

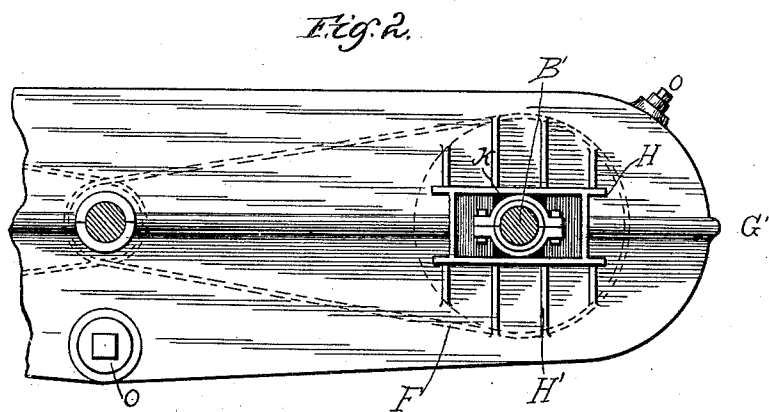
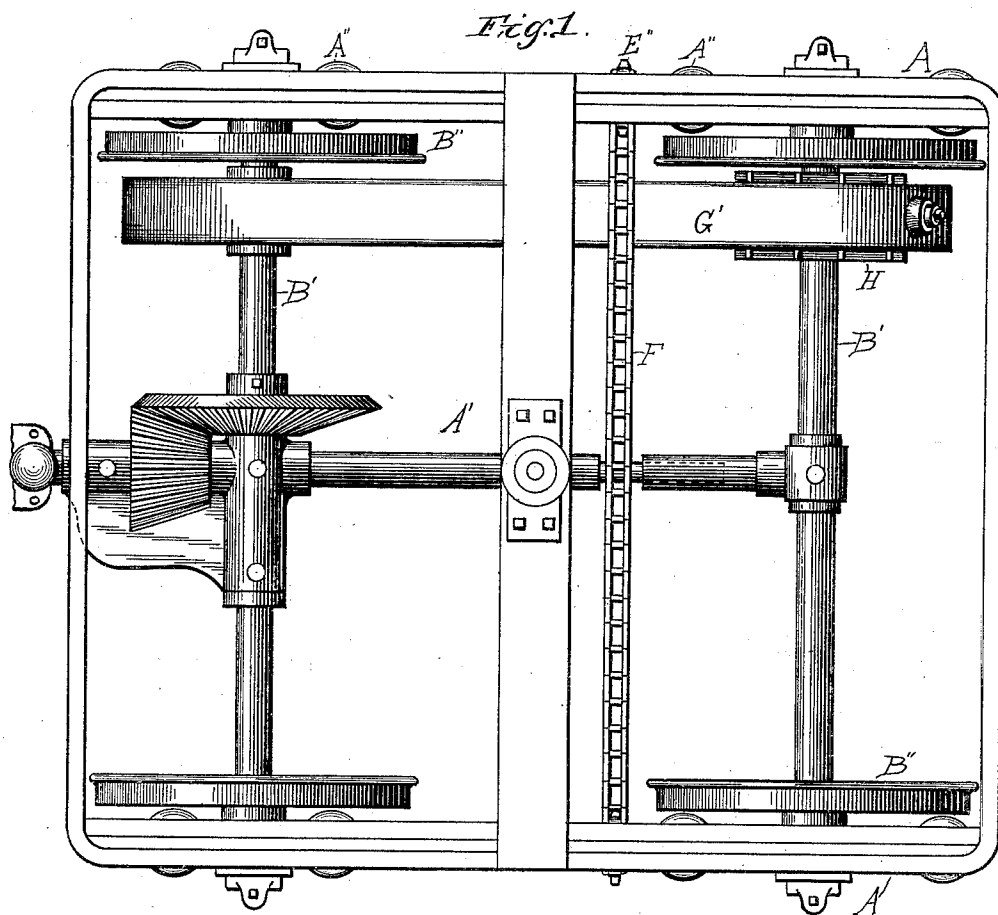
(No Model.)

2 Sheets—Sheet 1.

E. A. SPERRY.
TRUCK FOR VEHICLES.

No. 466,808.

Patented Jan. 12, 1892.



Witnesses.

Wm. M. Rheem.

Chas A Pratt

Inventor

Elihu A. Sperry.

By Buckingham & Ewart.
Atty's

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Fig. 3.

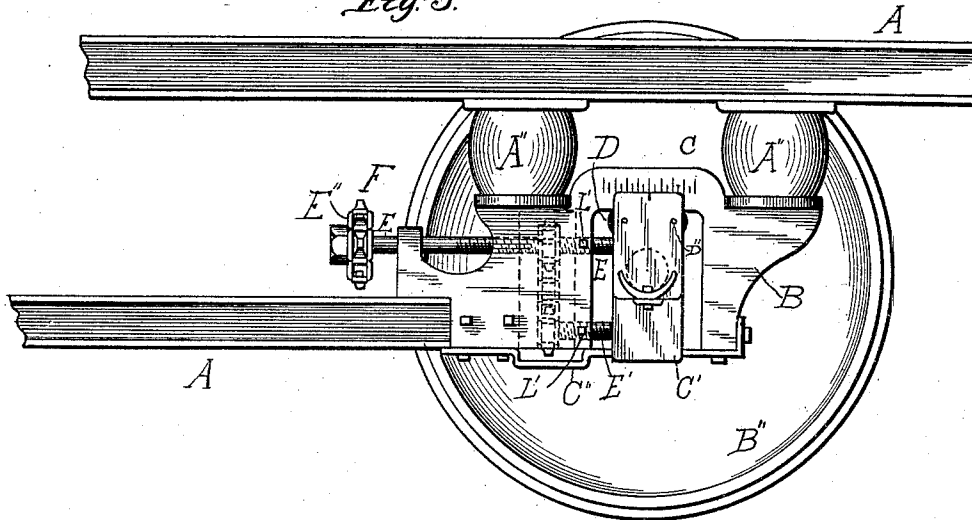


Fig. 6.



Fig. 4.

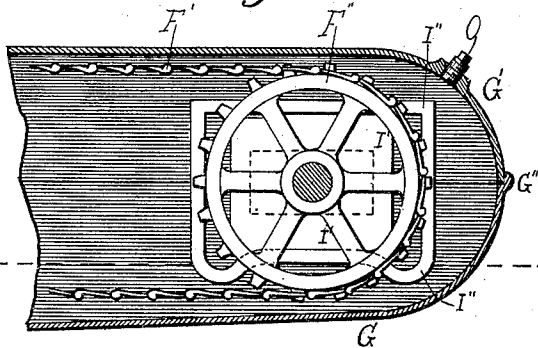
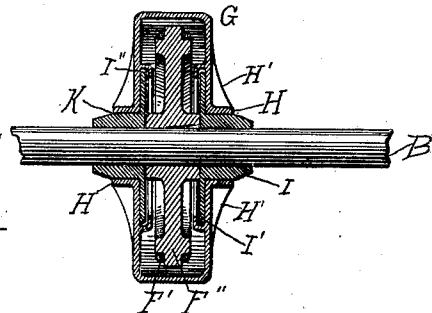


Fig. 5.



Witnesses:

Wm. M. Rheem
Chas. A. Pratt

Inventor:

Edwin A. Sperry.
By Buckingham & Ewart.
Atty's

UNITED STATES PATENT OFFICE.

ELMER A. SPERRY, OF CHICAGO, ILLINOIS.

TRUCK FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 466,808, dated January 12, 1892.

Application filed July 25, 1891. Serial No. 400,666. (No model.)

To all whom it may concern:

Be it known that I, ELMER A. SPERRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Trucks for Vehicles, of which the following is a full, clear, and exact specification.

My invention relates to power connections on trucks of vehicles; and it consists more particularly in a method of adjusting the centers, especially where a sprocket and chain are used to transmit power from one axle to another, and in certain details in connection with the adjustments of centers and use of the chain for the purposes named, such as will decrease the expense of manufacture and render same more generally available. Each of the improvements constituting said invention is, however, included for all of the uses to which it may be adapted.

One method of carrying my invention into practice is shown in the accompanying drawings, in which—

Figure 1 shows a top plan view of a truck. Fig. 2 is a side elevation of one end of the case, showing method of sliding connections with motor-shaft midway between the axles. Fig. 3 shows a side elevation containing pedestal-box, showing method of adjustment, &c. Fig. 4 is a side elevation, partially in section, of the sprocket-wheel, showing its case. Fig. 5 is an end view of case in section where the axle passes through same, showing journals and sprocket-wheel. Fig. 6 is a detail.

Similar letters of reference indicate like parts throughout the several views.

A indicates the ordinary truck-frame supporting the car either by transom and swivel A' or by springs or direct attachment in any other well-known way. This frame may be supported by springs or rubber cushions A'', extending downward and being supported by the pedestal B. (See Fig. 3.) The pedestals in Fig. 1 are shown as of two kinds, one being adjustable and the other being of the ordinary construction. However, in Fig. 2 the axles, one of which only is shown, are both supported in adjustable pedestals, so that the sprocket connection from the intermediate axle, which in this case is connected with the motor, may each be tightened by throwing its

axle back or outward from the center of the truck.

B' illustrates the axles of the truck carrying the truck-wheels B'', which are secured rigidly upon the axles. The pedestal-boxes may be so arranged as to be adjustable in the pedestals, but must be guided so as to hold alignment with the pedestals. This is shown by the flanges C and C' upon the upper and lower extremities of the boxes. Corresponding flanges are also found upon the side of the pedestal nearest the wheel, ways being formed in the pedestal in which this flanged box may travel. The lower way C'' is removable for the purpose of insertion of the box, as shown.

Above the box is preferably an elastic cushion D, protected above and below by wearing-plates of metal, D', (see Fig. 6,) which are held relatively to the movement of the box by pins D'', which serve also to hold the cushion in position and which pass through the flanges of the box and partake of the movements of adjustment. In this way the cushion is always held directly above the box between it and the pedestal.

In one of the sides of the jaw of the pedestal are two apertures, which are screw-threaded to receive screws E and E'. Interior to and in an adjacent portion of the pedestal these two screws are connected by sprocket wheel and chain, as shown in dotted lines. Set-screws L' are used with soft-metal plugs underneath to secure the box after it has been adjusted by firmly holding the screws E and E' in position. Screw E, however, extends out to a point beyond the wheel B'', where a sprocket and nut E'' are provided, and a chain F extends over to the corresponding screw of the pedestal-box on the opposite side of the same axle, as will readily be understood. This chain is shown in Fig. 1. This axle is connected to the power-shaft by a chain F', which operates in connection with a sprocket F'' secured thereto. It will readily be understood that the axle B', which is journaled in the pedestal B, may be the power-receiving axle and transmit its power by chain F to the stationary axle; but the reverse order is preferred. I prefer to use a casing over the sprocket to prevent noise and to contain oil for the sprocket and chain.

These are shown in Figs. 1, 2, 4, and 5, and are indicated by the letter G. They consist of an upper part, which is indicated by G', and a lower part, indicated by G. Either part is provided with a lip G'', which helps to guide the other portion, and are bolted together, so as to grasp the axle in any of the well-known methods. These may be provided with oil-plugs O. Wherever one of the axles, as in Fig. 4, moves with respect to this case, or both of the axles, as in the case in Fig. 2, the connection between the axle and the case must be a sliding one. The construction I have adopted to provide for this arrangement, and at the same time prevent the egress of oil and introduction of dust within the case, I have illustrated in Figs. 4 and 5. The case is provided with an oblong hole consisting of the outwardly-projecting flange H, supported by brackets H'. These rest upon a journal I, which is provided with an apron I', which extends in either direction therefrom, the gutter formed by a projection from the casing indicated at I''. The journal is made rectangular (shown at K) where the casing bears upon it, so as to provide for a better surface for the flange H. The apron I' is indicated by dotted lines in Fig. 2. In this figure the power-shaft is intermediate between the two axles, both of which are made adjustable and of the same construction. It is therefore not thought necessary to show them both.

The method by which the power may be delivered to the left-hand axle in Fig. 1 may be understood by reference to my patent, No. 434,097, dated August 12, 1890.

The use and operation of my device will readily be understood from the foregoing specification, and simply consist in employing the sprocket and chain for power transmission in the ordinary way, and the taking up or adjustment of the various parts is useful in compensating for the wearing of the chain, rendering the same less noisy, and also to lessen the distance between the axles when applying or removing the chain. In using a metal chain for driving it will be understood that there is a very large number of wearing-surfaces, and in the flexure of the chain about the sprockets these wearing-surfaces are all brought into play, rendering constant lubrication advantageous. The slight wearing of each will be understood as making a considerable elongation of the chain as a whole, making adjustments of the centers necessary for practical working. A scale L I find very useful for the purpose of showing amount of adjustment, as it will readily be understood that the axles, as the adjustment proceeds, should at all times be kept parallel. The scale is used before applying the chain F or while replacing or altering same and for other purposes for which such scale would naturally be useful in this connection. I have termed it the "indicator."

I have termed the adjustment of the boxes

within the pedestals a "horizontal transverse" adjustment, inasmuch as the adjustment nearly always takes place in this direction and is transverse with reference to the axis of the axles.

It will be readily understood that mechanism can be adapted for adjustment in any other direction, and my invention extends to such use.

Other details of construction will evidently suggest themselves and may be employed without departing from the spirit of the invention. For instance, means other than the ways for connecting the pedestal-boxes upon the pedestal during the movements of adjustment might be used.

Although it is designed to use all these features in connection with one another, yet it is obvious that one or more of them may be used without the others, and the invention extends to such use.

Having thus described my invention, what I claim is—

1. In a truck for a vehicle, two axles substantially parallel to each other, a chain-and-sprocket power-transmitting connection between the two axles, and means provided for changing the distance between the centers of such axles, forming a take-up for wear upon chain and sprocket.

2. In a truck for a vehicle, an axle, journals for such axle at or near its extremities, means provided for the adjustment of said journals between each of such journals and the truck-frame, and connections between such mechanisms for their simultaneous operation.

3. In a truck for a vehicle, an axle supporting a chain-and-sprocket power-driving connection to another axle, a pedestal substantially such as described, containing a pedestal-box for the axle which is adapted for transverse horizontal movement, and mechanism between the pedestal-box and the pedestal for adjusting their relative position, in combination with devices for securing the parts in position after adjustment.

4. In a truck for a vehicle, a car-axle supporting a chain-and-sprocket power-driving connection to another axle, a pedestal substantially such as described, containing a pedestal-box for the axle which is adapted for transverse horizontal movement, mechanism between the pedestal-box and the pedestal for varying their relative position, and an indicator to indicate the relative adjustment of the parts.

5. In a truck for a vehicle, two or more axles, sprockets and chain-power-transmitting connection between such axles, an oil-containing housing supported on the axles by journals, and a slip-joint provided between such housing and the journals to allow of a change of distance between the axles, for the purposes specified.

6. In a truck for a vehicle, an axle, a power-driving connection to such axle, and a case enclosing such power-driving connection sup-

ported upon such axle by journals which have a slipping connection with the casing.

7. In a truck for a vehicle, an axle, a power-driving connection to such axle, a case inclosing such power-driving connection supported upon such axle by journals, and an aperture in the casing for receiving the journal, the aperture being larger than the journal, combined with an apron or flange extension of the journal for covering the aperture in the casing.

8. In a truck for a vehicle, an axle, a power-driving connection to such axle, a case inclosing such power-driving connection supported upon such axle by journals, an oblong aperture in the casing for receiving the journal, said aperture being larger than the journal upon two sides and touching or grasping the journal upon its other two sides, and an apron or flange extension of the journal for covering the aperture in the casing.

9. In a truck for a vehicle, an axle, a power-driving connection to such axle, a case inclosing such power-driving connection supported upon such axle by journals, and an aperture in the casing for receiving the journal, the aperture being larger than the journal, combined with an apron or flange extension of the journal for covering the aperture in the casing, and a gutter or cup-shaped projection provided upon the casing adjacent to the edges of the flange or apron projection of the journal.

10. In a truck for a vehicle, two axles, power-driving connection between the two axles, a housing extending from one axle to the other and resting thereon, journals provided upon one axle, separate journals upon the other axle, and connections between such journals to the housing for the support of the housing.

11. In a truck for a vehicle, two axles, power-driving connection between the two axles, a housing extending from one axle to the other and resting thereon, journals provided for the reception of one axle and a separate journal on the other axle for the support of the housing, and a slipping joint

between the housing and the last-named journal.

12. In a truck for a vehicle, a pedestal containing a jaw materially larger than the pedestal-box as to horizontal dimensions, a pedestal-box contained therein adapted to move along the jaw and to take up different positions therein, and means between the pedestal-box and the pedestal for movement of said box, an axle contained in said box, and a sprocket-and-chain power-driving connection mounted upon such axle and connecting same with another shaft or axle within the truck, substantially as and for the purposes specified.

13. In a truck for a vehicle, an axle, a pedestal containing a pedestal-box for the axle which is adapted for transverse horizontal movement, mechanism between the pedestal-box and the pedestal for varying their relative position, and an elastic medium inserted between the pedestal-box and the pedestal.

14. In a truck for a vehicle, an axle, a pedestal containing a pedestal-box for the axle which is adapted for transverse horizontal adjustment, mechanism between the pedestal-box and the pedestal for varying their relative position, an elastic medium inserted between the pedestal-box and the pedestal, and means provided for securing such elastic medium to the pedestal-box, so that it may partake of the movements of such pedestal-box.

15. In a truck for a vehicle, two pedestals, an axle, two pedestal-boxes for such axle, each pedestal arranged for relative transverse horizontal adjustment of the boxes, mechanism located within each of the pedestals for the adjustment of the boxes, and connections extending from the mechanism in one box to the mechanism in the other for simultaneous operation of the said adjusting mechanism.

ELMER A. SPERRY.

Witnesses:

HERBERT E. GOODMAN,
AMANDUS M. HEYL.