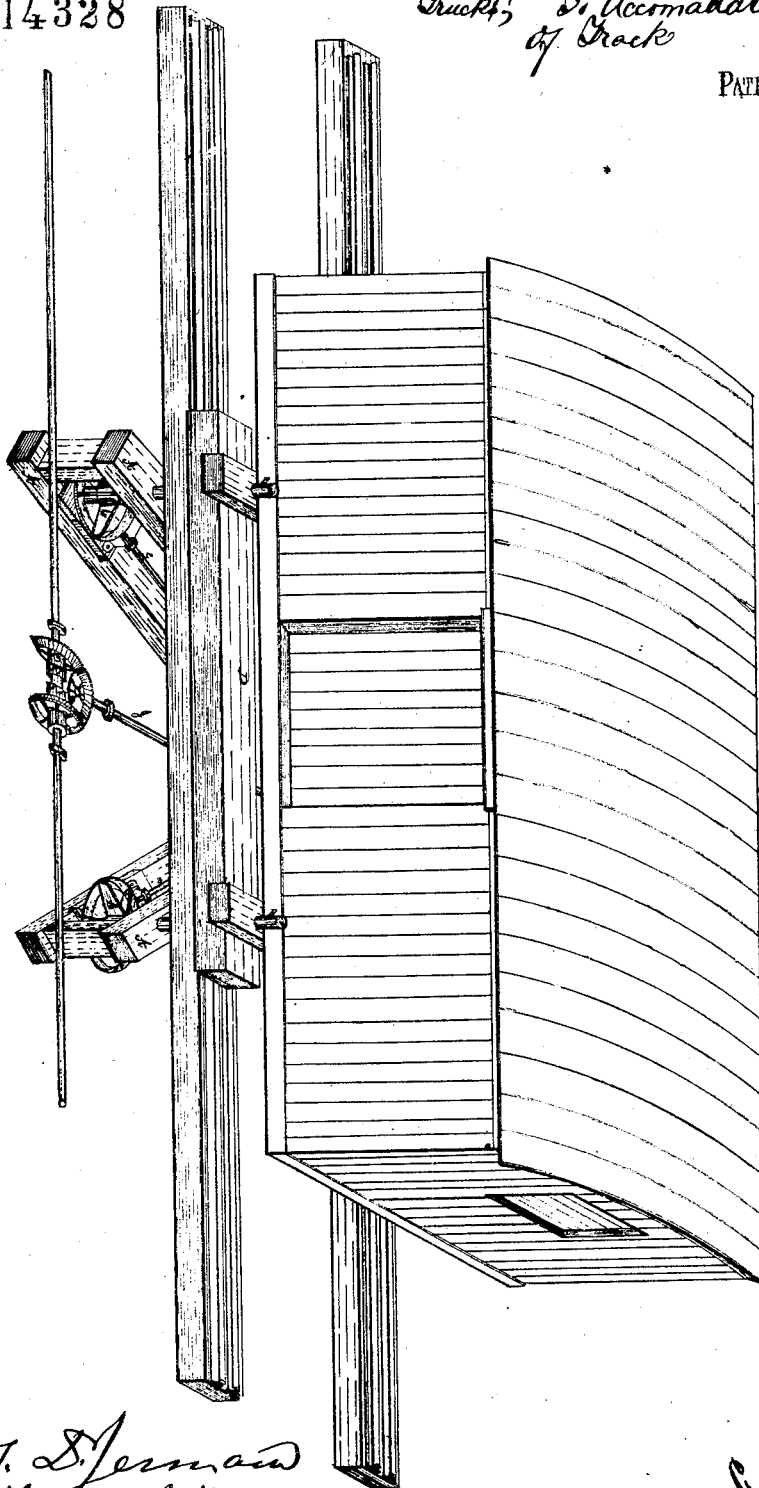


Sheet 1

114328

*Miller's Method of Raising Cars and Changing  
Trucks; So Accomodate Different widths  
of Track*

PATENTED MAY 2 1871



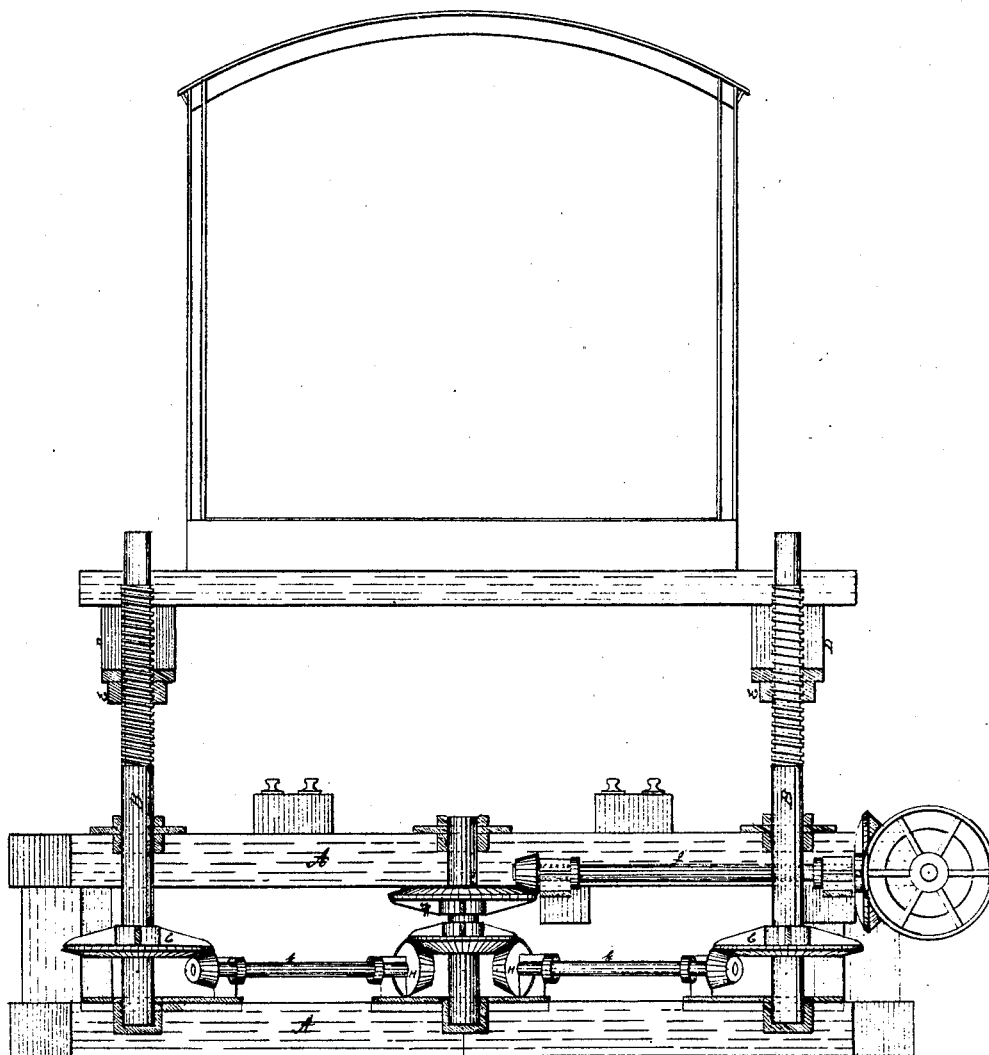
*J. S. Jernam  
Alexander Miller*

*Witness*

*Grafton T. Miller  
Inventor*

Sheet 2.

Nutter's Method of raising Cars and  
changing Trucks; To Accomodate  
different widths of Track

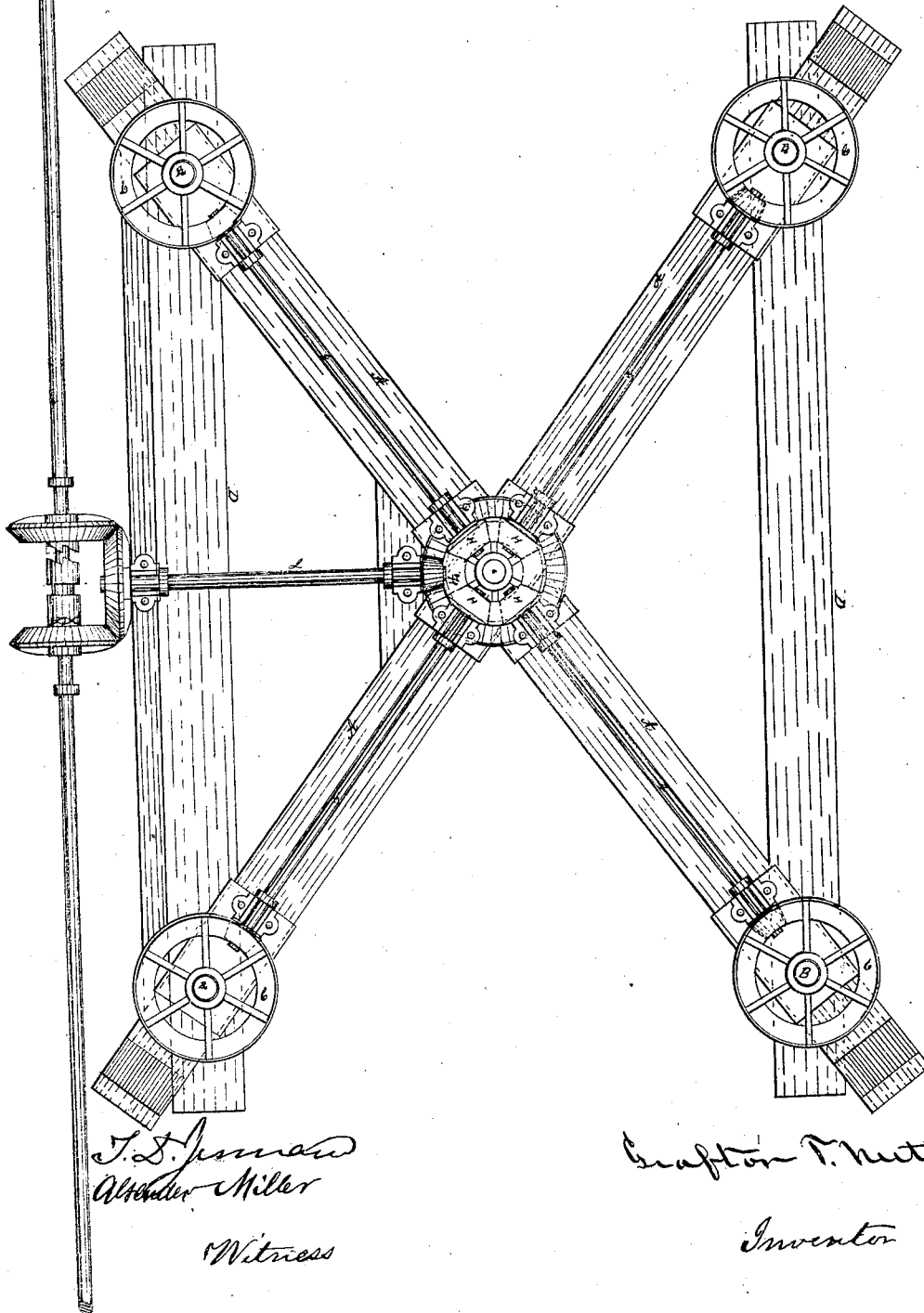


J. S. Jernard  
Alexander Miller  
(Witness.)

Grafton T. Nutter  
Inventor.

Sheet 3.

Nutters Method of raising Cars and  
Changing Trucks to Accomodate different  
widths of Rack



J. S. J. J. J.  
Witness

Grafton T. Nutters

Inventor

# UNITED STATES PATENT OFFICE.

GRAFTON T. NUTTER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN APPARATUS FOR LIFTING LOCOMOTIVES, TRUCKS, AND RAILROAD CARS.

Specification forming part of Letters Patent No. 114,328, dated May 2, 1871.

Be it known that I, GRAFTON T. NUTTER, of Jersey City, in the State of New Jersey, have invented a new and Improved Machine for Lifting Locomotives, Tenders, and Freight and Passenger Cars upon Railroads, and elevating the same over and above the track for the purpose of shifting the trucks or running-gear from a narrow to a wide gauge, or vice versa.

The nature of my invention consists in a combination of shafts, cog-wheels, pinions, and screws, firmly held in a metallic or wooden frame, and arranged in such manner as to cause the said wheels to act simultaneously upon a series of perpendicular screws placed at or near the extreme points of the frame, thereby causing the said screws to revolve either to the right or the left, and to elevate or withdraw a movable platform attached thereto.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, reference being had to the accompanying drawing and to the letters of reference marked thereon.

## *The Frame.*

The frame A A may be of wood or metal, having sufficient strength to resist the weight of the pressure of the locomotive or car raised by the lifting-screws. No particular form of frame is absolutely required, but the whole must be so arranged and fastened together with bolts and sockets or bearings as to bring the lifting-screws and their connecting-machinery into their proper positions when attached thereto.

## *The Lifting-Screws.*

At or near the extreme points of the frame are set, in bearings or sockets, the lifting-screws B B. These may be at any required distance from each other and from the center of the frame. Immediately above the lower socket-bearings of the screws is attached a beveled cog-wheel, C C, the cogs being on its under face. These wheels may be of any suitable diameter and weight of metal.

## *The Movable Bars.*

Two strong timbers or metallic bars, D D, are rested upon each pair or set of screws, and sustained in position or moved up and down by

means of the screws which are worked within a series of nuts, E E, said nuts being of metal and screwed or otherwise fastened to the under side of the bars D D.

## *The Center Wheels.*

The large center wheels F F consist of an upright shaft or pinion properly adjusted to sockets or journals, to which are affixed two cog-wheels, to wit: An upper wheel, being the largest of the two, and having its cogs beveled from their inner circle downward, or vice versa; and a lesser cog-wheel, with its cogs beveled in the inverse order, or from their inner circle upward, or vice versa.

## *The Horizontal Shafts.*

From the lower center wheel to the several cog-wheels of the screws above described horizontal shafts G G are extended and held in sockets or journals of a suitable construction. To the inner extreme of each shaft is attached a cog-wheel, H H, beveled, and geared to the lower central wheel, and upon its outer extreme is attached a smaller cog-wheel, beveled, and geared in a corresponding manner to the wheel C of the lifting-screws. It will be observed that the revolving of the center wheel either to the right or the left contributes motion to the several shafts and thence to the lifting-screws.

## *Direct Application of Power.*

The propelling force is applied to the upper central wheel by means of a horizontal shaft, I, held in sockets fixed to the stationary framework over and above the several shafts and wheels before mentioned. To the inner extreme of this shaft is attached a cog-wheel, beveled and geared to the upper central wheel. To the outer extreme of this shaft a larger cog-wheel is attached, to which may be geared a wheel of any required dimensions, to be set in motion and run by steam or other suitable power.

## *Mode of Operation.*

The machine constructed as above is to be stationed underneath a section of the railroad track at the point where the change from a narrow to a wide gauge or track, or vice versa, is to be effected. The cars are then brought

into position between the two beams or bars. Two or more strong bars or levers are then placed transversely beneath the car, and resting at either end upon the said beams; the power being then applied and the machinery set in motion, with a right action upon the screws, the movable platform or series of bars is forced upward, carrying with it the car. By the inverse motion of the machine the same is lowered.

I do not claim as my invention any one of the several parts of machinery above described; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The combination of four or more shafts with

cog-wheels and pinions, operated upon by a driving-shaft which sets in motion a central wheel, from which motion and power are delivered to four or more lifting-screws perpendicularly set at points more or less remote from the center, for the purpose of lifting locomotives and cars from a railway track and effecting a speedy change or adaptation of trucks or running-gear to the altered gauge of the track, in the manner and by the means above specified.

GRAFTON T. NUTTER.

Witnesses:

T. D. JERMAN,  
ALEXANDER MILLER.