

R. P. DAKE.
Hand Power.

Patented Sept. 14, 1880.

Fig. 1

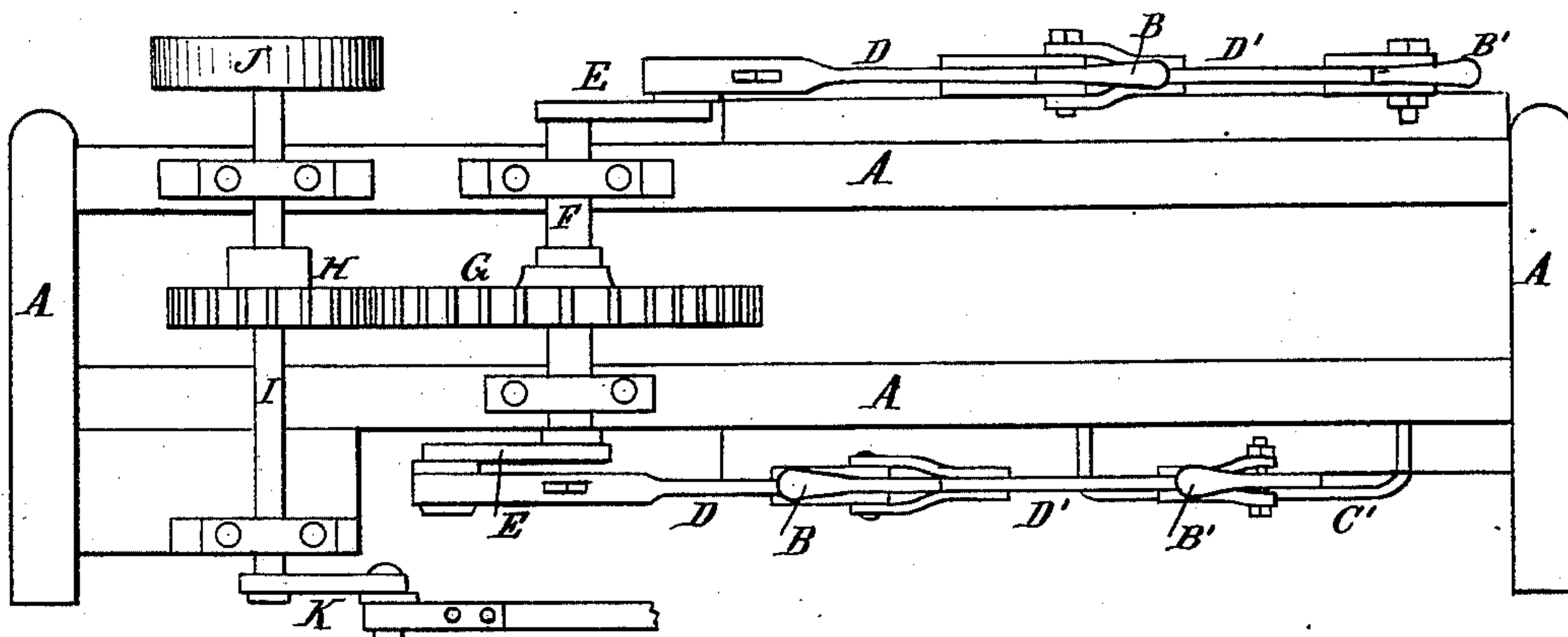
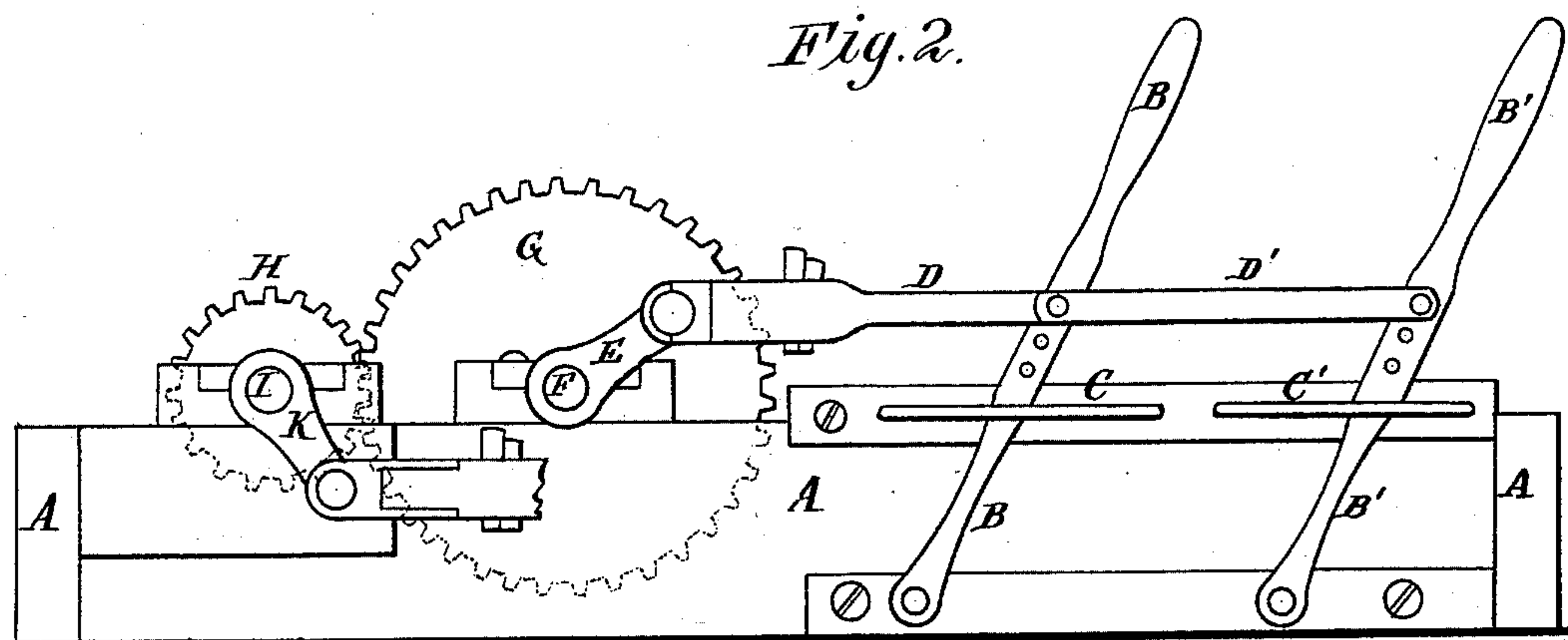


Fig. 2.



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ROBERT P. DAKE, OF COLBY, WISCONSIN.

HAND-POWER.

SPECIFICATION forming part of Letters Patent No. 232,244, dated September 14, 1880.

Application filed May 17, 1880. (Model.)

To all whom it may concern:

Be it known that I, ROBERT P. DAKE, of Colby, in the county of Marathon and State of Wisconsin, have invented a new and useful Improvement in Hand-Powers, of which the following is a specification.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish hand-powers for driving light machinery, such as straw-cutters, pumps, churns, grindstones, sawing-machines, lathes, boats, and other light machines where other power is not attainable, and which shall be simple in construction and convenient in use.

The invention consists in constructing a hand-power of one or more pairs of levers and their connecting-rods, the shaft having a crank at each end, the gear-wheels, and the shaft having a pulley and crank, both or either, whereby motion can be given to machinery by hand-power, as will be hereinafter fully described.

A represents the frame of the hand-power, which consists of two longitudinal bars connected at their ends by cross-bars.

B are two levers, the lower ends of which are pivoted to supports attached to the lower parts of the outer sides of the side bars of the frame A. The levers B pass through keepers C, attached to the upper parts of the outer sides of the side bars of the frame A.

To the levers B, a little above the frame A, are pivoted the ends of connecting-rods D, the forward ends of which are pivoted to the cranks E, attached to the ends of the shaft F. The cranks E project in opposite directions, or at an angle with each other, so that they will not both be upon the dead-point at the same time.

The shaft F revolves in bearings attached to the frame A, and to its middle part is attached a gear-wheel, G, the teeth of which mesh into a smaller gear-wheel, H, attached to the middle part of the shaft I. The shaft I is

placed parallel with the shaft F and revolves in bearings attached to the frame A.

To one end of the shaft I is attached a pulley, J, to receive a belt for driving any desired machinery constructed to be driven by a belt. To the other end of the shaft I is attached a crank, K, to be connected with any desired machinery constructed to be driven by a crank motion.

To the levers B are pivoted the forward ends of the connecting-rods D', the other ends of which are pivoted to a second pair of levers, B'. The levers B' pass through keepers C', attached to the frame A.

The lower ends of the levers B' are pivoted to supports attached to the outer sides of the side bars of the frame A in such positions that the levers B' will be parallel with the levers B.

The frame A is designed to be covered with a floor or platform for the man or men operating the levers to stand upon, or to support a seat when the operator wishes to sit at his work.

The second pair of levers is designed for use when the machinery to be driven is too heavy to be driven by the strength of a single man.

When the hand-power is to be used for propelling a boat the paddle-wheel may be attached to the shaft F, or may be connected with the shaft I, as may be desired or convenient.

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

1. A hand-power constructed substantially as herein shown and described, consisting of one or more pairs of levers, B, and connecting-rods D, the cranks E, the shafts F I, the gear-wheels G H, and the pulley and crank J K, both or either, as set forth.

2. In a hand-power, the combination, with the driving-shaft I, having pulley J and crank K, both or either, of the gear-wheels H G, the shaft F, having cranks E, the connecting-rods D, and the levers B, substantially as herein

shown and described, whereby motion can be given to the driving-shaft by hand-power, as set forth.

5 3. In a hand-power, the combination, with the shaft I, having pulley J and crank K, both or either, the gear-wheels H G, the shaft F, having cranks E, the connecting-rods D, and the levers B, of a second pair of connecting-

rods, D', and levers B', substantially as herein shown and described, whereby additional power can be given to the machine, as set forth.

ROBERT P. DAKE.

Witnesses:

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J. B. CARPENTER.