

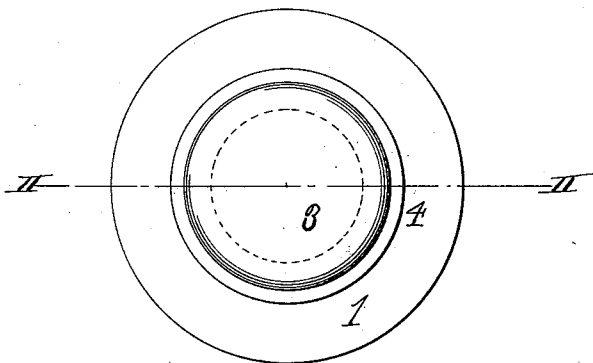
(No Model.)

T. S. EVANS.  
VALVE.

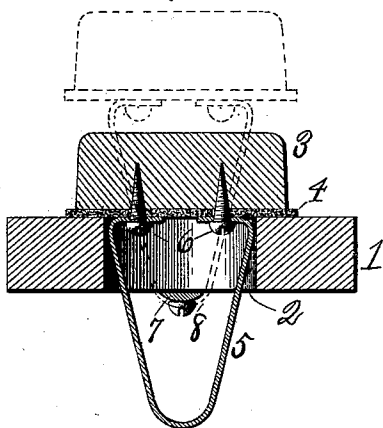
No. 508,377.

Patented Nov. 7, 1893.

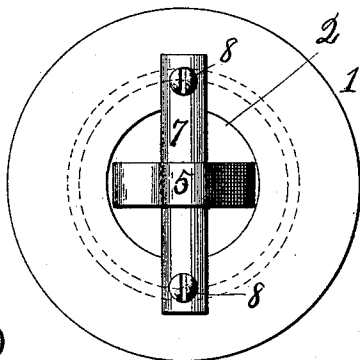
*Fig. I.*



*Fig. II.*



*Fig. III.*



*Attest:*  
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*E. Knight*

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Thomas S. Evans

*By* *Knight Bros.*

*Attest*

# UNITED STATES PATENT OFFICE.

THOMAS S. EVANS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE JACKES-  
EVANS MANUFACTURING COMPANY, OF SAME PLACE.

## VALVE.

SPECIFICATION forming part of Letters Patent No. 508,377, dated November 7, 1893.

Application filed April 29, 1893. Serial No. 472,365. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS S. EVANS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Valves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved valve intended more especially for use in well buckets, but which is also adapted for other applications, the object of my invention being to provide a valve that is always positive in its action in closing and opening, and one which, owing to its simplicity and ease of action, is not liable in use to become disarranged or get out of order; and my invention consists in features of novelty hereinafter fully described and pointed out in the claim.

Figure I is a top view or plan of my improved valve. Fig. II is a vertical section, taken on line II—II, Fig. I, the valve being shown open by dotted lines. Fig. III is a bottom view of the valve.

Referring to the drawings, 1 represents a bucket bottom, such as is used in that class of buckets known as well-buckets, for bored or similar wells. Through the center of the bottom 1 is an opening 2, provided for the admission and escape of water.

3 represents a valve to the under side of which is attached a leather or other suitable packing 4, the said packing seating, when the valve is closed, against the top of the bucket bottom 1, to form a tight connection between said bottom and the valve 3. On the under side of the valve 3 is a tapered or V-shaped loop 5, attached by means of screws 6, or other suitable fastenings, passing through the packing 4, into the valve 3.

7 is a bar extending diametrically or centrally across the opening 2 on the underside, and secured to the bucket bottom by means of screws 8, or other suitable fastenings, which bar limits the upward movement of the loop 5 and with it the valve 3, when the valve is forced open by pressure on the entrance of water through the opening 2.

The valve being wholly detached from its seat, the sides of the guiding and retaining

loop 5 are made to fit the bucket opening at top to insure a correct seating of the valve, and they are inclined or tapered downward on each side toward a point beneath the center of the valve, so that when this restricted portion of the loop at the point of meeting of the sides, is elevated into engagement with the stop-bar 7, the valve will be centered above its seat, and will drop readily into position when the movement of the bucket is reversed. Moreover, there is a free and easy movement allowed to the valve when, on the bucket reaching the water in the well, the water forces the valve up; and also the valve as readily returns to its closed position, and seats itself correctly without the difficulty frequently encountered in valves of this class having straight guides which bind in their bearings.

With the construction embodied in my invention there is free movement of all parts, and owing to the tapering form of the loop, the valve is certain to return to its proper bearing, and loss of water in raising the bucket is avoided.

Another advantage of a valve constructed in accordance with my invention, over the valves now in use, is the ease with which the valve may be removed and replaced for the purpose of inserting a fresh packing without injury to any part of the valve.

I claim as my invention—

The combination, with a bucket-bottom 1, formed with a valve-opening 2 and providing a valve-seat; of the bar 7 extending diametrically across the valve-opening and secured to the bottom, and the valve 3 resting freely over the valve-opening, unattached to the valve-seat having a single, central, pendent, V-shaped loop 5; the loop fitting the valve opening at its upper end, extending beneath and around the bar at its lower end so as to permit the valve, when open, to careen toward any portion of the wall of the valve-opening and the loop to slide from end to end of the bar; substantially as described.

THOMAS S. EVANS.

In presence of—

E. S. KNIGHT,  
ALBERT M. EBERSOLE.