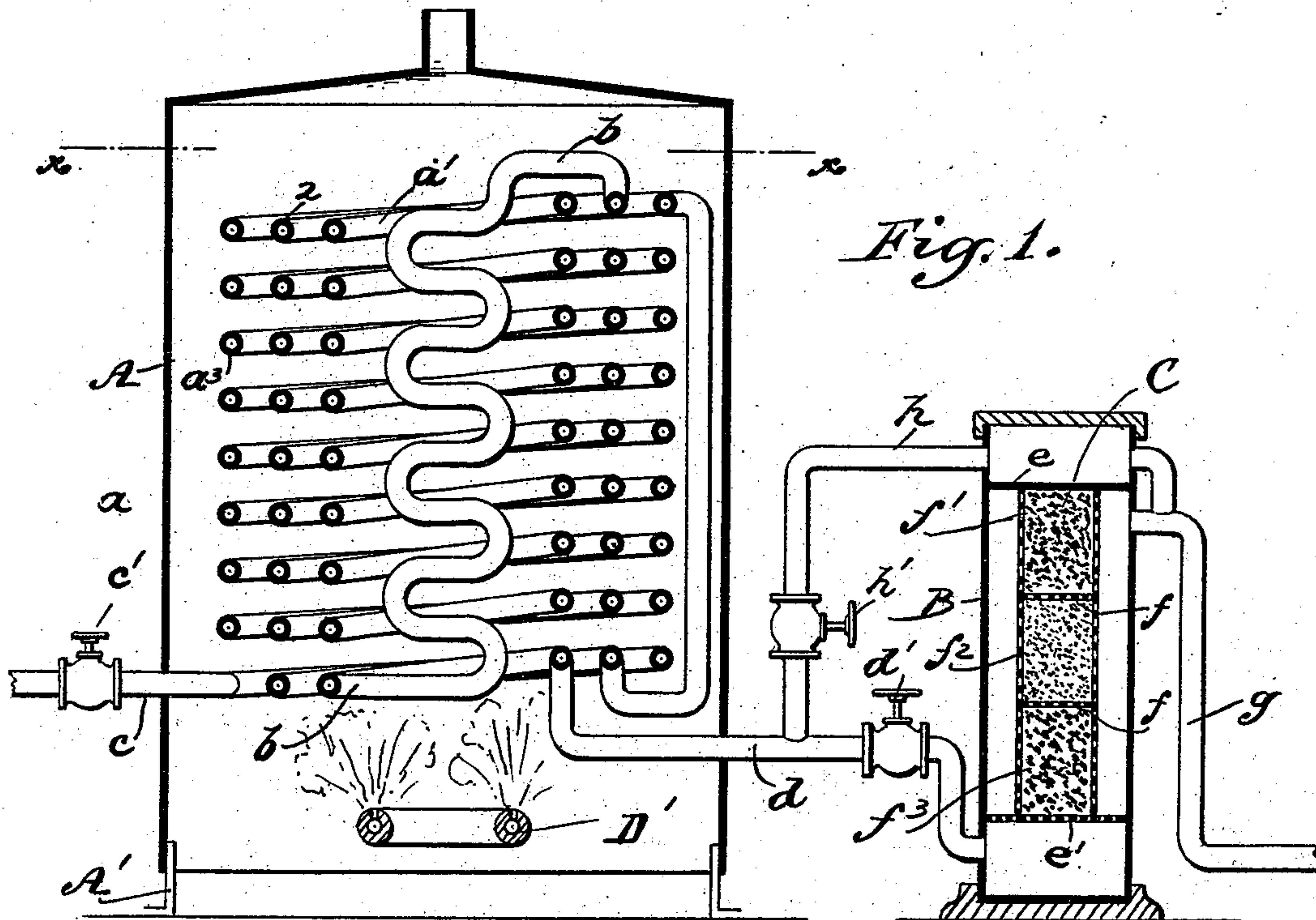


(No Model.)

A. C. MUELLER & A. LIEB.
PIPE CLEANING APPARATUS.

No. 528,234.

Patented Oct. 30, 1894.



WITNESSES:

John H. Deemer
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UNITED STATES PATENT OFFICE.

ALBERT C. MUELLER AND ADAM LIEB, OF ALLEGHENY, PENNSYLVANIA.

PIPE-CLEANING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 528,234, dated October 30, 1894.

Application filed March 1, 1894. Serial No. 501,897. (No model.)

To all whom it may concern:

Be it known that we, ALBERT C. MUELLER and ADAM LIEB, citizens of the United States, and residents of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Cleansing Apparatus, of which the following is a specification.

This invention relates to devices for cleansing pipes, particularly such as are used for beer and other liquors, and has for its object to provide a simple, cheap and readily operated means whereby such pipes may be quickly and thoroughly cleansed of all impurities.

The invention consists in the novel construction and arrangement of parts hereinafter more fully described and particularly set forth.

In the accompanying drawings, forming part of this specification in which like letters of reference designate corresponding parts throughout, Figure 1 is a vertical section through the center of our improved apparatus. Fig. 2 is a section of the same, taken on the line $x-x$.

In the practice of our invention, we construct a preferably square casing or housing A, within which are arranged one or more series of pipe coils a , corresponding in shape to the housing, the inner and middle coils, a' a'' respectively, being connected together by a serpentine or S shaped pipe b . At one side of the housing which is supported upon legs A' is the inlet or cold-water pipe c extending therethrough, and joining with the outer coil a'' , this inlet pipe being connected to any suitable source of supply and controlled by a valve c' . The end of the inner pipe coil a' continues as the outlet or hot-water pipe d and passes through the wall of the housing opposite the cold-water pipe. These two pipes c and d serve to support the coils. The hot-water pipe d leads to the base of a tank or chamber B, located in proximity to the housing A. This tank has at both its top and bottom plates e e' , the latter being perforated throughout its area. Intervening these plates is a cylindrical body C divided off by partitions f into cells f' , f'' and f''' , the body and the partitions both being perforated.

These cells are filled with lye, salt and soda respectively.

It may be desirable at times to use other cleansing ingredients of an alkaline character, those above mentioned, however, being the ones we prefer to employ.

Toward the top of the tank immediately below the plates e is the outlet pipe g leading off to the beer-pipes, which not forming any part of our invention, are not here shown.

Any suitable heating device may be inserted within the body A to heat the water in the coils a . We have here illustrated a pipe D having a rose D' at the end, situated in the center of the body, beneath the coils, through which hot air is distributed. The water may, however, be heated directly by gas, oil, gasoline or other lamp, stove or furnace, or steam may be circulated in the body, the invention not being restricted in this particular.

The operation of the device will be readily apparent from the foregoing description taken in connection with the drawings. The cold water entering by the inlet pipe c , flows through the three coils being thereby thoroughly heated, and passes by way of the hot water pipe d to the cylinder B, where it mixes with the materials in the cells. The water thus impregnated with the alkali escapes by the pipe g to the beer-pipes, in passing through which it completely cleanses and washes away all impurities from the interior thereof.

In order that the pipes may be rinsed and any trace of the alkali apt to injure or affect the taste of the beer or other liquors be removed, we connect the top of the chamber B, above the plate e , to the hot water pipe d by means of a pipe h , each of the pipes being provided with a valve d' and h' . At the opposite side of the chamber B is a small elbow pipe i leading to the outlet pipe g . By closing the valve d' and opening the valve h' the flow of the hot water may be directed to the beer-pipes without passing through, or communicating with, the cleansing material in the cells.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a pipe cleansing apparatus, the com-

5 bination, with a suitable water heating device, of a mixing tank having a perforated body supported within the same, the said body comprising two or more cells, alkaline materials of a different character in each of the said cells, and suitable connections from the heater to the mixing tank and from the latter to the pipes to be cleansed, substantially as shown and described.

10 2. In a pipe cleansing apparatus, the combination, with a suitable heating device, of a mixing tank having a perforated body supported within the same adapted to receive alkaline material, the said tank connecting to the pipes to be cleansed, a chamber at the top of the tank apart from the body, and also connecting with the pipes, and suitable connections from the heater to the tank and to the chamber, substantially as shown and described.

20 3. In a pipe cleansing apparatus, the combination, with a water heater, a mixing tank, and the connections to and from the same, and to the pipes to be cleansed, of a perforated body supported in the said mixing tank, divided into cells, and a quantity of lye, salt

and soda in the said cells, substantially as shown and described.

4. In a pipe cleansing apparatus, the combination with a mixing tank having a perforated body supported within the same adapted to receive alkaline material, the said tank connecting to the pipes to be cleansed, and a chamber at the top of the tank apart from the body, of a heater comprising a series of pipe coils arranged within a housing, a cold water pipe connecting with the beginning of the coils, a hot water pipe leading from the opposite end of the coils to the tank and connections from the said hot water pipe to the chamber at the top of the tank, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of two witnesses, this 21st day of February, 1894.

ALBERT C. MUELLER.
ADAM LIEB.

Witnesses:
HENRY FEHRING,
ADAM STORK.