(No Model.)

D. McCORMACK.

VALVE.

No. 517,056. Patented Mar. 27, 1894.

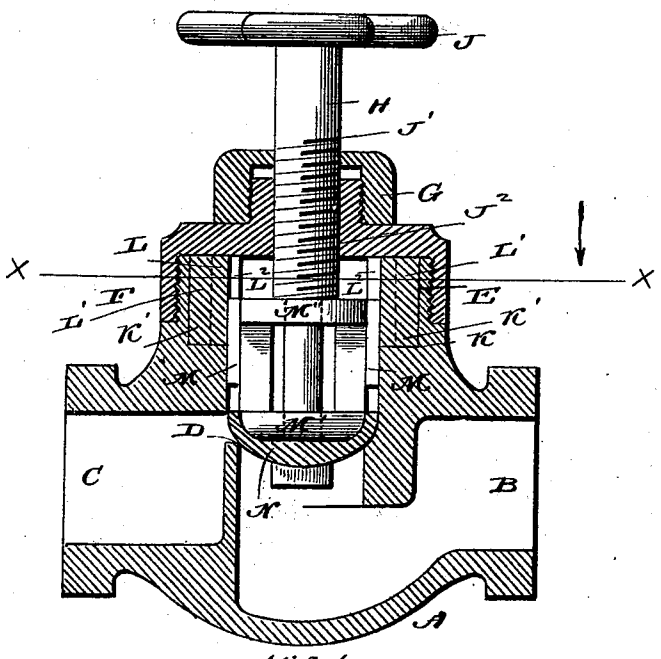

Fig. 1.

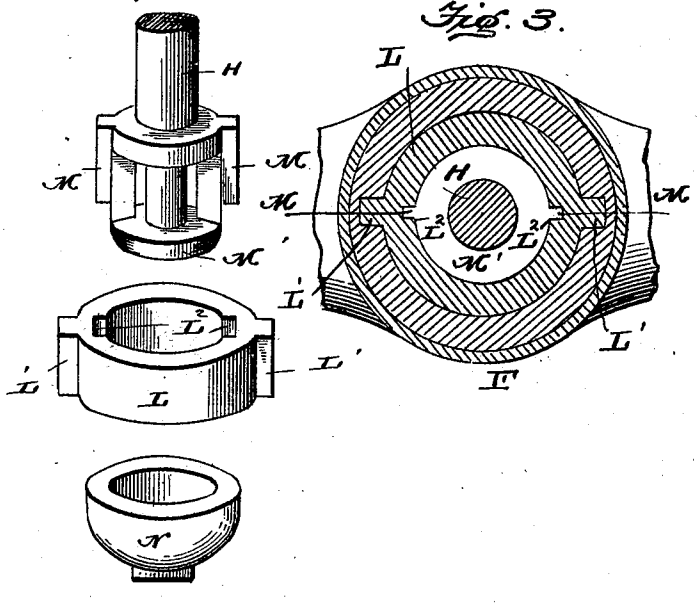

Fig. 3.

Fig. 2.

Witnesses:
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DUNCAN MCCORMACK, OF PARK CITY, UTAH TERRITORY.

VALVE.

SPECIFICATION forming part of Letters Patent No. 517,056, dated March 27, 1894.

Application filed May 26, 1893. Serial No. 476,610. (No model.)

To all whom it may concern:

Be it known that I, DUNCAN MCCORMACK, a citizen of the United States, residing at Park City, in the county of Summit, Utah Territory, have invented certain new and useful Improvements in Valves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in valves, for water and steam pipes and relates particularly to the character of valve known as reciprocating or cut off valves.

The object of my invention is the provision of a valve of simple, durable and inexpensive construction which will not wear the seat and cause the valve to leak as is common in valves in general use and thus provide a valve which will be be efficient, lasting and practical.

To attain the desired object the invention consists of a valve embodying novel features of construction and combination of parts substantially as disclosed herein.

The present improvements contemplate the provision of means for limiting the valve to endwise movement in the valve-shell, relative to its seat, and to the provision of detachable guide means which, when worn, can be readily removed from the valve shell, as access can be easily had thereto, and the worn part can be replaced by a new guide ring, at a trifling expense, and the necessary close joints are thereby secured to properly limit the endwise adjustment of the valve while the threaded stem is free to turn in its bearing to effect the endwise adjustment of the valve.

Figure 1 represents a vertical longitudinal sectional view of a valve constructed in accordance with my invention and Fig. 2 represents a perspective view of the parts of the valve detached to clearly show their construction. Fig. 3 is a cross sectional view on the line *x x* of Fig. 1 to more clearly indicate the manner in which the guide ring is retained or held within the valve-shell and the valve-head guided within said collar.

Referring by letter to the drawings: A designates the shell or casing, having the usual inlet B and outlet C, the seat D and the threaded collar E. The threaded collar receives the cap F, which also receives the smaller cap G both being provided with an opening to receive the valve stem H, having the wheel or handle J for operating the same. The threaded collar E is provided with the interior annular groove or recess K provided with the kerfs or notches K′, and in the recess fits the ring L having the lugs L′ fitting in the kerfs or notches K′, and further provided on the inner face with the kerfs or notches L^2, which form guides for the cleats M on the head M′ carried by the end of the valve stem, and said head normally rests in and holds the cupped valve N upon the valve seat, but when raised by turning the stem, which is provided with the threads J′ engaging the threads J^2, the cupped valve will be forced up by the action of the water or steam and pass through the casing, as is evident. To shut off the valve it is simply necessary to turn the stem and the head thereon will descend into the cupped valve and force it snugly upon the seat.

It will be seen from an inspection of the drawings that the ring L is retained against rotary movement within the valve shell by means of the lugs thereon fitting in the kerfs of the valve-shell and thus the valve-head M′ is free to have endwise movement within the ring L, but is prevented from turning around with the threaded stem because the latter is swiveled to the head and said head is, in turn, connected with the ring by its vertical feathers or lugs fitting in the kerfs or grooves on the inside of the ring. When the caps are removed from the valve-shell, ready access can be had to the interior thereof to take out the guide ring, if it is worn, and replace it by a new guide ring which will insure the proper movement of the valve; and as the valve is thus properly guided in the shell and held from lateral play therein, its face will not become worn to any appreciable extent, thereby promoting the durability and efficiency of the valve. It will thus be seen that the valve cannot possibly wear upon the seat as is the case with valves in general use and destroy the efficiency of the valve in a comparatively short period. It will also be understood that the parts of the valve are few and of simple and durable construction and thus an inex-

pensive, efficient and practical valve is produced.

I claim as my invention—

The valve herein described, consisting of the shell having the inlet and outlet, the seat and the threaded collar having the interior recess provided with the kerfs, the collar the caps connected to the casing, a ring fitting in said recess and having the exterior lugs and the interior kerfs, the stem having the lower reduced end, the head secured to the reduced end and having the rounded end and cleats for entering the kerfs of said ring, and the cupped valve adapted to receive the said head; the parts being arranged and adapted to operate as described.

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

DUNCAN McCORMACK.

Witnesses:

LEVI SNYDER,

McCLELLAN YATES.