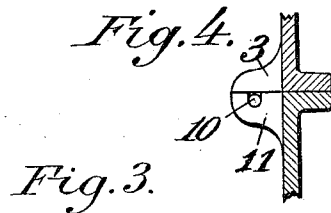
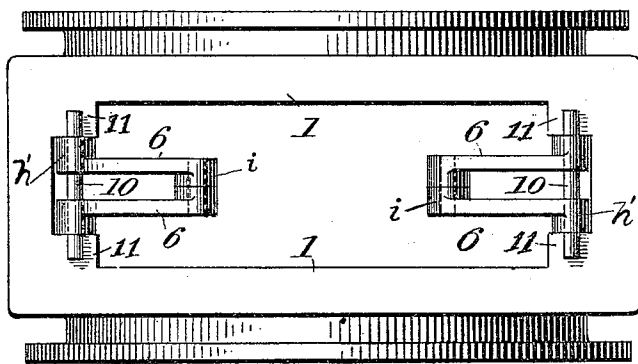
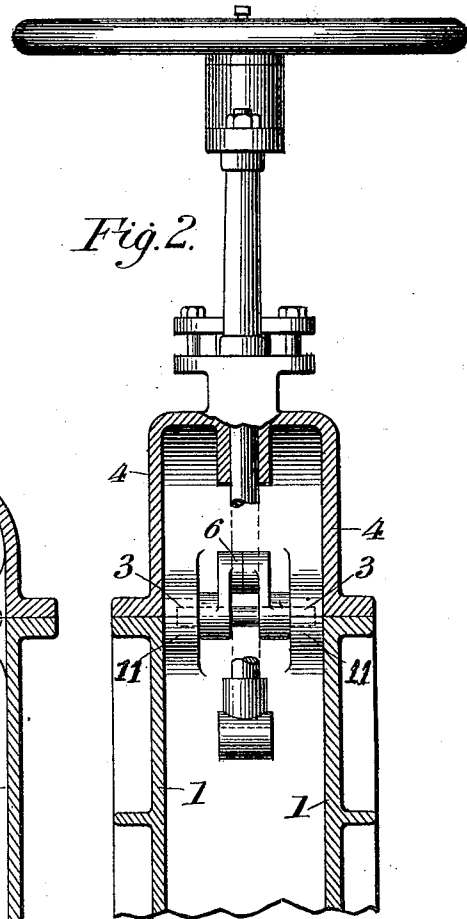
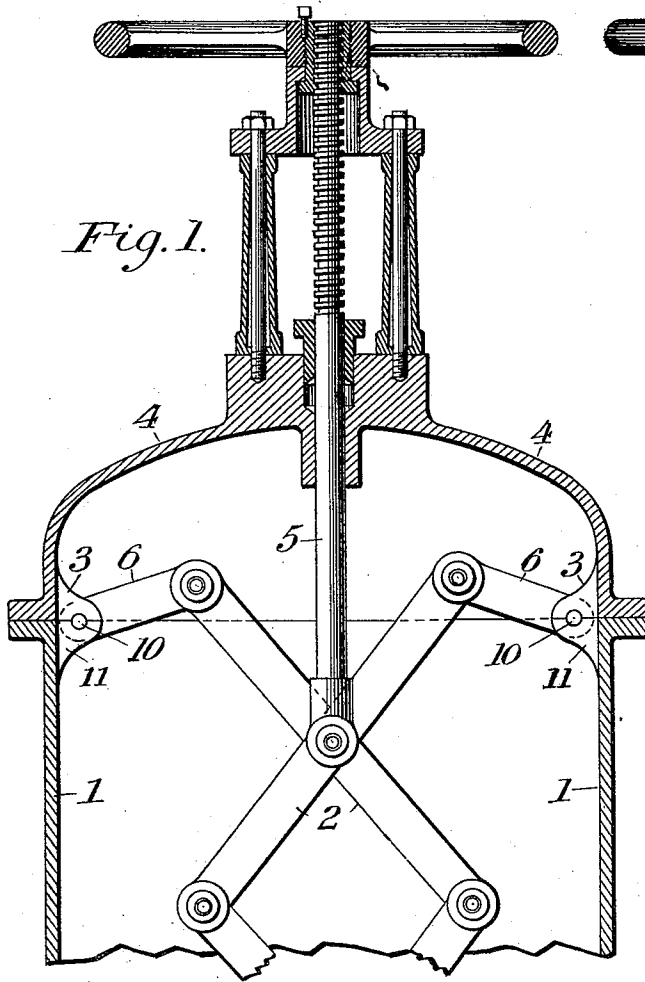


(No Model.)

J. W. OGDEN.
VALVE OPERATING MECHANISM.

No. 515,247.

Patented Feb. 20, 1894.



Witnesses:
Tinton Coombs
A. M. Parkins.

Inventor:
John W. Ogden
by
Perrin & Goldsborough
attys.

UNITED STATES PATENT OFFICE.

JOHN W. OGDEN, OF BROOKLYN, NEW YORK

VALVE-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 515,247, dated February 20, 1894.

Application filed April 20, 1893. Serial No. 471,087. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. OGDEN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Valve-Operating Mechanism; and I do hereby 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.

In a patent granted to me November 15, 1892, No. 486,263, I have covered broadly the combination of a sliding gate valve for gas or hydraulic mains, and a lazy-tongs operating device interposed between the actuating stem of the valve and the valve gate, whereby an easier and much quicker operation of the valve is secured than by any of the prior valve-operating devices known in the art. Since the introduction by me of this type of valve-operating mechanism, a number of specific improvements have been made in the construction of the tongs, and the manner of connecting the same to the valves and the casing.

The present invention has for its object a further specific improvement in the manner of mounting the tongs, and it consists in the construction and arrangement of parts hereinafter described and illustrated and more particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a central vertical section of the upper portion of a valve casing, showing in side elevation my improved manner of mounting the tongs. Fig. 2 is a section of the valve-casing at right angles to that of Fig. 1, showing an end view of one of the links connecting the upper tongs levers with the casing, and Fig. 3 is a plan view of the valve casing with the bonnet or hood removed. Fig. 4 is a detail of one form of pivotal connection for the links.

I do not herein show the valve, or the connection of the same with the lazy-tongs, as my present invention has to do entirely with the connection of the upper end-levers of the tongs with the stationary parts of the valve.

Referring to the drawings, 1 denotes the casing or body of the valve, the same being of any well known form and construction.

4 indicates the removable bonnet or hood, seated upon a marginal flange running around the top of the casing, and secured thereto by bolts passing through the flanges of both parts, all as now well understood in the art.

2 indicates the lazy-tongs, and 5 the actuating stem connected therewith, at the central point. Heretofore the upper end-levers of the tongs have either been brought together and pivoted upon a common axis, or are connected by means of short pivoted links with the bonnet or hood, the tongs in either case being hung and supported from the bonnet of the casing.

In my present improvement, I do away with all connection of the lazy-tongs with the bonnet or hood, and pivot them by means of outwardly extending links to the sides of the casing proper, which has been found in actual practice to be a better arrangement, inasmuch as the tongs are entirely independent of the bonnet and may be put in position before the bonnet is put on; moreover the present arrangement permits of the shortening of the tongs, and a reduction in the total height of the valve casing, which is a desirable feature.

Referring again to the drawings, 11 are projecting lugs cast on the inside of the valve casing at the upper end, as clearly illustrated in Figs. 1 and 3. These lugs are recessed or grooved as shown for the reception of the pintles or pivot pins 10 of the links 6. To the inside of the bonnet or hood are cast other lugs 3 similar to the lugs on the casing, which lugs when the bonnet is put in position on the casing fit over and upon the casing lugs and hold the link pivots in place. As shown in the drawings, the seat for the link pins 10 is formed of a semi-circular groove made in each of the lugs 11 and 3. It is obvious, however, that this seat may be formed entirely in the lugs of the casing, and the lugs on the bonnet be used only as keepers to hold the pins in their seats.

The links 6 are pivotally connected to the upper end levers of the tongs in any suitable or preferred manner. The specific construction of these links forms no part of my present invention, and may be varied to suit the views of the constructor. A form which has

been found to work well in practice is shown in Fig. 3, wherein each link is made in halves cast with outwardly projecting hubs h' at their outer ends, and inwardly projecting hubs i at their inner end. The pivot pin 10 may be integral with the hubs h' , or made separate and passed through holes in the hubs, as shown in Fig. 3. The hubs i in the present construction form the joint between the inner end of the links and the end levers of the tongs, and when the parts are placed in position a bolt is put through the whole, uniting them together in a manner readily understood.

As already explained, the connection of the upper end of the tongs levers to the outer sides of the casing, permits the same amount of movement of the valves to be obtained with a shorter length of tongs, the arrangement allowing the upper tongs levers to flatten out better and thus secure a more complete contraction of the tongs. It has the advantage also of permitting the setting of the tongs in position before the bonnet or hood is put on, and of course allows the removal of the same in order to get at the interior of the casing. The hood in the present arrangement forms no part of the support for the tongs, but merely acts as a binder or keeper to hold the pivots of the links in position.

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

1. In a lazy-tongs valve-operating mechanism, the combination of the valve casing, the tongs, the link connections between the sides of the said casing and the upper ends of the tongs levers, and the operating stem pivotally connected with the cross levers at a moving point between the ends of the tongs; substantially as shown and described.

2. In a lazy-tongs valve-operating mechanism, the combination of the valve casing, the tongs, the actuating stem, the links pivotally connecting the upper end levers of the tongs with the side walls of the body of the casing, and the removable bonnet or hood holding the link pivots in place, substantially as described.

3. In a lazy-tongs valve-operating mechanism, the combination of the casing, the tongs,

the central actuating stem, the links pivotally connected to lugs on the casing and to the upper end levers of the tongs, and the lugs on the bonnet or hood holding the pivots of the links in place, substantially as described.

4. The combination of the valve-casing, having the recessed or grooved lugs 11, the removable bonnet or hood 4, having corresponding lugs 3, the pivot pins 10 held in their seats on the casing lugs by the lugs on the bonnet, the links 6 connected with the pins, and the lazy-tongs connected with the opposite ends of the links substantially as described.

5. In a lazy-tongs valve-operating mechanism, the combination of the valve-casing, having the lugs 11, the tongs 2, the centrally arranged actuating stem 5, the links 6 pivotally connected at their outer ends to the casing lugs by pins 10, and pivoted at their inner ends to the upper end levers of the tongs, and the bonnet or hood 4, having the lugs 3; substantially as described.

6. In a lazy-tongs valve operating mechanism, the combination of the valve-casing, the tongs, lugs formed on the side walls of the casing body, links connected to the upper end levers of the tongs, and to pivot pins seated in open bearings in the casing lugs, and a part of the removable bonnet or hood of the casing arranged to overhang the open pivot-pin bearings and hold the pins therein, substantially as described.

7. In a lazy-tongs valve-operating mechanism, the combination of the valve casing, the removable bonnet or hood of the same, the tongs, the link connections between the sides of the said casing and the upper ends of the tongs levers, and the operating stem pivotally connected to the cross levers at a moving point between the ends of the tongs; substantially as shown and described.

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

JOHN W. OGDEN.

Witnesses:

O. BODELSEN,

JNO. H. SHORTT.