J. L. CONSTABLE.

Car Wheel.

No. 52,683. Patented Feb. 20, 1866.

Fig. 1

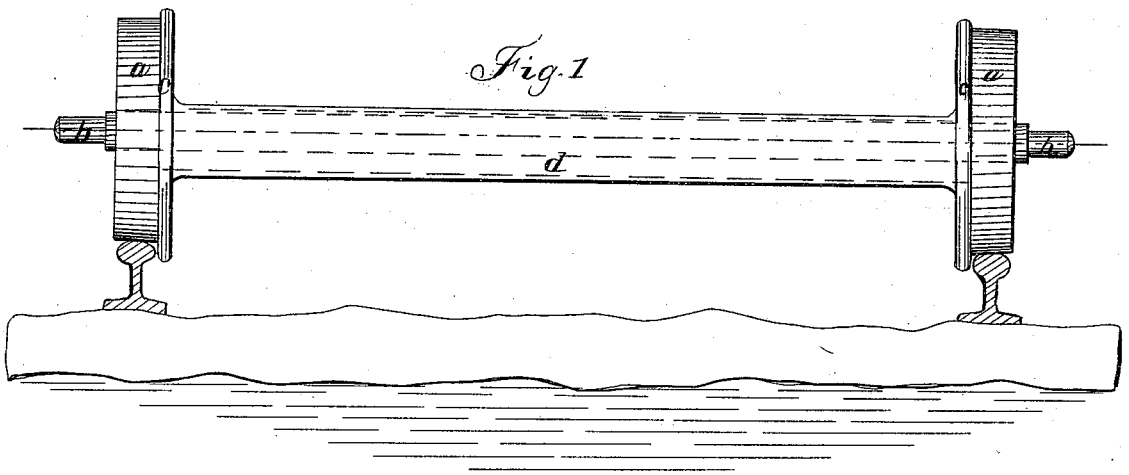
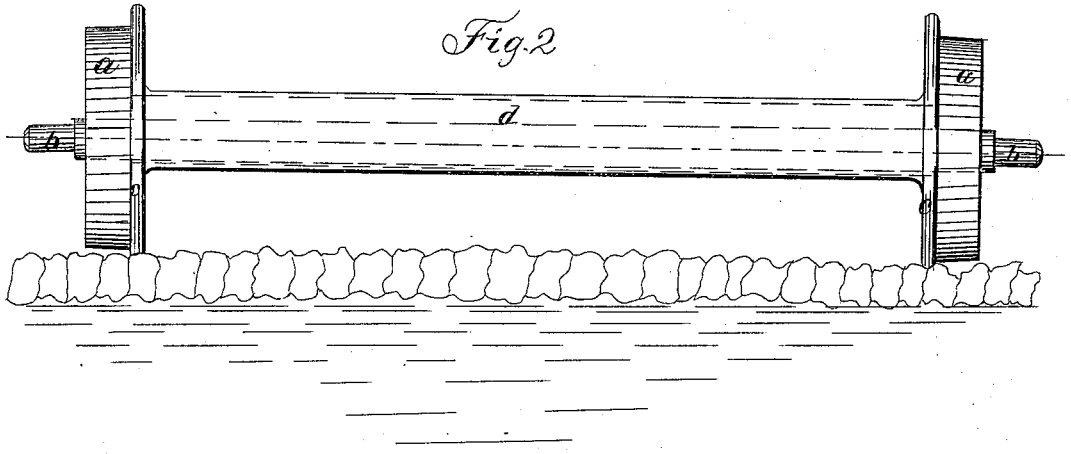


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN L. CONSTABLE, OF NEW YORK, N. Y.

IMPROVED CAR-WHEEL.

Specification forming part of Letters Patent No. **52,683**, dated February 20, 1866.

To all whom it may concern:

Be it known that I, JOHN L. CONSTABLE, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Car-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to construct car-wheels in such a manner that while they will be fully protected by flanges from running off the track, they will rest on their treads when used on roads or pavements, and also that they may be so applied to cars that they will traverse around curves without the grinding action inseparable from the ordinary fixed wheels on a single axle.

To accomplish this object my invention consists in fixing to the ordinary axles wheels that have no flanges, and in supplying the flanges on a hollow axle carried loosely on the wheel-axle between the wheels in such a manner that when the hollow axle hangs on the wheel-axle and the flanges are otherwise unsupported they project below the tread of the wheels a sufficient distance to prevent their running from the track; but when the car is removed from the track and placed upon an even roadway the flanges and hollow axle are lifted from the wheel-axle and merely rest and travel upon the ground, while the weight of the car is supported only on the treads of the wheels.

To enable others skilled in the art to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

Figure 1 represents a pair of wheels standing upon a pair of rails, and Fig. 2 the same resting on the ground.

The wheels *a a* are made without flanges and secured to the axle *b* in the ordinary manner.

The flanges *c c* are cast or keyed on a hollow shaft, *d*, that, in Fig. 1, hangs on the wheel-axle *b* and permits the flanges to pass between the rails, so as to resist any tendency of the car to a lateral displacement from the track. In Fig. 2, however, the flanges are no longer supported by the axle, but simply rest upon the ground, while the entire weight of the load still remains on the tread.

By this means may be gained not only the advantage of retaining the weight on the tread of the wheels, where it belongs, in those exceptional instances where the car may be off the track, thereby avoiding the breakage of flanges and consequent destruction of wheels, and perhaps more serious accidents, but by carrying the hollow-flange axles in journals that may be moved up and down a few inches the advantages of separate or loose wheels on curves may be combined with those of fixed pairs on straight lines.

With the weight on the treads of both wheels, and those of the same size and fixed to the same axle, there is no tendency to divert their parallel action from a straight line; but in turning a curve with a city car, for instance, instead of grinding both wheels on their rails in the attempt to balance the less and the greater distance to be traversed on the respective rails by a uniform rotation and travel of the wheels, in the arrangement I have described the journals carrying the hollow axle may be fixed down with a lever or screw, or other means of management, so that when the outer wheel strikes the curve the flange cannot rise, and must, therefore, carry the weight on that side; and as its rotation is independent of the inside wheel, that carries the weight on the other side, they both make just the number of turns required to traverse the distance respectively required, and work together harmoniously and without the grinding that would otherwise ensue and be so destructive to the whole car, as well as the wheels and track that are more directly included.

By means of some method such as I have described for controlling the position of these independent flanges they may be kept fastened down when on the track, and when it is desired to remove the car from the rails they may be lifted out of the way.

I claim as my invention and desire to secure by Letters Patent—

The combination of the wheels and independent flanges, substantially as described.

JOHN L. CONSTABLE.

Witnesses:

THOMAS DAY,

WM. KEMBLE HALL.