

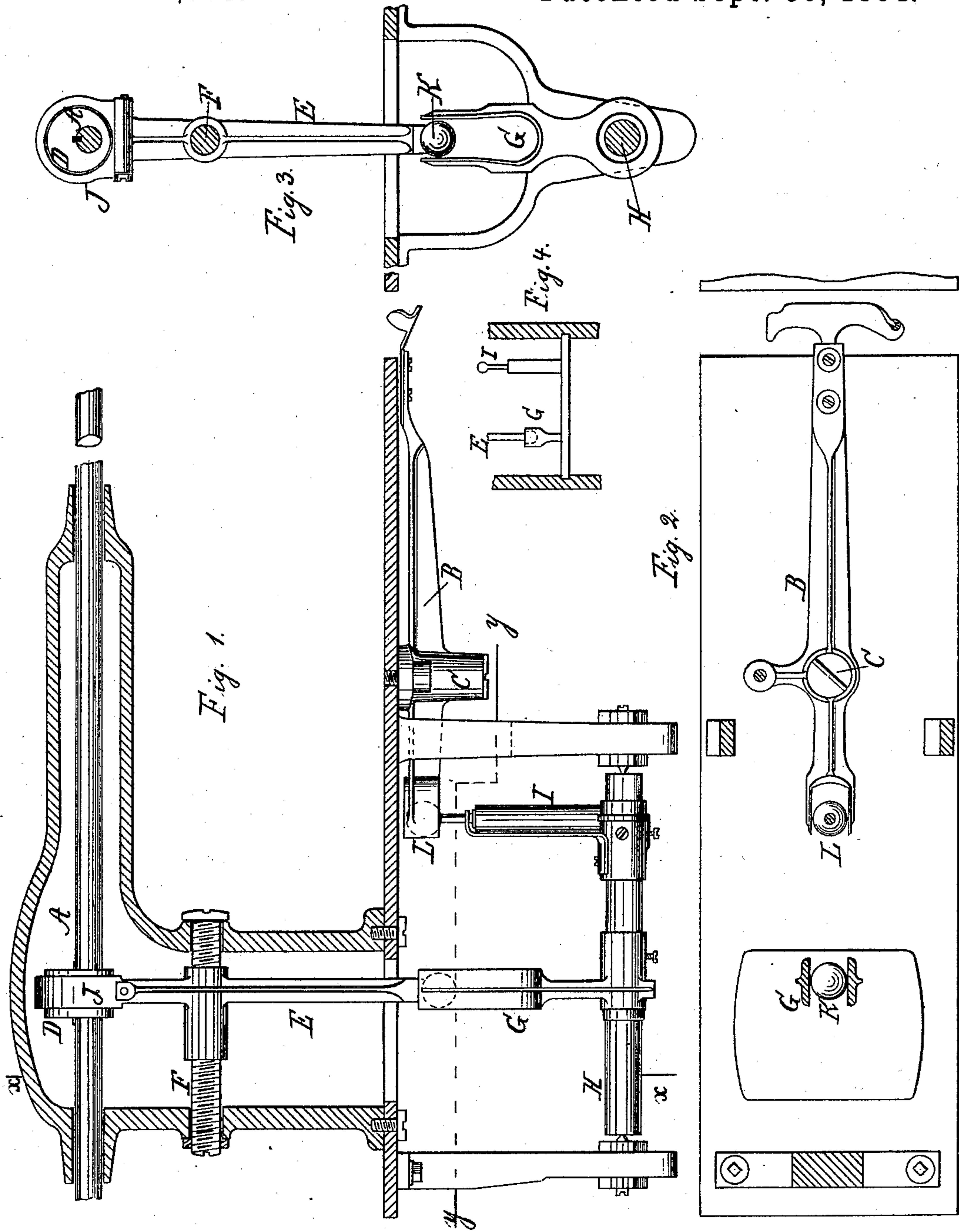
(No Model.)

L. CHEVALLIER.

DEVICE FOR CONVERTING MOTION.

No. 305,999.

Patented Sept. 30, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS CHEVALLIER, OF BROOKLYN, NEW YORK.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 305,999, dated September 30, 1884.

Application filed May 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, LOUIS CHEVALLIER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Devices for Converting Motion, of which the following is a specification.

This invention relates to devices for converting rotary motion into oscillating motion; and it consists in the novel feature of construction hereinafter described, whereby a very rapid oscillating motion may be produced.

In the accompanying drawings, Figure 1 is a side elevation of a structure embodying my invention. Fig. 2 is a horizontal section thereof in the plane of the line $x x$, Fig. 1. Fig. 3 is a vertical section of the same in the plane of the line $y y$, Fig. 1, looking upward. Fig. 4 represents a detail.

Similar letters indicate corresponding parts.

The letter A designates a main shaft, to which a rotary motion is imparted by a suitable medium, and B indicates a lever which has its fulcrum in a horizontal pivot, C, and to which an oscillating motion is to be imparted from the main shaft A, this lever operating to perform the required work—as, for example, to carry the shuttle of a sewing-machine.

On the main shaft A is mounted an eccentric, D, to which is connected one end of a driving-lever, E, which has its fulcrum in a horizontal pivot, F, so that it is at a right angle to the working-lever B, and to the other end of which is connected an arm, G, mounted on a rock-shaft, H. On this rock-shaft H is mounted a second arm, I, which is substantially parallel to the arm G, and is connected to one end of the working-lever B, so that when the main shaft A is put in motion the driving-lever E receives an oscillating motion from the eccentric D, and acts on the rock-shaft H through the arm G, while this shaft in turn acts on the working-lever B, through the arm I, to produce the required motion of the lever.

The connection of the driving-lever E to the eccentric D is effected by means of a strap, J, while the connection of the arms G I to the driving-lever and the working-lever B, respectively, is effected by means of a ball-

and-socket joint, K or L; but it is evident that these connections can be effected in other ways.

It will be seen that by a proper arrangement of the fulcra of the driving-lever E and working-lever B in relation to the eccentric C and the rock-shaft H a very rapid motion can be imparted to the working-lever. In the example shown the arms G I of the rock-shaft are separate from each other, so that they may be adjusted independently of each other on the shaft; but, if desirable, both arms can be made in one piece.

Instead of the eccentric D, any other suitable means may be employed for operating the driving-lever, and, if desirable, the lever may be arranged to be operated by hand, while instead of the rock-shaft H a reciprocating slide, K, Fig. 4, or any other suitable means may be used to support the parallel arms G I, the arms being connected to the levers in the same manner as described.

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

1. The combination, substantially as hereinbefore described, with the working-lever and the driving-lever arranged at right angles to each other, of the two parallel arms, one connected to the working-lever and the other to the driving-lever.

2. The combination, substantially as hereinbefore described, with the working-lever and the driving-lever arranged at right angles to each other, of the two parallel arms, one connected to the working-lever and the other to the driving-lever, and a support common to both arms.

3. The combination, substantially as hereinbefore described, of the main shaft, the working-lever, the eccentric of the main shaft, the driving-lever connected to the eccentric, the rock-shaft, and the parallel arms of the rock-shaft, one connected to the driving-lever and the other to the working-lever.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

LOUIS CHEVALLIER. [L. S.]

Witnesses:

W. HAUFF,
CHAS. WAHLERS.