(No Model.)

A. E. HOTCHKISS.

VEHICLE.

No. 488,201 Patented Dec. 20, 1892.

Fig. 1.

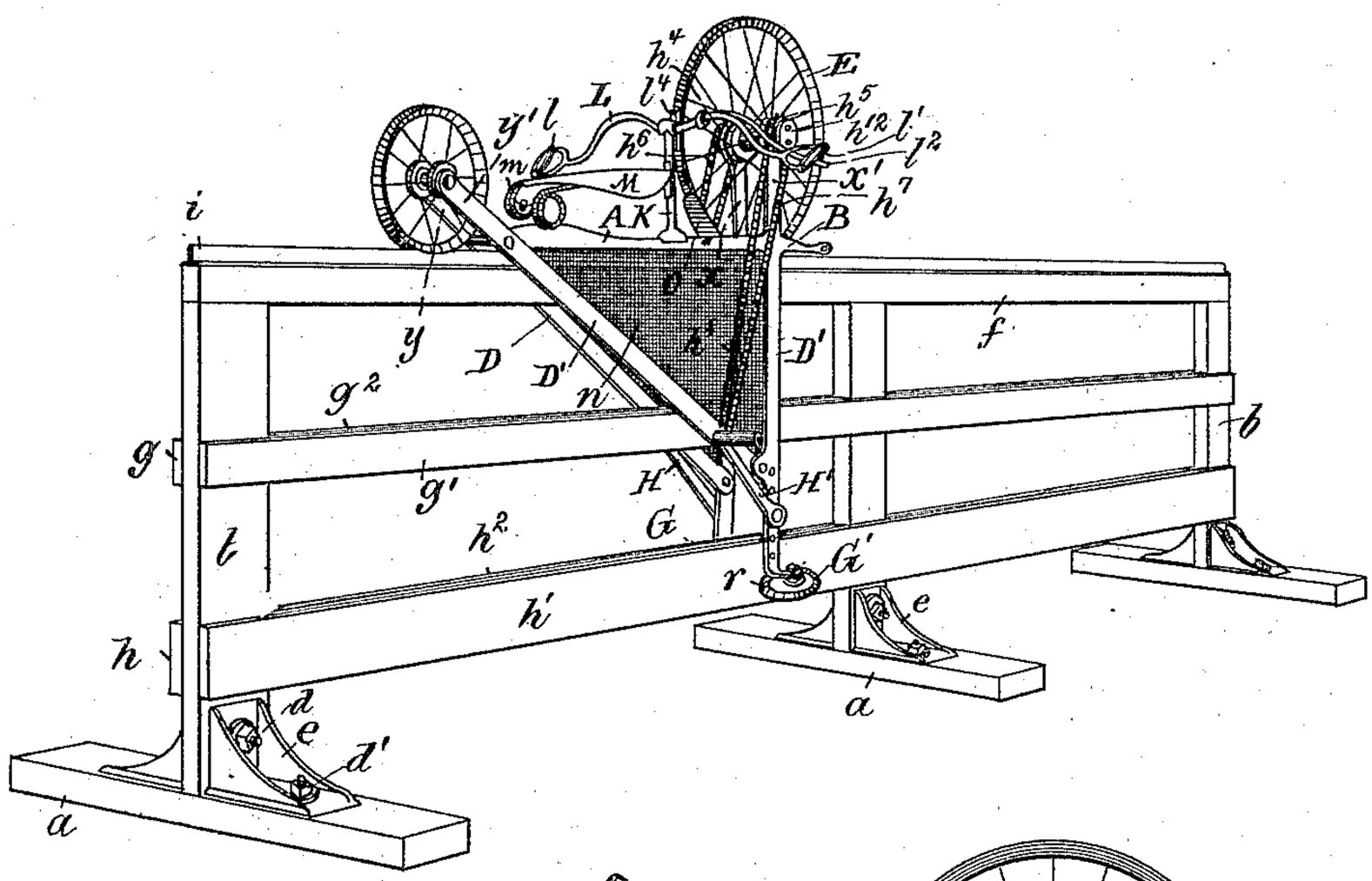

Fig. 2.

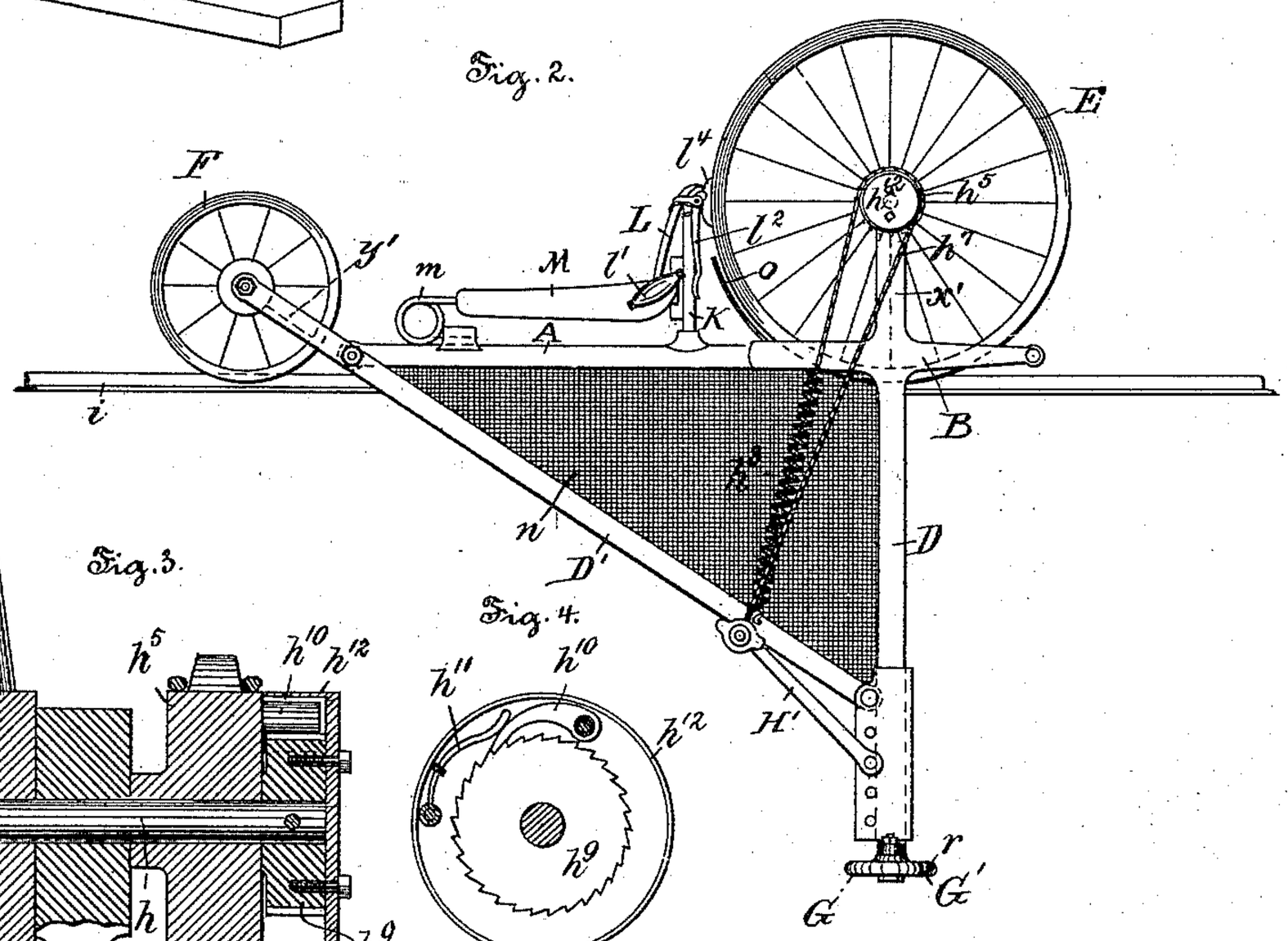

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR E. HOTCHKISS, OF MOUNT HOLLY, NEW JERSEY.

VEHICLE.

SPECIFICATION forming part of Letters Patent No. 488,201, dated December 20, 1892.

Application filed March 28, 1892. Serial No. 426,714. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. HOTCHKISS, a citizen of the United States, residing at Mount Holly, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Vehicles, of which the following is a specification.

My invention relates to a vehicle provided with suitable traction mechanism for permitting of the propulsion thereof upon, over and along suitable permanent ways or courses elevated above the ground.

The principal objects of my invention are first to provide a simple, durable and easy running vehicle adapted to traverse an elevated course or permanent way; second, to furnish efficient mechanism for permitting of the propulsion of the vehicle upon, over and along the elevated course or permanent way with an easy gliding motion and without undue exertion; and third to prevent the vehicle from accidentally leaving the elevated course or permanent way.

My invention consists of a vehicle provided with a main-frame and two triangular-shaped depending members having one or both extremital portions of the depending members extended for the reception of traction and driving wheels and a guide-roll or rolls.

My invention further consists of a vehicle, having a main-frame provided with a guide roll or rolls, a front driving-wheel, a rear traction wheel and propelling mechanism for permitting of the actuation of said driving-wheel.

My invention further consists of the combination with a permanent way or elevated course, of a vehicle adapted thereto and provided with suitable means, whereby it may be propelled over the same, as hereinafter more fully described.

The nature and characteristic features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof; and in which,

Figure 1 is a perspective view of an elevated course or permanent way with the vehicle embodying the particular features of my invention mounted thereon and such as is adapted to be propelled over the same. Fig. 2 is a front elevational view of the vehicle. Fig. 3 is a vertical central section through a part of the driving-wheel mounted on a shaft journaled to the vertical extension of the main-frame, a sprocket-wheel, chain and a ratchet-wheel and pawl engaging therewith; and Fig. 4 is an elevation of the ratchet-wheel and a pawl secured to the sprocket-wheel.

Referring to the drawings *a*, is a base or foundation block of wood, iron or other material.

b, are vertical posts mounted on said block *a*. The vertical posts are held to place on the blocks *a*, by means of bolts and nuts *d* and *d'*, inserted through trough-shaped metal pieces *e*, located on opposite sides thereof.

f are longitudinal stringers placed at the top and secured to the vertical posts *b*.

g and *g'* are the intermediate stringers secured to the vertical posts *b*, and g^2, is an interposed strip securely held between the said stringers. The intermediate stringers *g* and *g'*, serve a purpose to be presently fully explained.

h and *h'* are the bottom longitudinal stringers securely held by the said vertical posts *b*, and h^2 is an interposed strip held by said stringers. The bottom stringers serve as a way for the guide-wheel or wheels of the vehicle to travel along over in its propulsion in the manner to be hereinafter more fully described.

i is a rail of suitable form mounted on the top stringer *f*, for the reception of the wheels of a vehicle of a type adapted to travel thereover.

A description of a vehicle adapted to be propelled along over such a structure as explained will now be given. A, is the main-frame of the vehicle provided with a bifurcated forward extension B.

D and D', are depending frames provided with vertical wings or arms *x* and *x'*.

E, is a driving-wheel mounted on a shaft *h*, journaled to said vertical wings or arms *x* and *x'*, of the depending frames D and D', connected with a longitudinal main-frame A.

y and *y'*, are the rear sloping or slanting arms of the depending frames D and D', to which are suitably journaled a traction-wheel F. At the lower forward extremital portions of the depending frames D and D', are journaled a guide roller or rollers G and G', provided with rubber or other suitable tires *r*.

At a short distance above the guide rollers or wheels G and G′, suitably connected with the forward depending arms of the triangular-shaped frames D and D′, are pedals or treadles H and H′. Mounted on the shaft *h*, of the driving-wheel E, are sprocket-wheels h^4 and h^5, which engage with chains h^6 and h^7, connected at one of their extremities with said pedals or treadles and at the opposite extremities with spiral springs h^8, attached to the triangular-shaped frames D and D′. To the extremities of the shaft *h*, of the driving-wheel E, are mounted ratchet-wheels h^9, the teeth of which are held normally in engagement with the pawls h^{10}, which are secured to the sprocket-wheels h^4 and h^5, by means of the springs h^{11} for permitting of the actuation of the vehicle by the movement of the feet of the rider in connection with the pedal or treadles H and H′ respectively. Each ratchet-wheel and pawl with its spring is inclosed within a housing h^{12}, and thus protected from dust or moisture.

K is a vertical rod connected with the main-frame A, and carrying at the upper extremity thereof a cross handle-bar L, with suitable handles *l* and *l′*, at the extremital portions thereof. To the vertical arm or rod K is suitably attached the forward end of the saddle or seat M of the vehicle. The rear extremital portion of the saddle or seat M is mounted on or connected with a coiled spring device *m*, which is held to place on the main-frame A. To the transverse handle-bar L, is pivotally attached a lever l^2, which is connected with a brake shoe l^4, adapted to be brought into engagement with the grooved wall of the forward or driving-wheel E, for stopping or lessening the speed of the vehicle, as may be required. To each of the triangular-shaped depending frames D and D′, supported by the horizontal frames A, is suitably attached a wire or other netting *n*, to protect the apparel of the rider in mounting and while sitting upon the vehicle during its propulsion over the elevated course or permanent way. To the forward portion of the main frame A is secured a shield or guard *o*. This device is located so as to be in proximity to the tire of the driving-wheel E, and thus to prevent not only the apparel of the rider coming in contact with the driving-wheel, but also to obviate any dust or small particles being thrown onto the clothing of the person seated on the vehicle while in its passage over the course. The tires or rims of the front and rear wheels of the vehicle are constructed semi-circular or V-shaped in order to fit over preferably an inverted T-shaped rail secured to the top stringers of the elevated course or permanent way.

The mode of operation of the vehicle hereinbefore explained is as follows:—The vehicle is first placed in position over the elevated course or way as shown and with the guide-rolls of the depending frames D and D′ of the vehicle in engagement with the longitudinal stringers *h* and *h′*, which serve as ways therefor, in the propulsion of the vehicle along over the course. The vehicle having been placed in the position just described the rider by placing one foot on one of the intermediate stringers *g* or *g′*, mounts upon the saddle of the vehicle and then places his two feet in engagement with the pedals or treadles thereof and with the hands in engagement with the handles *l* and *l′*, of the cross-bar L, supported in position by the vertical arm or rod K, from the longitudinal main frame A, and by the simple actuation of the pedals or treadles H and H′ in any well understood manner the vehicle is propelled forward over the elevated course or permanent way.

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent is:

1. A vehicle comprising a main-frame provided with supporting wheels, a seat and brake-mechanism and depending frames located on opposite sides of the main-frame and connected therewith and provided with propelling means and guide-rolls, the construction being such that the rider is carried by the vehicle astride the same, substantially as and for the purposes set forth.

2. A vehicle comprising a main-frame provided with divided depending shield-frames having upper extensions supporting driving and pilot wheels, guide-rolls and propelling mechanism connected with the lower portion of the divided depending frames, a seat, and brake mechanism connected with the main-frame between the driving and pilot wheels, substantially as and for the purposes set forth.

3. A wheeled vehicle comprising a main frame having triangular-shaped depending devices and the upper and lower extensions provided with supporting and guide wheels, a seat or saddle supported by the main-frame and brake mechanism connected with a wing or arm of said main-frame, substantially as and for the purposes set forth.

4. A wheeled vehicle adapted for an elevated course or way provided with a longitudinal main frame and depending frames or devices straddling said structure provided with guide-rolls, supporting wheels journaled to vertical extensions thereof, a seat or saddle and a vertical arm provided with a handle bar and brake mechanism, substantially as and for the purposes set forth.

5. The combination, in a vehicle of a main-frame having triangular-shaped depending members, supporting wheels and guide rollers journaled to said frame and the depending members thereof, a seat or saddle supported above the main-frame and brake-mechanism connected with a handle-bar and a saddle or seat partially supported by said bar, substantially as and for the purposes set forth.

6. The combination, in a vehicle of two grooved faced wheels journaled to a frame provided with depending members having guide-wheels journaled thereto, a spring act-

uated saddle supported above said frame and to a vertical arm provided with a handle-bar, brake mechanism and means for permitting of the actuation of said vehicle, substantially as and for the purposes set forth.

7. The combination with a vehicle adapted to straddle an elevated course or way and provided with two wheels and depending frames having guide-rollers and pedals or treadles pivotally connected therewith, means suitably connected with said depending frames and pedals or treadles and a sprocket-wheel mounted on the shaft of the forward supporting wheel, substantially as and for the purposes set forth.

8. The combination, in a vehicle for an elevated course or way, of a horizontal frame provided with bifurcated extensions and triangular-shaped depending frames having vertical extensions, supporting wheels journaled thereto and guide-rollers journaled to the lower forward extremital parts of said depending frames, pedals or treadles pivoted to the arms of said depending frames, sprocket-wheels mounted on the journal of the forward supporting wheel and springs and chains connected with the slanting arms of said depending frames, sprocket-wheels and pedals or treadles, a spring actuated saddle or seat and brake-mechanism connected with the handle-bar of the main-frame and adapted to be brought into engagement with the forward supporting wheel, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

ARTHUR E. HOTCHKISS.

Witnesses:
THOMAS M. SMITH,
RICHARD C. MAXWELL.