(No Model.)

# J. OUELLET.

## HAND POWER.

No. 244,926. Patented July 26, 1881.

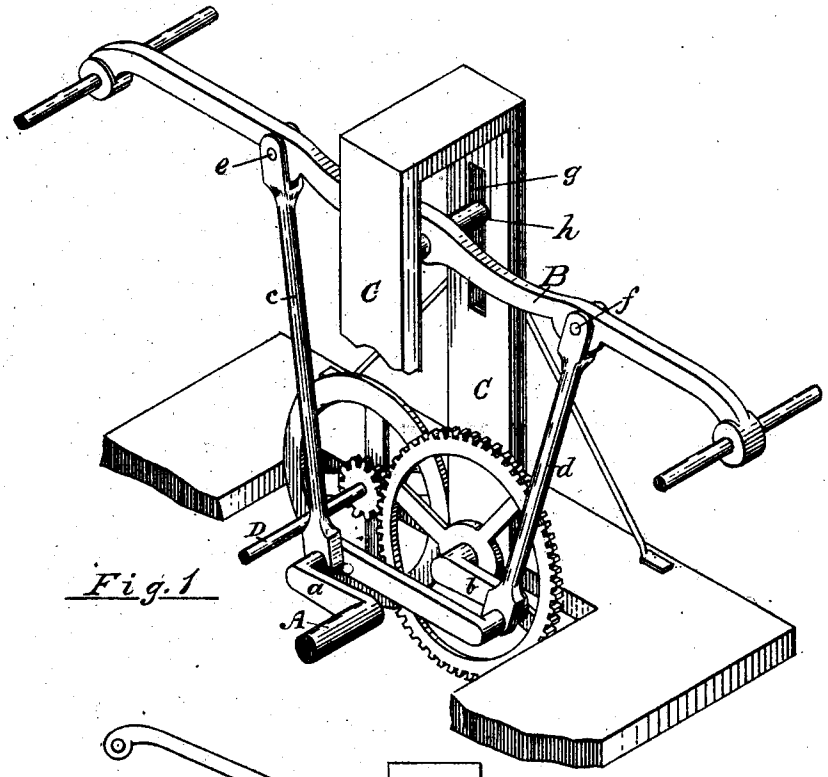


Fig. 1

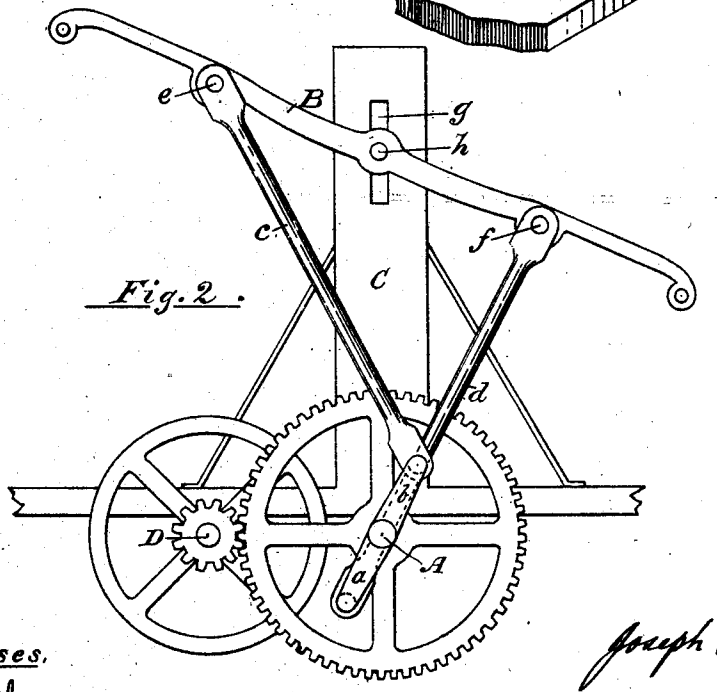


Fig. 2.

Witnesses.
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# UNITED STATES PATENT OFFICE.

JOSEPH OUELLET, OF CHAUDIÈRE JUNCTION, ASSIGNOR OF ONE-HALF TO PAUL ETIENNE GRANDBOIS, OF FRASERVILLE, QUEBEC, CANADA.

## HAND-POWER.

SPECIFICATION forming part of Letters Patent No. 244,926, dated July 26, 1881.
Application filed March 2, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH OUELLET, of Chaudière Junction, in the county of Levis, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Hand-Powers; and I do hereby declare that the following is a full, clear, and exact description of the same.

The nature of my invention relates to appliances for the application of power to effect certain results; and it consists, mainly, in the construction and use of the peculiar devices, hereinafter shown and described, for the conversion of reciprocating motion into rotative motion.

My invention overcomes the only objectionable feature of the crank when it is turned by a pitman or connecting-rod—namely, the dead-points—by providing that at all points in the circuit of the crank-wrist there is a pushing force out of the line of the dead-points. The means whereby this end is accomplished is fully illustrated in the annexed drawings, in which—

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a side elevation of the same.

A represents the main or driving shaft of the machine. In this shaft are formed two equal and adjacent, but opposite, cranks, *a* and *b*. To the wrist of these cranks are attached the ends of the two pitmen or connecting-rods *c* and *d*. The other end of these connecting-rods are pivoted to a double-handled lever, B. The points *e* and *f*, at which they are so pivoted to the lever, are at an approved distance apart, and are equidistant from the center of oscillation of the lever B.

C is a standard forming part of the framework by which the working parts are supported. In the opposite sides of this standard are formed the vertical slots *g*. In these slots the trunnions *h* of the lever are held so as to be free from any sidewise motion, but allowed to rise and fall vertically, as the working of the machine may require.

A peculiar feature of my invention consists in the fact that the trunnions *h* do not, as might at first sight be supposed, form the fulcrum upon which the lever B turns, but that the crank-wrists in reality form the fulcra upon which the leverage is applied to the working of the machine, each crank-wrist, in turn, serving as a fulcrum to the opposite crank. From the distance apart at which the connecting-rods *c* and *d* are pivoted to the lever B, it is obvious that the two cranks *a* and *b*, to which they are connected, being opposite to each other, can never both be at the dead-points at the same time. The connecting-rods *c* and *d* working from different directions, it follows that when one of them is at the dead-point of the crank the other must be at some part of the working-stroke.

Another important part of my invention is the provision made for the vertical motion of the trunnions *h* in the slots *g*, and I will now proceed to describe the object of this arrangement. When one of the cranks is at the dead-point it is evident that there must be considerably more rising or falling motion to the opposite crank with its connecting-rod, and also to that point of the lever B to which such connecting-rod is attached; and from this it is also clear that there must be a proportionate ascent or descent of the trunnions *h* or central portion of the lever B and that, were it not for this provision there must be a dead-lock in the movement of the machine when one of the cranks comes to the dead-point. That part of the trunnion which is between the two opposite sides of the standard C is somewhat larger than the journal parts which play within the slots. Shoulders are thereby formed which, coming against the inner faces of the opposite sides of the standard, prevent any undue endwise play of the trunnion.

My invention is applicable to the driving of railway hand-cars, household and farming implements—such as pumps, churns, &c.—and might also be advantageously introduced into much of the mill and factory machinery at present in use.

Trains of gearing may be used in connection with my invention to increase or diminish the speed from that of the main shaft A to what may be required for the purpose for which the machine is to be used. If used for propelling hand-cars, for instance, a gearing such as shown in the drawings would answer, and in

that case the second shaft D would be one of the axles of the car, the car-wheels being secured to its outer ends in the usual manner.

I am aware that it is common in mechanics to connect a double crank-shaft by pitmen with reciprocating slides; but such arrangement has no bearing whatever upon my invention.

Having thus described my invention, what I claim is—

1. The combination of a shaft provided with two oppositely-projecting cranks, an operating-lever, and two pitmen extended from opposite ends of said lever to the respective cranks, substantially as shown.

2. In combination with the lever and its movable guide, the shaft provided with two cranks, and the pitmen connecting the respective cranks with the opposite ends of the lever.

3. In a hand-power, the combination of a lever, a movable or yielding guide to prevent end motion of the lever, a shaft provided with two oppositely-projected cranks, and two pitmen extended from the cranks to opposite ends of the lever.

4. The combination of the base-frame, the vertically-slotted standards C, lever B, trunnions *h*, shaft A, having cranks *a b*, and the pitmen *c d*.

JOSEPH OUELLET.

Witnesses:
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