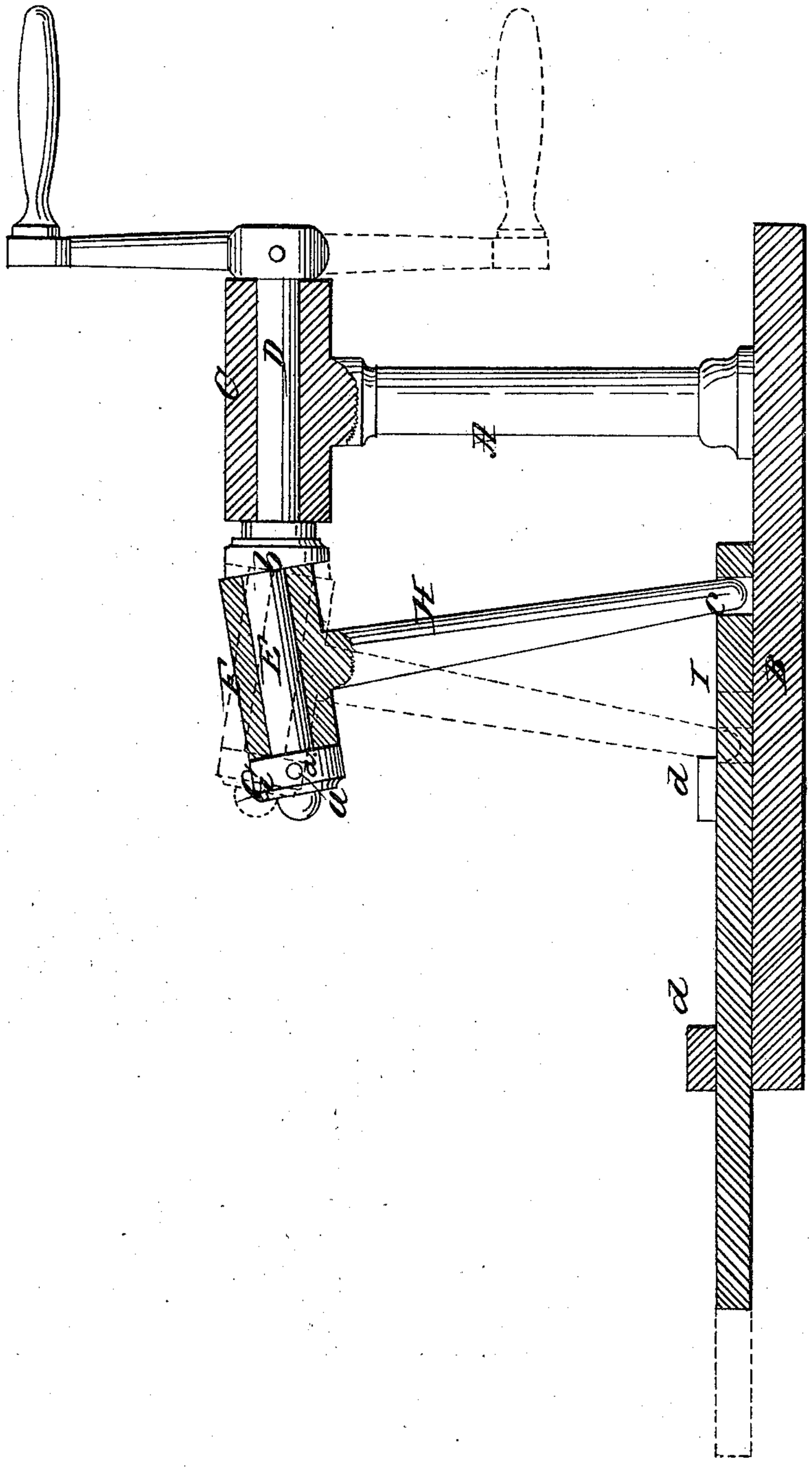
J. J. Weeks,

Converting Motion.

No. 20,980. Patented July 20, 1858.



UNITED STATES PATENT OFFICE.

J. J. WEEKS, OF LOCUST VALLEY, NEW YORK, ASSIGNOR TO SUSAN WEEKS, OF SAME PLACE.

IMPROVEMENT IN CONVERTING ROTARY INTO RECIPROCATING MOTION.

Specification forming part of Letters Patent No. **20,980**, dated July 20, 1858.

To all whom it may concern:

Be it known that I, J. J. WEEKS, of Locust Valley, in the county of Queens and State of New York, have invented a new and useful Mechanical Movement Designed for Converting a Rotary into a Reciprocating Motion; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, said drawing being a side sectional elevation of my invention.

This invention consists in forming an arm obliquely on a rotating shaft, and having a collar fitted loosely on said arm, the collar having a rod attached to it at right angles, and the lower end of the rod fitted loosely in an aperture in the slide or article to which a reciprocating movement is given from the shaft.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an upright, which is attached to a proper base, B, and C is a bearing on the upper end of said upright. D is a shaft, which is fitted in the bearing C, and E is an arm, which is formed on one end of shaft D, but obliquely with it, as shown clearly in the drawing. On the arm E a collar or hub, F, is placed loosely and secured thereon by a washer, G, and pin *a*. The inner end of the collar or hub F bears against a shoulder, *b*, the face of which is at right angles with the arm. To the collar or hub F a rod, H, is attached, and the lower end of this is fitted loosely in a circular aperture, *c*, made in a slide or bar, I, which is fitted between proper guides, *d*.

From the above description of parts it will be seen that by rotating the shaft D the oblique arm E will so actuate the collar or hub F that the rod H will give a reciprocating motion to the slide or bar I, the rod H having an oscillating and also semi-rotating or reciprocating rotating motion. The length of stroke of the slide or bar I is determined by the length of the rod H and the obliquity of the arm E.

By this invention an extremely simple and economical means is obtained for converting a rotary into a reciprocating motion, and there is another important advantage besides simplicity, to wit: The position of the slide or bar I relatively with the shaft D is not arbitrary—that is to say, the slide or bar may be shifted or moved obliquely with the shaft D without at all affecting the perfect operation of the device. The device will prove highly valuable in those cases where a requisite space is not afforded for other means now employed for effecting the same result. For instance, in driving the reciprocating sickles of harvesters several wheels and a crank, or a combination of levers and a cam, have heretofore been employed for the purpose, and necessarily crowded into a small space, and thereby generally working imperfectly, besides adding greatly to the weight of the machine. By my improvement this difficulty will be avoided.

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

Forming the oblique arm E on the rotating shaft D, and placing the collar or hub F, with rod H attached, on said arm, the lower end of the rod H being fitted in the slide I, substantially as and for the purpose set forth.

JOHN J. WEEKS.

Witnesses:

J. W. COOMBS,

MICH. HUGHS.