Jan. 2, 1923. 1,441,165.

E. W. MYERS.

MACHINE FOR SCOURING PULP OR PULVERIZED ORE AND THE LIKE.

FILED JUNE 23, 1921.

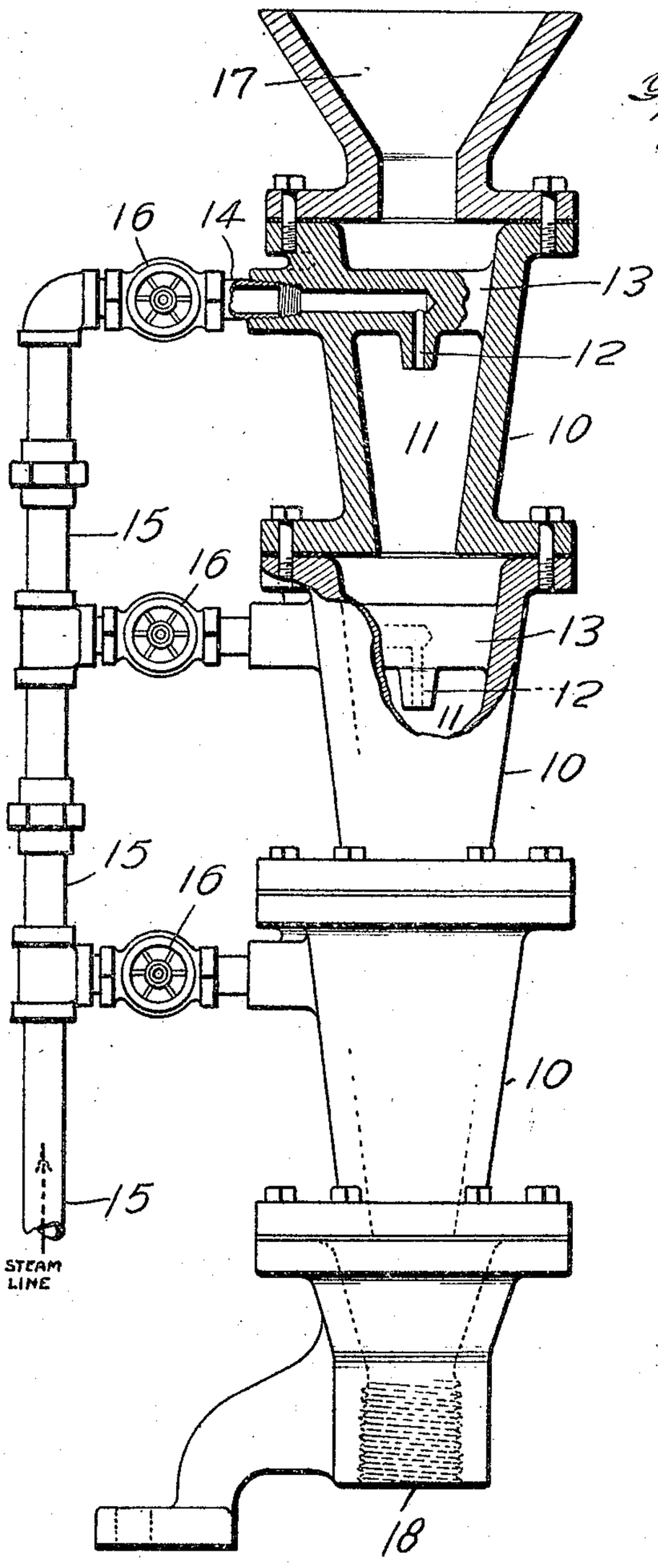

Fig. 1.

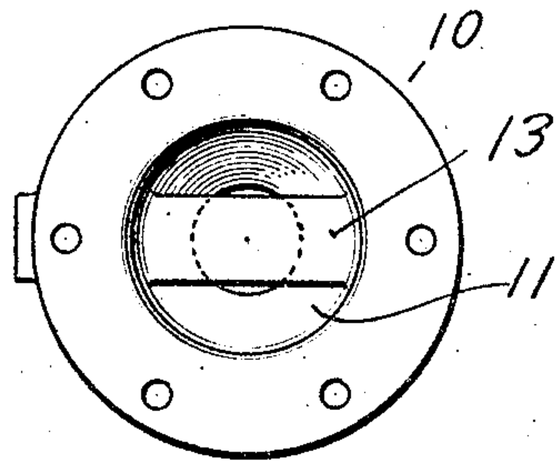

Fig. 2.

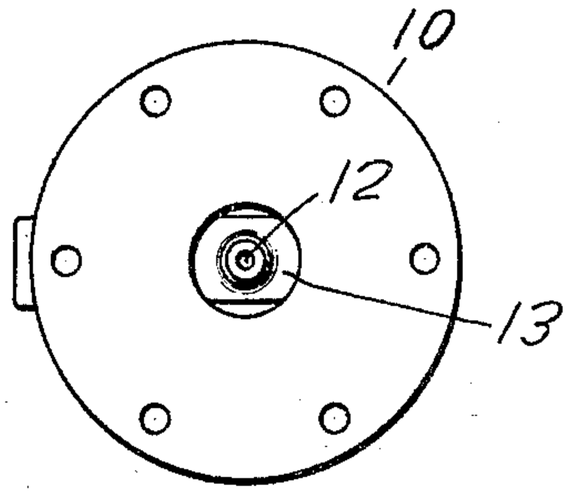

Fig. 3.

Inventor
Edgar W. Myers.
By Chas. J. Williamson
Attorney

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UNITED STATES PATENT OFFICE.

EDGAR W. MYERS, OF SAN FRANCISCO, CALIFORNIA.

MACHINE FOR SCOURING PULP OR PULVERIZED ORE AND THE LIKE.

Application filed June 23, 1921. Serial No. 479,901.

To all whom it may concern:

Be it known that I, EDGAR W. MYERS, residing at San Francisco, county of San Francisco, State of California, a citizen of the United States, have invented certain new and useful Improvements in Machines for Scouring Pulp or Pulverized Ore and the like, of which the following is a specification.

The object of my invention is the provision of simple and highly efficient apparatus for scouring ground ore, or other material in a granular or pulverized state, and to this end my invention consists in the apparatus constructed substantially as described by or coming within the scope or meaning of the claim which follows this specification.

In the drawings:

Fig. 1 is a view partly in side elevation and partly in section of apparatus embodying my invention;

Fig. 2 is a top plan view of one of the units;

Fig. 3 is a bottom plan view thereof.

The apparatus shown in the drawings consists of a series of aligning similar units, 10, each having a longitudinal passage, 11, extending from end to end, through which the pulp, or material to be treated, passes, and which passage is conical, or tapers, with its small end forming the discharge or outlet, and a steam nozzle, 12, that sprays steam into the chamber in the direction of travel of the pulp through the chamber, the pulp being thus passed in succession from one unit to the next, and finally discharged from the last one of the series. Near the inlet end of each unit is a baffle, in the form of a diametrically extending bar, 13, upon which the incoming pulp strikes and by which it is spread or scattered and thrown by the force of the steam jet, against the inner sides of the passage; and preferably, the steam nozzle is integral therewith, extending downwardly therefrom at the center of the passage. The baffle bar is hollow to form a pipe for the passage of steam to the nozzle, the bar opening being in communication outside the unit, with a branch pipe, 14, that connects with a steam pipe line, 15. Each branch pipe has a valve, 16, to control the steam supply to the nozzle of each unit.

To the top or first unit of the series is attached a hopper, 17, and to the bottom or last one is attached a discharge nozzle, 18, for connection with a bin or other apparatus to which the scoured pulp is to be delivered.

Each unit, at top and bottom, has flanges, 19, by which the adjacent units may be bolted together, and by which the hopper, 17, and nipple, 18, may be bolted to the first and last units of the series, the hopper and nipple having flanges for the purpose.

I do not confine myself to any particular number of units. One may be used, or, as shown in the drawings, a number may be used. Nor do I restrict myself to the details of construction shown and described, the scope of the protection I seek not being limited to what is shown and described, but to what is comprehended within the subjoined claim.

The steam spray puts the pulp in violent motion with the result that the particles strike against the side walls of the unit, thus resulting in an effective scouring action, which action is promoted by the expansion of the particles from the heat imparted by the steam. The converging sides of the passage promote the scouring action by bringing the particles together as they approach the place of discharge from the unit.

What I claim is:

Apparatus of the character described, comprising a member with a passage for material to be treated, means to throw the material with force against surfaces within the passage comprising a nozzle for delivering fluid under pressure into the material going through such passage, and a baffle in the passage from which said nozzle extends, the baffle having an opening leading to the nozzle from a source of supply of fluid exterior to the member.

In testimony whereof I hereunto affix my signature.

EDGAR W. MYERS.