E. R. TALLEY.

APPARATUS FOR PURIFYING WATER.

APPLICATION FILED SEPT. 28, 1916.

1,217,365.

Patented Feb. 27, 1917.

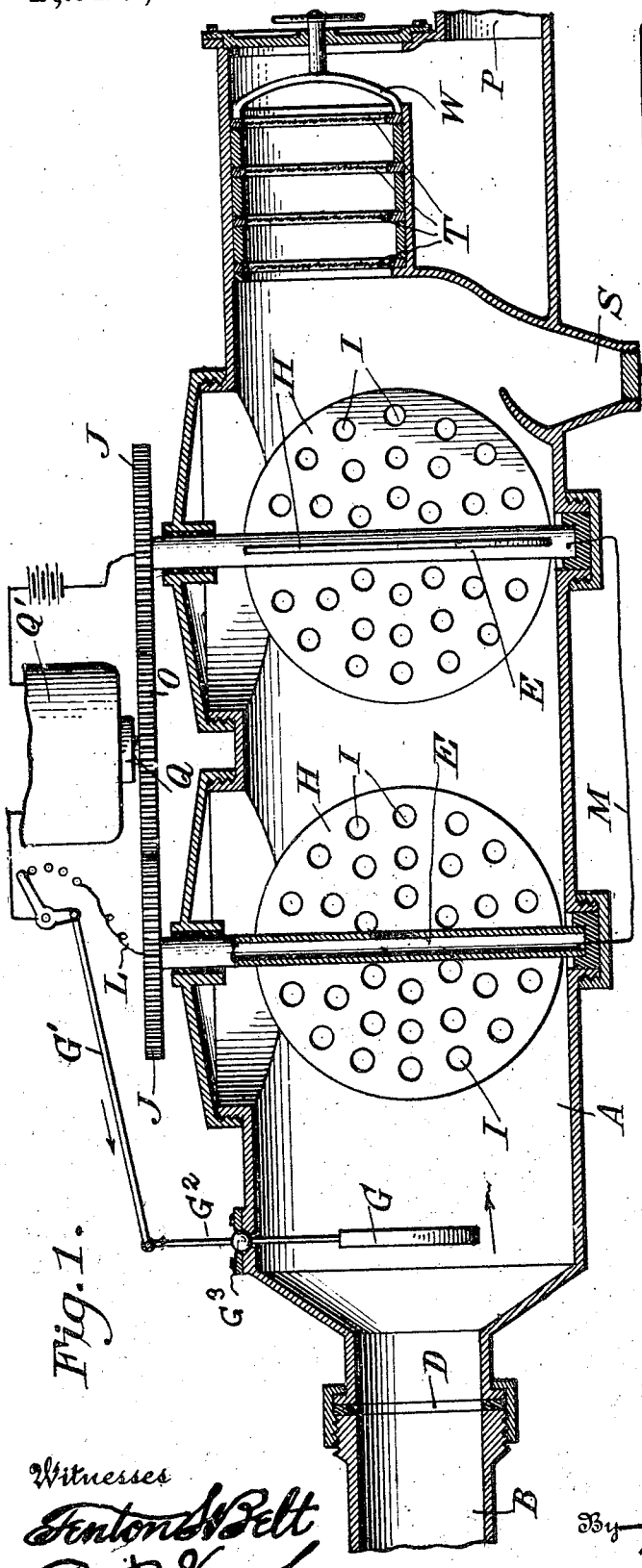

Fig. 1.

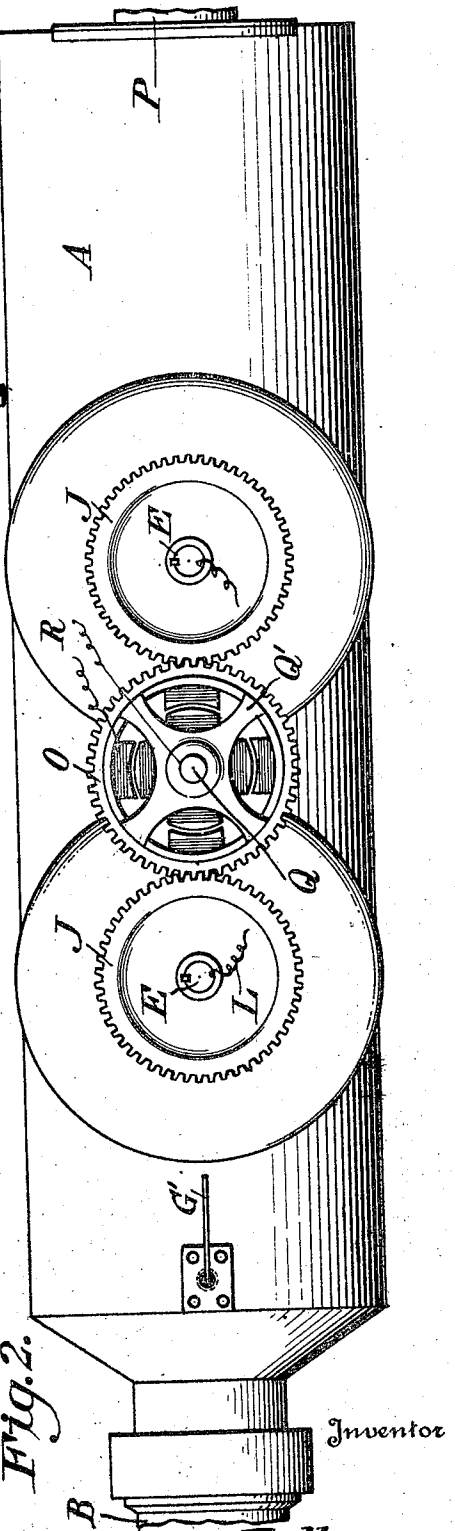

Fig. 2.

Witnesses

Fenton S. Belt

A. L. Hough

Inventor

E. R. Talley

By Franklin N. Hough

Attorney

UNITED STATES PATENT OFFICE.

EDWIN R. TALLEY, OF GRINNELL, IOWA.

APPARATUS FOR PURIFYING WATER.

1,217,365. Specification of Letters Patent. Patented Feb. 27, 1917.

Application filed September 28, 1916. Serial No. 122,653.

To all whom it may concern:

Be it known that I, EDWIN R. TALLEY, a citizen of the United States, residing at Grinnell, in the county of Poweshiek and State of Iowa, have invented certain new and useful Improvements in Apparatus for Purifying Water; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in apparatus for softening and purifying water and consists essentially in the method of subjecting the water to an electrical current while the same is being agitated to separate the alkaline elements from the water.

I have illustrated an apparatus which may be used in carrying out the steps of my process and in which drawing:—

Figure 1 is a vertical central sectional view through the same.

Fig. 2 is a top plan view.

Reference now being had to the details of the drawings by letter, A designates the casing of the apparatus which is connected to a supply pipe B at one end with suitable insulating material D intermediate the contact points. Journaled in suitable bearings within the casing are the two hollow shafts E of similar construction of electric conductive material, and each is provided with four wings H, perforated as at I and of brass, forming with the shaft an electrode to which electric wires L and M are connected. To each shaft is keyed a gear wheel J which in turn meshes with the teeth of the gear wheel O fixed to the shaft Q and to the motor Q′ and to which electric wires R are connected.

Said casing is provided with a well S forming a sediment portion, and a plurality of filter screens T are mounted parallel to each other near one end of the casing and which are held in place by the clamping members W. An exit passageway P leads from the lower portion of the casing near the end containing said filter screens.

A diaphragm G within the casing is provided with a stem G^2 having a spherical-shaped portion G^3 journaled in a bearing in the wall of the casing, and G′ is a rod pivoted at one end to said stem and serving to start a motor when the diaphragm is swung within the casing by impact of water against the same as it passes through the casing.

In operation, power is applied to the shafts through the medium of the gear connection with the motor, causing the wings to make rapid rotary movements in the water as it is coursing through the casing, preferably from three thousand to five thousand revolutions a minute and which agitation will assist in separating the alkaline elements from the water, while the water itself is treated electrically by the current which passes through the electrodes within the apparatus and against which the water comes in contact.

By the provision of my improved method of thoroughly agitating the water during its circulation and treating the same to the action of electricity, the water will be softened as well as purified of foregin matter.

What I claim to be new is:—

1. An apparatus for softening and purifying water comprising a casing adapted to be connected to a water supply pipe, rotatable shafts mounted in suitable bearings in the casing, perforated wings upon said shaft, means for rotating the latter, filter screens within the casing, and electrical connections with said shafts.

2. An apparatus for softening and purifying water comprising a casing adapted to be connected to a water supply pipe, rotatable shafts mounted in suitable bearings in the casing, perforated wings upon said shaft, means for rotating the latter, filter screens within the casing, electrical connections with said shafts, a diaphragm within the casing, and electrical connections therewith.

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

EDWIN R. TALLEY.

Witnesses:
WM. SMILEY,
M. P. REITER.