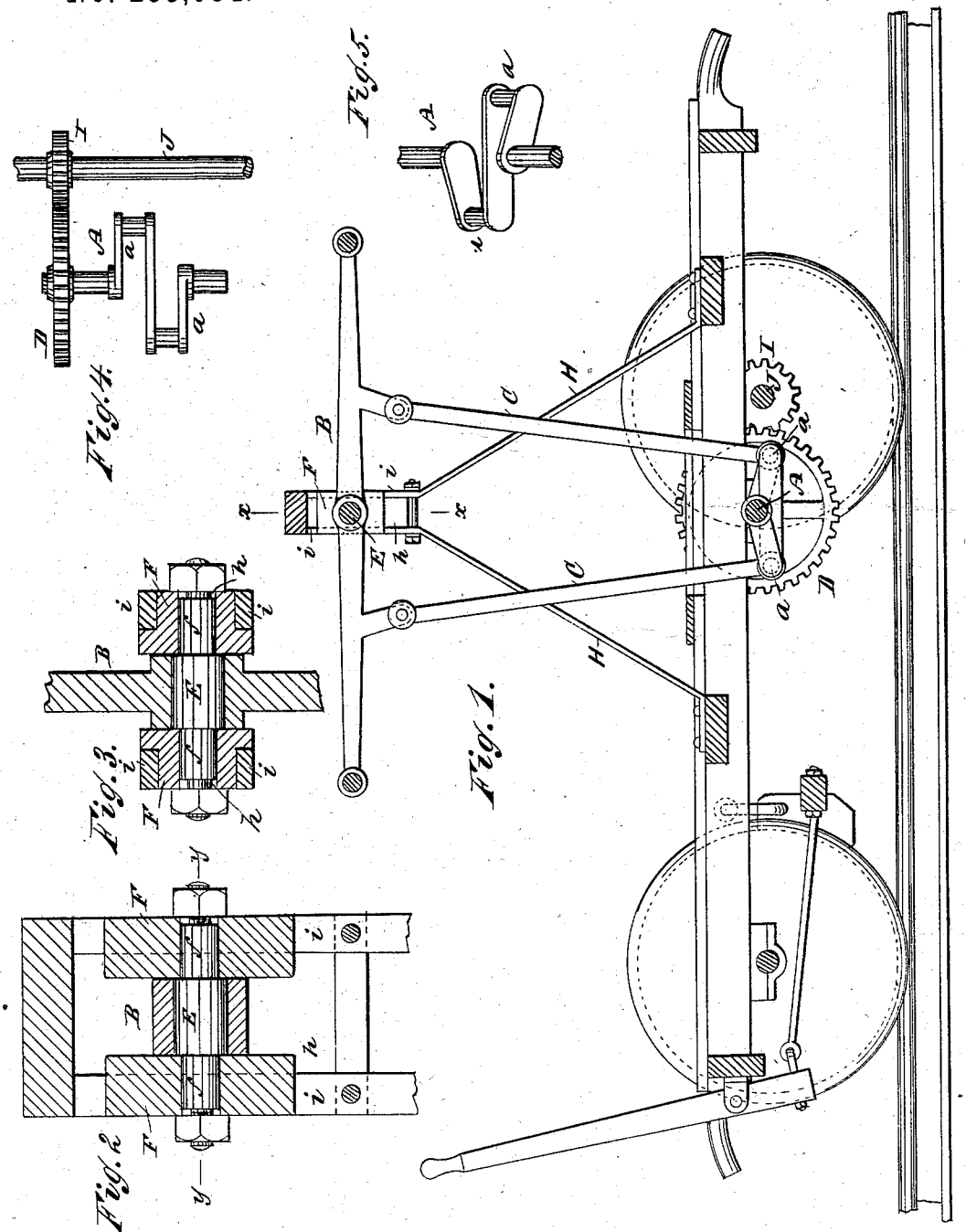
(No Model.)

H. H. SESSIONS.

HAND CAR.

No. 255,684. Patented Mar. 28, 1882.



WITNESSES:

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HENRY H. SESSIONS, OF PALESTINE, TEXAS.

HAND-CAR.

SPECIFICATION forming part of Letters Patent No. 255,684, dated March 28, 1882.

Application filed January 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. SESSIONS, of Palestine, in the county of Anderson and State of Texas, have invented a new and useful Improvement in Hand-Cars, of which the following is a full, clear, and exact description.

The object of my invention is such construction and arrangement of the cranks and levers of hand-cars that the maximum amount of the power exerted upon the levers by the operators will be applied to the propulsion of the car. In other words, the object is to overcome largely the loss of power incident, through indirect action of the levers and unnecessary friction to the common construction of car.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of my improved hand-car. Fig. 2 is a sectional elevation taken on the line *x x* of Fig. 1. Fig. 3 is a sectional plan view taken on the line *y y* of Fig. 2. Fig. 4 is a detailed plan view of the cranks and gearing, and Fig. 5 is a detailed perspective view of the shaft and cranks.

A represents the crank-shaft on which the cranks *a a* are placed. The cranks are not parallel edgewise with each other in the line of their length, but are so arranged as to form acute angles upon the same side of the shaft with a medial plane through the axis of the shaft, as shown in Fig. 5.

B represents the lever, which is connected to the wrists of the cranks by the connecting-rods C C. The fulcrum of the lever is not fixed, but is vertically movable, which movement of the fulcrum is accommodated by the ways *h h*, formed by the parallel portions *i i* of the bent bars H H, which bars rest upon the frame or floor of the car and form the standards for supporting the lever. The lever oscillates upon the spindle E, the gudgeons *f f* of which are journaled in the blocks F F, which fit and slide in the ways *h h*.

Upon the crank-shaft A is fixed the cog-wheel D, which meshes with the pinion I, fixed upon the axle J of the car in the ordinary way for transmitting the power applied to the lever and the crank-shaft to the axle for propelling the car.

The frame, running-gear, and the brake mechanism may be of any approved form and construction.

By this construction and arrangement of the lever and crank-shaft it will be seen that the force exerted upon the lever will be applied directly to the crank-shaft in such a manner that there will be no loss of power, thus increasing the ease of propulsion of the car.

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

1. In a hand-car, the combination, with the crank-shaft A and the connecting-rods C, of the lever B, having a vertically-sliding fulcrum, substantially as and for the purpose set forth.

2. In a hand-car, the combination, with the bars H, having parallel portions *i*, forming ways *h*, of the lever B, the spindle E, and the sliding blocks F, substantially as and for the purpose set forth.

3. In combination with the crank-shaft having the diagonal cranks *a a*, the lever B, having a movable fulcrum, as and for the purposes set forth.

4. The crank-shaft A, having the diagonal cranks *a a* and carrying the cog-wheel D, the lever B, and the blocks F F, adapted to move in the ways *h h*, substantially as and for the purposes set forth.

HENRY H. SESSIONS.

Witnesses:

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