No. 708,693. Patented Sept. 9, 1902.

P. BOUËRY.

SAFETY ATTACHMENT FOR HYDRAULIC NOZZLES.

(Application filed May 1, 1902.)

(No Model.)

Fig. 1.

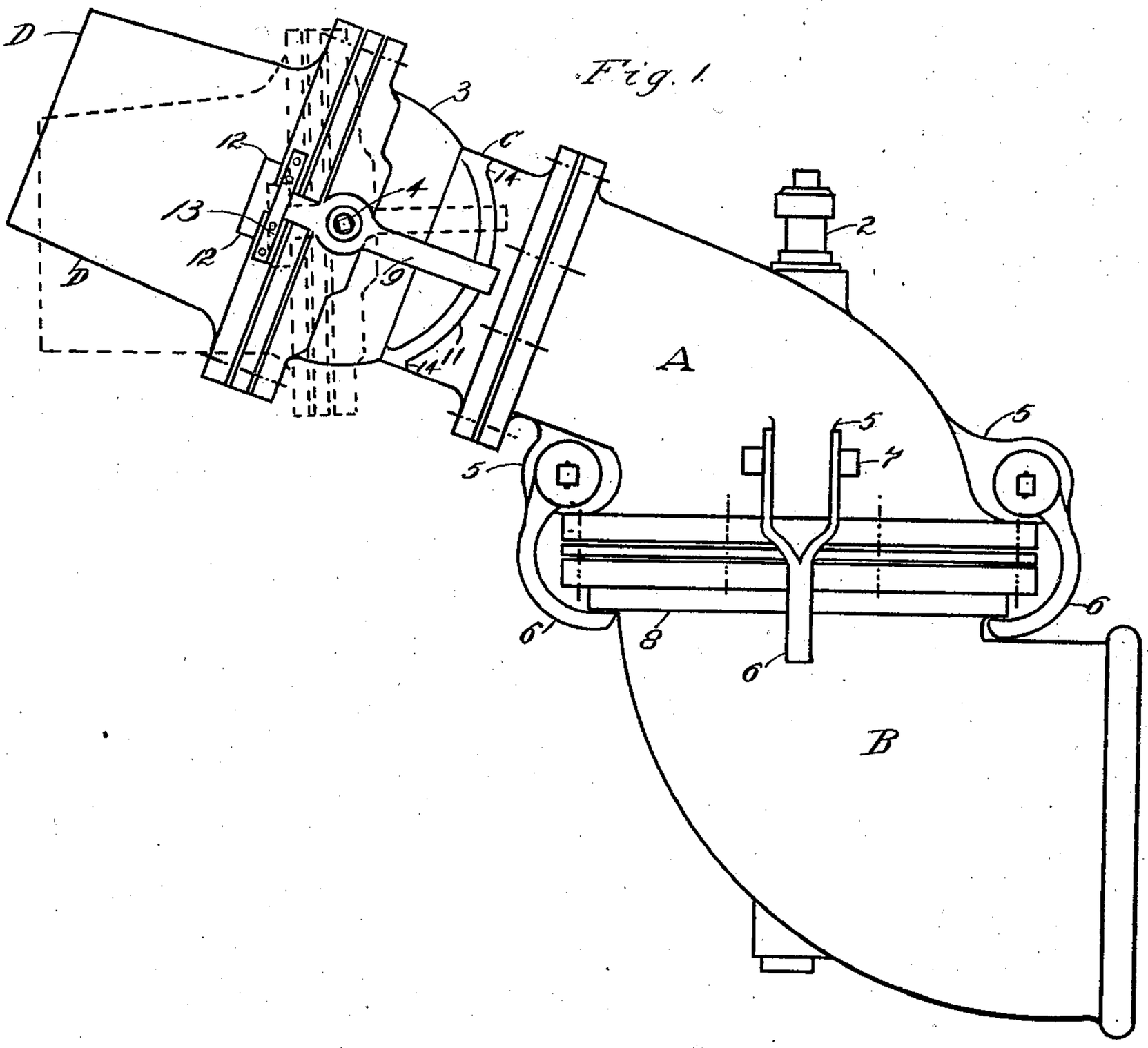
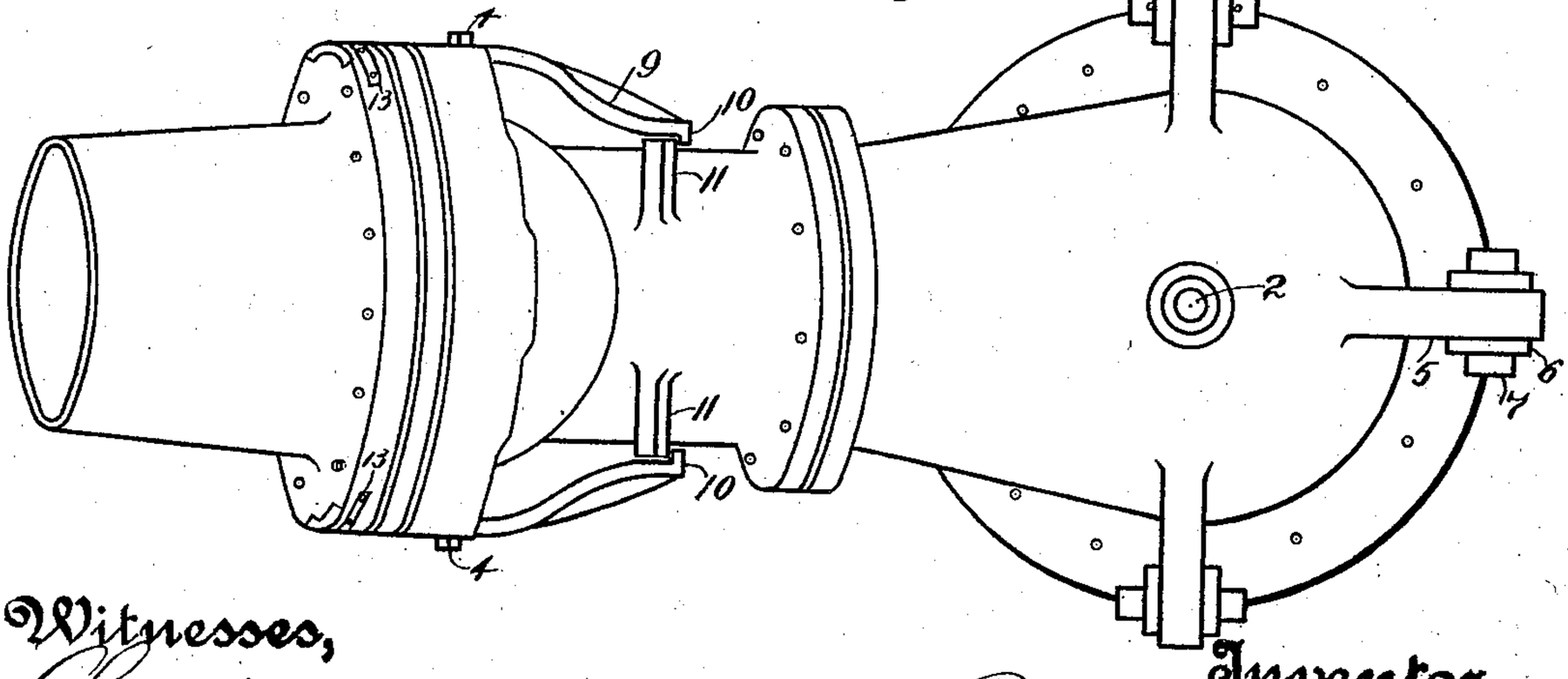


Fig. 2.



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UNITED STATES PATENT OFFICE.

PIERRE BOUËRY, OF WEAVERVILLE, CALIFORNIA.

SAFETY ATTACHMENT FOR HYDRAULIC NOZZLES.

SPECIFICATION forming part of Letters Patent No. 708,693, dated September 9, 1902.

Application filed May 1, 1902. Serial No. 105,532. (No model.)

To all whom it may concern:

Be it known that I, PIERRE BOUËRY, a citizen of the United States, residing at Weaverville, county of Trinity, State of California, have invented an Improvement in Safety Attachments for Hydraulic Nozzles; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in hydraulic nozzles or "giants," as they are commonly termed.

It sometimes happens in the hydraulic mines that the giants or monitors are intrusted to new or unskilled men, who, not being aware of the strength of these machines nor of the enormous internal pressure to which they are subjected, handle them carelessly, so as to cause accidents serious and occasionally fatal for themselves and detrimental to the companies interested. Besides these accidents due to inexperience are those incident to deterioration or defect in the machine itself. These giants are ordinarily constructed of two elbows joined and movable in a horizontal plane about a central vertical axis or king-bolt, while the discharge section or nozzle is pivoted to the movable elbow and is turnable in a vertical plane, whereby the giant has a universal movement and the stream can be directed to any point against the cliff. It not infrequently happens that either the king-bolt joining the elbows or the pivot-nuts on the nozzle break and cause serious injury to the men in charge.

It is the object of my invention to provide a safety attachment in connection with each of these pivotal points, so that even should the king-bolt or the pivots give way the giant will be held intact and the lives of the men protected.

My invention consists of the parts and the constructions and combinations of parts hereinafter described and claimed.

Having reference to the accompanying drawings, Figure 1 is a side elevation of a giant with my invention applied. Fig. 2 is a plan view of the same.

A and B represent two elbows connected by the usual pivotal king-bolt 2. The section B is attached to a stationary water-supply pipe, and the dome A carries a section C, terminating in a spherical segment 3. The discharge-nozzle D has a corresponding socket fitting the segment, and D and C are pivoted at 4 after the usual manner, so that the nozzle has a vertical movement in relation to the dome, which latter in turn is turnable in a horizontal plane about its axis 2.

My invention is intended to guard against the unexpected breaking of either the king-bolt 2 or the pivot-bolts 4. Accordingly the dome A is provided with a suitable number of lugs 5, having rectangular perforations. Bifurcated curved fingers or claws 6, having like perforations, are secured to these lugs by pins 7, and the ends of these fingers are adapted to engage beneath the flange 8 on the section B, so that while the fingers will partake of the horizontal movement of rotation of the monitor in case the bolt 2 should break these fingers would immediately clutch the flange and prevent the parts being blown asunder by the immense force of water passing through the pipe.

The second part of my invention consists of an arm or bar 9, embracing each of the pivots 4 and having one end secured to the nozzle D and the other provided with a projection or claw 10, which engages a segmental flange 11 on section C. Each arm is provided with the projections 12, which bear against the flange of the nozzle, and the flange is cut away to accommodate the arms, which latter are held in place by straps 13. The center of rotation of the arms being the pivots 4, they will partake in all the rising and falling movements of the nozzle, and in case one or both of the pivot-bolts break the claws 10 will immediately clutch the flanges 11 and prevent the nozzle being blown off. The flanges 11 are provided with stops 14 to limit the movement of the arms and prevent the claws from being disengaged from the flanges.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination of a nozzle turnable on trunnions on a pipe-section, arms secured to the nozzle and turnable therewith, and segmental flanges on the pipe-section with which said arms are adapted to engage.

2. In a device of the character described,

the combination of a section having a spherical segment at one end, a nozzle having a corresponding socket adapted to receive said segment, trunnions or pivot-bolts about which the nozzle is turnable, arms secured at one end to the nozzle and embracing and turnable about said pivots, claws or projections on the free end of said arms, and segmental flanges concentric with said pivots with which said claws are adapted to engage.

3. The combination of two pipe-sections, one of which is turnable in relation to the other, flanges on the adjacent edges of said sections, curved fingers detachably secured to one of said sections and adapted to engage the flange on the opposite section, a nozzle and a pivot connection by which it is secured to the movable section, arms embracing and turnable about said pivot connection and having one end fixed to one of said pivoted parts and the other end engaging segmental flanges on the other.

In witness whereof I have hereunto set my hand.

PIERRE BOUËRY.

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