March 9, 1943. C. D. GROVE 2,313,235

COUPLING MEANS FOR DOLLYS, TRAILERS, AND THE LIKE

Filed May 6, 1940 3 Sheets-Sheet 1

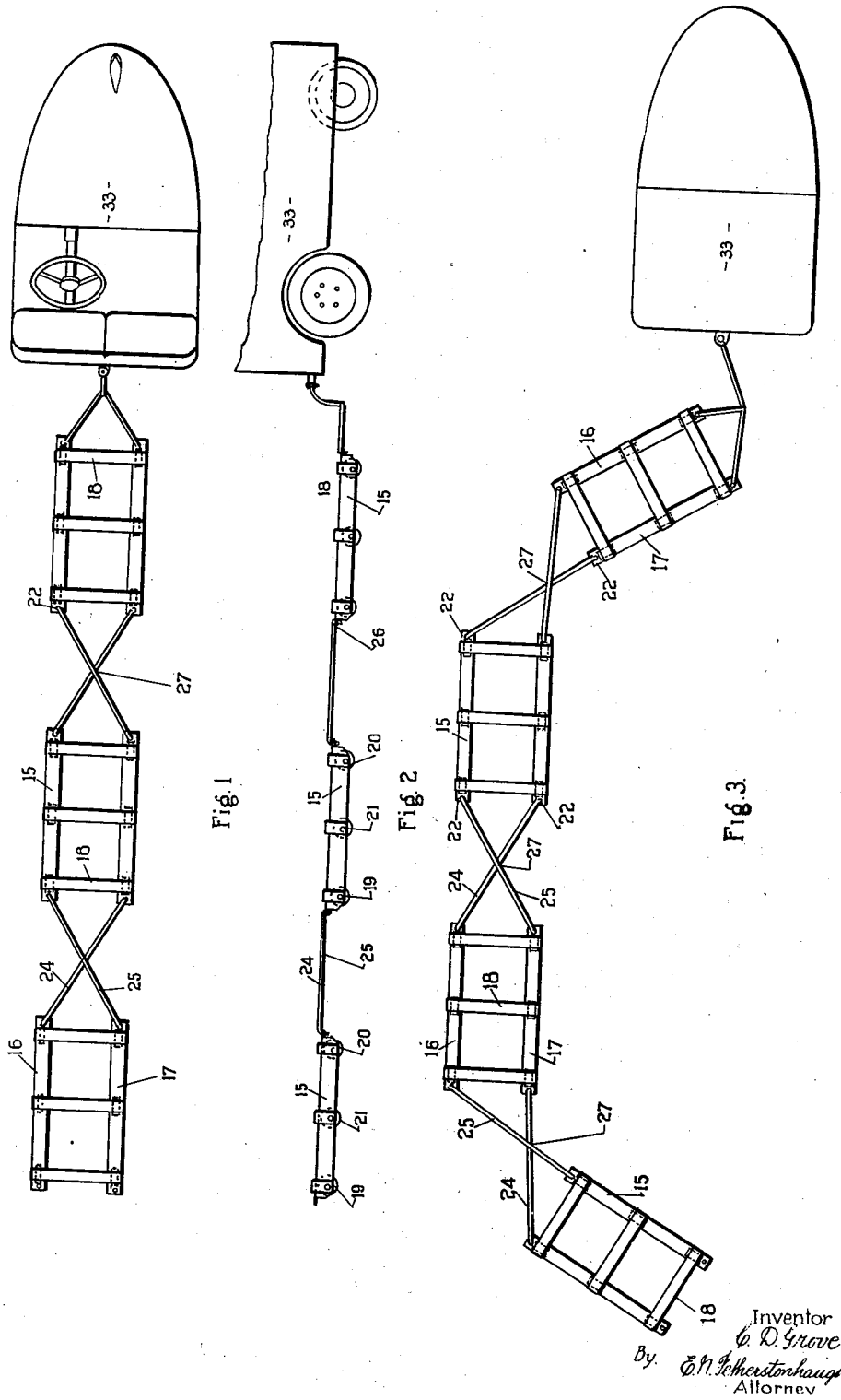


Fig. 1

Fig. 2

Fig. 3

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COUPLING MEANS FOR DOLLYS, TRAILERS, AND THE LIKE

Filed May 6, 1940 3 Sheets-Sheet 2

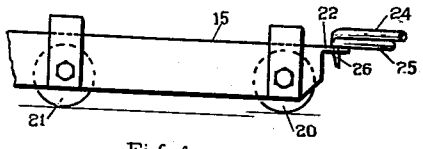


Fig 4.

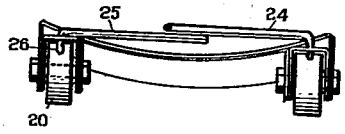


Fig. 5.

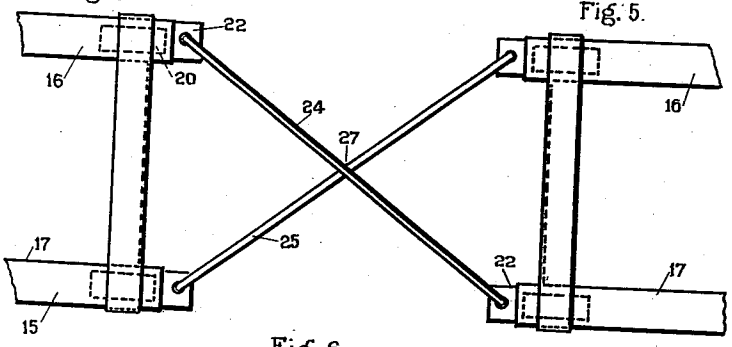


Fig. 6.

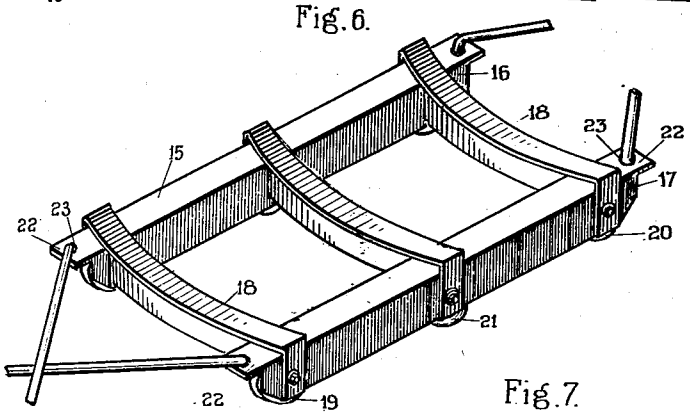


Fig. 7.

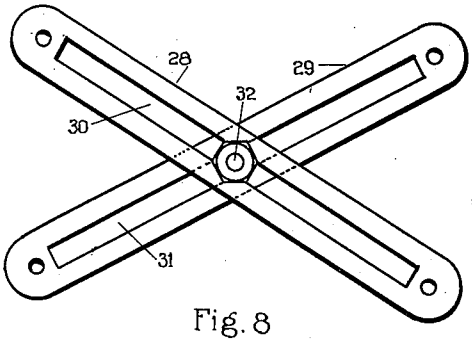


Fig. 8

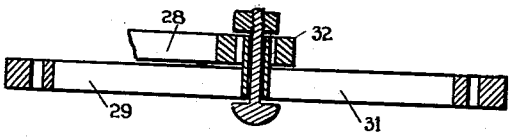


Fig. 9.

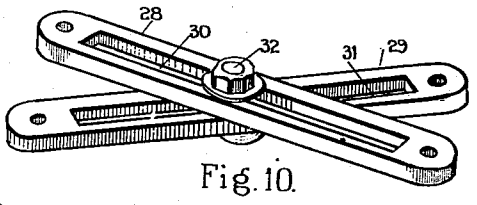


Fig. 10.

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COUPLING MEANS FOR DOLLYS, TRAILERS, AND THE LIKE

Filed May 6, 1940 3 Sheets-Sheet 3

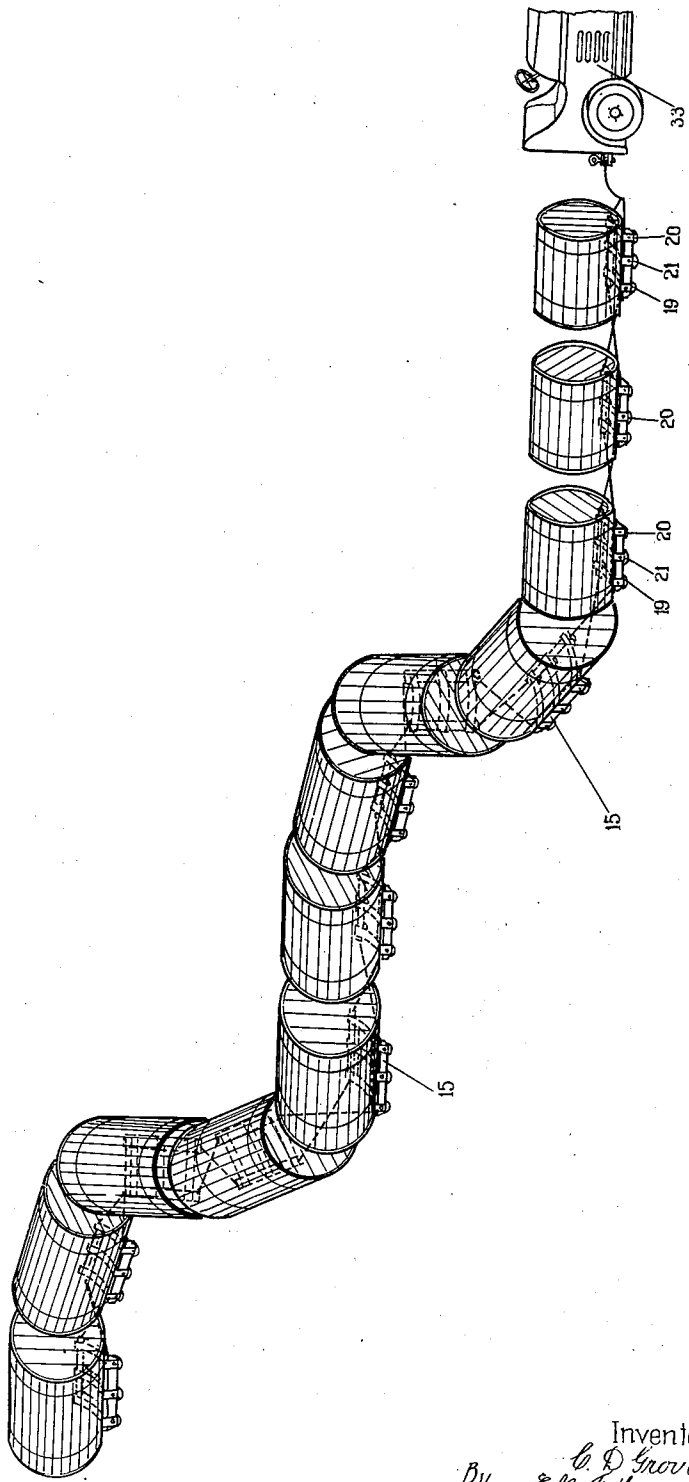


Fig. 11.

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UNITED STATES PATENT OFFICE

2,313,235

COUPLING MEANS FOR DOLLYS, TRAILERS, AND THE LIKE

Collins Denny Grove, Joliette, Quebec, Canada

Application May 6, 1940, Serial No. 333,468

2 Claims. (Cl. 280—33.2)

The invention relates to coupling means for dollys, trailers, and the like, as described in the present specification, and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in devising a coupler between conveyances that will cause the rear conveyance to follow in the exact path of the front conveyance irregardless of the number of conveyances or sizes that complete the train, as more particularly pointed out in the claims for novelty following a description in detail containing an acceptable form of the invention.

The objects of the invention are to facilitate the handling and transportion of goods irrespective of the shape of the path or passage through which the conveyances are to be pulled and thereby enabling quicker transportation of goods in factories, workshops, stores, warehouses, or even the highways or railways, in fact anywhere where it is decided that the conveyances be able to follow in respective order the line of travel of its immediate conveyances in front without disturbing the line of travel of the other conveyances that form the train; to devise a coupling means that will be of special value in hooking up dollys which are adapted to carry hogsheads containing tobacco or kindred lines; to construct a coupling means that can be quickly and efficiently connected or dis-connected to the conveyances to be pulled; to decrease expenses in loading, unloading, and the carrying of cargoes; to speed up production in factories through furnishing a quick means of delivering articles from the shop to the warehouse and thereby prevent any cluttering up of the workshop and at the same time enable workmen or other persons to perform their tasks speedily and without undue exertions that would ordinarily occur in carrying handling articles, and generally to provide a coupling means for dollys, trailers, and the like that will be simple to manufacture, inexpensive in cost, and easily handled for its various purposes.

In the drawings,

Figure 1 is a plan view of the coupling means as applied to conveyances connected to a suitable means of locomotion.

Figure 2 is a side elevation of the means as illustrated in Figure 1.

Figure 3 is a plan view of the coupling means and conveyances as illustrated in Figures 1 and 2, and showing varied positions of the dollys that may take place while being pulled.

Figure 4 is a fragmentary side view of the dollys.

Figure 5 is an end view of the dollys.

Figure 6 is a fragmentary plan view of two dollys connected up by the coupling means.

Figure 7 is a perspective view of the dolly.

Figure 8 is a modified form of coupling means.

Figure 9 is a sectional view of the coupling means as illustrated in Figure 8.

Figure 10 is a perspective view of a modified form of coupling means.

Figure 11 is a perspective view illustrating a passageway and a series of dollys carrying hogsheads connected together and being pulled through the passage and illustrating their various positions.

Referring to the drawings, it is well known in the art of transportation that when a series of conveyances are hooked up together in the form of a train, that when this train is pulled, any angle that is taken for the motor truck, locomotive, or other means of pulling power, the various conveyances will automatically follow the angle of the motive power, and consequently it is necessary for such a train when travelling or turning a corner to make a wide arc so that the conveyances will not strike the corner, the walls, or other obstructions there may be. It will therefore be seen that conveyances in the form of a train cannot be efficiently used in factories or other places where the passages therein are tortuous or narrow and there is lack of room for the movements of the train.

It is therefore the purpose of this invention to devise a coupling means for conveyances that will permit a train thus formed to move along passages as aforementioned, and which is accomplished due to the fact that only the conveyances that are actually turning or twisting with the change of direction, through the change of the passage will be effected and the remaining conveyances of the train will follow their own straight path until they come to the twisting turn. The application of the coupling means is diversified, that is to say they may be used for highway transports where it is especially beneficial in materially reducing the side sway of these heavy transports on the roads, similarly they may be used on tracks, such as in passenger and freight cars, in logging camps, and for innumerable other purposes.

The invention, as illustrated and hereinafter more specifically described, is applied to dollys which when locked together by the coupling means will form a train for the purpose of carrying hogsheads of tobacco leaf in tobacco plants. The dollys as indicated by the numeral

15 are formed of longitudinal members 16 and 17 connected together by means of the cross members 18 and are mounted on the end rollers 19 and 20 and the intermediate rollers 21. The intermediate rollers being of slightly larger diameter than the end rollers so as to effect a tilt or central pivot point to the dollys. Each dolly has the end lugs 22 having the orifices 23 and which are adapted to be engaged by the coupling members 24 and 25.

These coupling members are in the form of rods of suitable diameter and as shown terminate in hooks 26, but it is of course understood that the actual means of attaching the coupling means or members to the conveyances may be altered or modified in accordance with the best practice and in accordance with the work to be done.

The coupling members are hooked to the conveyances in such a manner that they criss-cross one another at 27, so that when the forward conveyances change direction of the train, it will pull on the next conveyance in such a way that the force or drag will be effected diagonally from one corner to the other on the ends of the conveyances, as for example, if the forward dolly is turning on a right angle, the left or rear end, which is connected by one of the coupling members, will pull on the right front end of the next conveyance, while the other coupling member will form a guide for the other two corners of the conveyance and re-adjust the position of the rear-most conveyance when the front conveyance is pulled on another angle or on a straight course. All the conveyances that may form the train with the conveyance above mentioned will not alter their position until they in their respective turn get to the passage where there is the twist or turn, and the same operation will be effected. In this way no matter how many twists or turns there are in the passage, or how many twists or turns the operator controlling the train desires to make, the different conveyances will change their position in a consecutive manner when at the spot where the actual turn is necessary. This type of train as above described and as connected by the coupling means follows somewhat the method in which a caterpillar crawls along the ground, as this device is really in the form of a series of individual units independently movable in relation to the other units but controlled always through the movements of the adjacent units.

The invention as above described is particularly for equipment for transporting hogsheads in tobacco plants and other places, but when it is desired to use the coupling means for highway transportation, it may be found necessary to slightly alter the coupling means in view of the weight of the transport, and as illustrated the coupling members 28 and 29 are in the form of elongated members provided with longitudinal slots 30 and 31 and are criss-crossed and connected together by means of the fastening member 32 which extends through the slots of the two coupling members and is movable therealong, or more properly speaking it acts as a bearing member on which the coupling members slide, and the ends of these coupling members are connected to the transports and suitably fastened in exactly the same method as hereinabove described for the dollys, and the movements for the transports are exactly the same, and it will be noted that it will be much easier for transports of this kind to go around curves, and also in getting in and out of traffic jams, etc., and furthermore it will materially reduce the sidesway effect that is so apparent when they are travelling on the highways.

The coupling members form a rigid link like connection between the conveyances so that a flexible joint is created between each of the connected conveyances, and it is through this medium that the line of turn of the conveyances is automatically adjusted in accordance with the line of travel of the hauling means 33, and at the spot where the hauling means is deviated from its separate course, and returning or continuing to direct line of travel to other twists or turns at the spot where the hauling means has changed its direction.

What I claim is:

1. A coupling means for dollys, trailers and the like, comprising a plurality of dollys having running gear, a pair of criss-crossing members having elongated slots therein and a common fastening member engaging with the elongated slots of said coupling members and adapted to form a floating pivot during the movements of said coupling members in the steering and pulling of the adjacent dollys.

2. A coupling means for dollys, trailers and the like, a hauling means, a plurality of conveyances adapted to form a turn, a plurality of criss-cross coupling members secured to the extreme outer ends of said conveyances, said coupling members having longitudinal slots and a floating member engaging with the slots of said coupling members and adapted to form a movable pivot for said coupling members during their operation of steering and pulling.

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