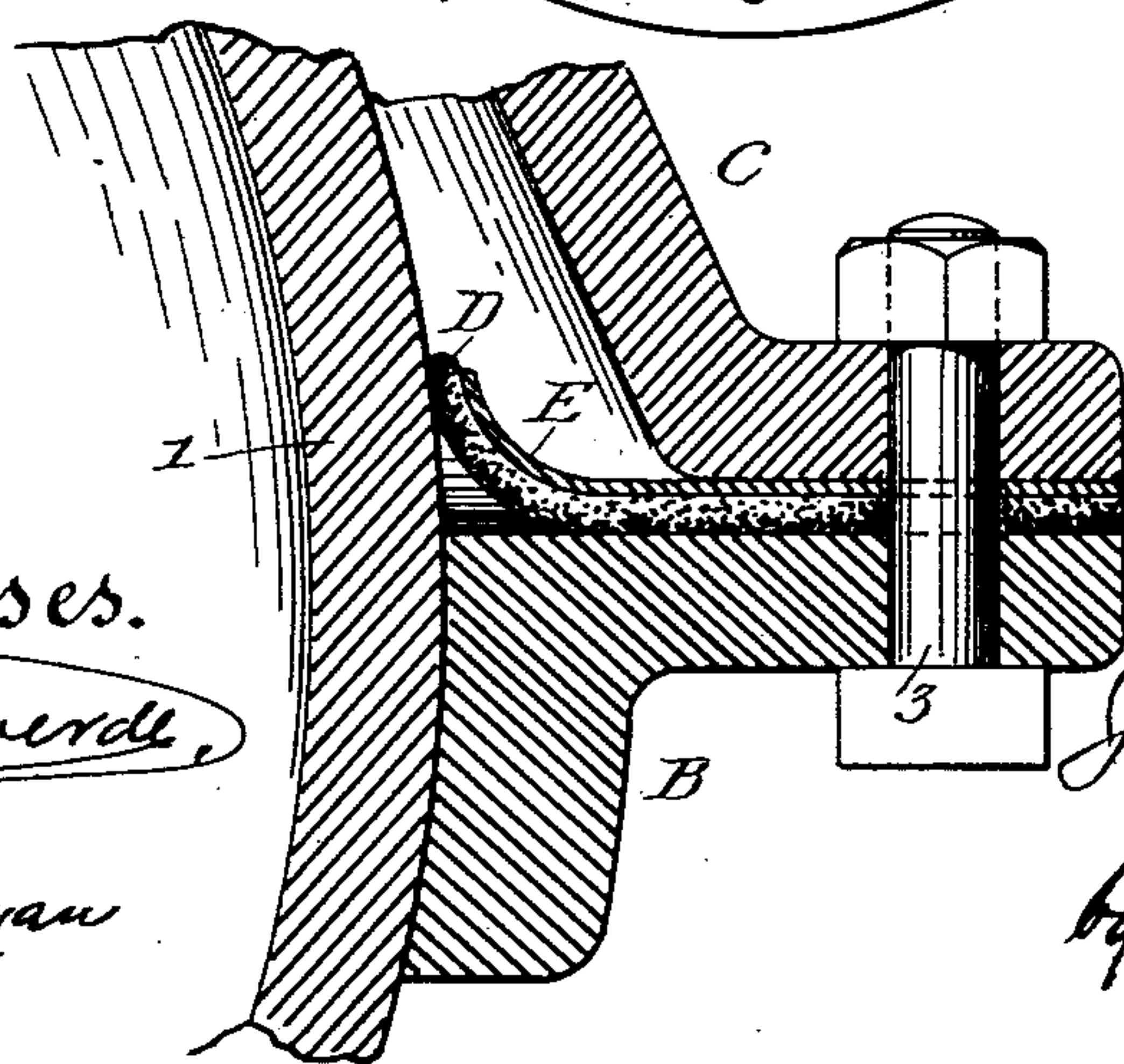
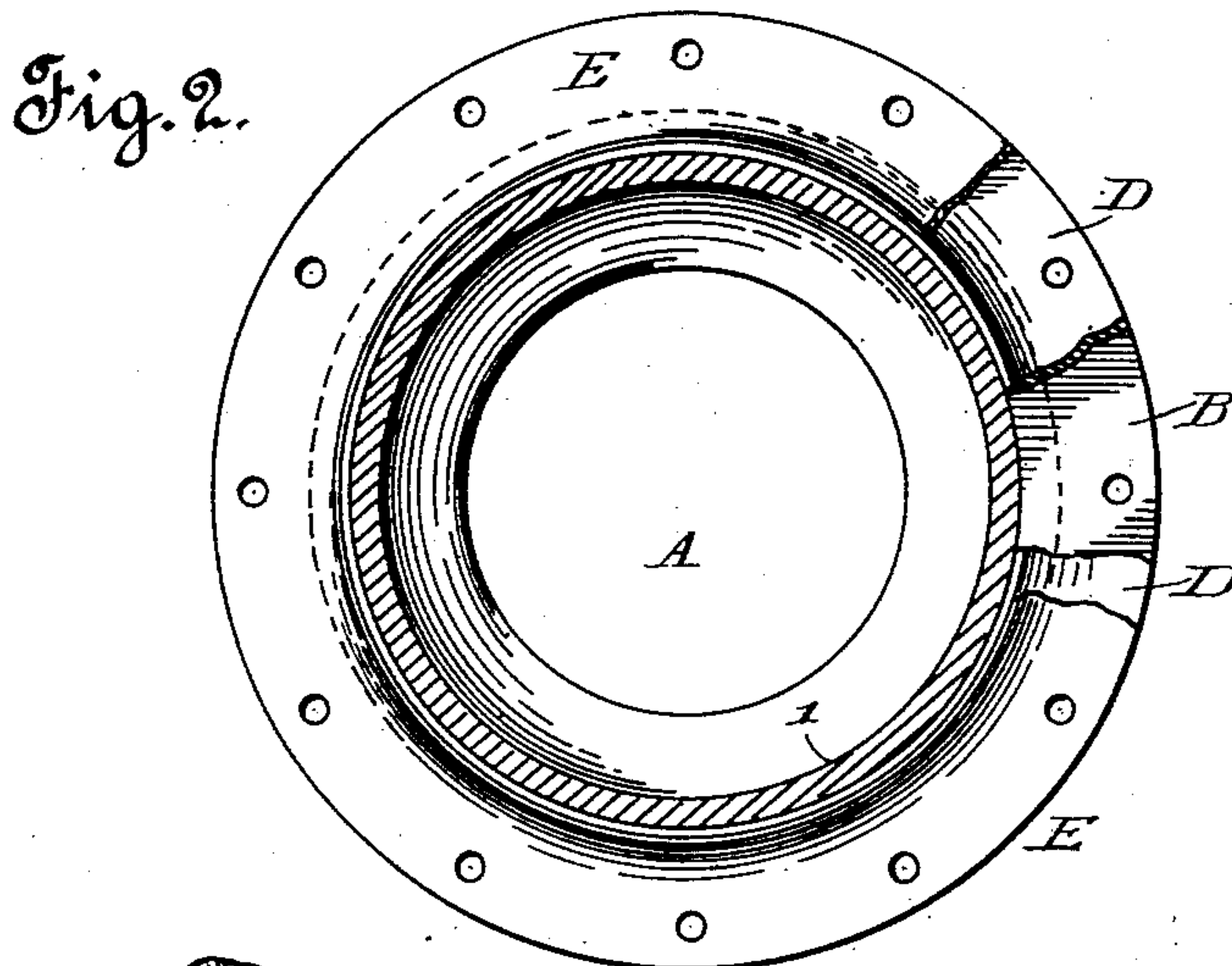
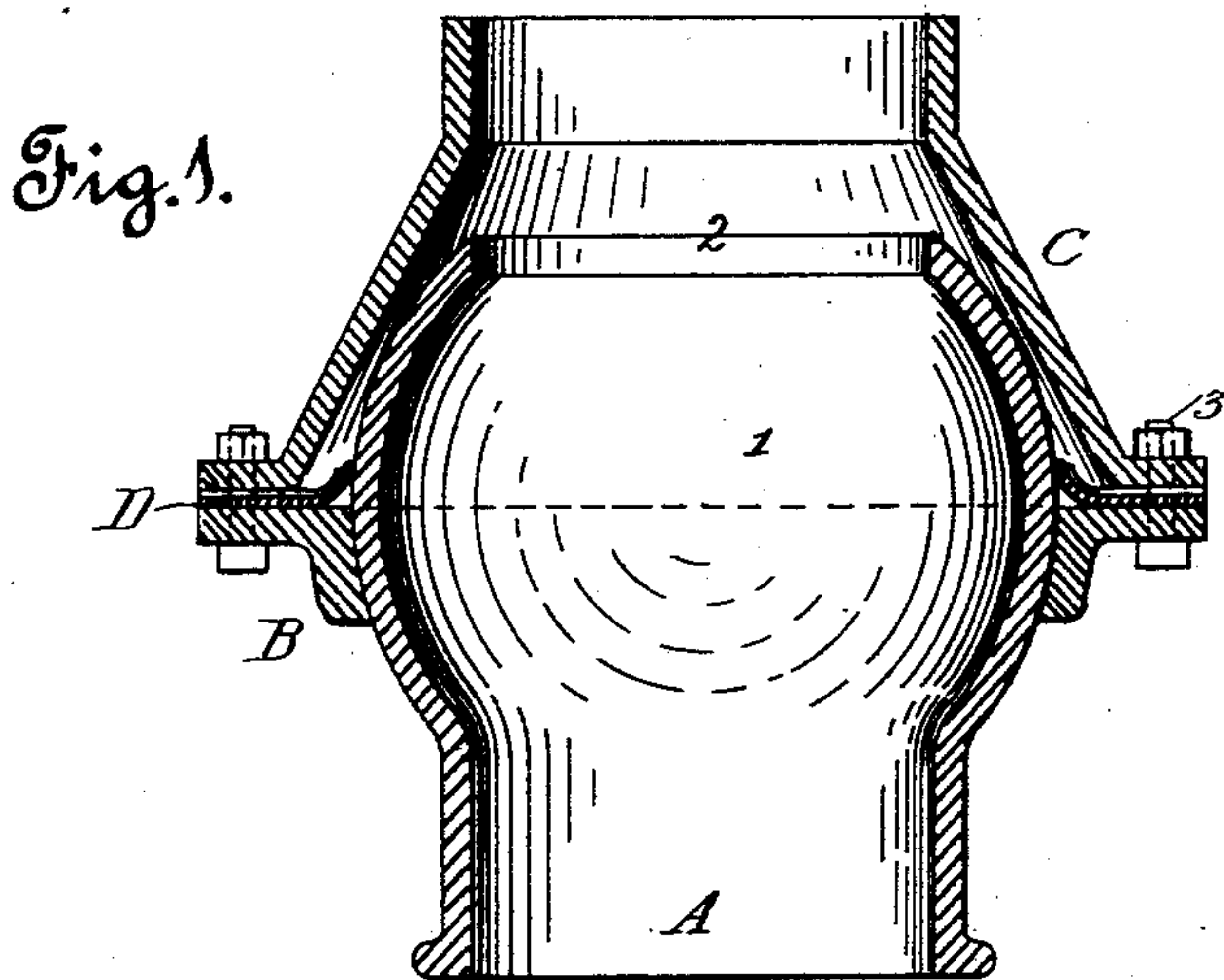


(No Model.)

J. LA F. HOLLAND.
FLEXIBLE JOINT PACKING.

No. 541,164.

Patented June 18, 1895.



Witnesses.

J. H. Monteverde,

M. R. Bryan

Inventor.

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UNITED STATES PATENT OFFICE.

JACOB LA FAYETTE HOLLAND, OF NEVADA CITY, CALIFORNIA, ASSIGNOR
TO THE JOSHUA HENDY MACHINE WORKS, OF CALIFORNIA.

FLEXIBLE JOINT-PACKING.

SPECIFICATION forming part of Letters Patent No. 541,164, dated June 18, 1895.

Application filed March 22, 1894. Serial No. 504,653. (No model.)

To all whom it may concern:

Be it known that I, JACOB LA FAYETTE HOLLAND, a citizen of the United States, residing at Nevada City, in the county of Nevada and State of California, have invented certain new and useful Improvements in Hydraulic Monitors; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to apparatus for hydraulic mining, and particularly to the jointed nozzles of the so-called hydraulic giants or monitors used for disintegrating and washing down auriferous banks by means of a powerful stream of water.

The invention consists in a peculiar construction of the packing for the jointed nozzle pipe, the object of which is to increase the life of the packing by preventing its wear and consequent speedy destruction from back water pressure.

The invention is fully hereinafter described, and is shown in the accompanying drawings, which show a well known form of hydraulic giant with my improvement applied.

Figure 1 is a longitudinal section at the joint between the inlet-pipe and the nozzle-pipe. Fig. 2 is a transverse section taken just beyond the joint and with the nozzle-pipe removed. Fig. 3 is an enlarged detail section of one side of the joint.

A represents the inlet pipe, the end of which is formed into a ball 1, having the outlet opening 2, through which the water passes to the nozzle.

B is a flanged ring which fits the exterior of the ball, the two parts forming the joint.

C is the flaring or funnel shaped nozzle pipe, bolted as shown at 3 to the flange of the ring B.

An annular packing ring D is held between the flanged ring and nozzle pipe by the bolts 3, the inner edge of which bears upon the ex-

terior surface of the ball as shown, such edge being turned up toward the nozzle so that the effect of the back pressure of water between the ball and nozzle pipe is to press it tightly against the ball.

Heretofore, in apparatus of this kind, the packing has been a ring of leather which is the best material for it; but it has been found that the tremendous pressure of water in the annular space between the nozzle and the ball wears away the leather, so that in time the joint becomes leaky. This disadvantage is obviated by the ring E, which is made of thin metal and is secured in place by the bolts 3, between the leather and the flange of the nozzle pipe. The ring E covers and protects nearly the whole of the leather packing, conforming to the shape of the latter and leaving only its edge to project so as to bear upon the ball. The action of the water pressure is hence confined almost entirely to the metal ring, which is practically indestructible; and the leather is preserved without its usefulness as a packing being at all impaired.

What I claim is—

In a hydraulic giant and in combination, a pipe having its end formed into a ball, a flanged nozzle pipe, a flanged ring or socket bearing upon the ball and secured to the nozzle pipe, a packing ring exterior to the ball and secured between the flanges of the nozzle pipe and socket, and a metallic plate, having concentric edges, overlying the packing ring, and extending nearly but not quite to its bearing edge, substantially as and for the purpose set forth.

In testimony whereof I affix my signature, in presence of two witnesses, this 21st day of February, 1894.

JACOB LA FAYETTE HOLLAND.

Witnesses:

FRED SEARLS,
E. B. POWER.