

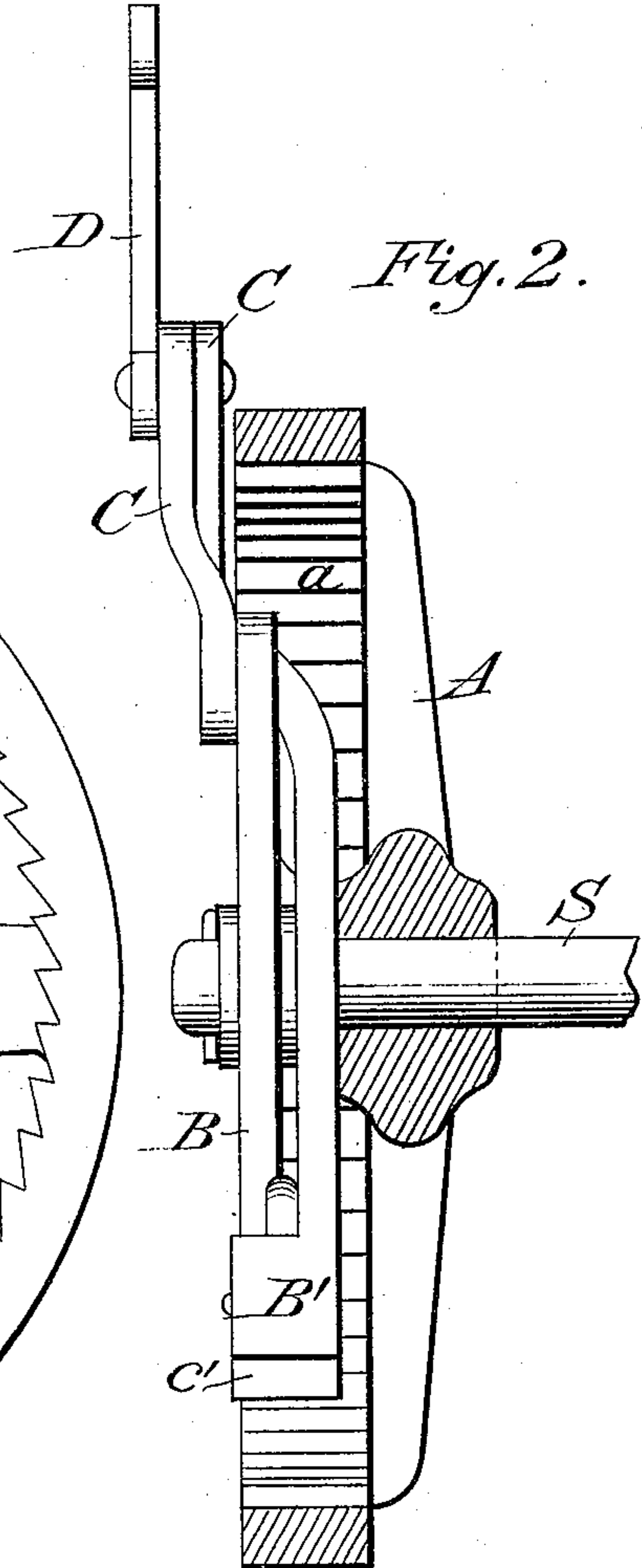
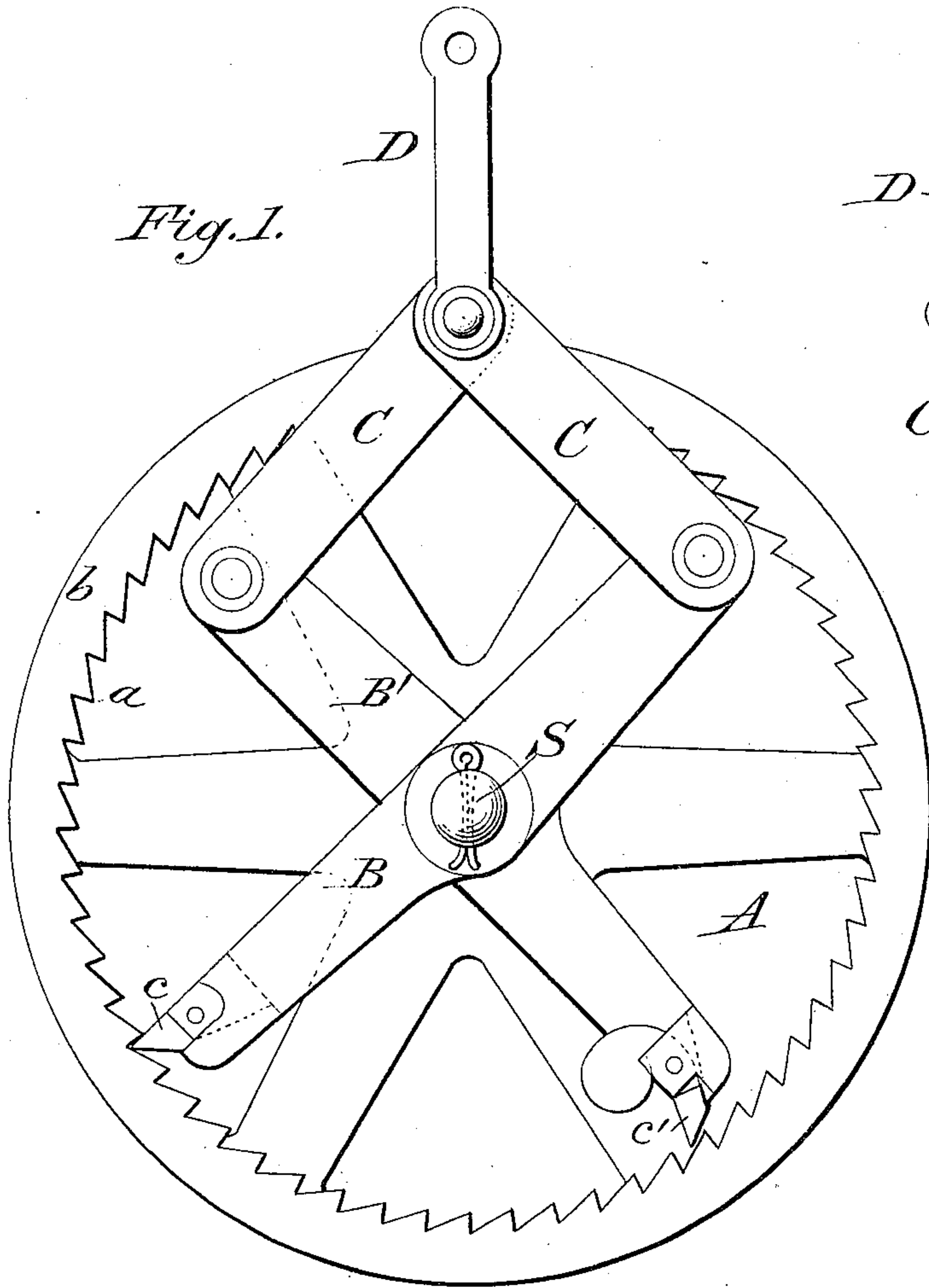
(No Model.)

J. W. CHAMBERLAIN.

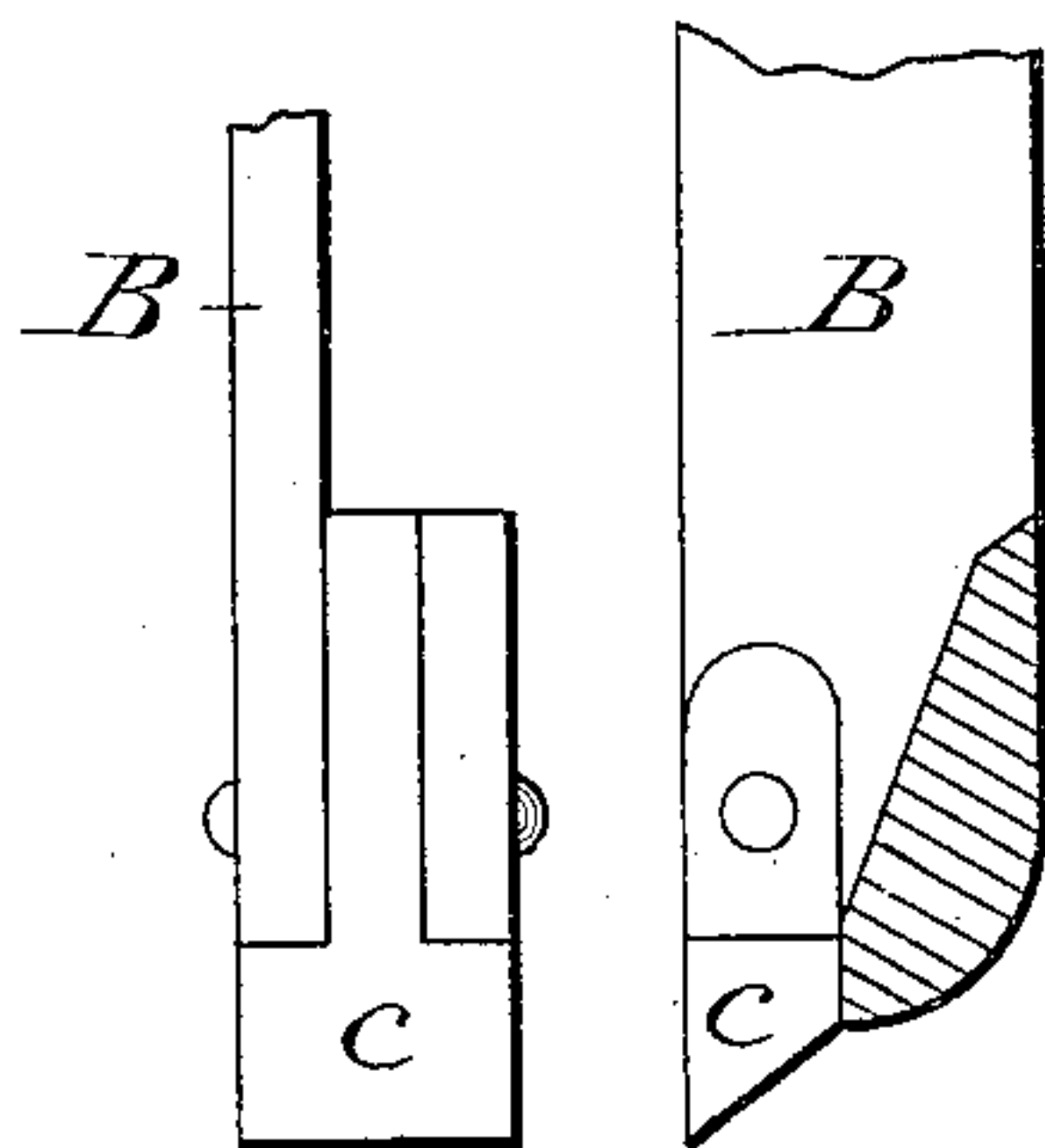
DEVICE FOR CONVERTING RECIPROCATING INTO ROTARY MOTION.

No. 258,712.

Patented May 30, 1882.



*Fig. 3.*



*Attest:*

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*att'y*

# UNITED STATES PATENT OFFICE.

JOHN W. CHAMBERLAIN, OF PEOTONE, ILLINOIS.

DEVICE FOR CONVERTING RECIPROCATING INTO ROTARY MOTION.

SPECIFICATION forming part of Letters Patent No. 258,712, dated May 30, 1882.

Application filed February 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. CHAMBERLAIN, a citizen of the United States of America, residing at Peotone, in the county of Will and State of Illinois, have invented a new and useful Device for Converting a Reciprocating into a Rotary Motion, of which the following is a specification.

My invention relates to a device for converting a reciprocating into a rotary motion, particularly adapted for windmills, &c.

The object of this invention is to provide a device for use on pumping-windmills for converting the reciprocating into a rotary motion, for the purpose of running any kind of machinery, as grinding-mills, &c., which shall combine simplicity, cheapness of construction, and durability with certainty and efficiency of operation.

To this end my invention consists in a construction and arrangement of parts, as will be fully understood from the following description, with reference to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front elevation view of my improved device; Fig. 2, a partial sectional elevation of the same; and Fig. 3, a detailed view, referred to hereinafter.

Similar parts are referred to by similar letters of reference throughout the several views.

In the drawings, A represents the main driving-wheel, which is secured to a shaft, S, and is provided with an overhanging rim, b, having on its inner side a series of ratchet-teeth, a.

B and B' are cross-bars journaled at their center on the shaft S, which projects through the hub of wheel A for this purpose, and provided at one end with pawls c and c', which engage with the ratchet-teeth a, as hereinafter more fully described. The pawls c and c' are made of steel or other suitable material, and are pivoted in the ends of the bars B and B' in such a manner that they are disengaged from the ratchet-teeth a as they move in one direction and engage with them when moved in the other. (See Fig. 3.)

From the upper end of the cross-bars B B' extend connecting-arms C C, which connect with the link D, to which is attached the pitman or reciprocating rod of the windmill or other machine to which the device is attached.

The operation is very simple. As the link

D is moved downward the ends of the arms B and B', carrying the pawls c and c', are moved from each other, the pawl c in the end of arm B engaging with the ratchet-teeth a in wheel A, and revolving said wheel and shaft S in the direction of the arrow, while the pawl c' is disengaged from said teeth, which move freely over said pawl. When the link D is moved upward the ends of the arms B B' approach each other, the pawl c' in arm B' engages with the teeth a, and rotates the wheel and shaft, while the one c is disengaged therefrom, so that said teeth are enabled to pass loosely over it. In this way the wheel A and shaft S are continuously revolved from the reciprocation of the link D.

It is evident that this device is at once simple and inexpensive, and not liable to get out of order.

The shaft is always rotated in the same direction, and cannot run backward.

I am aware that an internally-toothed wheel has been revolved heretofore, by means of pawls pivoted to the opposite ends of a radius bar, so as to engage alternately with the ratchet-teeth on said wheel when the pivoted radius-bar is moved. Reciprocating bars or rods provided with pawls have also been employed in connection with a tooth-wheel for the purpose of converting motion. These, however, I do not broadly claim; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the shaft S, wheel A, secured thereto, and having a rim, b, provided with internal ratchet-teeth, a, the arms or bars B B', pivoted on said shaft, and having pawls c c', adapted to engage alternately with the ratchet a, the connecting-bars C C, pivoted to the bars or arms at their ends opposite to the pawls, and the link D, connected with the connecting-bars, substantially as and for the purpose described.

2. The combination of the wheel A, ratchet-teeth a, cross-bars B B', pawls c c', connecting-arms C C, link D, and shaft S, substantially as shown and described, and for the purpose set forth.

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

JOHN W. CHAMBERLAIN.

Witnesses:

HENRY WIESTENFELD,  
SAMUEL ESSON.