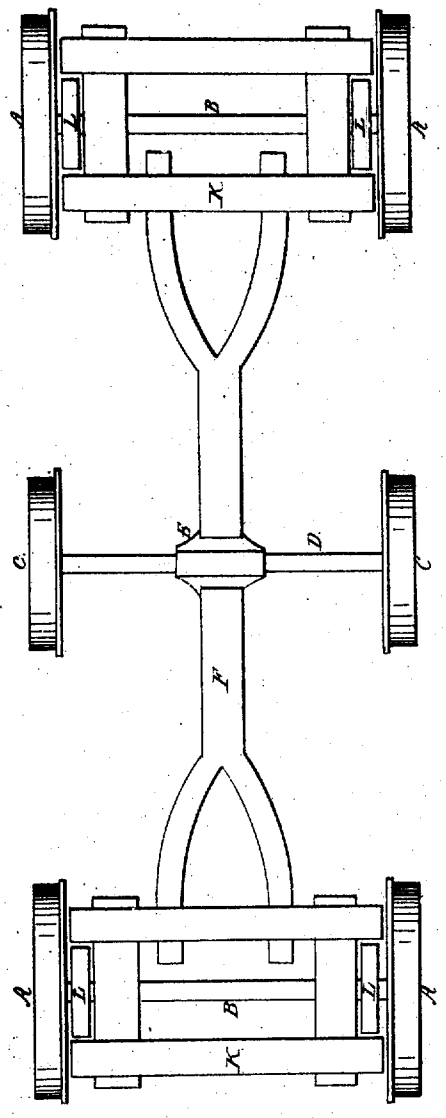
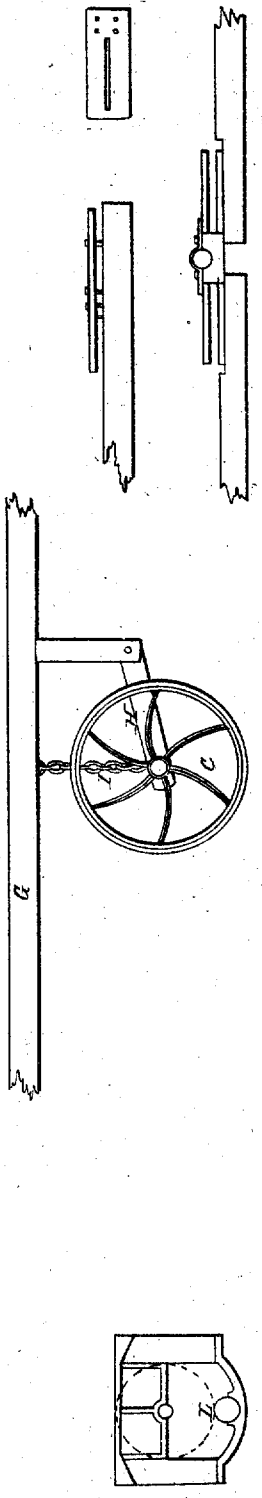
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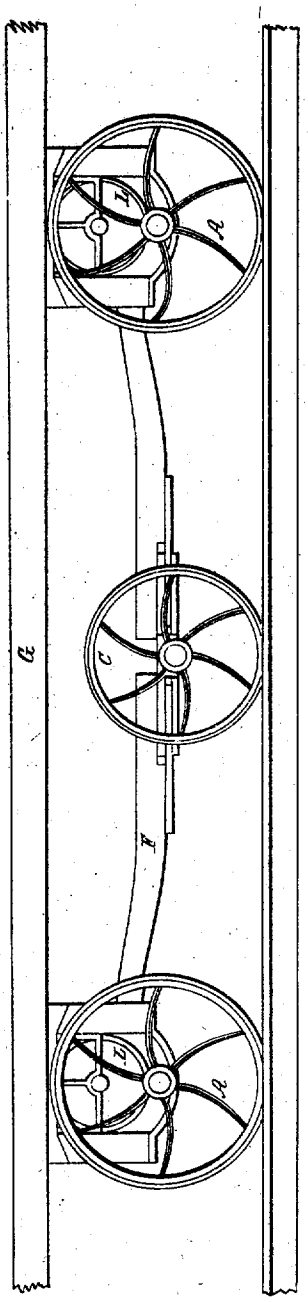
L. WERNWAG.

Car Truck.

Patented Nov. 16, 1831.







Mar 16. 1831 295

Louis Hennessy Harpersferry Virginia

Letters Patent

6842x

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Louis Hennessy himself of his improvement called Hennessys self regulating self directing Rail Road Car

To all whom these Louis Hennessy of Harpersferry County of Jefferson and State of Virginia have made improvement being a self regulating or self directing Rail Road Car which is described as follows. This Rail Road Car consists of the following parts. 1 The flange wheels with their axles. 2 The bounds and guiding feet. 3 The frame on which the carriage is placed. 4 The friction wheels or rollers.

1. The flange wheels with their axles. Four of the flange wheels are made in the usual form, but without a cone. Two light wheel, called regulating wheels are placed on the centre of the carriage axle about 1/8 an inch or 3/16" of an inch between the flanges or shoulder of the axle longer than the axles of the main wheels: this is done to make the regulating wheels act quicker. One of the regulating wheels as well as one of the main wheels is made stationary and the other revolves on the axle. to accommodate themselves to the curve. on the regulating axle are two flanges projecting from the body of the axle two in the centre about 3/16" of an inch embraced by a metal box made in halves in the form of a "T" both ways from the centre, and screwed together so as to let the axle turn freely and hold oil. On the axle of the bought flanges might be made stationary and both the wheels made to revolve. The main axles are made as usual, but the regulating axle must be made quite light. On the frame are suspended two sliding bars in which the regulating axle turns. They are made to slide up and down so as to prevent the flanges from being injured by any inequalities in the Railroad. The bars of the main axles are depressed and

The axles turn the usual way— 2. The Hounds and guiding Pole
These are made as usual in a common waggon. The coupling or guiding
pole is made in two equal parts, and secured by bolts to the bar
before mentioned in an oblong mortice or mortices with holes in the
same like in the T about 1½ inch apart to admit of a bolt
for determining the quickness or slowness of the curve for regulating
the carriage in the curve according to the desire of the conductor of the car
riage— 3. The frame on which the carriage is placed. This may
be made curved or straight in the usual mode and of any convenient
length. On the ends of this frame is hung a bar with a moveable joint
This bar to be of any convenient length and strength. On the ends of this
bar is a metal box which embraces the middle axle tree at each
end in which it moves or slides endways and will keep the main
axles in a proper position for passing the sweep. The bar embra
cing the end of the axle tree may be hung with a chain from the frame
so that the regulating wheels may be stationary in a straight line, and the
flange only touch the iron rail when it is required to move in a curve
4. The friction wheels or rollers. These are all friction wheels are placed
at each end of the carriage under the bolster to make the regulating
part more easy. Any kind of friction rollers for the main axles turn
in may be used at pleasure— Operation— When the Rail Road is straight
then the wheels all move parallel to each other but when the carriage comes
to a curve the flange of the regulating wheel comes in contact
with the iron rail and instantly throws the centre of the guiding pole out of
a straight line. And then draws the fore and hind axle bars and their
wheels to the centre of the radius of the sweep of the curve. Thus moving
the carriage in its course without any additional power and without
any injury to the rails. As the wheels can be placed at any required distance
apart and the carriages made of any length. long carriages to carry any num
ber of passengers can be moved without inconvenience.
What I claim as my invention and wish to be secured by Letters Patent is the
before described method of making Rail Road carriages with self-regulating
or self-directing wheels and axle trees as shewn and described

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principle for guiding Rail Road Carriages may also be applied to Locomotive Engines on Mc Adamized and other Roads by means of Rack and Pinion Rolling and Grid, or by any other means adapted to the purpose. For further Illustration of my invention I refer to the models and drawings of the same deposited in the Patent Office. In Testimony whereof I have hereunto subscribed my name & affixed the impression of the Seal of the City of Washington this 16th day of November 1831

Witnesses
William Elliot
Chs. M Keller

Louis Wernwag

&c
Chf. W