P. A. HITCHCOCK & C. E. WAKEMAN.

Device for Converting Motion.

No. 225,376. Patented Mar. 9, 1880.

Fig. 1.

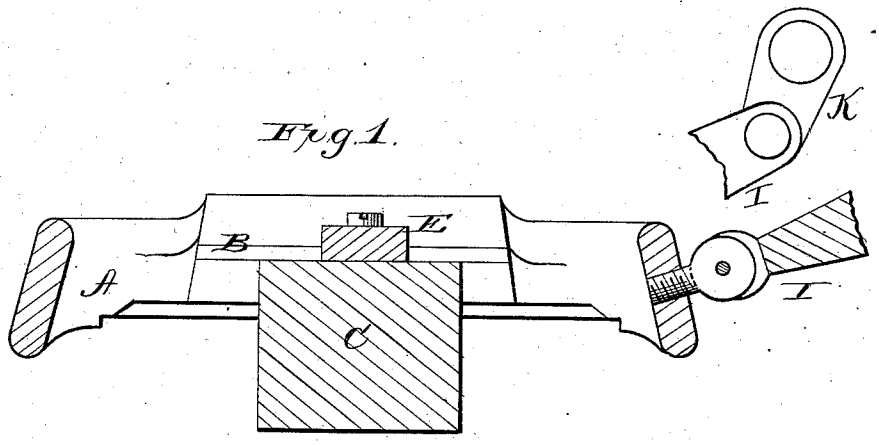
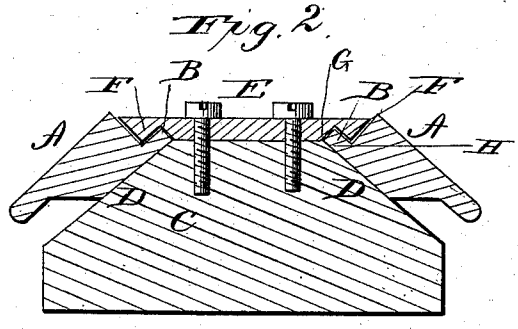


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

PORTER A. HITCHCOCK AND CHARLES E. WAKEMAN, OF PONTIAC, MICH.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 225,376, dated March 9, 1880.

Application filed February 4, 1880.

To all whom it may concern:

Be it known that we, PORTER A. HITCHCOCK and CHARLES E. WAKEMAN, of Pontiac city, in the county of Oakland and State of Michigan, have invented certain new and useful Improvements in Devices for Converting Motion; and we 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved device for converting motion; and it is principally designed to be employed, in connection with that class of knitting-machines known as "straight machines," to impart motion to the reciprocating frame thereof to operate the needles, although it may be employed advantageously in connection with other machines in which it is desired to convert a rotary into a reciprocating movement.

The invention consists in a frame constructed of suitable material and provided with longitudinal angular ways and beveled bearing-surfaces parallel with each other, and adapted to move between a stationary guide secured to the machine and a suitable bearing-surface on said machine, the guide being provided with angular grooves and beveled bearing ends corresponding to the ways and bearing-surfaces of the frame, and the frame being connected to a pitman at one end, on a line midway between its sides, the pitman being connected to a suitable crank, by means of which it is put in motion, as more fully hereinafter specified.

In the drawings, Figure 1 represents a longitudinal vertical section of our improved device, and Fig. 2 a transverse vertical section of the same.

The letter A indicates a reciprocating frame having the ways B B at opposite sides, the said ways being angular in cross-section, as shown in Fig. 2.

The letter C indicates a stationary block secured to or forming part of a knitting or other machine, and having a flat bearing-surface, D, upon which the reciprocating frame is adapted to move. The said frame is confined to the bearing-surface D by means of a guide, E, which consists of a metal plate secured to said block and provided with angular grooves F, adapted to fit over the angular ways of the reciprocating frame, and with beveled ends G, adapted to bear against the beveled surfaces H of the frame to assist in guiding the same in its movement.

The letter I indicates a pitman pivoted to one end of the reciprocating frame midway between the sides of the same, the said pitman being attached to a crank, K, secured to a rotating shaft, so that said shaft will impart a reciprocating motion to the frame.

As thus constructed, it will be perceived that as the pitman is connected to the reciprocating frame midway between its sides, the thrust of said pitman will move the frame in a direct line without any tendency to throw it to either side, as is the case when the pitman is connected at one side of the frame in the ordinary manner, which is apt to cause the frame to bind and break, bend, or otherwise injure the frame or the connecting parts.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a device for converting motion, the reciprocating frame provided with angular ways and beveled bearing-surfaces, in combination with a metallic plate provided with angular grooves and beveled bearing ends, by which said frame is secured to the machine, substantially as and for the purposes specified.

2. In combination with the frame provided with angular ways and beveled bearing-surfaces, and the metallic plate provided with angular grooves and beveled bearing ends, the pitman connected to said frame midway between its sides and to a crank mounted on a rotary shaft, the whole arranged to operate substantially as specified.

In testimony that we claim the foregoing we have hereunto set our hands this 26th day of January, 1880.

PORTER A. HITCHCOCK.
CHAS. E. WAKEMAN.

Witnesses:
JUNIUS TEN EYCK,
C. S. BARTLETT.