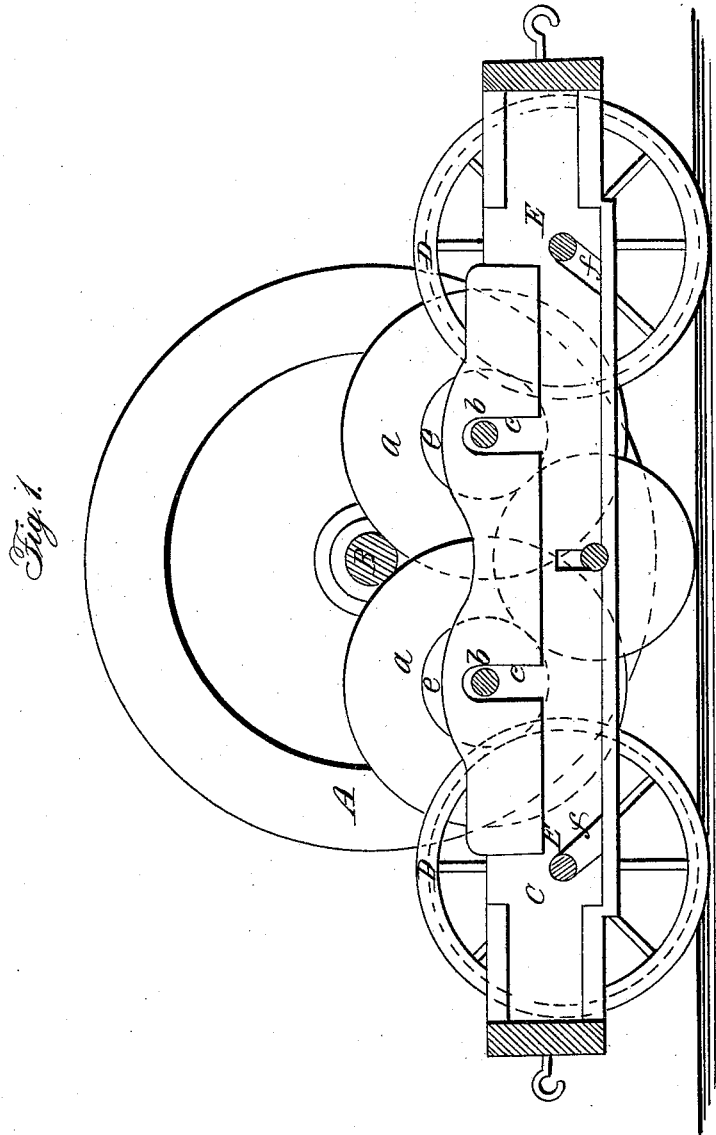


C. SCHOUBERSZKY.

Car Truck.

No. 46,316.

Patented Feb. 7. 1865.



Witnesses:

*Theo. Leach*  
*Wm. Brown*

Inventor:

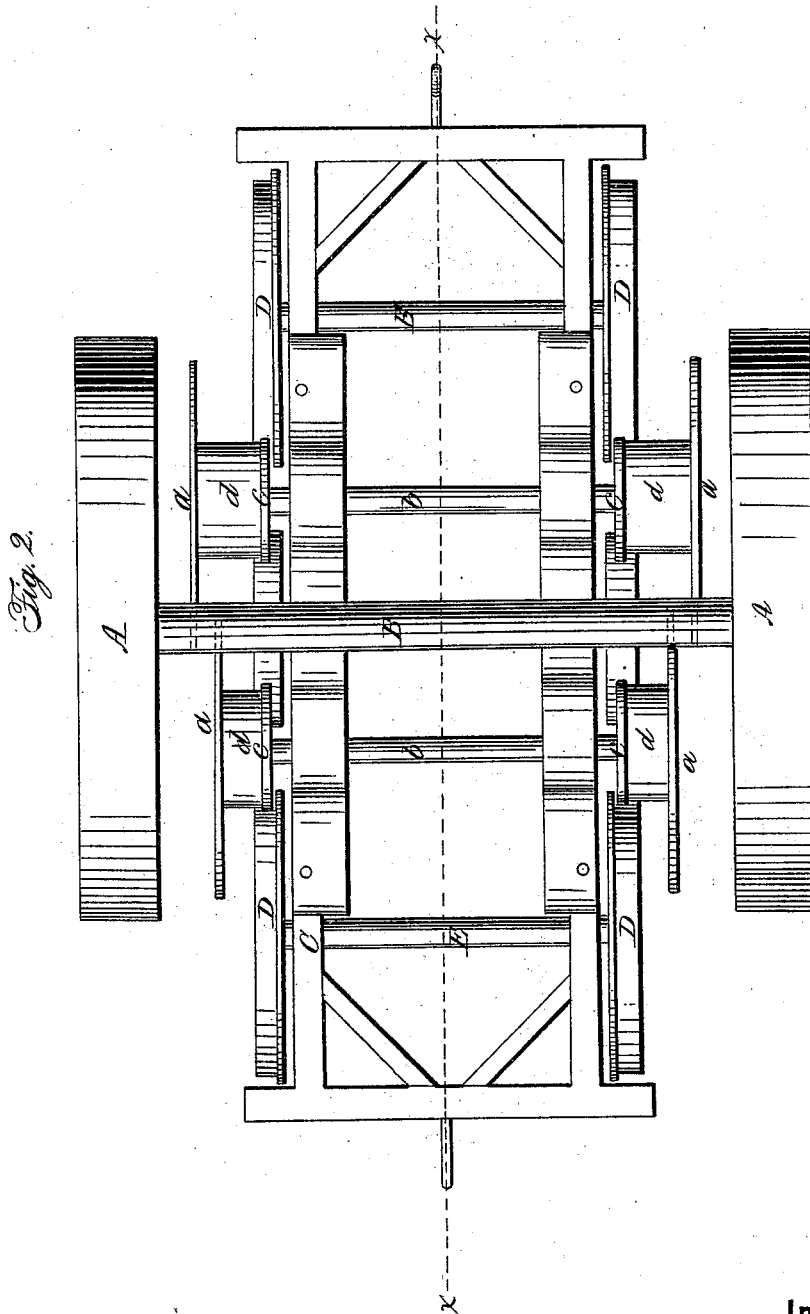
*C. Schouberszky*  
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*Attorneys*

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**Inventor:**

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# UNITED STATES PATENT OFFICE.

CHARLES SCHOUBERSZKY, OF ST. PETERSBURG, RUSSIA.

## IMPROVED MODE OF REGULATING MOTION OF RAILROAD-CAR TRUCKS.

Specification forming part of Letters Patent No. **46,316**, dated February 7, 1865.

### *To all whom it may concern:*

Be it known that I, CHARLES SCHOUBERSZKY, of St. Petersburg, Russia, have invented a new and Improved Apparatus for Regulating the Velocity of Trains on Railroads, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention, the plane of section being indicated by the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate like parts.

The object of this invention is an apparatus which will regulate the velocity of trains on railroads, to retard the velocity on declines, and to assist the locomotive in drawing the trains up on grades.

The invention consists in the employment or use of two heavy fly-wheels secured to the ends of an axle which rests either directly or indirectly upon the driving-wheels of a truck in such a manner that by the action of said fly-wheels the velocity of the truck is rendered uniform, and the momentum stored up in said fly-wheels when the truck is going down hill will assist the locomotive in drawing a train up on an incline.

A A represent the two fly-wheels, which are secured to the ends of an axle, B. Said fly-wheels are made as solid and substantial as possible, their rims being by preference made of steel, so that they will be capable of running at the greatest possible velocity. The axle B of these fly-wheels is supported by four disks, *a*—two on each side of the truck C—and said disks are mounted on the ends of axles *b*, which play freely in guide-slots *c* in the longitudinal side timbers of the truck, as clearly shown in the drawings. The disks *a* are provided with hubs *d*, the inner ends of which form projecting flanges *e*, that rest upon the peripheries of the driving-wheels D. These wheels are constructed in the manner of ordinary car-wheels, and they are mounted on axles E, which have their bearings in oblique slots *f* in the side pieces of the truck, or in suitable boxes secured in said side pieces.

The weight of the fly-wheels is thus equally divided upon the driving-wheels and the tractive power of said wheels is proportionately increased. Furthermore, by the friction of the axle B on the disks *a* the rotary motion of said axle is transmitted to the disks, and through the disks to the driving-wheels, and if a rapid motion has been imparted to the fly-wheels the truck moves along with considerable power. As the fly-wheels require a great mechanical force to change their velocity, the apparatus has such an effect on declines of the road that it will absorb, or nearly so, the increase of velocity which otherwise would be produced by the gravity, and in ascending grades the power thus stored up in the fly-wheels assists the locomotive in drawing the train.

The operation of storing up power in this apparatus while running on level portions of the road or on small grades can be effected by the locomotive working with full power, and by its aid much larger trains can be drawn upon the roads already existing than by the locomotives now in use, or in constructing new roads the grades can be made much greater without diminishing the weight of the trains. By admitting steeper grades the cost of earthworks, bridges, viaducts, and tunnels is considerably reduced, and the length of the road can be shortened, so that the cost of construction would be materially diminished. Furthermore, since my apparatus will regulate the velocity of the train in running down hill, there will be no necessity to use the brakes, which, when applied, cause great injury to the wheels and to the rails. In order to stop the train when the fly-wheels are in motion, the axles of the disks *a* are lifted up by wedges or other suitable means, so as to throw the flanges *e* out of contact with the peripheries of the driving-wheels. On railroads with long and heavy grades, it would be advantageous to apply a steam-cylinder to set the apparatus in motion, the steam being taken from the boiler of the locomotive.

It is obvious that instead of the friction-disks between the axle of the fly-wheels and the peripheries of the driving-wheels other devices might be employed. The friction wheels might be dispensed with, or they might be arranged in various different positions, and I

do not wish to restrict myself in this respect to the particular arrangement represented in the drawings, but reserve the right to change those parts as convenience may dictate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The fly-wheels A A, connected to an axle,

B, and supported by the peripheries of the driving-wheels of a truck with or without intermediate friction-wheels, substantially as and for the purpose set forth.

CHARLES SCHOUBERSZKY.

Witnesses:

PETER GOETIE,  
NICOLAI ZIMINZ.