(No Model.)

W. H. ENGELS.

HAND CAR.

No. 408,225. Patented Aug. 6, 1889.

Fig. 1.

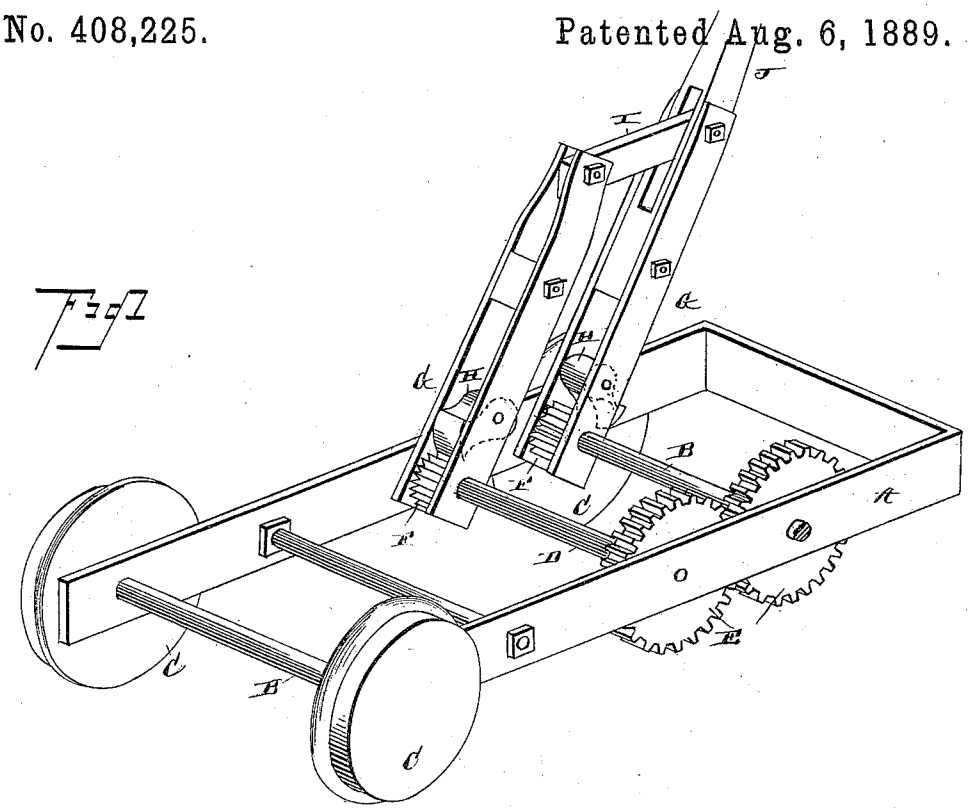
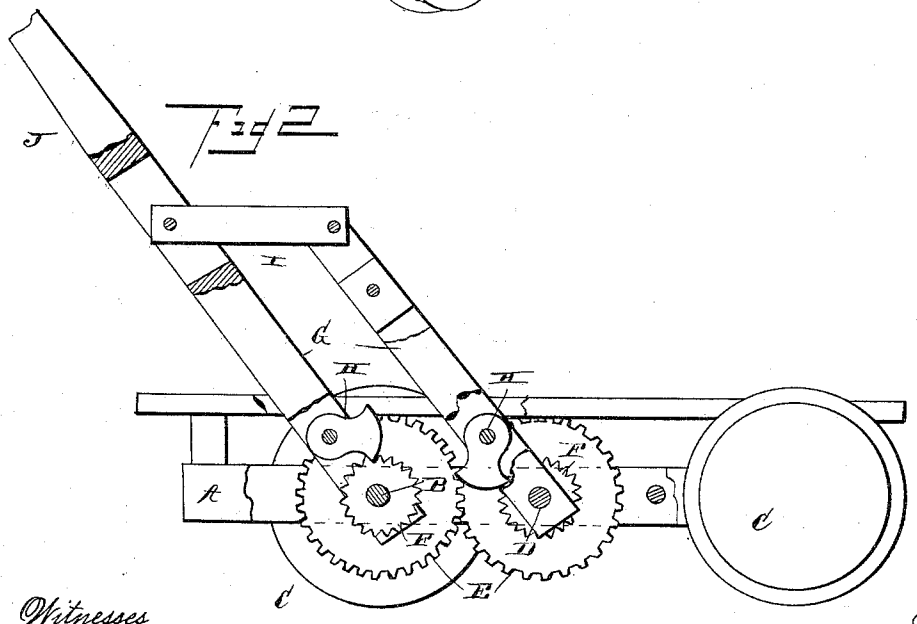


Fig. 2.



Witnesses
John Smirie
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UNITED STATES PATENT OFFICE.

WILLIAM H. ENGELS, OF FARMINGTON, ARKANSAS.

HAND-CAR.

SPECIFICATION forming part of Letters Patent No. 408,225, dated August 6, 1889.

Application filed May 11, 1889. Serial No. 310,416. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ENGELS, a citizen of the United States, residing at Farmington, in the county of Washington and State of Arkansas, have invented a new and useful Hand-Car, of which the following is a specification.

My invention relates to improvements in hand-cars; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved device. Fig. 2 is a side elevation of the same with a part broken away.

The frame A of my improved hand-car may be of any desired construction, and the axles B, on which the carrying-wheels C are mounted, are journaled in the said frame. Adjacent to one of the axles I arrange in the frame a transverse shaft D, and on the said shaft and the axle I secure the intermeshing gear-wheels E E, as clearly shown. At the opposite ends of the shaft and axle I secure the spur-pinions F F, and the levers G G are loosely mounted on the said shaft and axle adjacent to said spur-pinions and project upward therefrom. The lower ends of the levers are bifurcated, so that they will fit over the spur-pinions, and within these bifurcations I pivotally mount the reversible pawls H, which engage the said spur-pinions in the operation of the device. The upper ends of the levers are connected by a connecting-bar I, so as to secure a simultaneous movement of the levers, and one of the levers is provided with a handle J, as clearly shown.

In practice the pawls are arranged so as to hang in opposite directions, whereby one of said pawls will be caused to engage a spur-pinion when the levers are moved in one direction, and when the levers are moved in the opposite direction the said pawl will slip over the pinion and the other pawl will engage its pinion. A continuous rotary motion is imparted to the axle through the gear-wheels secured thereto and the transverse shaft, and the car thus moved forward. When it is desired to move the car in the opposite direction, the pawls are reversed and the levers reciprocated, as before. The pawls being reversed, they will engage the pinions when moving in the same direction as that in which formerly they slipped over the pinions, and consequently the car will be driven in the reverse direction.

From the foregoing description it will be seen that I have provided a very simple arrangement of devices by which a hand-car can be easily driven at a high speed and with a slight force.

The device is also applicable to velocipedes and similar machines.

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

The combination, with the axle and the transverse shaft, of the intermeshing gear-wheels secured thereon, the spur-pinions at the ends of the axle and the shaft, the levers loosely mounted on the axle and the shaft and having their lower ends bifurcated, the connecting-rod between the upper ends of the levers, and the reversible pawls pivoted within the bifurcations at the lower ends of said levers and engaging the spur-pinions, as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM H. ENGELS.

Witnesses:
H. L. CROUCH,
H. P. GREUSE.