

L. SCOFIELD.

Improvement in Mechanical-Movements.

No. 130,158.

Patented Aug. 6, 1872.

Fig. 1.

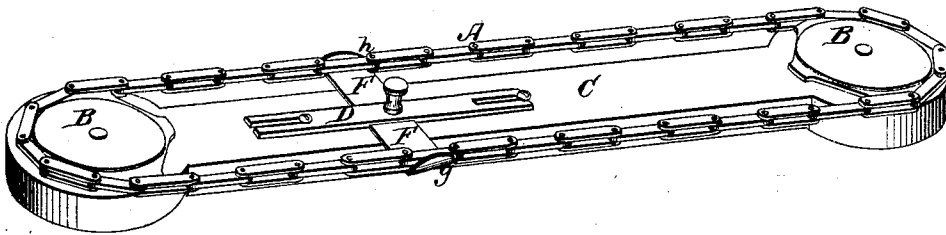


Fig. 2.

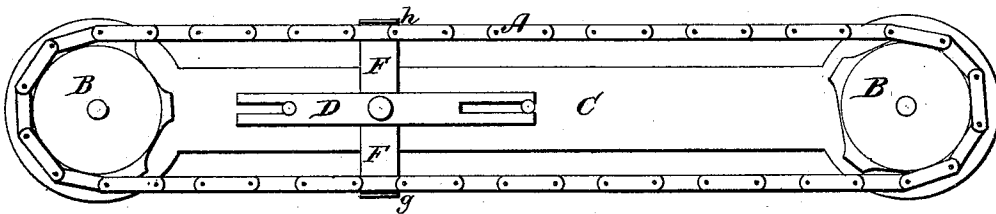
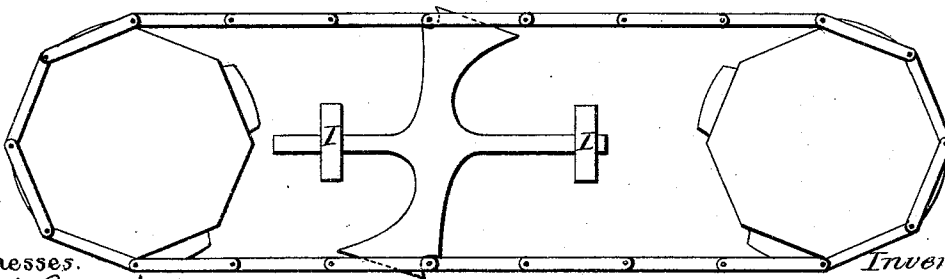


Fig. 3.



Fig. 4.



Witnesses.
G. F. Brown.
W. H. Ellsworth.

Inventor.
Levi Scofield.
by W. H. Ellsworth
his Atty.

UNITED STATES PATENT OFFICE.

LEVI SCOFIELD, OF WATERTOWN, WISCONSIN, ASSIGNOR TO HIMSELF AND
JUSTIN B. WAIT, OF GRAND HAVEN, MICHIGAN.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **130,158**, dated August 6, 1872.

To all whom it may concern:

Be it known that I, LEVI SCOFIELD, of Watertown, in the county of Jefferson and State of Wisconsin, have invented a new and useful Mechanical Movement; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of devices for carrying out my invention; Fig. 2, a top-plan view; Fig. 3, a longitudinal section; and Fig. 4, a modification of the same.

Similar letters of reference indicate corresponding parts in the several figures of the drawing.

My invention has for its object to convert reciprocating into intermittent rotary motion; and to this end it consists in the combination of one reciprocating catch, or more, or arms, with an endless chain, rope, belt, band, or equivalent device, which is moved by the catches, substantially as I will now proceed to set forth.

For the purpose of description I shall refer more particularly to a chain and to the form of catches shown in the drawing; but I wish it understood that I do not confine the invention to these forms, but regard it as including all equivalent shapes and devices within the limits of the principle involved.

In the drawing, A is an endless chain, consisting of alternate open and closed links, and passing around wheels or pulleys B having their bearings upon a suitable support. The wheels are formed with a series of peripheral arms, pins, or points, arranged at such distances apart as to enter the open links of the chain as the latter is operated. D is a slotted plate, mounted upon the support C between the wheels, so as to slide freely the length of the slots, and provided with lateral arms F, which extend outward under the chain so as to support the same. The ends of the arms are bent upward slightly to prevent the chain from slipping off, and near or adjoining these bent ends the edges are inclined upward in opposite directions to form catches, as shown at g, Fig. 1. When the armed plate is reciprocated the catches alternately bear against the ends of the open links upon the lower side of the chain, moving the latter intermittently in the same direction, and imparting an inter-

mittent rotary motion to the wheels B. While the catch upon one side is moving the chain forward the depressed portion h of the opposite arm allows its catch to pass freely under the links of the chain without moving them. By this arrangement the catches engage the chain alternately and throw it forward the distance of one link at each movement. The throw of the chain, however, depends upon the stroke of the catches, which may be adjusted to one or more links, as circumstances require.

In Fig. 4 I have shown the reciprocating plate arranged to slide between guides I, and having its catches so constructed as to enter the open links for the forward movement of the chain, and to slide back past or under the closed links when the movement of the plate is reversed, as will be readily understood. A chain of any suitable construction and size may be employed, according to the character of the machinery to be operated; or, in place of a chain, a belt, band, or knotted cord or rope of any kind may be used, and the catches so constructed as to adapt them in a convenient manner to the form selected. In some cases a single catch may be used instead of two, as described.

Instead of applying the catches between the sides of the chain, belt, &c., they may be arranged upon the outside of each in any convenient manner, or they may be constructed in the form of spring-pawls and placed in any proper position, the essential requisite being that they shall reciprocate and engage alternately with the sides of the endless chain.

In case belting is used to connect the wheels or pulleys, it should be formed with openings or receptacles to engage the arms of such wheels, which openings may also serve to receive the catches. Projections or transverse strips may be employed for the latter purpose, if desired.

By arranging heavy fly-wheels upon the shafts of the chain wheels or pulleys the intermittent may be converted into continuous rotary motion; and, instead of using two armed wheels, one only may be employed, the other end of the chain passing over a pulley or drum.

Having thus described my invention, what I claim is—

1. The combination of one or more recipro-

cating catches with an endless chain, or its equivalent, passing over or around suitable wheels or pulleys, substantially as described, for the purpose specified.

2. Converting reciprocating into intermittent rotary motion by the combination of one or more reciprocating catches with the stops

of a chain, or its equivalent, and with suitable wheels or pulleys arranged to engage the chain, substantially as described.

LEVI SCOFIELD.

Witnesses:

WILLIAM A. PRATT,

H. V. D. WEYDEN.