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DRAFT TIMBER REINFORCEMENT.  
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905,152.

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Fig. 1.

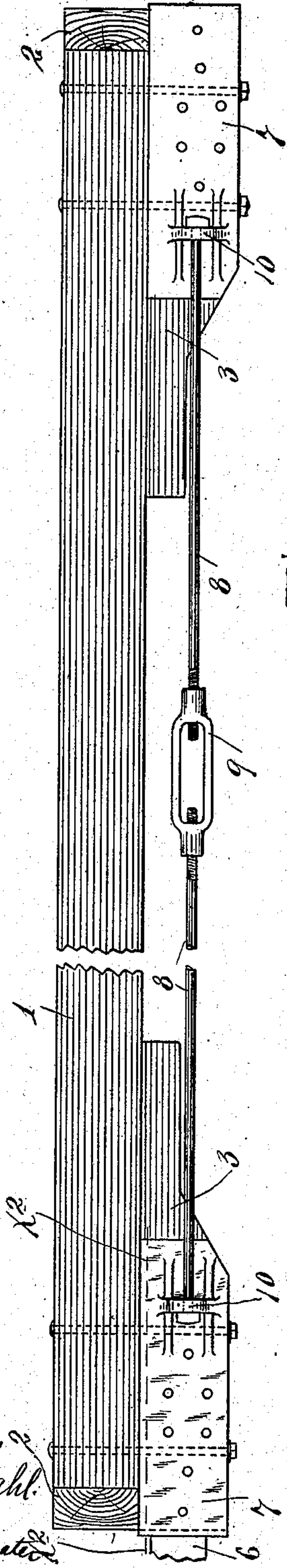


Fig. 2.

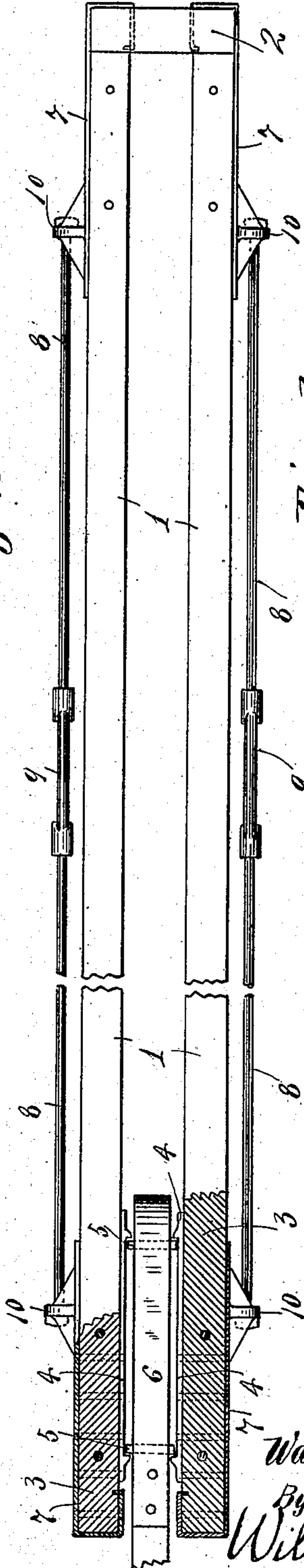
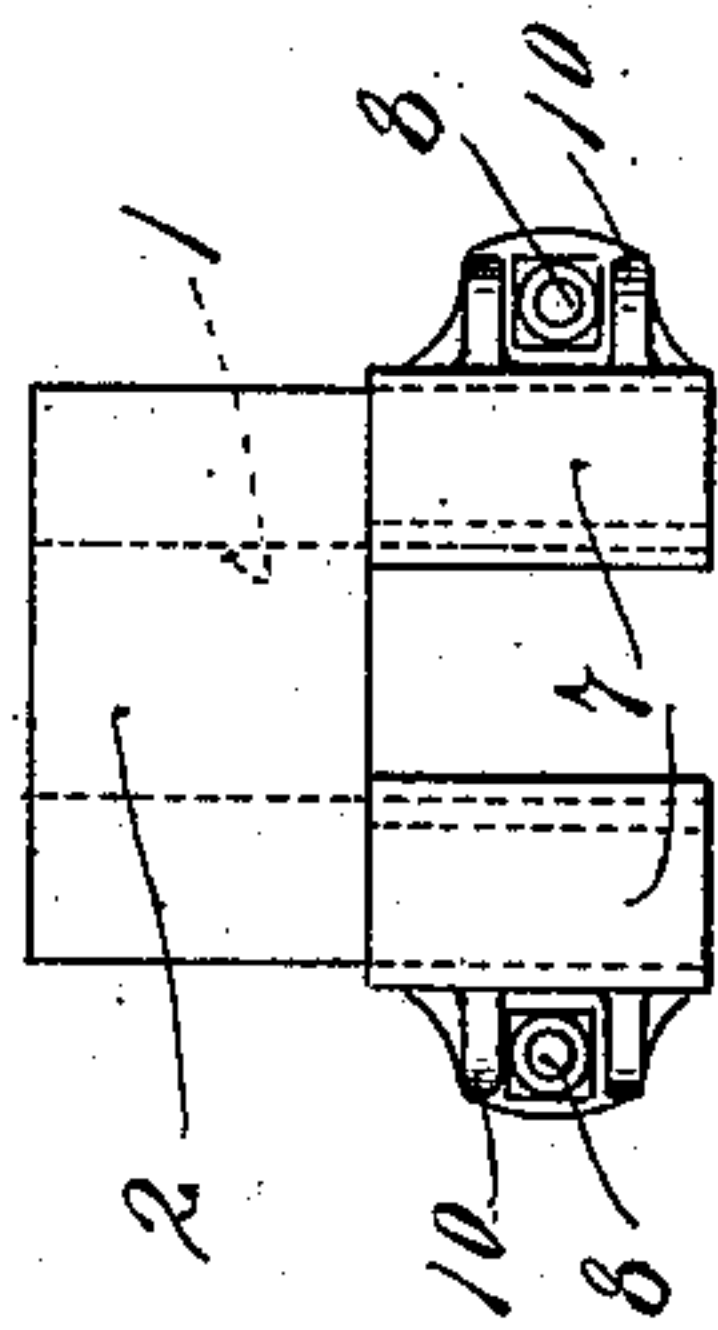


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## DRAFT-TIMBER REINFORCEMENT.

No. 905,152.

Specification of Letters Patent.

Patented Dec. 1, 1908.

Application filed September 16, 1907: Serial No. 392,982.

*To all whom it may concern:*

Be it known that I, WALTER W. DECKER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Draft-Timber Reinforcements; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a reinforcement for the old standard or ordinary draft timbers of cars; and to this end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like notations refer to like parts throughout the several views.

In said drawings Figure 1 is a view, in side elevation, showing the center sills and draft timbers reinforced in accordance with my invention, some parts being broken away. Fig. 2 is a plan view of the parts shown in Fig. 1 but with a portion thereof shown in horizontal section on the line  $x^2 x^2$  Fig. 1; and, Fig. 3 is an end elevation of the sills and reinforced draft timbers shown in Figs. 1 and 2.

The numerals 1 represent the center sills of an ordinary old standard wooden car and the numerals 2 the end pieces connecting and spacing apart the said sills. The numerals 3 represent the ordinary draft timbers strongly bolted or otherwise secured to the sills 1 at the opposite ends of the same. These draft timbers 3 have secured to their inner faces the ordinary standard draft lug plates 4 for coöperation with the followers 5 of the draw bar 6 in the ordinary well known way.

The parts so far specified constitute the old standard draft timbers for the old wooden cars. These stood up fairly well, under the service, as long as these cars were loaded only to the limited tonnage for which such cars were originally designed and customarily loaded under the old standard practice prevailing at the times when these wooden cars were most extensively used. In recent years however, the practice in respect to car tonnage has been revolutionized and now it is the custom to load cars to the maxi-

mum possible tonnage and to adopt cars of greater and greater capacity so as to lessen the expense of their transportation.

A great many of the old wooden cars of comparatively small capacity still remain in use, however, on many of the railroads throughout the country; and these light weight cars become commingled, of necessity, in the trains containing many modern cars of great weight and large capacity. Hence, in the handling and transportation of these freight trains of cars greatly varying in size and strength, the light weight cars become subject to buffing and pulling shocks and other strains of a kind far beyond what such cars were ever designed to take. Moreover, the light weight cars are frequently overloaded far beyond their rated or originally intended capacity. There is an increasing tendency to thus overload the light capacity cars because of the increasing number of large capacity cars. The general result is that the old or light weight cars are becoming less and less equal to the increased strains and more and more of them are crushed to pieces or otherwise impaired and mutilated in the service. The place where these old cars usually give out is in the old draft timbers.

My invention is intended to meet this condition and to equip the old cars to meet the increased strains to which they are now subject in the service, adapting many thereof at the same time to a considerably increased tonnage. To this end, I provide reinforcing plates 7 preferably of a form adapted to embrace the ends of the old draft timbers 3 and be rigidly secured to the bodies thereof and then I connect the plates 7 of the draft timbers 3 secured to each sill by draw rods preferably composed of separate sections 8 connected by turn buckle nuts 9 as clearly shown in the drawings. The reinforcing plates 7 are preferably made of wrought iron or of steel; and, in order to adapt the same to embrace the ends of the draft timbers 3, the outer ends of the plates are of clip-like form and the inner tips of hook-like shape the hook end flanges of which are embedded in the inner faces of the draft timbers 3 as clearly shown in Fig. 2. This detail makes the clip ends of the reinforcing plates 7 withstand a larger tension or strain from the draw bolts before being turned outward or broken off than they otherwise would. As



shown the draw bolt sections 8 are mounted with their heads engaging lugs 10 formed integral with the plates 7.

With this reinforcement, it is, of course, obvious that, by the proper manipulation of the turn buckle nuts 9, the reinforcing plates 7 may be drawn together to the required tension to make the two plates 7 and the two draft timbers 3, applied to a given sill 1, practically one rigid piece or draft connection. It, of course, follows that the full strength of the sills 1 and the draft timbers 3 is reinforced to the extent of the strength added by the plate, 7 and their connecting draw bolts; and, further that this full strength of all the said connected parts is available from each end of the car both for the buffing and the pulling strains. In the old standard construction for the old wooden cars, the pulling and the buffing strains at either end of the car were taken primarily on the pair of draft timbers 3 at that end of the car and the strength of the draft timbers including the sills was limited to the strength of the draft timbers proper or to the central part of the sills 1. It will therefore be seen that this reinforcement is a most radical one greatly strengthening the draft rigging and the entire car body. It should further be noted that this reinforcement can be readily applied to the old cars, just as they are

found, when they come into the shops, or without taking apart the car body or any portion thereof.

What I claim is:—

1. The combination with sills and draft timbers, of reinforcing plates of clip-like form applied to the outer surfaces of said draft timbers, embracing the ends thereof and having their inner end portions turned backward and secured to the inner surfaces of said timbers, and draw rods connecting the main body portions of the longitudinally alined reinforcing plates at the opposite ends of the car, substantially as described.

2. The combination with the sills 1 of the draft timbers 3, the reinforcing plates 7 of clip-like form embracing the ends of said draft timbers and having intumed hook-like ends at the inner extremities of the clips, which hook-like ends are embedded in the inner faces of said draft timbers, and the draw rods made up of sections 8 and the turn buckle nuts 9 connecting the said plates, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER W. DECKER.

Witnesses:

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