(No Model.) 3 Sheets—Sheet 1.

# S. J. McDONALD.

## ROAD CART.

No. 444,456. Patented Jan. 13, 1891.

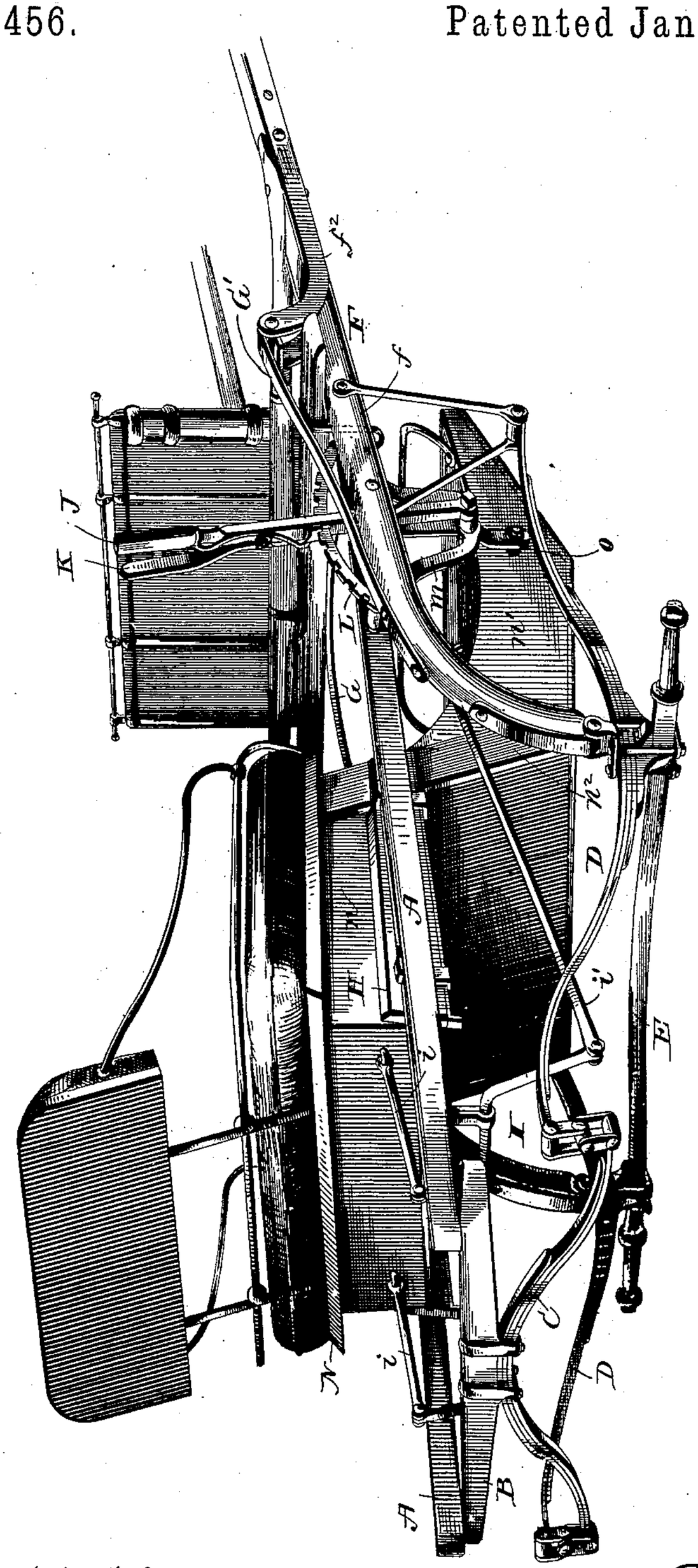

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

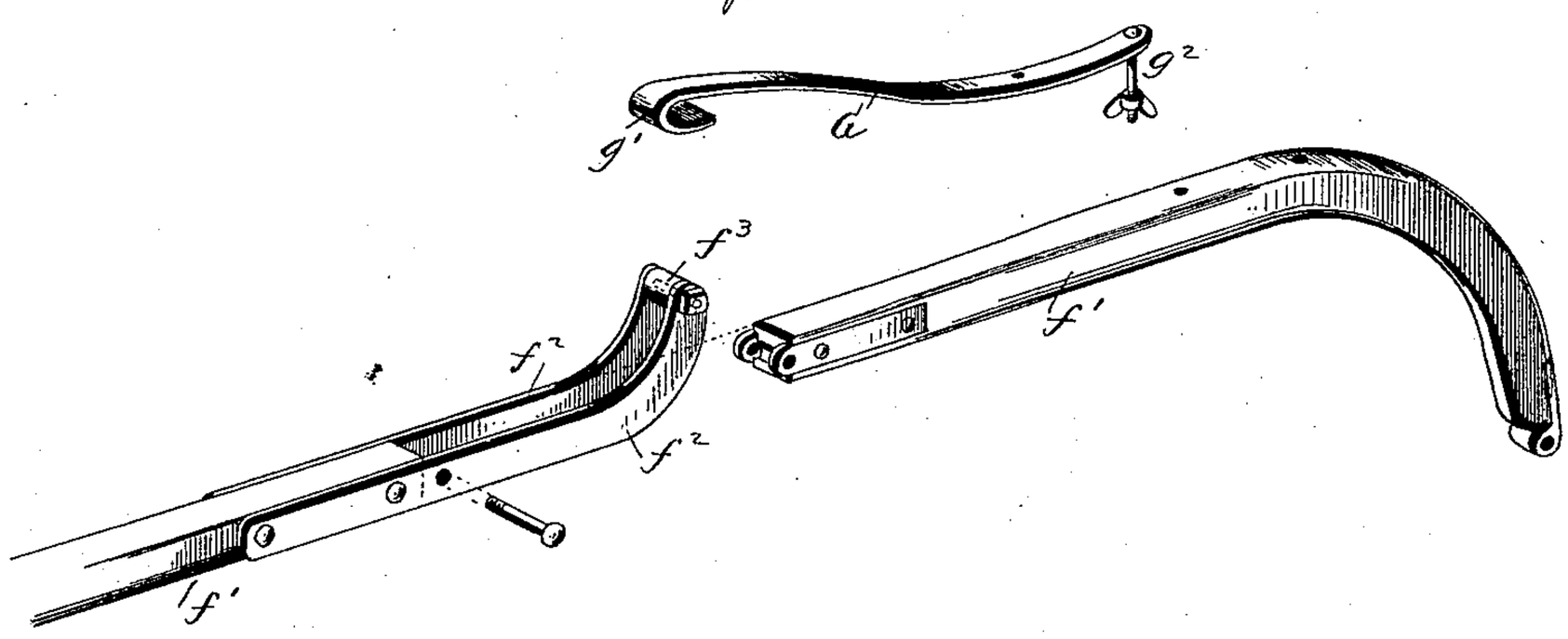



Fig. 3.

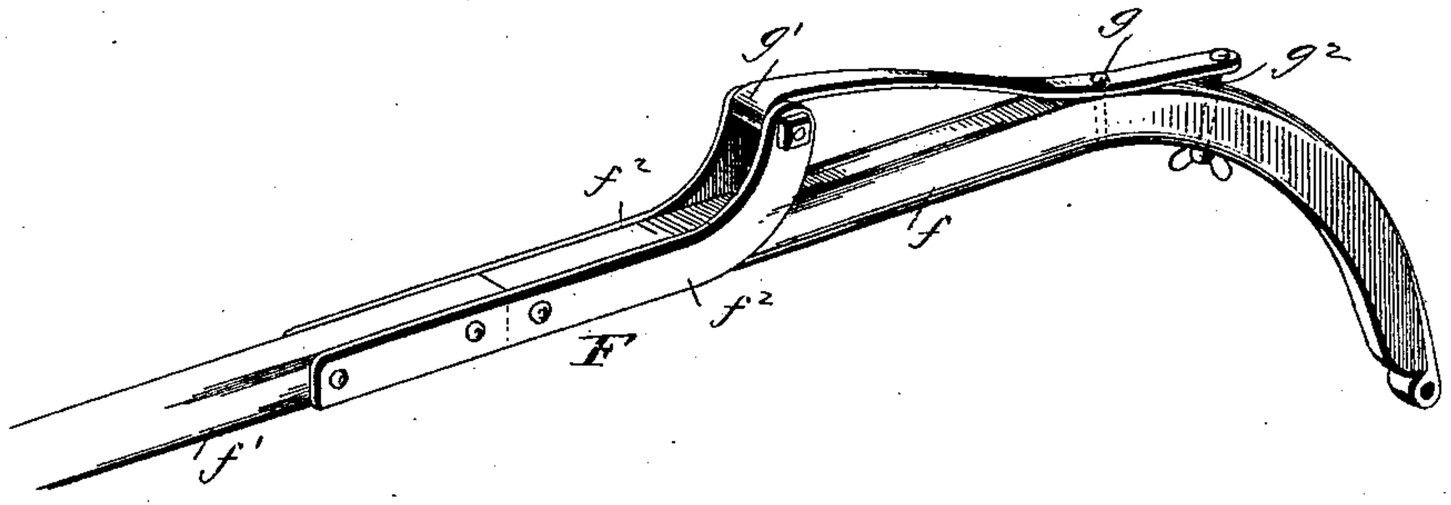
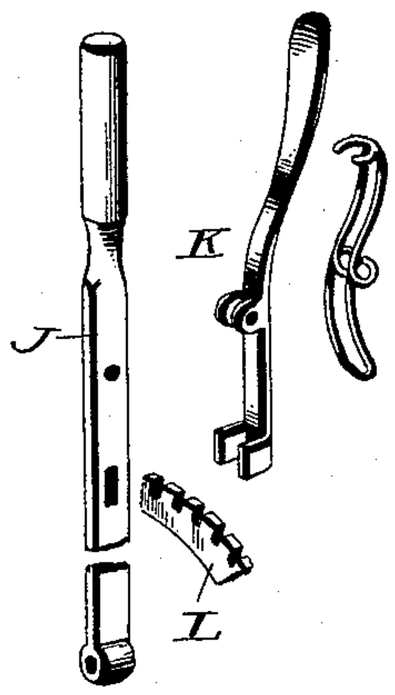



Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

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## ROAD CART.

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Fig. 5.

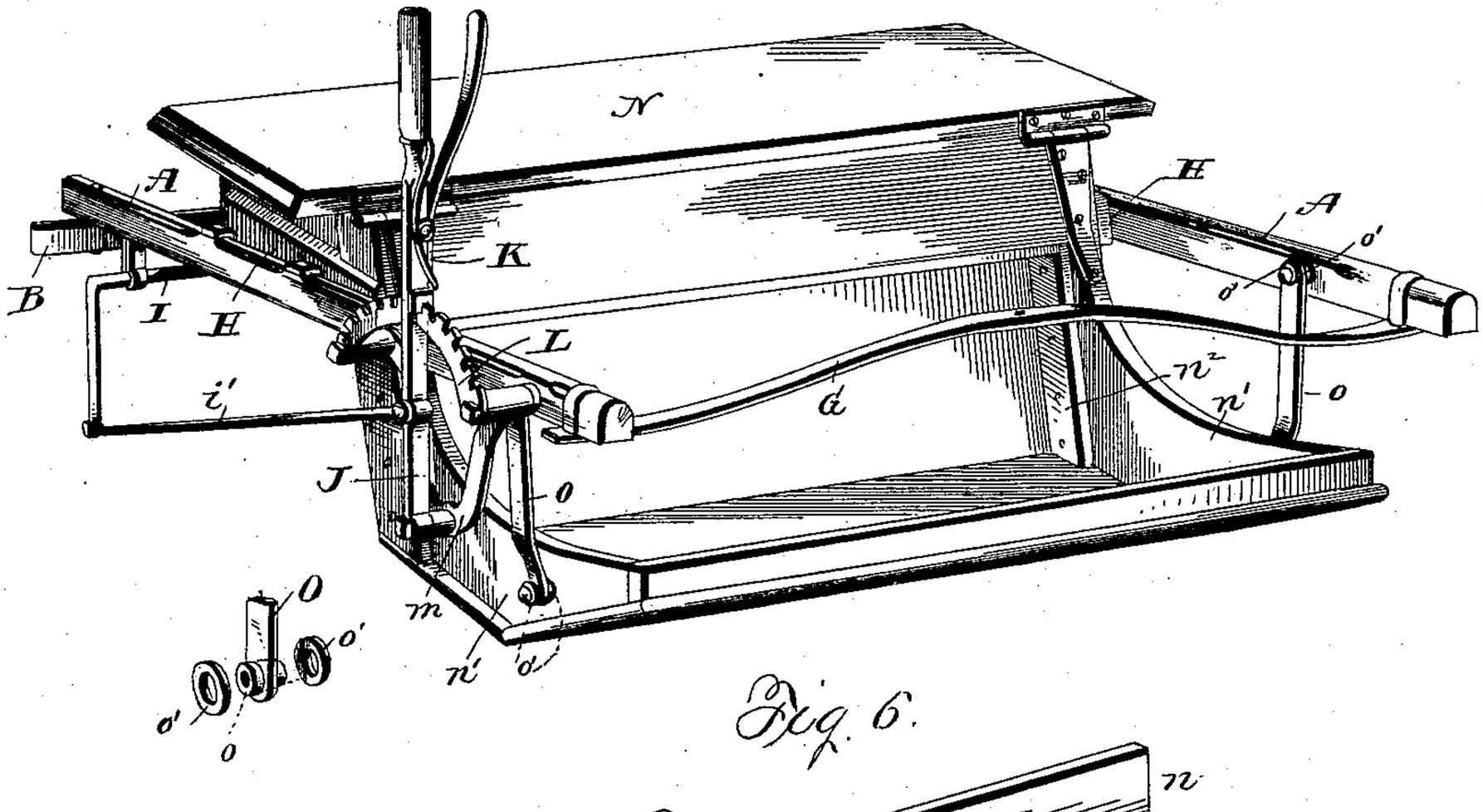


Fig. 6.

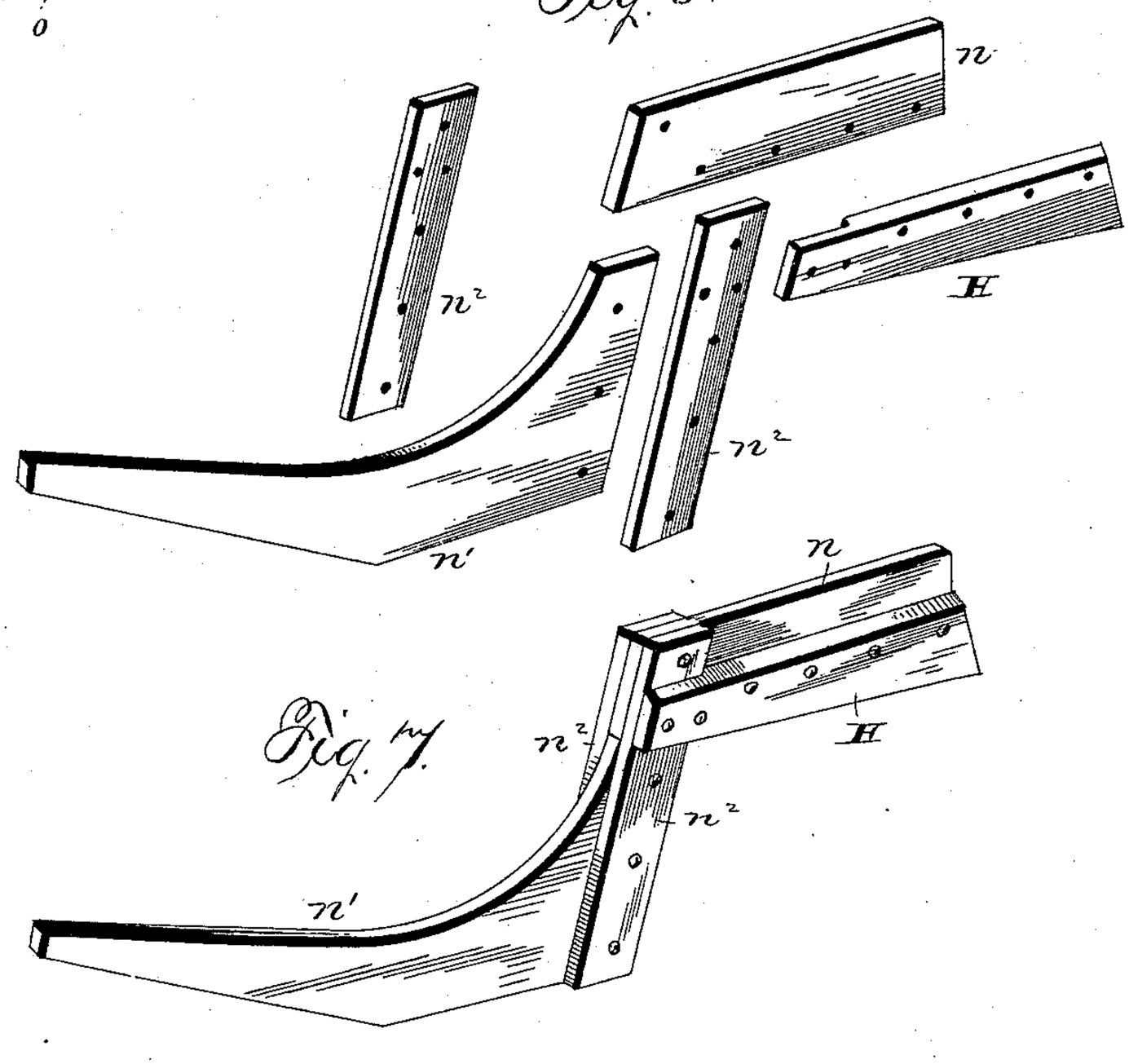


Fig. 7.

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# UNITED STATES PATENT OFFICE.

SAMUEL J. McDONALD, OF GALLATIN, MISSOURI.

## ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 444,456, dated January 13, 1891.

Application filed September 12, 1890. Serial No. 364,799. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL J. McDONALD, a citizen of the United States, residing at Gallatin, in the county of Daviess and State of Missouri, have invented certain new and useful Improvements in Road-Carts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

My invention relates to two-wheeled vehicles or road-carts, and has for its object the improvement of vehicles of this character, so so that they shall be more comfortable and more durable in use, less expensive in the cost of their manufacture, and generally more desirable; and to these ends said invention consists in the means employed for relieving the seat or body of "horse motion," which at the same time operates to save the animal used from the undue strains caused by the sudden jerking or jolting of the vehicle; also in the means for quickly and easily adjusting and securely locking as adjusted the body or seat, so as to shift its center of gravity relative to the wheels, whereby the vehicle is the more perfectly balanced.

The invention further consists in the peculiar construction of the body or seat, whereby the same may be cheaply yet strongly and presentably made, and also in the general construction, arrangement, and co-operation of parts as a whole, all as hereinafter specified and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a road-cart embodying my improvements. Fig. 2 is a perspective view of the parts which form one of the thills or shafts separated from each other. Fig. 3 is a like view of the same combined. Fig. 4 is a perspective view of the device for locking the body or seat in the position in which it is desired to hold it relative to the wheels. Fig. 5 is a similar view of the body or seat, its supporting-frame, and its adjusting mechanism. Fig. 6 is a perspective view of the pieces forming one side of the body separated from each other, and Fig. 7 is a like view of said parts combined.

More particularly the matter sought to be covered by the present application is an improvement on the cart shown in Patent No. 394,711, granted me December 18, 1888, and in the cart shown herein there are features common to both. As in the cart shown in said patent, the seat or body is suspended on or supported by a frame composed of two side bars A A, connected at their rear ends by a cross-bar B, which latter is attached by suitable clips to a transversely-arranged leaf-spring C, pivotally connected at its ends to side leaf-springs D D, that are clipped to the axle E and shafts or thills F F. The side bars A A at their front ends are, as in said patent, attached to a cross-spring G, secured to a transverse bar, which extends from one thill or shaft to the other.

Each shaft or thill F, I now form in two parts or sections and connect said parts by a hinged yielding or elastic connection, in order that there may be an independent movement of each section, which will not be transmitted to or affect the other, thus accomplishing the double purpose of relieving the vehicle of the disagreeable up-and-down or horse motion, and also relieving the animal and his harness of the strains caused by sudden jerking or jolting of the vehicles, both of which are incident to the use of rigid shafts. Said sections or parts may conveniently be obtained by cutting in two the ordinary thill at a point about one-third the distance from the rear end, forming the part or section $f$ for attachment to the vehicle and the section $f'$, to which the horse may be harnessed.

The following is the form of connection between the sections or parts, viz: Two similarly-shaped plates $f^2$ $f^2$, having upwardly-extending or curved portions, are rigidly bolted one on each side of the section $f'$, so that the larger portion thereof extends beyond the rear end of said section, and in the space between said plates is placed the forward end of the section $f'$, which, by means of a bolt passed through openings in said plates and openings provided in plates fastened to its end, is pivotally attached thereunto, and so to said section $f$. In order to retain these shaft-sections in their normal relative position and to render the joint between them

elastic, a stout flat spring G′ is mounted on the upper side of the section $f'$ and by a bolt $g$, passing through a hole a short distance from its rear end, held in place thereon. At its forward end said spring bears upon a roller $f^3$, placed between the ends of plates $f^2$, being at such point formed or provided with a hook $g'$ of suitable dimension to keep it in place thereon and prevent its being disengaged by any undue movement of the parts. Said hook is of value, also, as obviating possible injury should the spring break, as the broken piece could not fly off. The tension of this spring may be varied, and accordingly the degree of vibration of the parts of the shaft, by a screw $g^2$, attached thereto at its rear end and passing through the thill to its under side, where a thumb-nut is provided, the bolt $g$ acting as a fulcrum for such adjustment. With shafts or other draft devices thus flexibly constructed, so that there can be vertical play of one part independent of the other, the vehicle is relieved of all horse motion, for the latter cannot be transmitted thereto, and sudden shocks or jars to the horse and harness from the vehicle's travel over rough roads are also obviated, for the vibrations will not extend to the front shaft-section. The peculiar construction and arrangement of the spring prevents rattling of the parts, and so renders the device noiseless without the employment of rubber or other devices therefor. If desired, the curved portions of plates can be extended downward instead of upward and the spring placed on the under side of the thill without departure from the scope of my invention.

For the purpose of moving the body or seat to change its center of gravity relative to the supporting-wheels, the same is supported by risers H upon hooks attached to the side bars, and by means of a roller-bar I, connected by links $i$ $i$ to the rear of the body and by a link $i'$ to a pivoted shifting or adjusting lever J, is given the desired longitudinal movement or adjustment. To effectively lock said seat as adjusted against all possibility of accidental dislodgment by reason of any cause whatever, the adjusting-lever J is provided with a pivoted spring-actuated pawl K, which at its lower end is furnished with two lugs, which embrace said lever, one on each side, and engage with the appropriate notches in a rack-segment L, mounted on one of the side bars A. The lever J, pivoted to the lower end of a V-shaped bar $m$, is mortised or slotted, so as to permit it to pass over the segment K.

The construction just described affords a most secure locking device.

With a view to reducing the cost of manufacture of the body or seat I construct each side sill thereof of two pieces, one $n$ constituting the rear part thereof and the side support of the seat proper N and one $n'$ constituting the forward part thereof and the side support of the bottom of the body or foot rest. The latter piece is formed on a curved line and is the only curved piece in the body. These pieces are attached together to form a continuous side by placing the piece $n$ so that its forward end rests on the upper rear edge of the piece $n'$, and then securely fastening them together by means of two pieces $n^2$ $n^2$, which, as shown, are arranged one on each side thereof, bolts or screws being employed to hold all of said parts together. The seat-riser H is firmly attached by bolts or screws to the piece $n$ and adds materially to the strength of the structure. Side sills thus constructed possess all needed strength and are attractive in appearance, while the cost of making them is reduced, because the parts, with one exception, are all straight work, and the mode of securing them together dispenses with the necessity for and expense of mortising or halving.

The rear seat part of the body is preferably formed into a box, the seat proper forming a top therefor being hinged at its front edges, as shown, to permit its ready opening and closing. The body at its front ends is connected to the side bars A A of the supporting-frame by rigid bars $o$ or connections O, instead of straps, as in my patent referred to, and these are employed to prevent said body being subjected to sudden and violent jumping or jerking. Said bars or straps are pivotally connected to the side bars and body, thimbles $o$, bolted to the said parts, furnishing the pivots therefor. To prevent noise, leather washers $o'$ $o'$ are provided on said thimbles on each side of said bars.

What I claim is—

1. In combination, the two-part shaft hinged together, the spring bolted to one part and loosely engaging the other, and the screw device on the former part engaging with said spring to adjust its tension, substantially as shown.

2. In combination, the two-part shaft hinged together, the spring co-operating therewith, the fulcrum-bolt for attaching said spring to one of said parts intermediate the ends of the springs, and the screw device for adjusting the tension of said spring engaging one of its ends, the other end of said spring engaging the other shaft part, substantially as shown.

3. In combination, the two-part shaft hinged together, the spring, the bolt passing through one of said parts and said spring near the end of the latter to secure them together, the bolt engaging said end and passing through said part, and the thumb-nut on the bolt, substantially as set forth.

4. As an improvement in road-carts, in combination, a shiftable body, a supporting-frame therefor, a pivoted shifting-lever on said frame connected with said body, the notched segment over which said lever may be moved, the latter being slotted for the purpose, and the pawl pivoted to the lever, provided with a lug or projection on each side thereof to engage the notches of said segment on each side of

the lever in its line of movement in both directions to lock the same against forward and backward movement, substantially as specified.

5. In combination, the shaft-section carrying plates at its ends with upwardly-turned ends, the shaft-section pivoted between said plates, said sections being in line with each other, and the spring carried by the latter section and bearing at its end on a connection between upturned ends of said plates and having a hook loosely engaging therewith, as set forth.

6. In combination, the adjustable seat or body, the supporting-frame therefor, the adjusting mechanism, and the rigid bars connecting the said seat or body at its forward end to the side bars of its supporting-frame, said rigid bars being pivotally attached to said body and said side bars, as set forth.

7. In combination with a vehicle-body, the side pieces thereof formed of two parts—a front and a rear—arranged in line with each other, and the pieces for holding them together, as set forth.

8. In combination with the seat or body of a road-cart, the side pieces thereof formed of two parts, a curved front and a straight rear part, the front end of the latter resting on the rear top edge of the latter, the two straight pieces, one on each side of said parts where they come together, so as to overlap the same, and bolts or screws for securing all of said parts, as set forth.

9. As an improvement in cart-bodies, in combination, the sides formed of two pieces—a straight rear piece and a curved front piece—arranged in line with each other, the pieces for holding them together overlapping the same, and the seat-risers bolted to said rear pieces, as set forth.

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

SAMUEL J. McDONALD.

Witnesses:
J. W. MEADE,
B. B. YATES.