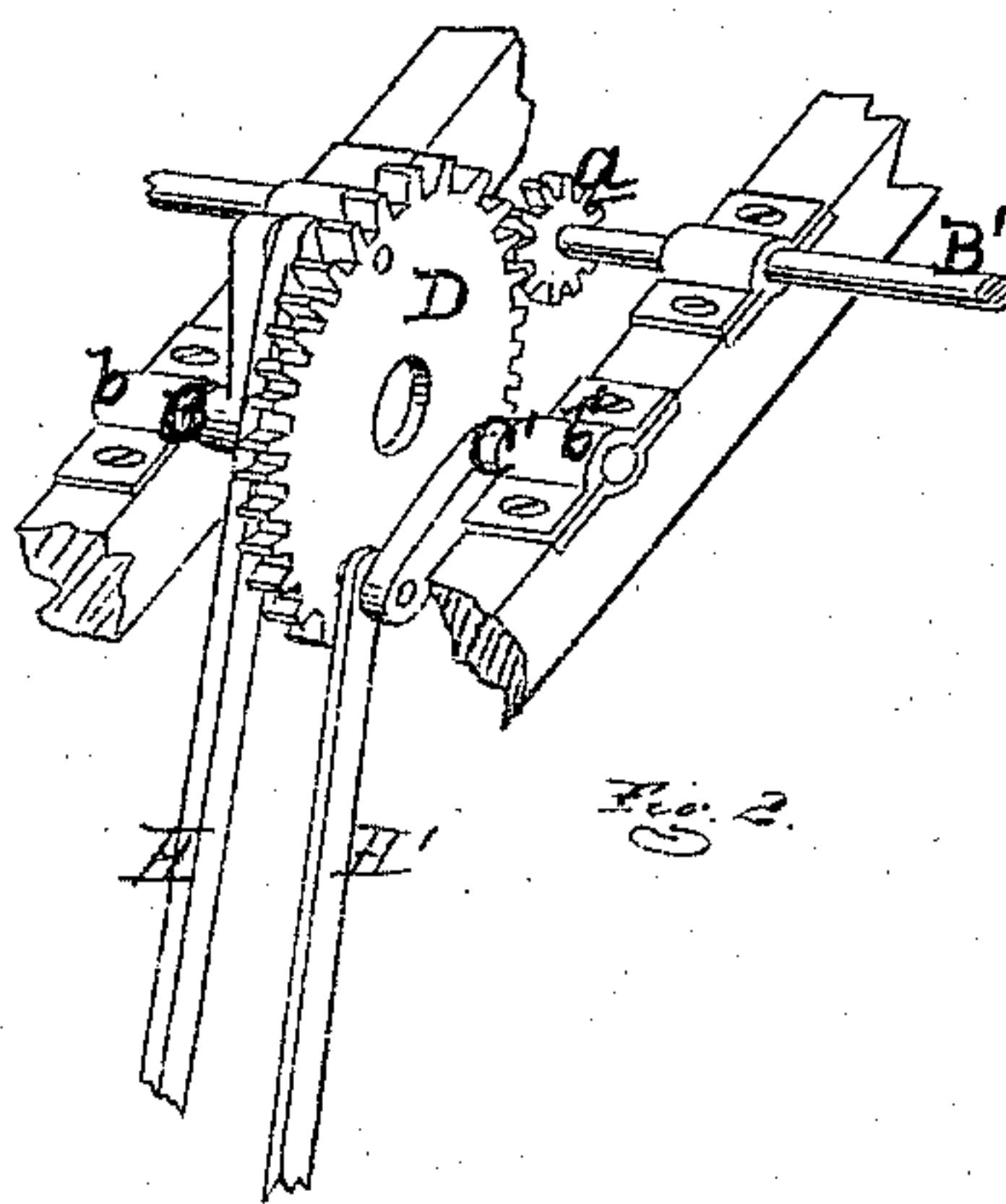
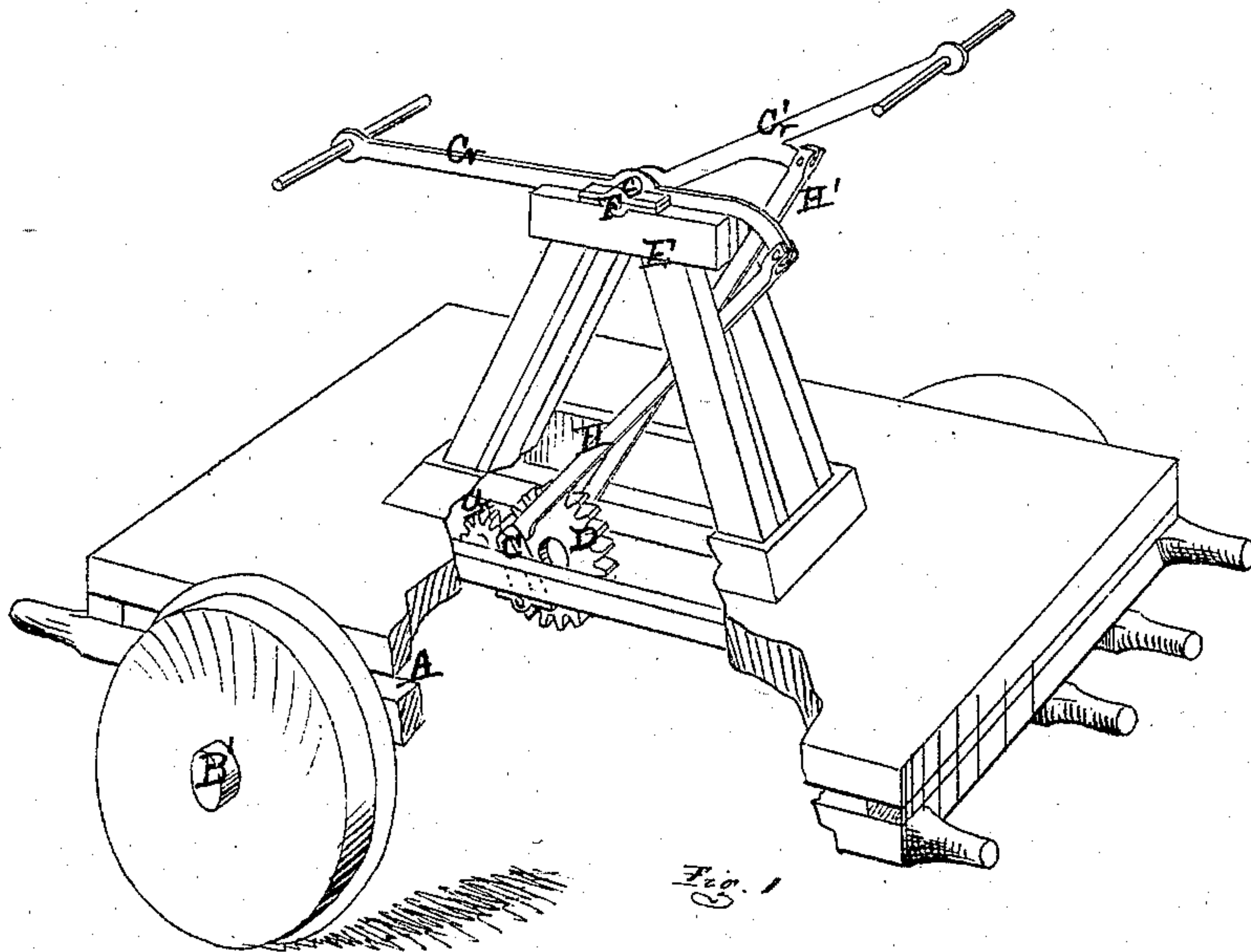


J. D. HINCKLEY.
Driving Gear for Hand-Cars.

No. 137,922.

Patented April 15, 1873.



ATTEST:
 Geo. S. Wood
 H. S. Sprague

INVENTOR:
 J. D. Hinckley
 per Atty
 Thos. S. Sprague

UNITED STATES PATENT OFFICE.

JAMES D. HINCKLEY, OF ADRIAN, MICHIGAN.

IMPROVEMENT IN DRIVING-GEARS FOR HAND-CARS.

Specification forming part of Letters Patent No. **137,922**, dated April 15, 1873; application filed November 13, 1872.

To all whom it may concern:

Be it known that I, JAMES D. HINCKLEY, of Adrian, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Driving-Gear for Hand-Cars, &c.; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of a hand-car fitted with my improved driving-gear, with parts broken away to show its arrangement; and Fig. 2 is an inverted perspective view of part of the bottom of the car, showing the application of my double-cranked gear.

Like letters refer to like parts in each figure.

The nature of this invention relates to the application of two reverted cranks to a single spur gear or pulley in such a manner as to have the same effect as if the said gear were mounted on the shaft of a two-throw crank between the cranks, thereby enabling me to couple the pitmen-rods to the crank-wrists close to the gear, and to render the device much less expensive to construct than a two-throw crank. The invention consists in the peculiar construction and application of two reverted cranks to a spur gear or pulley for operating hand-cars, foot-lathes, or other machines in the manner more fully hereinafter set forth.

In the drawing, A represents the deck-frame of a hand-car, under which the axles B are journaled, the former being the driving-axle, carrying at its middle a pinion, *a*. C C' are two reverted single cranks, whose wrist-pins are secured to opposite faces of a spur-gear, D, ninety degrees apart, while the axis of their journals is in line with the axis of the gear. The journals of the cranks rotate in bearings *b b'* bolted to the center-sills of the deck-frame, and the spur-gear meshes with the pinion *a* of the driving-shaft. E is an ordi-

nary galleys-frame erected on the deck-frame of the car, on top of which a rock-shaft, F, is journaled in bearings *c*, and to it is keyed a brake-lever, G. A shorter lever, G', has an eye in its inner end which is sleeved on the rock-shaft. To the short arm of the lever G is pivoted a pitman, H, whose lower end is strapped to the wrist of the crank C. To the lever G' is pivoted a pitman, H', at the same distance from the fulcrum (the rock-shaft) as the other pitman. The lower end of this pitman is strapped to the wrist of the crank C'. The levers are provided with the usual brakes, by which the car may be driven.

The reciprocation, or, rather, the oscillation, of the levers rotates the driving-gear precisely in the same manner as if the pitmen-rods were connected to quarter-crank in a two-throw crank-shaft, with greater steadiness, however, and less lateral strain, as the power may be said to be applied directly to the gear instead of at a distance from it. Besides this, a gear or pulley cannot be mounted on a shaft having two-throw cranks formed in it between the cranks without making the gear or pulley in halves and bolting them together on the shaft.

The same gearing may be employed advantageously to drive foot-lathes or other machines requiring a shaft to be continuously rotated with uniform speed.

I do not broadly claim the separate elements herein shown and described; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the brakes G G' and levers H H' with the reverted cranks C C' and gear-wheel D, the wrist-pins of the cranks being secured to opposite faces of the gear-wheel, as described, for the purpose set forth.

JAMES D. HINCKLEY.

Witnesses:

C. B. JOHNSON,
S. M. BABCOCK.