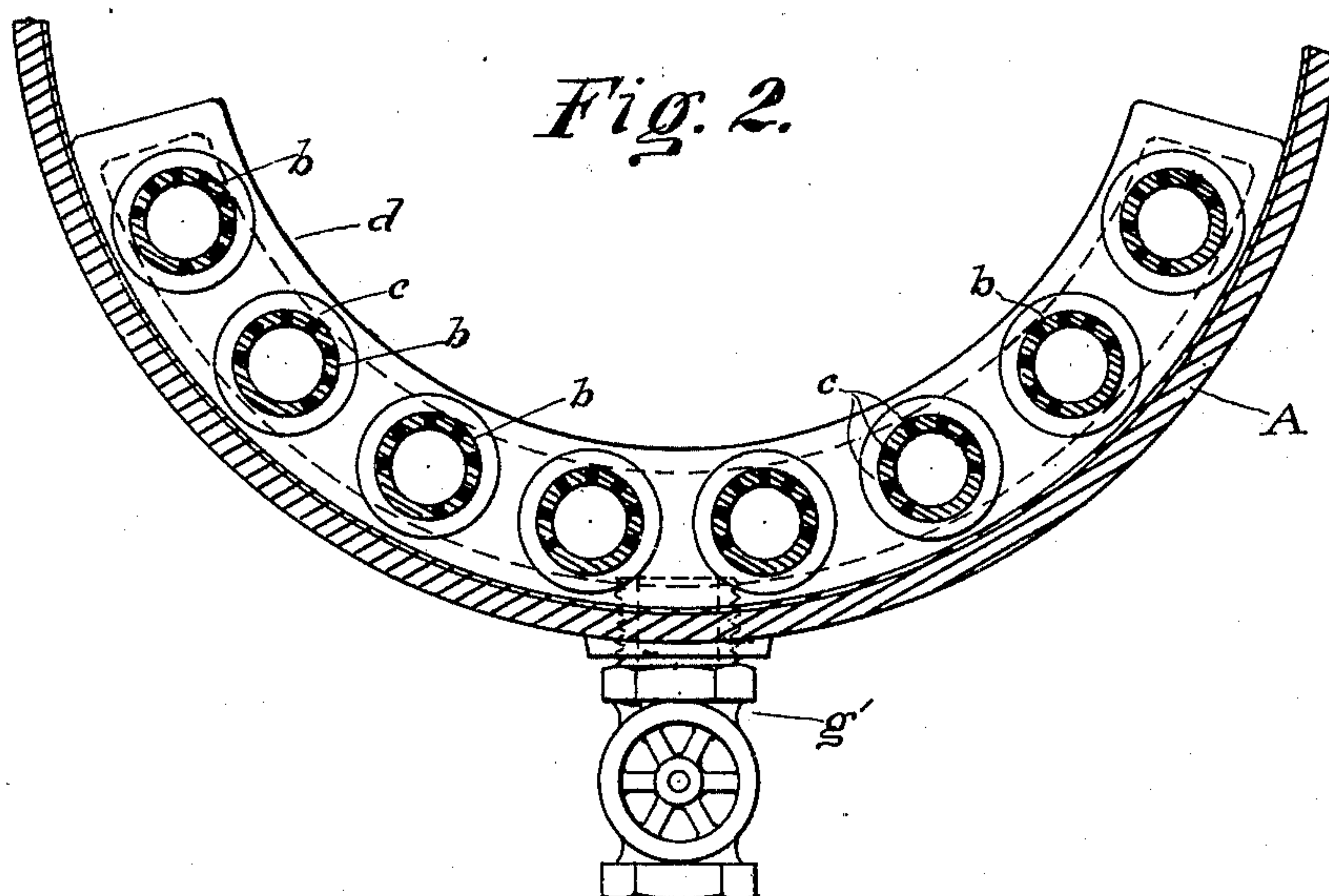
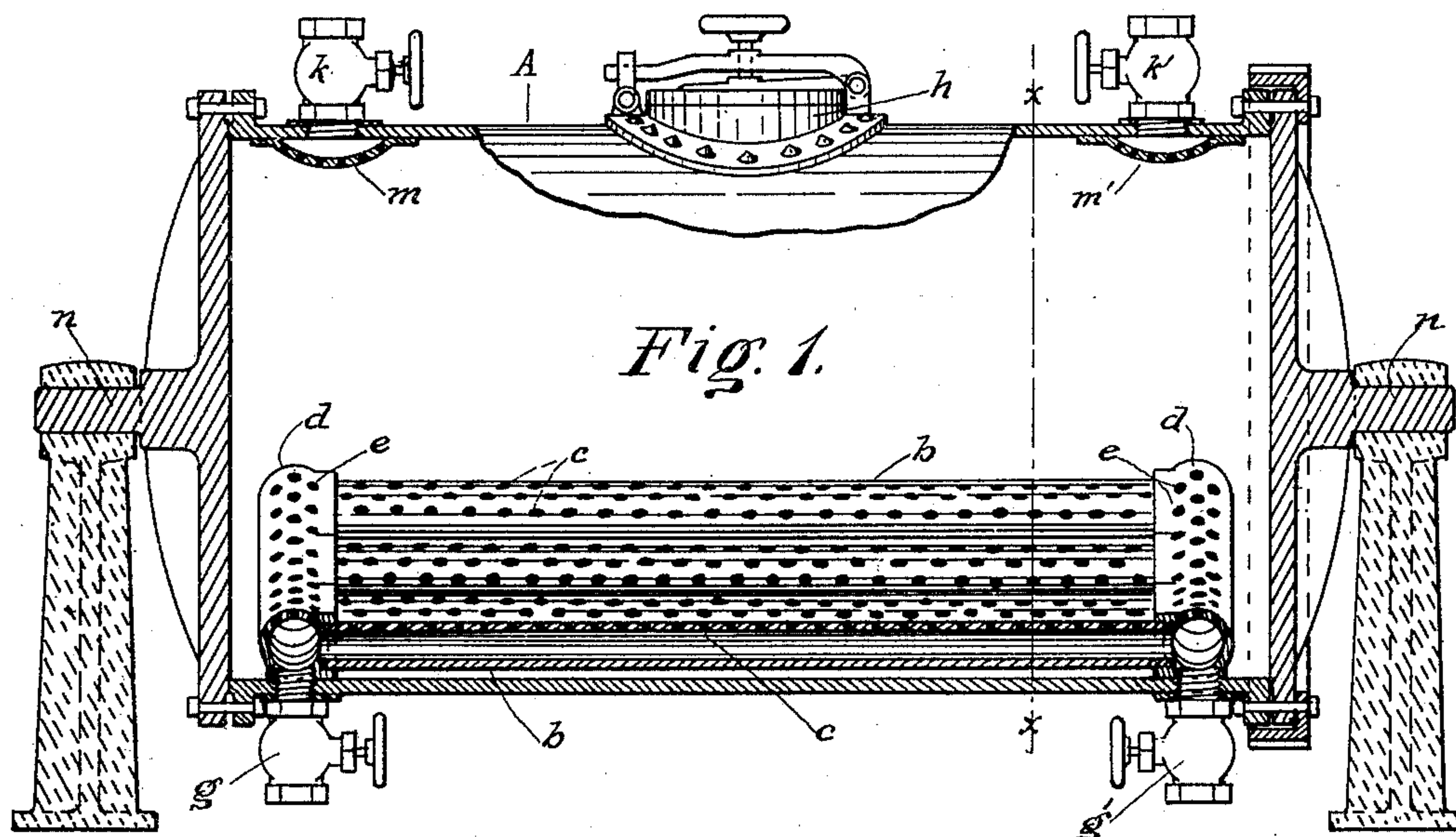


No. 719,664.

PATENTED FEB. 3, 1903.

J. B. HEFFERNAN.
CHLORINATION BARREL.
APPLICATION FILED SEPT. 22, 1902.

NO MODEL.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES BARRY HEFFERNAN, OF COLORADO SPRINGS, COLORADO.

CHLORINATION-BARREL.

SPECIFICATION forming part of Letters Patent No. 719,664, dated February 3, 1903.

Application filed September 22, 1902. Serial No. 124,325. (No model.)

To all whom it may concern:

Be it known that I, JAMES BARRY HEFFERNAN, a citizen of the United States, residing at No. 120 East Moreno street, Colorado Springs, in the county of El Paso, Colorado, have invented a new and useful Improvement in Systems for Expelling the Solution from a Chlorination-Barrel, of which the following is a specification.

My invention is designed with special reference to the chlorination process of treating precious ores, and particularly applies to that device known as a "chlorination-barrel." I claim nothing new in the use of such barrels for the extracting of precious metals; but my invention lies in certain improvements within said barrel, whereby I do away with the usual filter-bed generally found within it and by a simpler method obtain practically the same results.

Referring to the drawings, Figure 1 represents a longitudinal vertical section through an ordinary chlorination-barrel, inclosing the elements which constitute my invention. Fig. 2 represents, on an enlarged scale, a cross-section through line *x x* of Fig. 1.

As will be seen by referring to both views, I place in the lower arc of the barrel A a number of horizontal pipes *b*, perforated with numerous small holes *c*. These horizontal pipes are connected at both ends with headers *d*, which conform to the arc of the barrel-shell A and are also perforated, as *e*. The headers *d* supply the horizontal pipes *b* and are themselves supplied from the lower valves *g g'*, into which they connect. The ordinary manhole is shown at *h*, and the usual outlet-valves, instead of being on the under side of the barrel, are here shown on the top at *k k'*. Beneath these valves *k k'* and fastened to the inside of the barrel-shell A are the screens or sieves *m m'*.

The operation is very simple and will now be described: The barrel A is charged in the usual manner with the pulverized ore and the ingredients of the solution through the manhole *h*, which is then screwed down, and the barrel is revolved upon its trunnions *n n* until this part of the process is completed and the solution, which has now extracted from the ore and taken up the gold, is ready

to be drawn off. It is at this point in the process that my invention becomes operative. Either or both valves are now opened, *g g'*, and the water under pressure is thereby admitted to the headers *d d*, thence through the horizontal pipes *b* and the numerous small orifices *c e* in both pipes and headers. At the same time the upper valves *k k'*, one or both, are opened, and a strong upward current is thus produced, carrying upward the gold solution, which discharges through the upper valve or valves *k k'* into a suitable receiving-vessel.

The screens or sieves *m m'* below the valves *k k'* are to prevent any outflow of sand or grit particles, which, however, for the most part will have settled toward the bottom of the barrel by their own gravity. This operation is called "washing the ore."

I do not limit myself to constructing the above-described apparatus exactly as drawn. For example, one header will supply the system of pipes as well as two. It is obvious also that I could arrange the system of pipes transversely or with their lengths following the inside curve of the barrel-shell instead of lying in a longitudinal position, as shown.

What I therefore claim as original is—

1. In a chlorination-barrel a series of pipes having numerous perforations throughout their lengths, arranged in parallel and lying close to the inside wall of said barrel, and having suitable connections with an outside fluid-pressure system.

2. In a chlorination-barrel a series of pipes perforated with numerous small orifices, having their ends connected with one or more headers adapted to receiving and discharging a fluid under pressure from an outside source.

3. In a chlorination-barrel a parallel series of pipes having numerous small orifices through their longitudinal walls; one or more headers adapted to receiving the ends of said pipes; a valve or valves connecting said header or headers with an outside source of fluid-pressure; substantially as shown.

JAMES BARRY HEFFERNAN.

Witnesses:

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