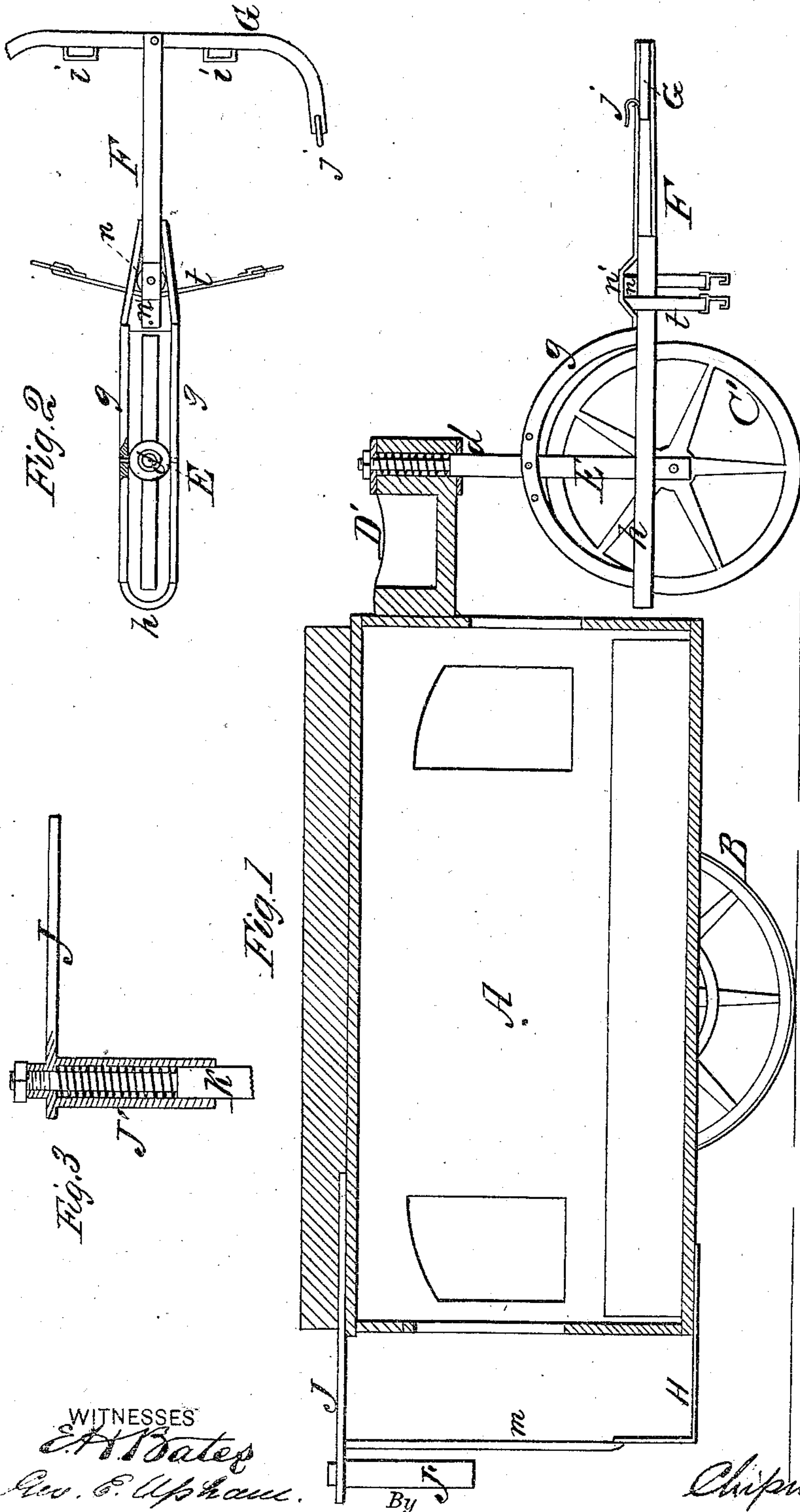


M. V. NICHOLS.  
Vehicles.

No. 152,673.

Patented June 30, 1874.



WITNESSES  
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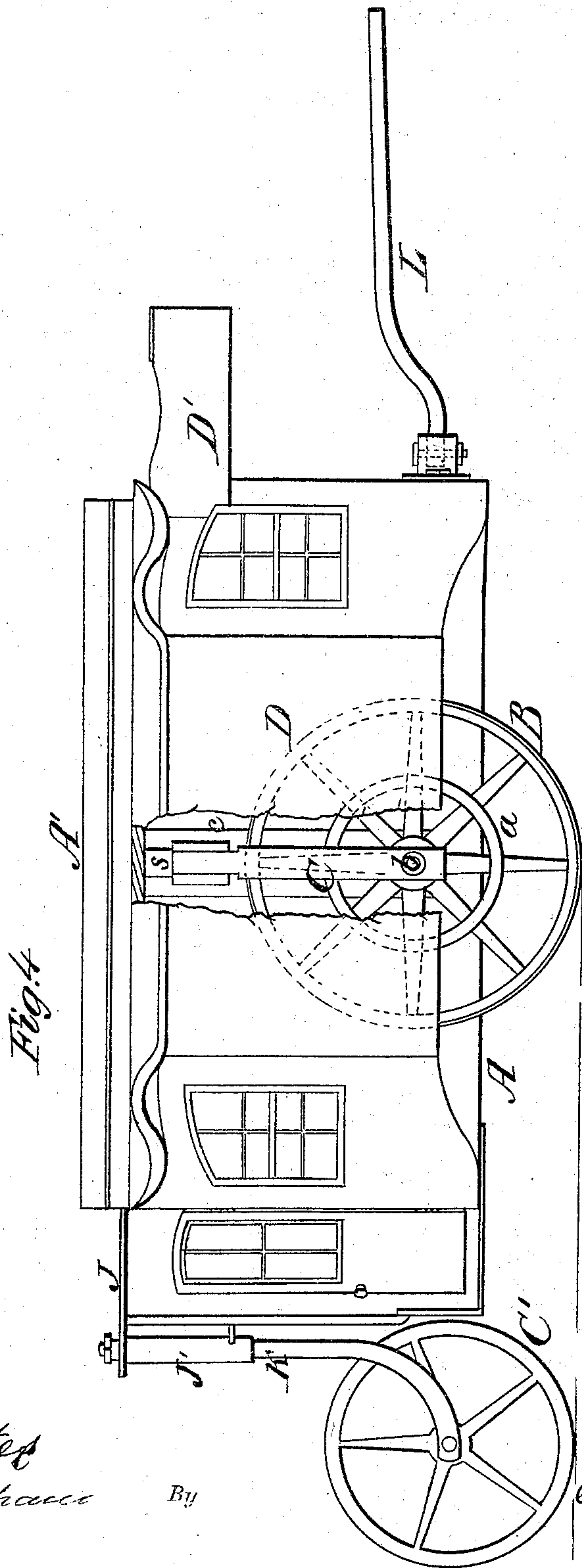
INVENTOR  
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*Chipman and Osborn*

ATTORNEYS.

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# UNITED STATES PATENT OFFICE.

MARTIN V. NICHOLS, OF OSAGE, IOWA.

## IMPROVEMENT IN VEHICLES.

Specification forming part of Letters Patent No. **152,673**, dated June 30, 1874; application filed March 7, 1874.

*To all whom it may concern :*

Be it known that I, MARTIN V. NICHOLS, of Osage, in the county of Mitchell and State of Iowa, have invented a new and valuable Improvement in Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a sectional view of my vehicle. Figs. 2 and 3 are detailed views of the same. Fig. 4 is a side view, and Fig. 5 is a detail view.

This invention relates to certain novel improvements in the construction of vehicles, and particularly such as are denominated stages or omnibuses, wherein very large wheels are used and the bodies are brought very near to the ground, to afford easy ingress and egress, as set forth in my Letters Patent, bearing date on the 11th day of November, 1873. The nature of this invention consists mainly in applying the wheels which support the body of the vehicle at or near the middle of its length to vertical frames having springs on top of them, on which the body is suspended in such manner that the points of suspension are directly over the axes of said wheels, the said frames being applied in vertical guides and inclosed in housings on the sides of the vehicle, as will be hereinafter explained. The invention further consists in a novel attachment of the draft-tongue to a front caster-wheel combined with it, as I will now proceed to explain.

The following is a description of my improvements:

In the annexed drawings A designates the body of the vehicle, which is preferably constructed with rounded ends, to which the windows are applied. The top of the body is corrugated longitudinally, and extending along the center thereof are the seats A', for accommodating outside passengers. By corrugating the top the body is strengthened longitudinally, and the two valleys on opposite sides of the seats afford places for the feet of the passengers sitting on these seats, while the elevations outside of the val-

leys afford foot-rests. B B designate the main supporting-wheels, and C' the third supporting-wheel. I construct the wheels B B very large—that is to say, they may be seven feet or more in diameter, so that they will roll easily over the inequalities in the road; and for the purpose of properly strengthening these large wheels, and at the same time making them comparatively light, I secure on the sides of their spokes one or more circular braces *a*, applied between the felloes and hubs. The journals *b* of these wheels B B coincide with each other, and are made short. These short journals turn in boxes, which are applied to vertical standards C C, the upper ends of which are suitably connected together and provided with springs *s*, on which the body A of the vehicle is suspended and allowed free vertical play. The lower portions of the wheel-standards are dovetailed in guides *c c*, which are respectively formed on the sides of the body (A) proper, and on the inner sides of pockets D, which inclose or house in the wheels and their frames. The slides move freely in their guides and allow the body A to play freely on the springs *s*, which latter, by my improved construction, afford supports or suspension for the body A directly above the axes of the wheels B B. By thus suspending the body A directly over the axes of the transporting-wheels B B the body is very firmly sustained and prevented from receiving undue longitudinal play. The driver's seat D' extends out from the front of the body A, and receives vertically through its front end the spindle *d* of a forked standard, E, between the prongs of which the front caster-wheel C' is applied, and in the lower ends of these prongs the axle of this wheel has its bearings, as shown in Fig. 1. To the spindle portion *d* of the standard E, I secure the draft-tongue F by means of arched braces *g*, which braces are adjustably secured to said standard, so that by removing the bolt which so secures them the tongue F can be inclined more or less. The rear portion *h* of the draft-tongue is yoked to receive through it the caster-wheel. The horses are hitched on opposite sides of the tongue F and caster-wheel C', so that the driver, sitting in his seat D', is directly above the team. H designates the platform, which



is applied at the rear end of the body A, and which is connected, by rods *m*, to a horizontal bracket, J, extended out from the roof of the body, as shown in Figs. 1 and 4. To the rear end of the bracket J a vertical tube, J', is secured, which affords a long bearing for a forked stem, K, which is free to swivel in said tube, and which is connected to it by means of a nut on the upper end of the stem, as shown in Fig. 3. The wheel C' is detachable from its forked spindle E in front of the vehicle, and when detached this wheel can be applied between the forks of the stem K in rear of the vehicle, in which case the horses will be hitched to a draft-tongue, L, secured rigidly to the front end of the body A, as shown in Fig. 4.

If it is desired to use a number of springs at the upper ends of the frames C C, this may be conveniently done by rigidly securing cross-bars to the upper ends of these frames, and connecting the ends of the bars to rubber or other springs located underneath by means of bolts. The upper ends of the springs

thus applied will have a bearing against a bar, which is rigidly secured to the body A of the vehicle. I am thus able to use four springs for each frame, and to have these springs of greater length.

What I claim as new, and desire to secure by Letters Patent, is—

1. The vertically-sliding frame C, movable in guides *c*, and affording points of support for the body A directly over and in line with the axes of the transporting-wheels B, all combined substantially as described.

2. The draft-tongue F, connected, by arched braces *g*, to the swiveling standard E of the wheel C', all combined substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MARTIN V. NICHOLS.

Witnesses:

GEORGE E. UPHAM,  
PHIL. C. MASI.