No. 772,884. PATENTED OCT. 18, 1904.

P. HOLTZMANN.

ATHLETIC VEHICLE.

APPLICATION FILED MAY 14, 1903.

NO MODEL.

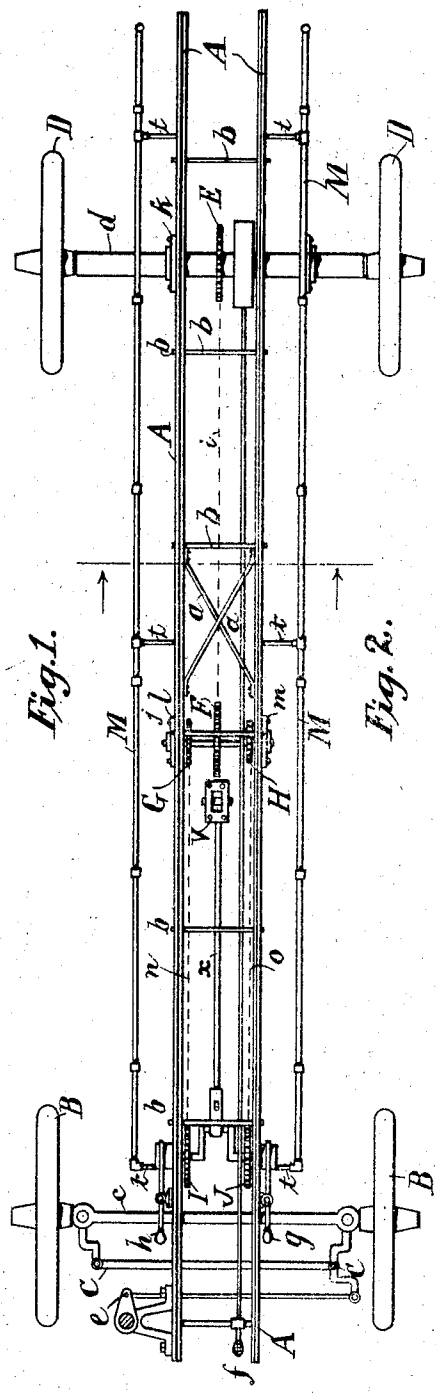


Fig. 1.

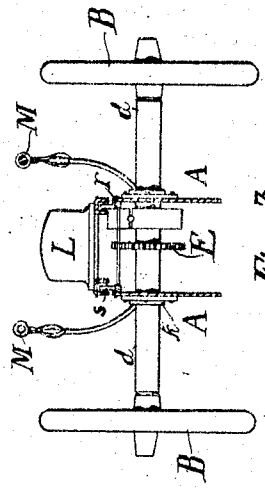


Fig. 2.

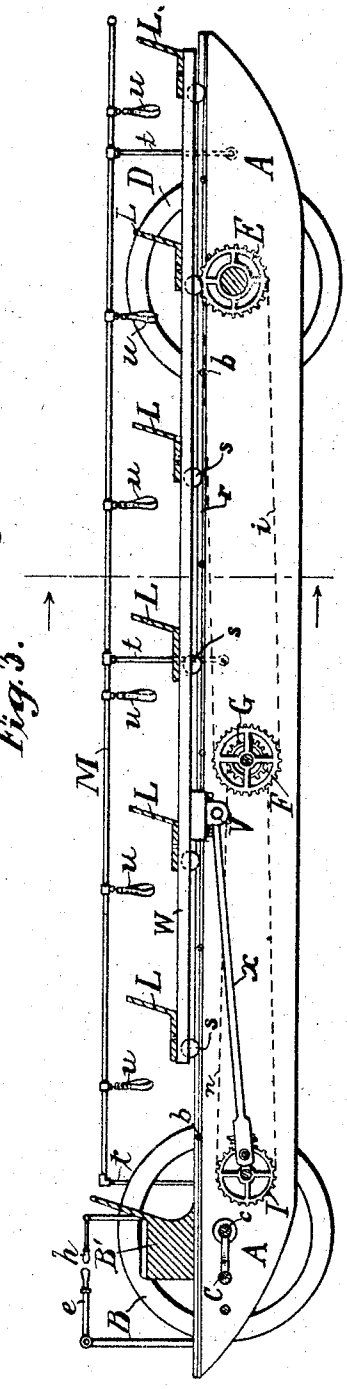


Fig. 3.

Witnesses
Comstock & Co.
H. M. Huntington jr.

Philip Holtzmann Inventor
By his Attorney
W. P. Preble Jr.

No. 772,884. Patented October 18, 1904.

UNITED STATES PATENT OFFICE.

PHILIP HOLTZMANN, OF BROOKLYN, NEW YORK.

ATHLETIC VEHICLE.

SPECIFICATION forming part of Letters Patent No. 772,884, dated October 18, 1904.

Application filed May 14, 1903. Serial No. 157,143. (No model.)

To all whom it may concern:

Be it known that I, PHILIP HOLTZMANN, a citizen of the United States, and a resident of the borough of Brooklyn, city and State of New York, have invented a certain new and useful Athletic Vehicle, of which the following is a specification.

The object of my invention is to provide a hand-propelled vehicle in which the motions of the persons propelling the vehicle correspond closely to the motions of a crew in rowing a racing-shell. The result of these motions is to strengthen the back and legs and to expand the chest even more effectively than in rowing, and the machine is intended to be propelled by a crew of from two to eight men moving in unison. I have therefore called it an "athletic auto," as by means of this vehicle the teams of athletic clubs, schools, or colleges can compete with each other on land in the same way in which they now compete on water. Unlike a racing-shell, which has to be balanced by an even number of oars, my athletic vehicle can be built for either an odd or even numbered crew, as desired.

One form of my invention is shown in the accompanying drawings, in which—

Figure 1 is a top plan of my athletic vehicle arranged to accommodate a crew of six. Fig. 2 is a side elevation. Fig. 3 is a cross-section.

Same letters indicate similar parts in the different drawings.

A A are the frame-pieces, preferably of steel, extending the full length of the vehicle and serving as the body of the vehicle. These frame-pieces are joined together by cross-braces *a a* and by bolts *b b*, which also serve as foot-rests for the crew. The body is mounted on the axles *c d*. The forward axle *c* is supported by the wheels B, which are operated independently of the axle by the toggle connection C, worked in the usual way by the handle *e*. The pilot or steersman occupies a stationary seat D at the forward end of the vehicle and turns the forward pair of wheels to the right or left at will by means of the handle *e*, as just explained. He can also apply a brake by stepping on the treadle *f* and throw the driving-crank into and out of gear by means of the handles *h q*, as hereinafter explained.

The rear wheels D serve as the driving-wheels, as usual in bicycles and motor-vehicles generally, and derive their motion from a crank-shaft at the front end of the vehicle, as follows: The axle *d* carries a spocket-wheel E, which is driven by the chain *i* from a multiplying-sprocket F on a shaft *j*, situated about midway of the frames A A. This sprocket F is made removable, so that sprockets of different sizes may be substituted to alter the speed as desired.

The adjustable box *k* is provided for tightening the chain which connects the two sprockets—a desirable thing for uphill work. The shaft *j* carries two additional sprockets G H, with the adjustable boxes *l m* for tightening the chain. These sprockets are driven by means of the chains *n o*, respectively, from the sprockets I J on the crank-shaft *p*. The connection between the sprockets and the crank-shaft is a clutch connection of usual construction. The clutch of the sprocket I is controlled by the handle *h*, before mentioned, and upon this sprocket the operation of the vehicle may generally be allowed to depend. The clutch of the sprocket J is controlled by the handle *q*, and is ordinarily thrown into gear only for uphill work, where the power applied has to be steadier and stronger.

L L are the seats, which are mounted so as to slide forward and back on the track *r r* upon the rollers *s s*. The track is secured to the framework A A on the inside and a sufficient distance—say three inches—below the top of the frame to make it impossible for the sliding-seat frame to jump the track. Instead of rollers slide-pieces such as are used in racing-shells might be employed, if desired. The seats may be arranged in a single set rigidly attached to each other, so as to move all together, or they may be arranged in two sets, moving simultaneously, but independently.

A hand-bar M extends along on each side any desired distance above the top of the frame, secured to the frame by posts *t t* and provided at intervals with the pendent grip-straps *u*. These straps should be hung at a convenient height to be readily grasped by the occupant

of the corresponding seat L, and the spread of the hand-bars should be such that when the seat is drawn forward by its occupant pulling on the straps his shoulders are thrown back, as in exercising with uprights, in preference to being drawn forward.

It will be readily understood that the members of the crew having seated themselves in the seats L L place their feet against the foot-rests *b b*, which may, if desired, be provided with some form of strapping device, and grasp the grip-straps *u*. The straps and foot-rests being fixed, the result of pulling on the straps is to draw the sliding seat forward. The return motion is brought about by pushing the feet on the foot-rest. It is obvious that when a crew of four, six, or eight athletes is engaged in this pulling and pushing work in harmony the power employed is very great. This power is utilized in propelling the vehicle as follows: Attached by the bracket *v* to the sliding-seat frame *w* is a connecting-bar or pitman *x*, the forward end of which turns the crank-shaft *p*, on which the driving-sprockets I J are mounted, as previously stated. It is obvious, therefore, that in this way both the forward and the backward movements of the sliding-seat frame are converted into revolution of the sprockets and from them through the various chains to the rear wheels D D.

Where all the seats are mounted on a single frame, there is of course a dead-center in the revolution of the crank-shaft. Where the sliding seats are in two sets, each set having its independent frame, there will of course be two pitmen, and therefore no dead-center. Where a dead-center exists, trouble can be avoided either by setting the crank-shaft properly before the members of the crew take their places or by providing a starting device for giving an initial movement to the shaft under the control of the pilot or steersman.

It will, I think, be obvious without further explanation that the vehicle can be made very light and strong and that when manned by a crew of athletes can be used in competitions of skill and strength between different clubs and colleges in the same way in which rowing contests now take place. In such contests the effect of the exercise will be found even more powerful in developing the chest-muscles and expanding the chest than in rowing, owing to the fact that the motions of the arms are not controlled and hampered by the outboard swing of an oar.

I claim—

1. An athletic vehicle having a number of seats slidingly mounted on a suitable frame, fixed hand-grips and foot-rests, by means of which a to-and-fro motion may be imparted to the seats, a crank-shaft, a driving-axle, a connection between said crank-shaft and driving-axle, and mechanism whereby said to-and-fro motion is communicated to said crank-shaft to propel the vehicle.

2. An athletic vehicle having a number of seats slidingly mounted on a suitable frame, and a fixed seat, fixed hand-grips and foot-rests, by means of which a to-and-fro motion may be imparted to said sliding seats, steering mechanism adapted to be operated from said fixed seat, a crank-shaft, a driving-axle, and mechanism whereby the to-and-fro motion of said sliding seats is communicated to said crank-shaft and driving-axle to propel the vehicle.

3. An athletic vehicle having a number of seats slidingly mounted on a suitable frame, fixed hand-grips and foot-rests, by means of which a to-and-fro motion may be imparted to said sliding seats, a driving-axle, and mechanism whereby said to-and-fro motion is communicated to said driving-axle to propel the vehicle, together with a stationary pilot-seat, steering mechanism, a disconnecting device and brake, and means adapted to be operated by the occupant of said pilot-seat for controlling said steering mechanism, disconnecting device, and brake.

PHILIP HOLTZMANN.

Witnesses:
W. P. PREBLE, Jr.,
H. M. HUTCHINGS.