C. E. WHIPPLE.

Crank-Motion.

No. 166,047. Patented July 27, 1875.

Fig. 1

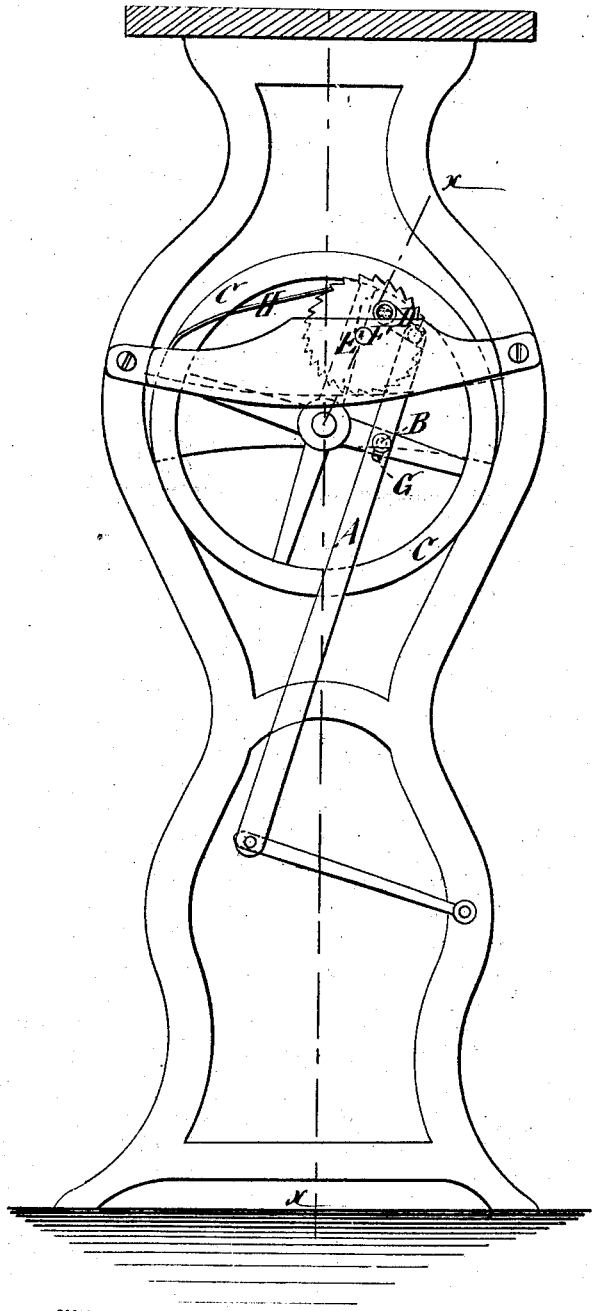
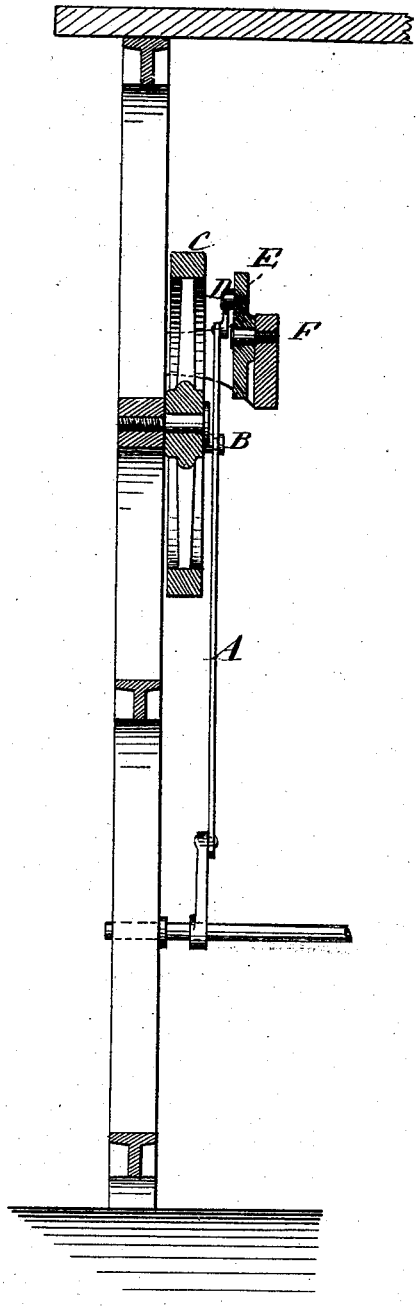


Fig. 2



WITNESSES:

C. Neveux

A. F. Terry

INVENTOR:

C. E. Whipple

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE

CHARLES E. WHIPPLE, OF NORTH CHARLESTOWN, NEW HAMPSHIRE.

IMPROVEMENT IN CRANK-MOTIONS.

Specification forming part of Letters Patent No. **166,047**, dated July 27, 1875; application filed May 1, 1875.

To all whom it may concern:

Be it known that I, CHARLES E. WHIPPLE, of North Charlestown, Sullivan county, New Hampshire, have invented a new and Improved Crank-Motion, of which the following is a specification:

My invention consists of the connecting-rod connected to the crank-pin by a slotted hole, and extended beyond it and connected to another crank, which is pivoted eccentrically to the axis of an idle-wheel, on which it is mounted, and is carried around with the connecting-rod, so that when the main crank-pin is on the centers the connecting-rod ceases to pull or push on it on account of the slot, but continues to pull or push on the auxiliary crank, which, not being on the center, carries the rod laterally against the main crank-pin, and thus carries it past the center.

Figure 1 is a side elevation of my improved crank-motion, and Fig. 2 is a transverse section on the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the connecting-rod; B, the crank-pin of the driving-wheel C. D is the secondary crank, to which the end of the extension of the connecting-rod beyond crank-pin B is connected; and E is the idle-wheel, on which the secondary crank is mounted. The secondary crank is pivoted to the wheel E eccentrically to its axis F, so that, although the sweep of its pin coincides with the sweep of the pin B, yet it will not be on the dead-centers at the same time that pin B is; consequently it will carry the rod sidewise or laterally against pin B, and thus carry it past its centers.

To give a little play of the connecting-rod on pin B, so that the rod will be altogether subject to the influence of the secondary crank when the principal crank is passing the centers, the rod is slotted at G for the crank-pin B.

Another crank would answer the purpose of the idle-wheel; but, as it is desirable to employ some contrivance to prevent the machine from running backward, I prefer to employ a wheel with a serrated or notched face, and provide a spring-stop, H, in connection with it to hold it against going backward.

It is not necessary that the secondary crank and idle-wheel be placed beyond the principal crank and the rod extended to them, for the same effect may be obtained with these parts arranged between the ordinary connections of the rod.

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

The combination, with the crank-pin B, connecting-rod A, and the secondary crank D, pivoted eccentrically to the axis, of an idle-wheel, E, or another crank, substantially as specified.

CHARLES E. WHIPPLE.

Witnesses:
G. E. WHIPPLE,
M. J. WHIPPLE.