

(No Model.)

J. MORRISON.  
VALVE.

No. 539,631.

Patented May 21, 1895.

Fig. 1.

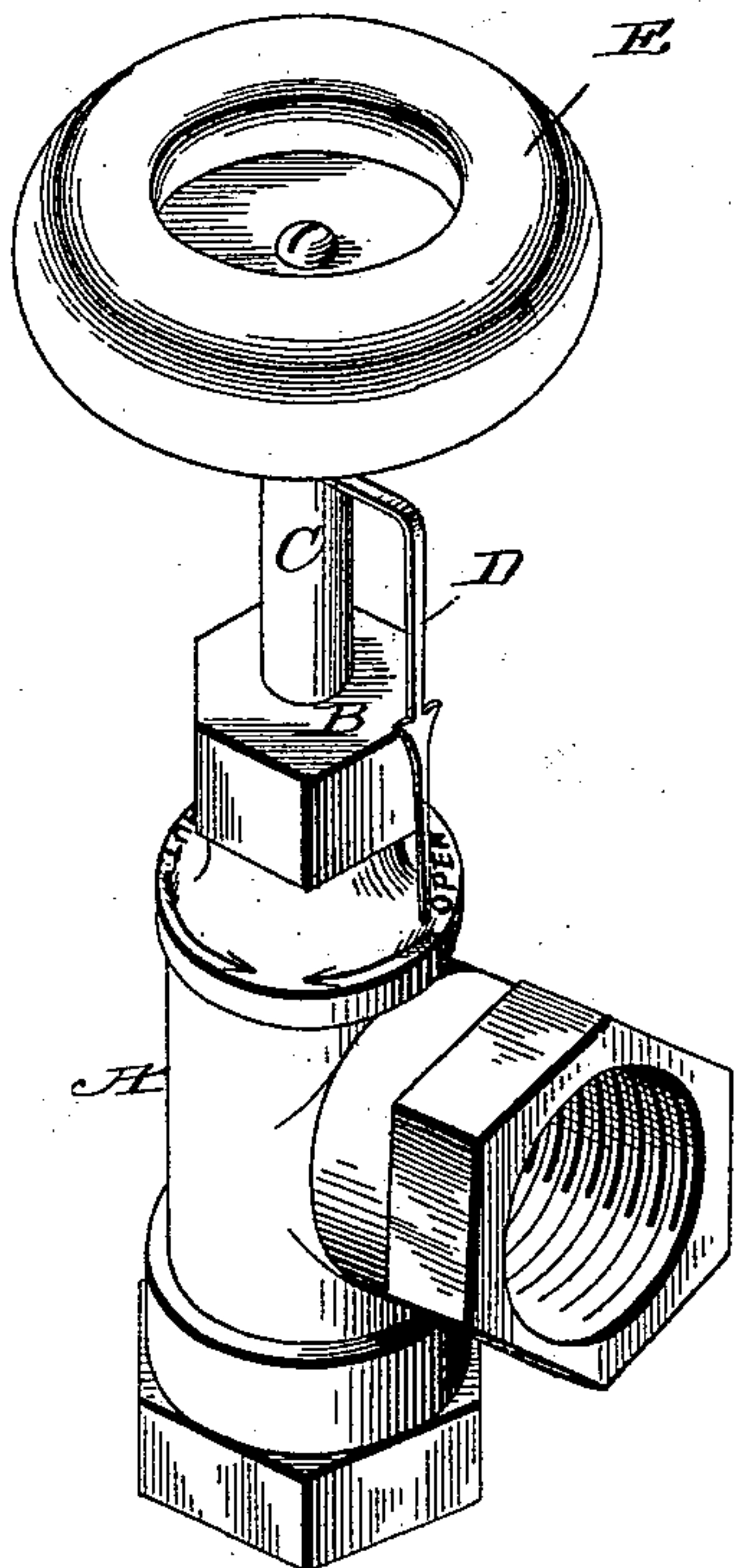


Fig. 2.

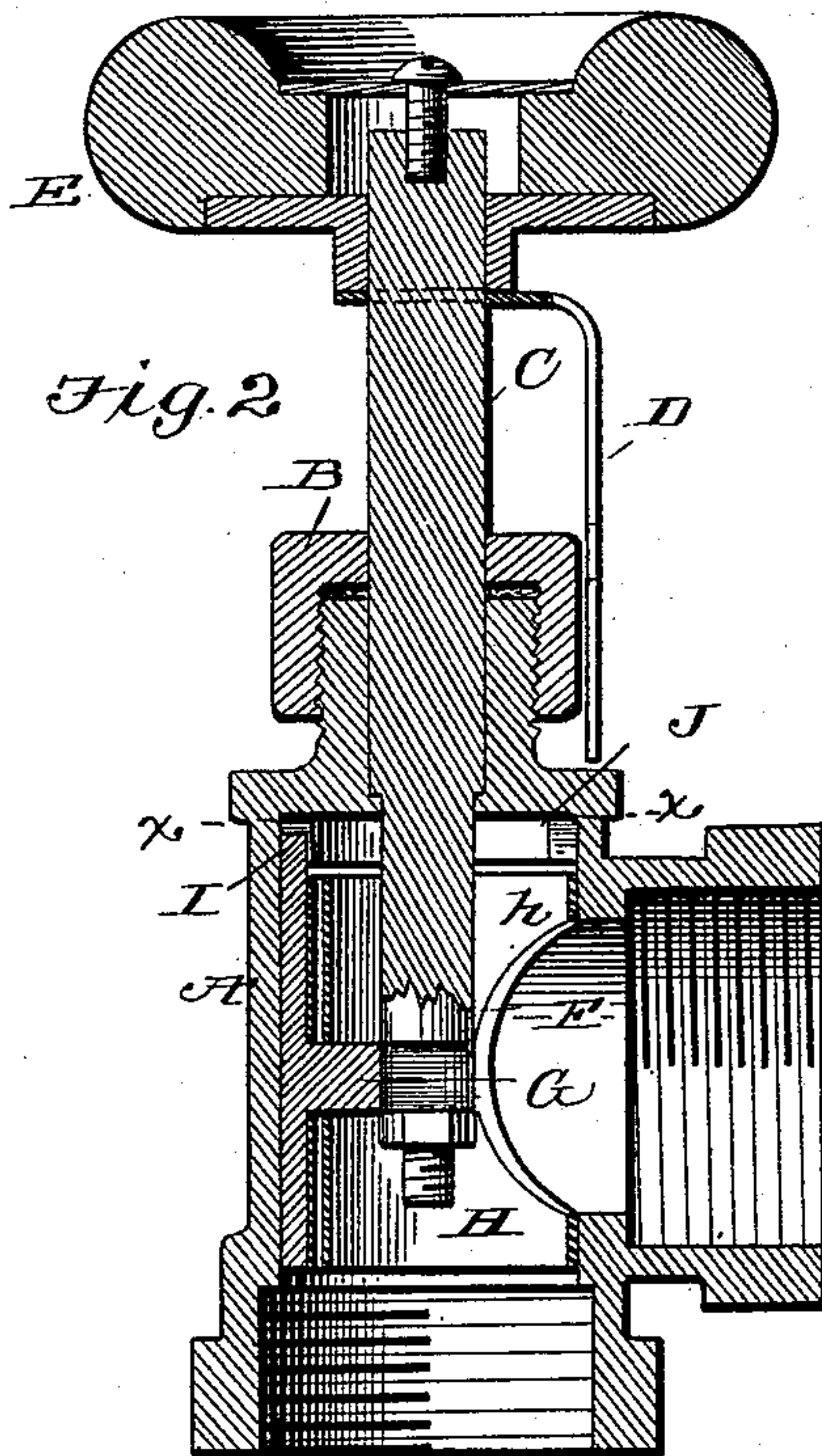


Fig. 3.

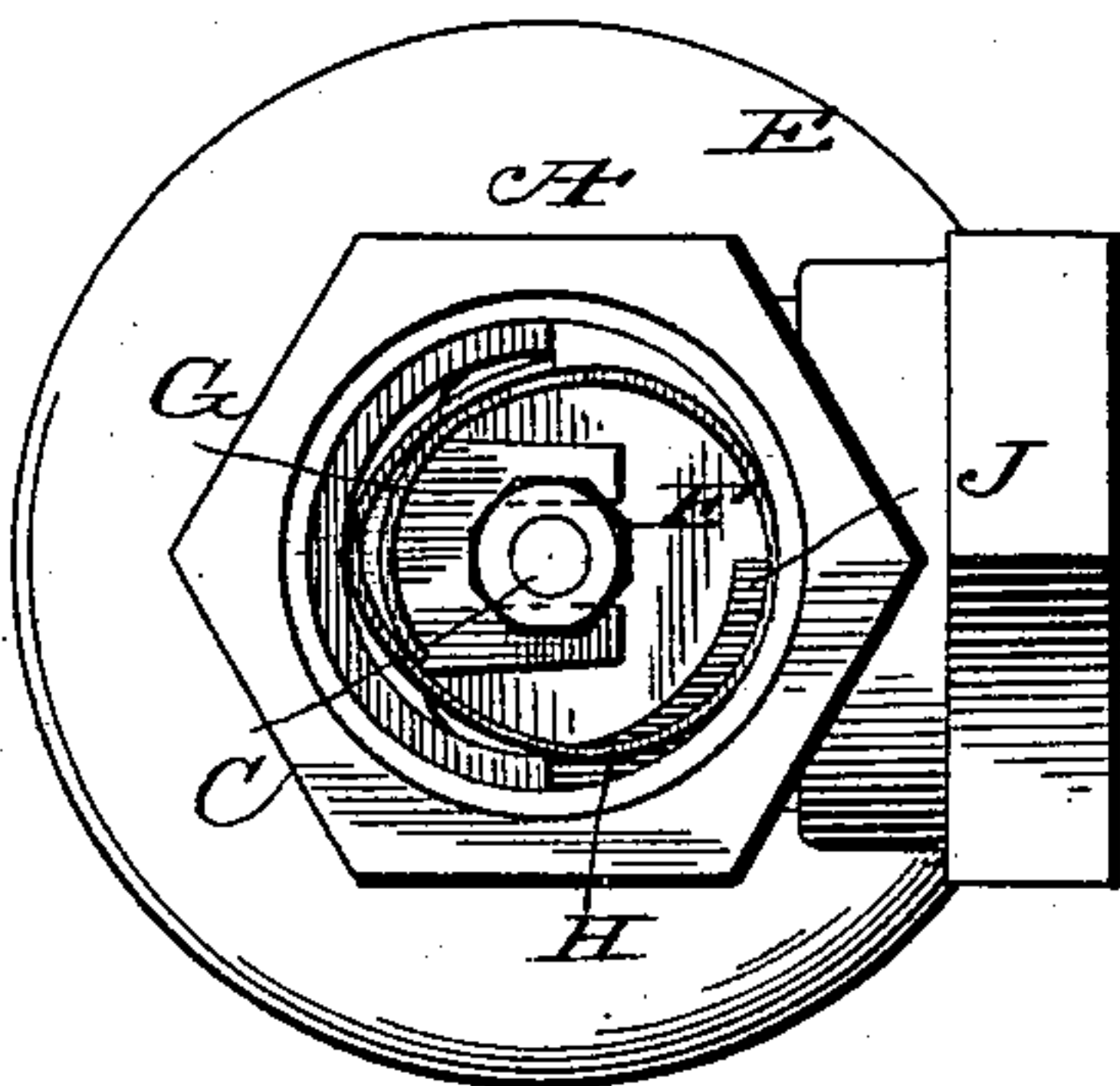


Fig. 4.

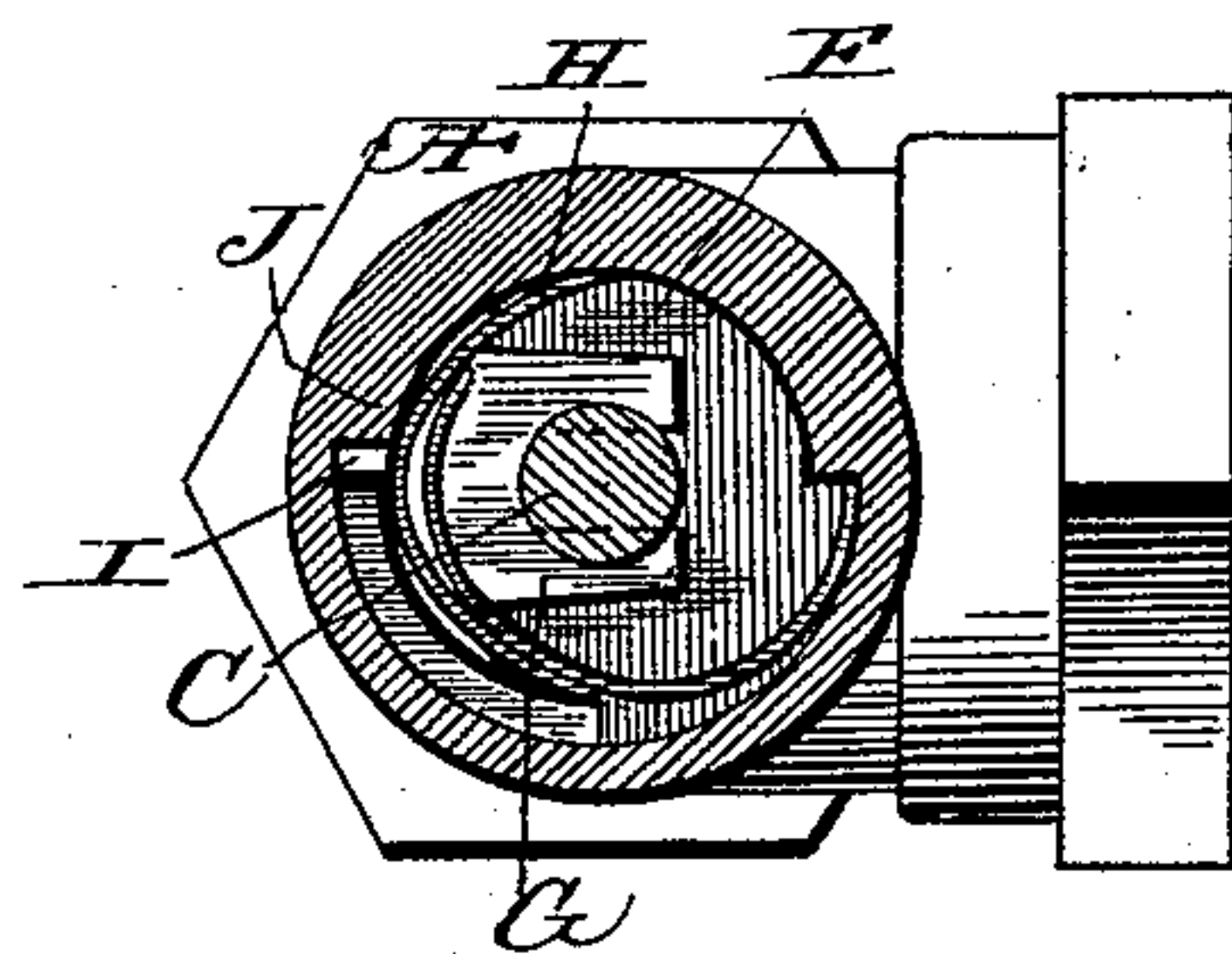
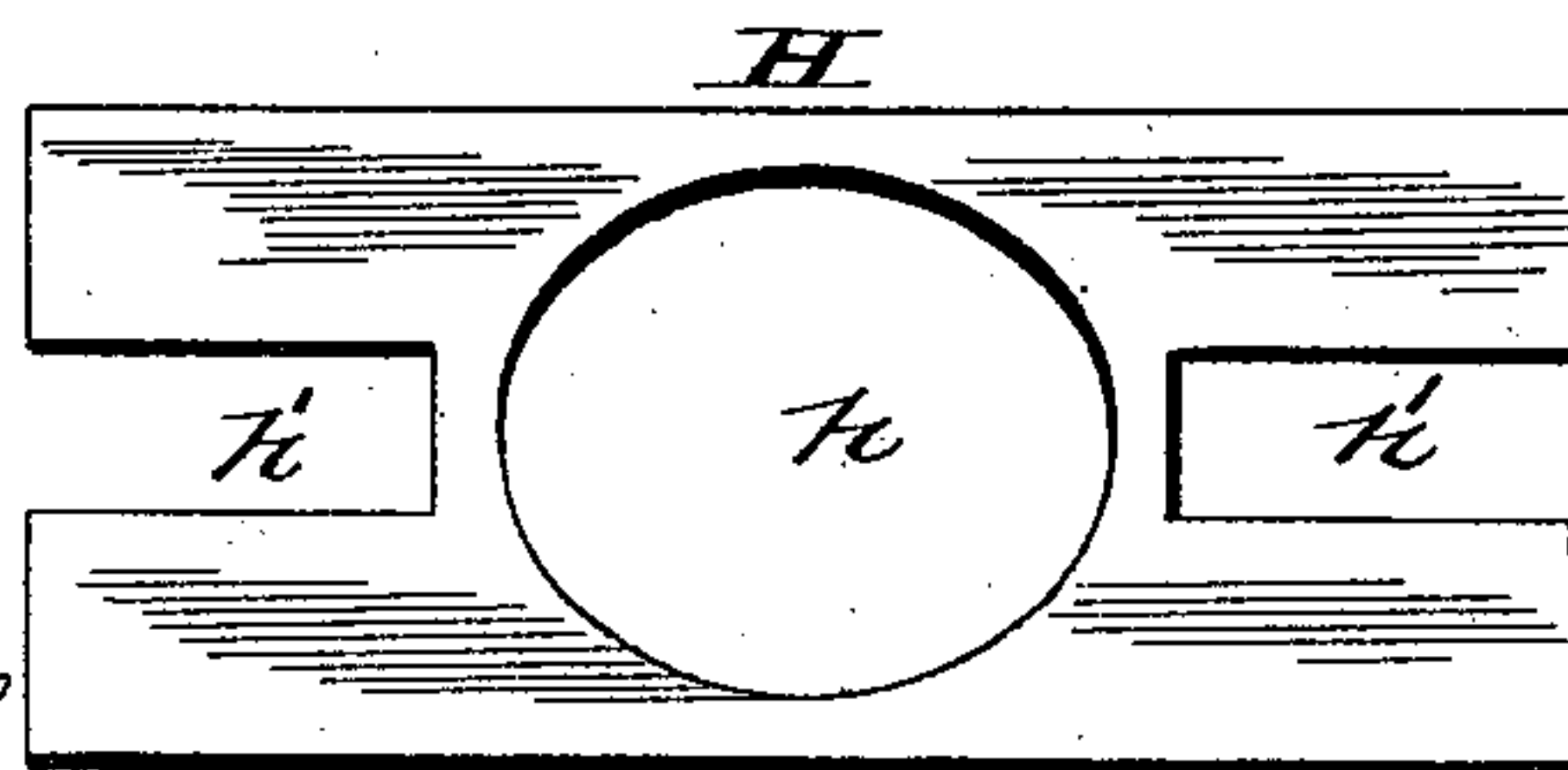


Fig. 5.



Witnesses  
J. C. Stack.  
W. E. Clendaniel.

Inventor  
James Morrison  
By J. G. W. Robertson  
Attorney.



# UNITED STATES PATENT OFFICE.

JAMES MORRISON, OF TORONTO, CANADA.

## VALVE.

SPECIFICATION forming part of Letters Patent No. 539,631, dated May 21, 1895.

Application filed June 5, 1894. Serial No. 513,566. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES MORRISON, a subject of the Queen of Great Britain, residing at Toronto, in the county of York and Dominion of Canada, have invented certain new and useful Improvements in Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention is designed to provide a cheaply made, rapidly opening, convenient and durable valve, and it consists in the improvements hereinafter described and then definitely claimed.

15 In the accompanying drawings, Figure 1 is a perspective view of a valve constructed according to my improvement. Fig. 2 is a vertical central section of the same. Fig. 3 is a reversed plan of the same. Fig. 4 is a horizontal section on the line  $x x$ , Fig. 1. Fig. 5 shows a spring in its flat form before it is coiled.

Referring now to the details of the drawings by letter, A represents the body or casing of the valve, provided with a stuffing box B at the top, and threaded at the inlet and outlet in the usual manner. Through the stuffing box passes the spindle C, having a pointer D by which the position of the valve may be readily seen, and a handle E for turning the spindle and the curved oscillating semi-circular valve F, the latter having a slotted lug or fork G which embraces the lower part of the spindle C, which is flattened to prevent its turning without operating the valve.

35 Coiled inside the valve is a spring H, made of thin sheet brass of the shape shown in Fig. 5, and having an opening  $h$  through it for the passage of the water and slots  $h' h'$  to receive the lug or fork G. The ends of this spring thus embrace the fork G, while its center presses against the casing and keeps the valve tightly in its seat.

45 At the top of the oscillating valve is a vertical lug I, which engages with a semi-circular stop J, cast on the top of the interior of the body or casing of the valve.

The valve is shown in the open position with the lug I against one end of the stop J. To close the valve, the handle is turned so as to move the valve in the direction indicated by the left-hand arrow on Fig. 1 until the lug I comes in contact with the opposite end of the stop J. A reverse movement of the han-

dle will move the valve in the direction of the right-hand arrow, when it will again assume the position shown in Fig. 2, and the valve will be open. The full limit of the movement of the valve can thus be felt, and the valve operated in the dark, as the vertical lug and stop engage with each other, while any intermediate position of the valve will be clearly indicated by the arrow. The spring presses the valve against the casing, and thus keeps it tightly in its seat in all positions, and being within the hollow of the valve can be made of considerable length and thus be very flexible.

I consider it important that the spindle C have a flattened surface within its circumference to engage with the fork of the valve, for if the latter were operated by a projecting arm, as has been proposed, the spindle could not be passed through a hole of the size of the spindle itself, which would therefore require that an additional piece be used to allow of the insertion of the projecting arm on the spindle.

From the above and the drawings it will be seen that I have provided a rapid opening valve that is simple, cheap, easily made, convenient in operation and not likely to get out of order, for the spring will always keep the valve tight.

What I claim as new is—

1. The combination with a valve casing, of a spindle C, adapted to have its operating end pass through a round hole of the same diameter as said operating end, and having a flattened surface within the circumference of said spindle, and a turning valve F provided with a lug G having a slot of less width than the diameter of the spindle and fitting the flattened surface of said spindle, substantially as described and shown.

2. In a valve, the combination with a curved oscillating valve F, having a fork G and a spindle for operating the same, of a coiled sheet metal spring having an opening for the passage of the water, and slots to receive the fork of the valve, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 14th day of May, 1894.

JAMES MORRISON.

Witnesses:

JOHN BROWN,  
CHAS. E. MORRISON.