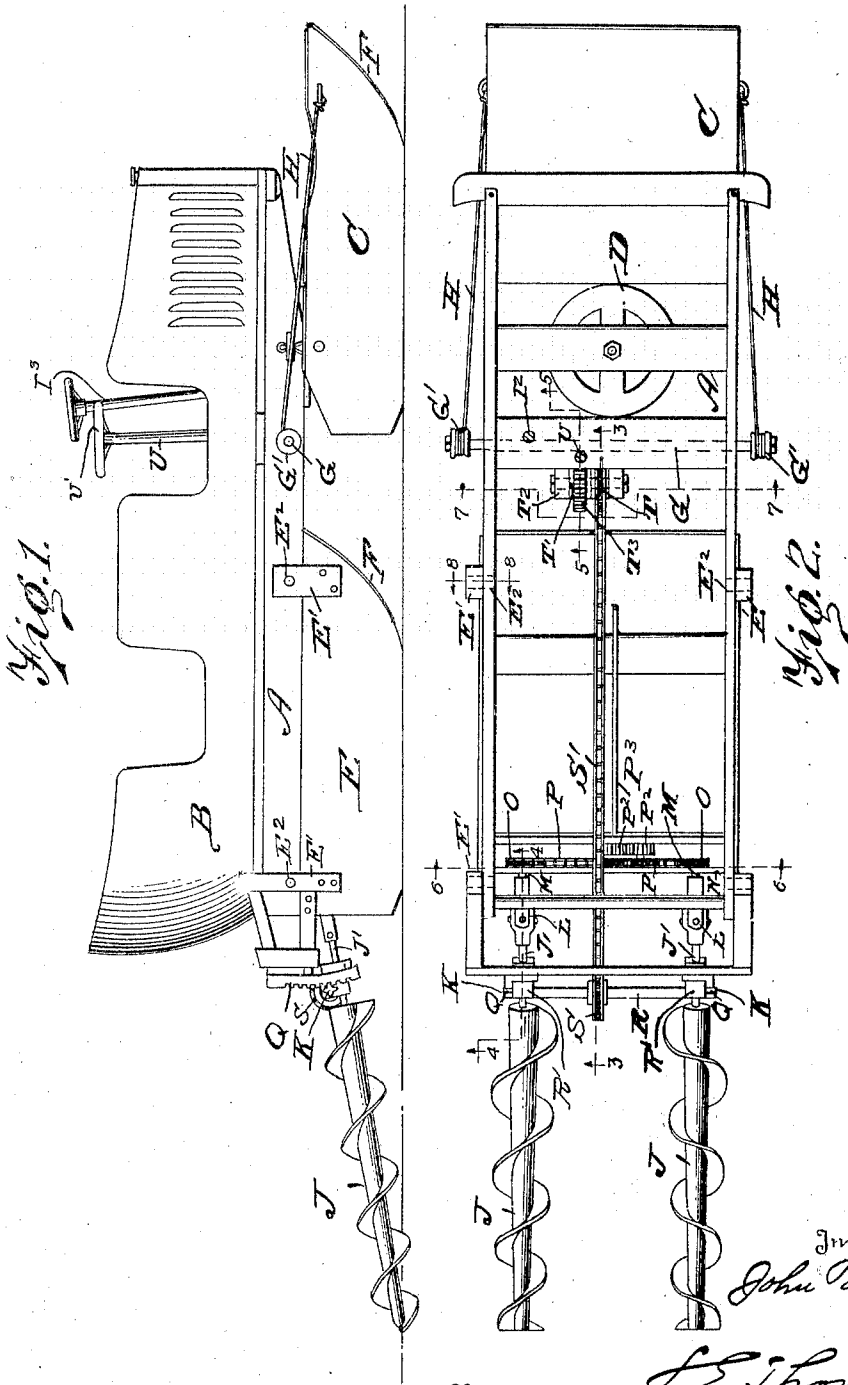


J. PASKO.  
MOTOR SLEIGH,  
APPLICATION FILED AUG. 12, 1919.

1,334,788.

Patented Mar. 23, 1920.  
3 SHEETS—SHEET 1.



Inventor  
John Pasko

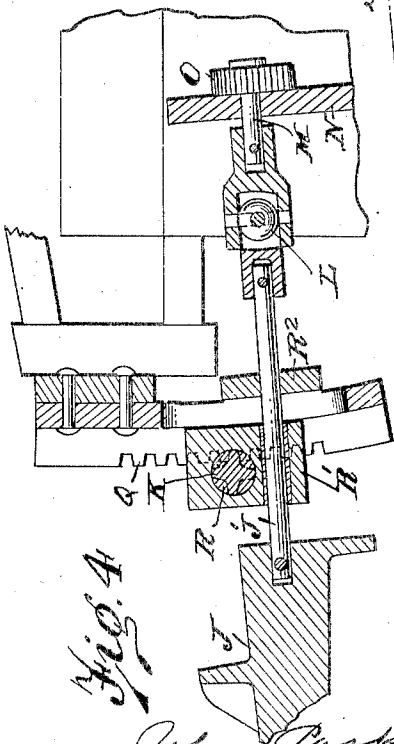
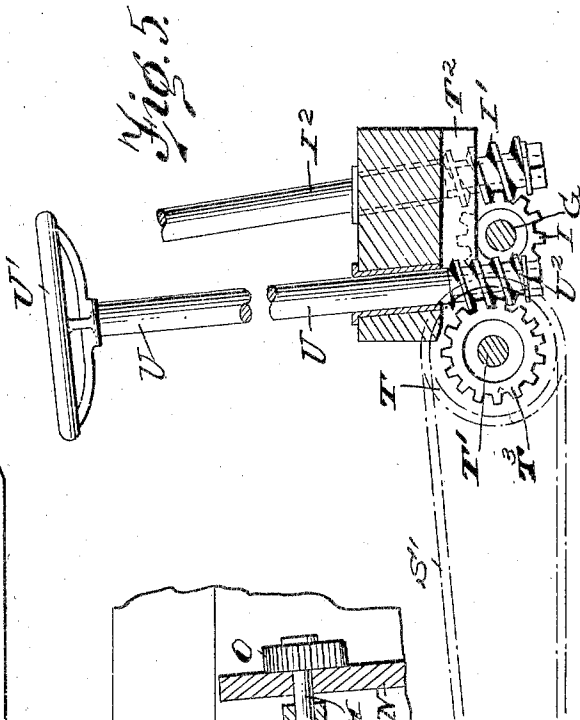
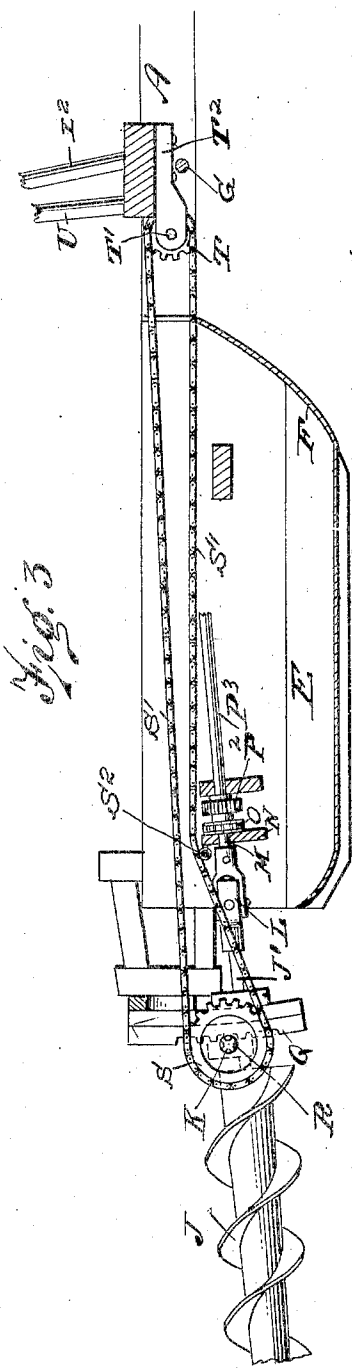
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 3 SHEETS—SHEET 2.



Inventor

*John Pasko*

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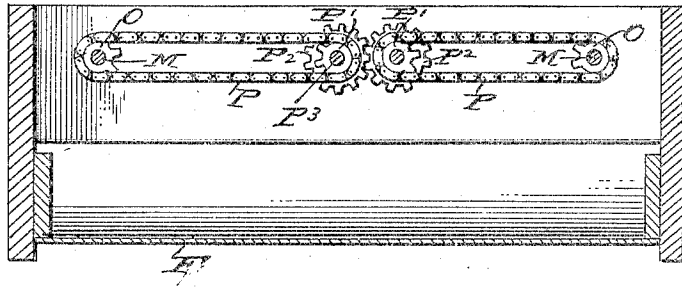
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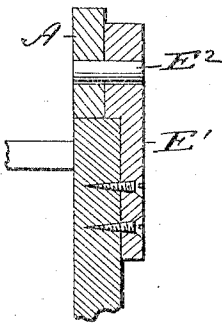
Patented Mar. 23, 1920.

3 SHEETS—SHEET 3.

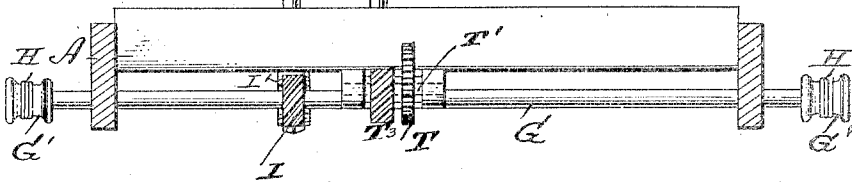
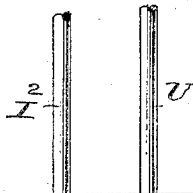
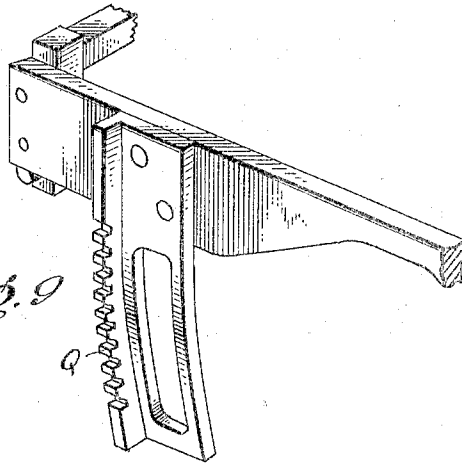
*Fig. 6*



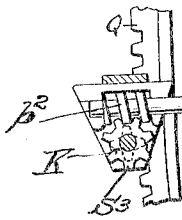
*Fig. 8*



*Fig. 9*



*Fig. 7*



*Fig. 10*

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# UNITED STATES PATENT OFFICE.

JOHN PASKO, OF FLINT, MICHIGAN.

MOTOR-SLEIGH.

1,334,788.

Specification of Letters Patent. Patented Mar. 23, 1920.

Application filed August 12, 1919. Serial No. 316,955.

To all whom it may concern:

Be it known that I, JOHN PASKO, citizen of the United States, residing at Flint, county of Genesee, State of Michigan, have invented a certain new and useful Improvement in Motor-Sleighs, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to motor sleighs shown in the accompanying drawings and more particularly described in the following specification and claims:—

The object of this invention is to provide a motor driven sleigh, simple in its construction and operation, and which is adapted to operate in a heavy or relatively light fall of snow;—means being provided whereby the screw propeller shafts, which act upon the snow, may be raised or lowered to adapt them to the depth of the snow over which the sleigh is to travel.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes may be made in the precise embodiment of the invention herein disclosed, without departing from the spirit of the same.

In the accompanying drawings forming part of this specification:—

Figure 1 is a side elevation of the motor sleigh.

Fig. 2 is a plan view of the same.

Fig. 3 is a longitudinal vertical sectional view of the rear part of the sleigh on line 3—3 of Fig. 2.

Fig. 4 is an enlarged detail sectional view on line 4—4 of Fig. 2, showing a part of the means employed for raising and lowering the screw propeller shafts.

Fig. 5 is a detail view of the manually operated shaft controlling the means for raising and lowering the propeller shafts,—shown in the preceding figure—the view also showing the steering wheel for controlling the direction taken by the sleigh.

Fig. 6 is a detail cross sectional view on line 6—6 of Fig. 2, showing means for revolving the screw propellers.

Fig. 7 is a cross-sectional view on line 7—7 of Fig. 2, of a detail of the steering mechanism.

Fig. 8 is a detail sectional view on line 8—8 of Fig. 2, showing the manner of securing the rear sled or runners to the chassis of the vehicle.

Fig. 9 is a perspective view of a detail showing the arc-shaped rack bar employed in raising and lowering the propellers.

Fig. 10 is a modification showing a driving shaft in lieu of the chain for raising and lowering the propellers.

Referring now to the letters of reference placed upon the drawings:—

A, denotes a vehicle chassis and B, a suitable body mounted thereon. C, indicates a forward steering sled pivotally connected by means of a fifth wheel D, to the chassis frame. E, is a rear sled having brackets E', overlapping the chassis frame to which they are rigidly secured by dowel pins or bolts E<sup>2</sup>. F, is a sheet metal deck or wall located between, and bolted to, the side walls or runners of the respective sleds.

G, denotes a transverse shaft journaled in the frame and fitted at each end with a spool G', to respectively receive the end of a cable H, connected to each side of the forward sled. I, indicates a worm gear on the shaft G, in mesh with a worm gear I', on the lower end of the steering column I<sup>2</sup>, which is in turn suitably journaled in the frame and provided with a steering wheel I<sup>3</sup>, for manually rotating it.

Projecting rearwardly from the end of the vehicle is a pair of screw propellers J, J, spaced apart and respectively secured to a pair of short shafts J', J', in turn connected by universal joints L, with the stub shafts M, journaled in a transverse member N, of the frame. Fitted to the end of the shafts M, M, is a sprocket gear O, driven by a sprocket chain P, from a gear P', actuated by intermeshing spur gears P<sup>2</sup>, P<sup>2</sup>, from the driving shaft P<sup>3</sup>, which is in turn actuated by a prime mover (not shown).

Bolted to the frame at each side of the vehicle is an arc-shaped rack-bar Q, and extending transversely thereto is a shaft R,

2  
 journaled in movable bearings R',—through which the shafts J', J', also pass but at right angles thereto.

5 K, K, are pinions mounted on the shaft R, respectively in mesh with the rack bars Q. R<sup>2</sup>, is a movable bearing for the shafts J', J', adapted to slide along the back of the rack bars. Mounted on the shaft R, is a sprocket wheel S, to receive the sprocket chain S'—in  
 10 turn guided by suitable idlers S<sup>2</sup>.

The sprocket chain S', is actuated by a sprocket gear T, keyed to a short shaft T', journaled in brackets T<sup>2</sup>, bolted to the frame. U, is a shaft manually operated by means of  
 15 a hand wheel U', on the lower end of which is a gear U<sup>2</sup>, in mesh with a gear T<sup>3</sup>, carried by the shaft T'. Upon manually adjusting the shaft U, the sprocket gear T, will operate the sprocket chain which in turn will oper-  
 20 ate sprocket wheel S, and thereby the pinions K, K, on the shaft R, thus raising or lowering the propellers J, J, to meet the requirements necessary for different depths of snow.

25 Instead of using a sprocket chain for raising and lowering the propellers, a shaft b, may be employed (see Fig. 10), fitted with a pinion b', on one end of the shaft in mesh with the gear T<sup>3</sup>,—and a gear b<sup>2</sup>, at the  
 30 opposite end of the shaft in mesh with a gear S<sup>3</sup>, on the shaft R;—carrying the pinions K, in mesh with the rack bars. By operating the hand wheel U', the propeller J, J, may be raised or lowered as required.

35 Between the prime mover (not shown) and the driving shaft P<sup>2</sup>, is a suitable clutch mechanism (not shown) to disconnect the propelling mechanism from the prime mover as in the case of an automobile.

40 The respective parts having been indicated by reference letters, the construction and operation of the device will now be understood without further detailed explanation.

45 Having thus described my invention, what I claim is:—

1. In a motor driven sleigh, a chassis, a

body supported by the chassis, a sled rigidly secured to the rear end of the chassis, a sled pivoted to the forward end of the chassis, manually operated means for steering the  
 50 forward sled, a pair of screw propellers projecting from the end of a pair of shafts journaled in movable bearings at the rear of the chassis, a prime mover, a driving shaft actuated by the prime mover, a driving  
 55 connection between the driving shaft and the shafts for supporting the screw propeller including a universal joint, whereby the screw propellers may be rotated and also raised or lowered to adapt them to the depth  
 60 of the snow over which the vehicle travels, and means for raising and lowering said propellers.

2. In a motor driven sleigh, a chassis, a sled rigidly secured to the rear end of the  
 65 chassis, a sled having a fifth wheel connection with the forward end of the chassis, manually operated means for steering said last named sled, a pair of screw propellers carried on the end of a pair of shafts jour-  
 70 naled in movable bearings, a transverse shaft also journaled in said bearings fitted with pinions adapted to transverse a pair of rack bars, the rack bars, manually operated means for rotating said transverse shaft,  
 75 whereby it may raise and lower said movable bearings and the shafts journaled therein, a prime mover, a driving shaft actuated by the prime mover, a driving connection between the driving shaft and the shafts of the  
 80 screw propellers including a universal joint, whereby the screw propellers may be rotated and also raised or lowered to adapt them to the depth of snow over which the vehicle travels.

85 In testimony whereof I sign this specification in the presence of two witnesses.

JOHN PASKO.

Witnesses:

J. P. MENOSKY,

JAN MORKA.