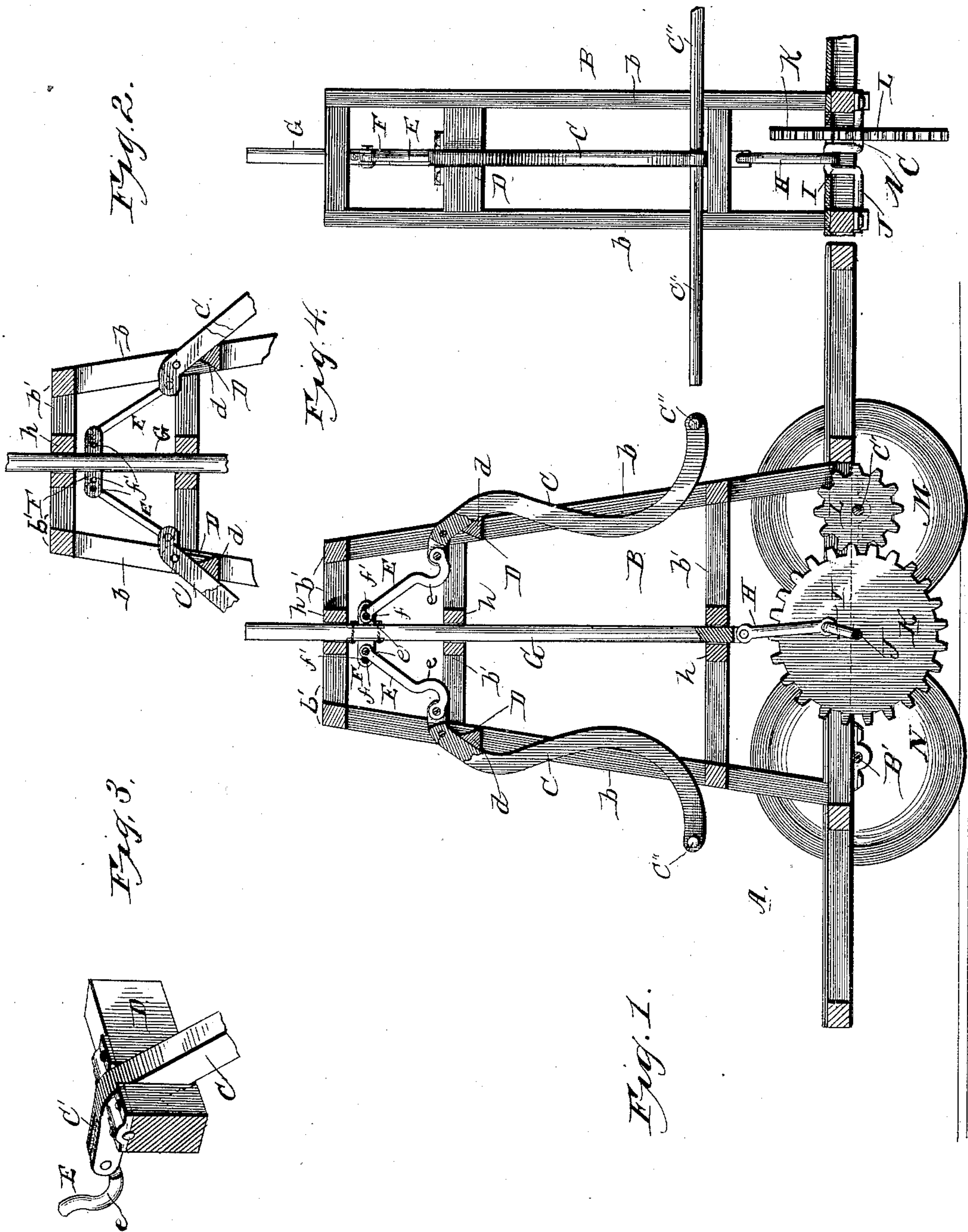


(No Model.)

N. T. TARBOX.
HAND MOTOR.

No. 435,001.

Patented Aug. 26, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

NELSON T. TARBOX, OF KANSAS CITY, MISSOURI.

HAND MOTOR.

SPECIFICATION forming part of Letters Patent No. 435,001, dated August 26, 1890.

Application filed May 24, 1890. Serial No. 353,034. (No model.)

To all whom it may concern:

Be it known that I, NELSON T. TARBOX, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Hand Motive Power, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improvement in hand motive power; and it consists in the novel combination and arrangement of devices, as will be explained hereinafter and claimed.

My object is to provide a power operated by hand and arranged to obtain the greatest speed and power with the least exertion on the part of the operator, and may be applied to hand-cars, pumps, or machinery, &c. I have illustrated the invention in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the hand-car with my motive power attached. Fig. 2 is an end elevation of the operating mechanism. Fig. 3 is a perspective view showing the pivotal connection of the lever and the connection of the pitman to the same. Fig. 4 is a detail view showing a modified form of pitman.

Referring to the drawings by letter, A represents the platform of the car, on which is supported the frame-work B, consisting of upright posts or standards *b* and the connecting-beams *b'* and *h*.

The axles *B'* and *C'* of the hand-car are journaled to the under side of the same in suitable bearings. The levers *C* are pivoted over the notch cut in the upper surface of the cross-bar *D* and have a triangular portion *d* on their under side to limit the stroke of the levers *C*. The levers *C* have secured to their lower ends the transverse handles *C''*, by which means the levers are operated. The upper or inner ends of said levers *C* are bifurcated and have secured thereto the pitmen-rods *E*, the upper ends of which are pivoted between the ears *f* of the bracket *F*, which bracket is secured by bolts to the reciprocating rod *G*. These ears *f* are provided with one or more openings *f'* to allow more or less leverage, as

will be readily understood. The vertical rod *G* operates through guideways or openings made in the transverse beams *h* and has pivoted to its lower end the short pitman *H*, the lower end of which is journaled loosely on the crank of the shaft *J*.

Secured rigidly on the shaft *J* is the cog-wheel *K*, meshing with the pinion *L*, secured rigidly on the axle *C'*. On the outer ends of the axle *C'* are keyed the drive-wheels *M*. On the ends of the axle *B'* are journaled the wheels *N*. The operation of the levers *C* causes the reciprocating motion of the rod *G*, and thereby the revolution of the drive-wheels *M*, as will be readily understood.

In the drawings I show the levers *C* constructed with the curved inner ends, to which are attached the semicircular ends *e* of the pitman *E*, and also show the straight form of pitman in Fig. 4. The first form is conducive to speed and the second to power. The power may be increased or diminished by means of pivoting the upper ends of the pitmen *E* between the different openings *f'* in the ears of the brackets *F*.

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

1. In a device for propelling hand-cars and the like, a suitable frame-work, levers *C*, mounted therein, a reciprocating rod *G*, and pitmen having the curved portions *e*, connecting said levers and rod, substantially as described.

2. In a device for propelling hand-cars and the like, a suitable frame-work, levers mounted therein, a reciprocating rod *G*, pitmen connecting said levers with a bracket secured to said rod, a wheel *K*, journaled to the car-platform and meshing with a pinion on one of the main axles, and a pitman *H*, connecting said wheels *K* with the rod *G*, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

NELSON T. TARBOX.

Witnesses:

J. E. HIGDON,
H. E. PRICE.