

J. STOCKWELL.

GAGE COCK.

APPLICATION FILED FEB. 3, 1910.

964,329.

Patented July 12, 1910.

2 SHEETS—SHEET 1.

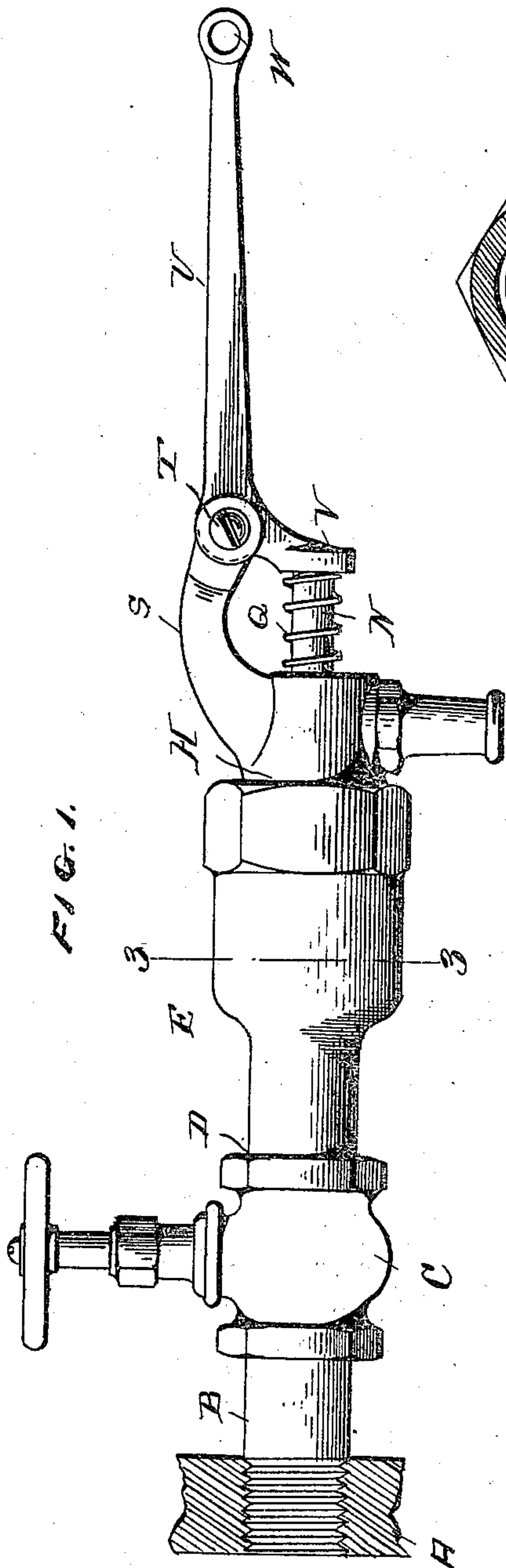


FIG. 1.

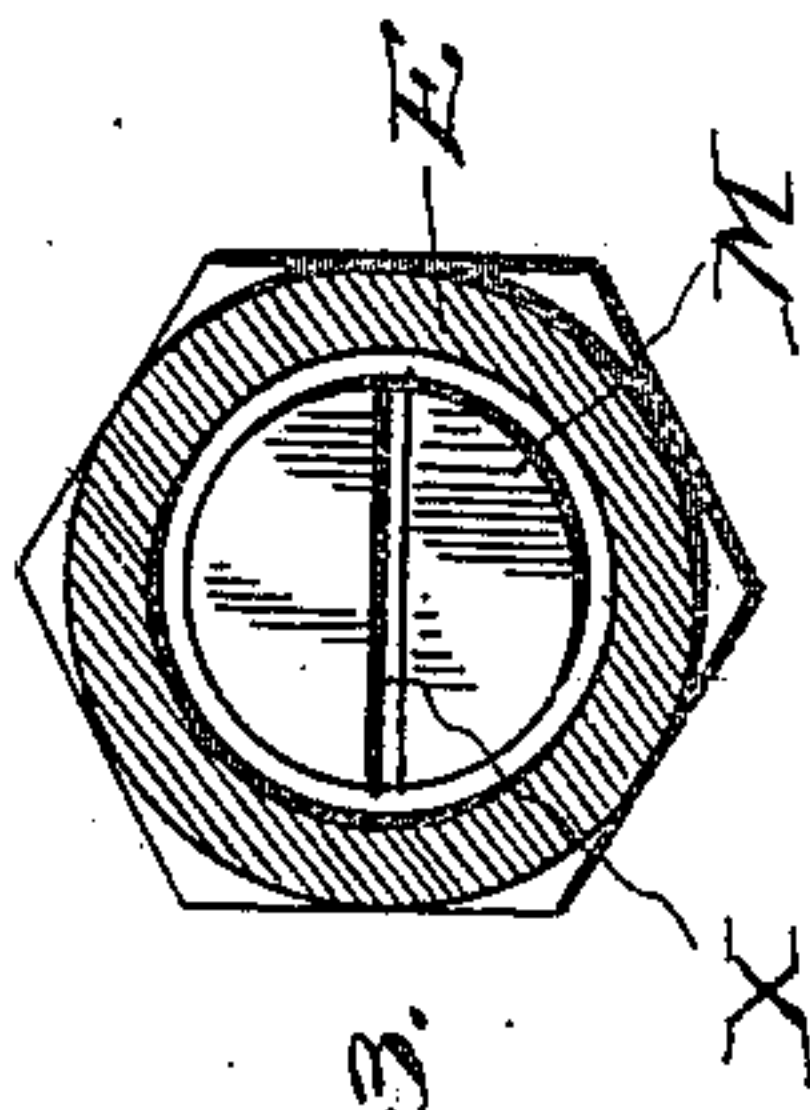


FIG. 3.

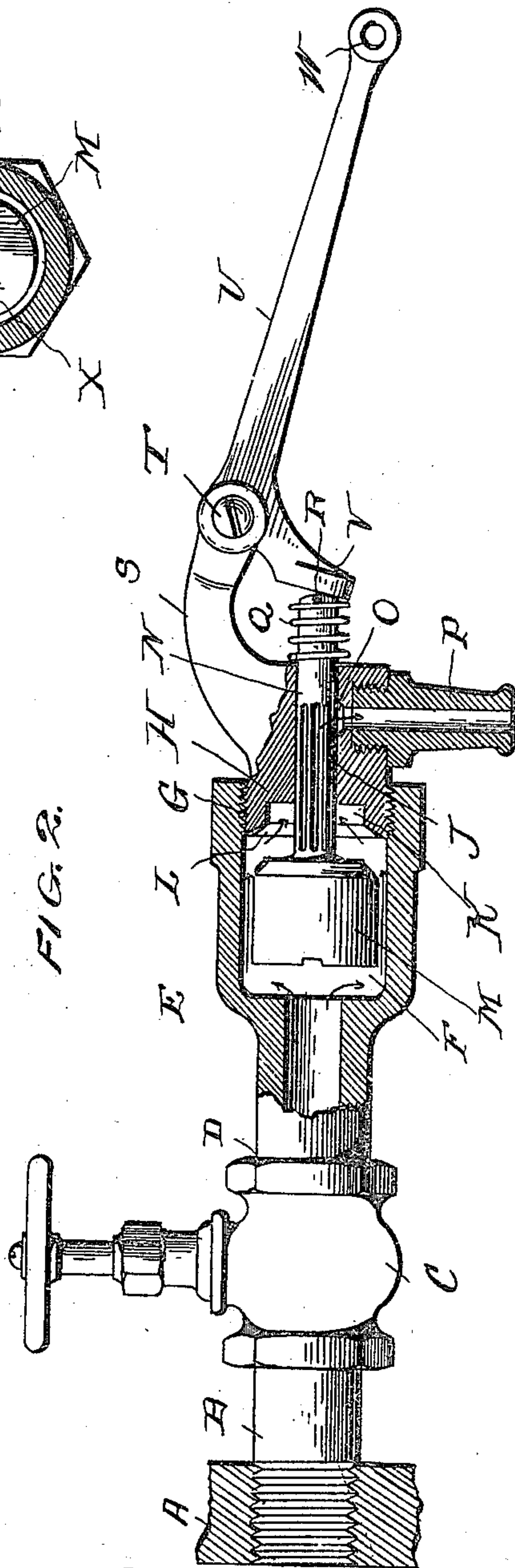


FIG. 2.

WITNESSES

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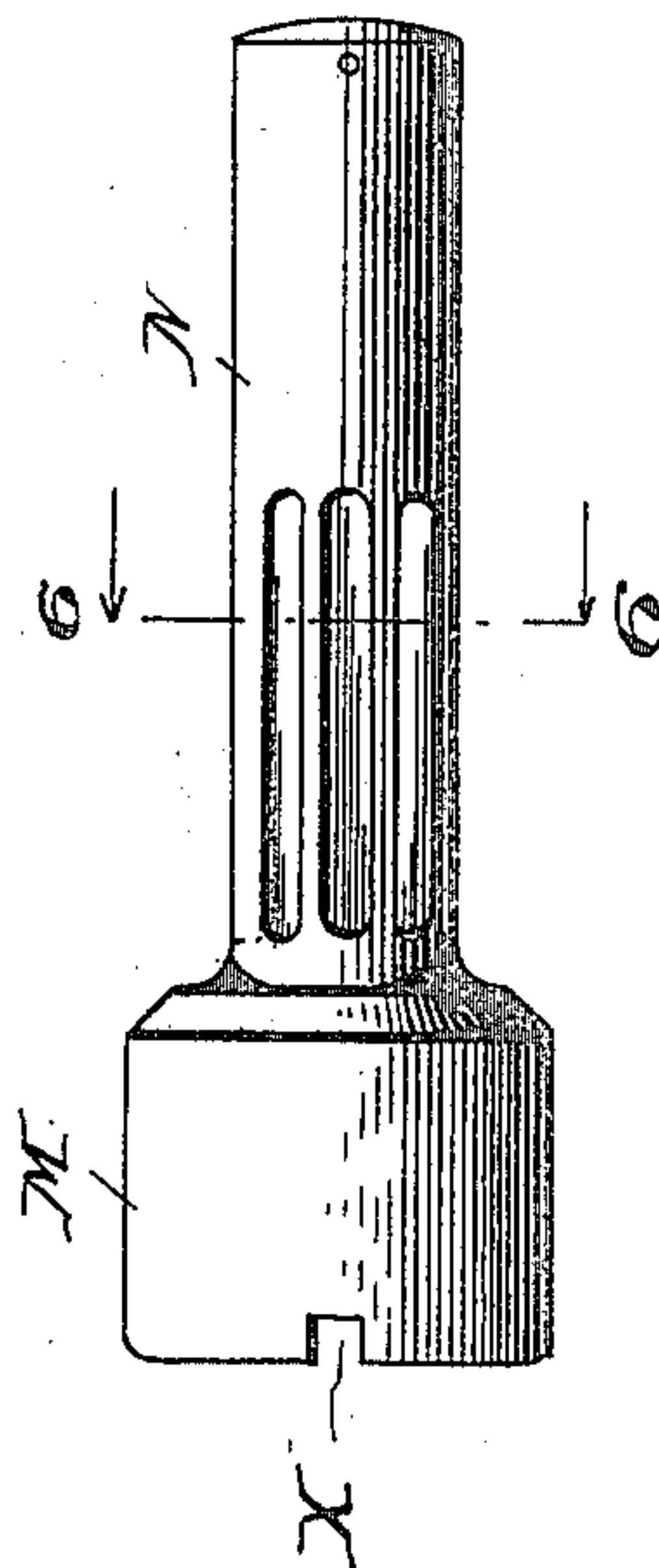
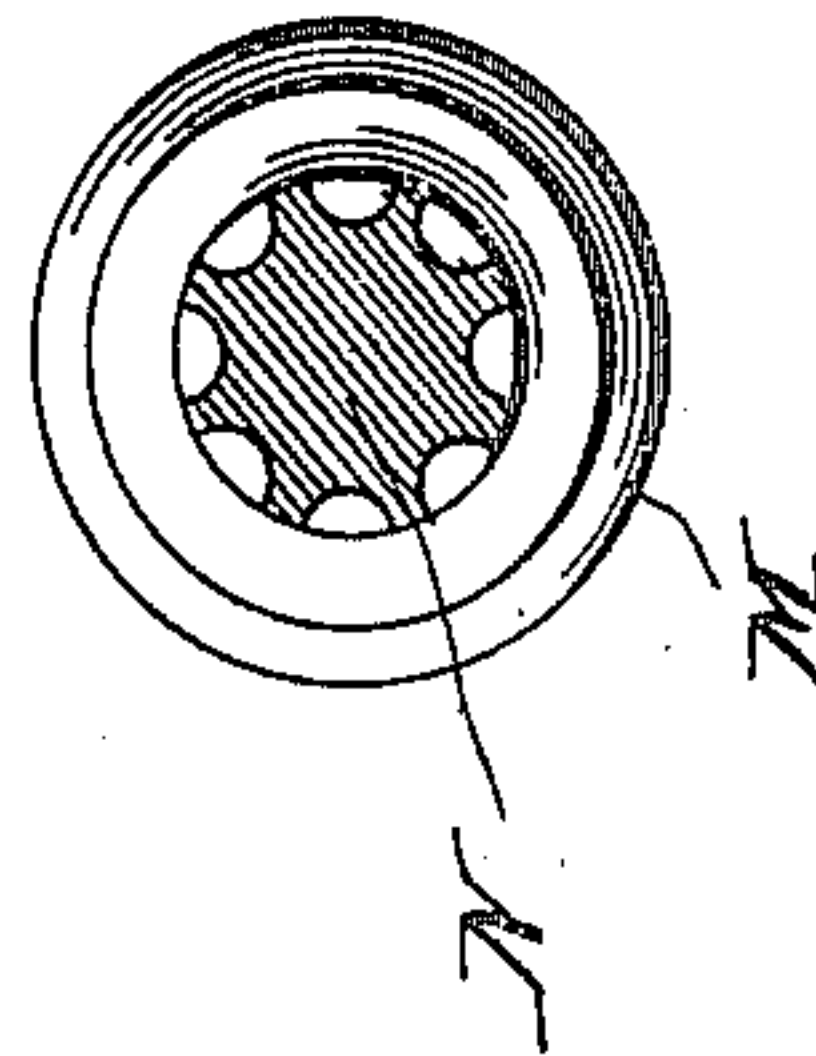
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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GAGE-COCK.

964,329.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN STOCKWELL, a citizen of the United States, residing at Marine City, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Gage-Cocks, of which the following is a specification.

My invention relates to improvements in gage cocks, and the object of my invention is the provision of a strong and durable cock which can be readily attached to the end of the escape pipe, and which while forming a perfect closure for the end of the pipe and preventing the same from leaking can be readily and quickly thrown entirely open to instantly reduce the pressure of the steam and insure the safety of the boiler to which it is applied.

To attain the desired object, my invention consists in a gage cock embodying novel features of construction and combination and arrangement of parts substantially as described and as illustrated in the accompanying drawings which illustrate a cock constructed in accordance with and embodying the best method I have so far devised for the application of the principles of my invention.

Figure 1 represents a side elevation of my complete cock in position for use. Fig. 2 represents a similar view partly in section, illustrating the cock as partly open. Fig. 3 represents a cross-sectional view on line 3—3 of Fig. 1. Fig. 4 represents a similar view to Fig. 2, the valve being seated and the cock therefore closed. Fig. 5 represents an enlarged detailed view of the valve portion of my device, and, Fig. 6 represents a cross-sectional view thereof on the line 6—6 of Fig. 5.

In the drawings, in which similar characters of reference are employed to denote corresponding parts in the several views, the letter A designates the side of a boiler or like device having leading therefrom the escape pipe B provided at its outer end with a globe valve C for closing said pipe, while having a screw threaded end D engaged in the globe valve is the casing E of my device having an enlarged outer portion providing the chamber F, said enlarged portion being internally threaded at G to receive a suitable valve seat. Engaged in the outer end of the chamber F and having external threads engaging the threaded portion G is the valve

guide and seat H of my device having the longitudinally disposed central passage J terminating at its inner end in the annular chamber K having the cup-like recess or countersunk portion L forming a seat for the valve M, said valve having an end in the form of a truncated cone adapted to fit tightly in said recess L.

Integral with the valve M and extending rearwardly thereof through the passage J is the stem N having a series of grooves formed in the periphery thereof and extending longitudinally of the stem from a point immediately behind the valve to a point about intermediate the length of said stem, while formed in the casing near the outer end of said grooved portion of the stem is a chamber O having communication with the escape nozzle P.

The operation of my device will be readily understood, and it will be seen that when closed the valve M fits tightly in the recess L, while to open the cock it is merely necessary to press inward on the valve stem and force the valve out of its seat, when the cock is open the steam or water passing around the valve M into the chamber K and thence into the grooves in the stem, along which it passes to the chamber O which collects the contents of the grooves and discharges the same through the nozzle P, as is best illustrated in Fig. 2.

It will be understood that any suitable means may be employed for operating the valve, but in the preferred form as shown in the drawings I have surrounded the portion of the stem N projecting from the casing with a spring Q, said spring bearing at one end against the casing and at the other against a pin secured in the opening R in the stem, said spring exerting an outward pressure on the stem and holding the valve tightly against its seat.

Formed integral with the seat H and extending rearwardly beyond the end of the stem is the lug or projection S having pivotally secured to the end thereof by the screw or bolt T the L-shaped lever U, said lever being provided at the end of its shorter leg with an abutment portion V adapted to contact with the outer end of the stem, while formed in the other end of the lever is an eye W adapted to receive suitable means for rocking the lever on its pivot T, the depression of the said leg forcing the stem inward and opening the valve as is shown in Fig. 2.

To prevent the depositing of lime or like sediment in the passage J to clog the same, it will be observed that I have made the edges of the grooves in the stem sharp, and in the end of the valve I form the slot or recess X adapted to engage the end of a screw driver or like instrument, the twisting of said instrument serving to rotate the valve and stem and the edges of the grooves acting as reamers to scrape out the inside of the valve. It will further be apparent that this groove is extremely advantageous in assembling the cock or in repairing it in the event that the valve does not seat properly, the revolution of an instrument engaged in the slot twisting the valve and at the same time pressing it into its seat and grinding or rubbing it thereagainst, said action serving to rub off any foreign matter or projections holding the valve out of its seat and causing the same to fit tightly in place.

From the foregoing description taken in connection with the drawings the construction and operation of my gage cock will be readily understood and its advantages be apparent to all, and it will be seen that I have provided a simple, strong and durable cock of great efficiency which can be produced at a small cost, which has no washers to wear out or delicate parts to get out of order, and which is thoroughly practical and efficient.

I claim:

In a valve, the combination with a main globular portion having a threaded end, of a supplemental casing engaged therein and having a T-passage formed therein, said passage being in communication with the globular portion of the valve and having an enlarged peripheral portion formed at the intersection of the parts of the T-passage, a valve having a stem slidably engaged in the head of the T and projecting therefrom at each end, a spring engaging one end of the stem for normally forcing the valve into position to close the passage, and a lever pivotally secured to a projection of the supplemental casing and bearing against the stem, said lever being adapted to be moved to force the stem inward and move the valve from its seat, when in said position the stem having a series of grooves formed therein which afford communication between the globular portion and the enlargement of the passage, said grooves terminating at their edges in sharp portions having a reaming or scraping action on the walls of the passage.

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

JOHN STOCKWELL.

Witnesses:

R. G. Bammel,
MORLEY A. SAPH.