R. W. E. HAYES & P. P. WILLIAMS.

ATTACHMENT FOR CROSS REACH TRUCKS.

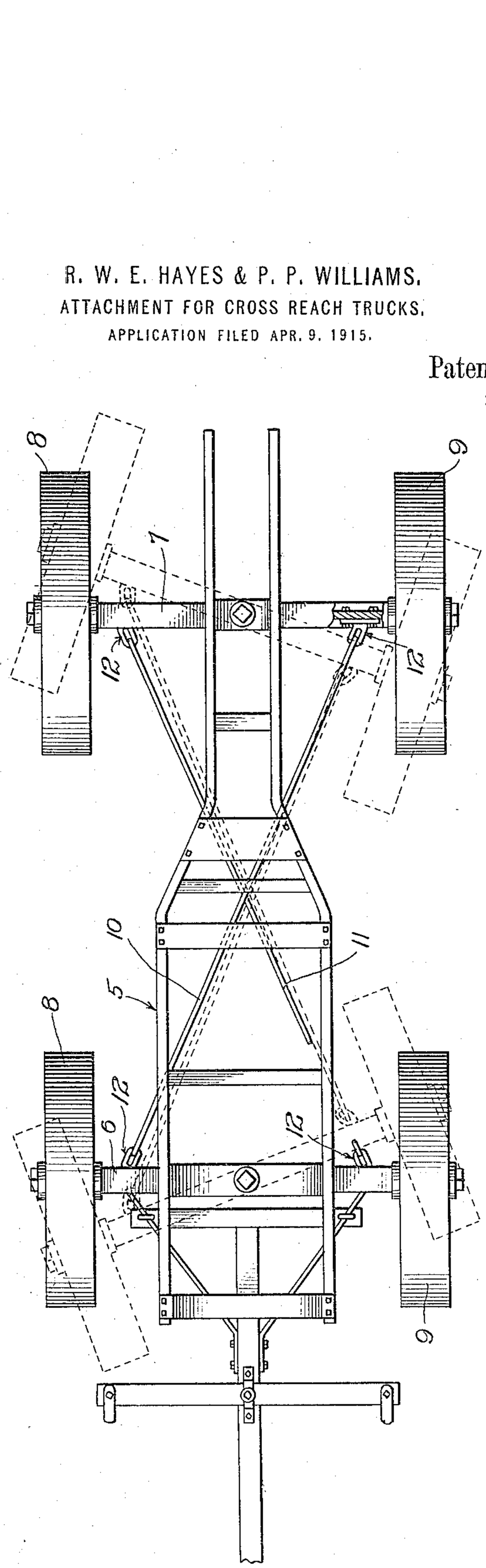
APPLICATION FILED APR. 9, 1915.

1,167,298.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

Fig. 1.



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UNITED STATES PATENT OFFICE.

RALPH W. E. HAYES AND PHILIP P. WILLIAMS, OF GALVA, ILLINOIS, ASSIGNORS TO HAYES PUMP & PLANTER COMPANY, OF GALVA, ILLINOIS, A CORPORATION OF ILLINOIS.

ATTACHMENT FOR CROSS-REACH TRUCKS.

1,167,298. Specification of Letters Patent. Patented Jan. 4, 1916.

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To all whom it may concern:

Be it known that we, RALPH W. E. HAYES and PHILIP P. WILLIAMS, both citizens of the United States, residing at Galva, in the county of Henry and State of Illinois, have invented certain new and useful Improvements in Attachments for Cross-Reach Trucks, of which the following is a specification.

The present invention relates to the form and construction of a clip for holding the ends of the reach rods of a cross reach truck.

The object of the invention is to provide a clip of the character specified, which is cheap and simple of construction.

A further object of the invention is to form the clip with an elongated slot to enable the reach rods to have a certain amount of play which is required when the truck is operated.

A further object of the invention is to so construct the clip as to enable a clip of a single pattern and style to be interchangeably used in all places.

The invention further consists in the features of construction and combinations of parts hereinafter described and claimed.

In the drawings: Figure 1 is a plan view of a truck equipped with the clip of the present invention; Fig. 2 is a side elevation of the truck and component parts shown in Fig. 1 with the axles of the truck in section; Fig. 3 is a front view of the clip member; and Fig. 4 is a plan view of the clip member.

In the operation of cross reach trucks it has been found that in turning the truck the distance between the points of connection of any selected reach of the truck will not remain the same; that is to say each reach is connected at each extremity thereof, and in turning or manipulating the truck the distance between the point of attachment at one end of a selected reach and the point of attachment at the other end of the same reach will not remain the same. Therefore it has been found necessary to allow each reach a certain amount of play. Otherwise there would be a binding and consequent interference with the proper operation of the truck. Also in these cross reach trucks it is necessary that one reach lie above the other at their point of intersection, and this must be taken care of either in the method of attaching the reaches, or in the construction of the reaches themselves.

In the present invention means are provided for allowing of a lost motion or slippage of the reach if the same be necessary, and the clips is so arranged that by properly positioning the same the crossing of one reach over the other can be effected.

Referring now to the drawings, the device of the present invention is shown as applied to a truck body 5, which may be of any suitable construction. The truck is equipped with the usual front axle 6 and rear axle 7 and with the usual wheels attached thereto. The wheels on one side being indicated by the numerals 8, and the wheels on the opposite side of the truck by the numerals 9. The truck is provided with reach bars 10 and 11 which, as shown, cross one another. The above are the fundamental parts of a cross reach truck and may be of any suitable style.

The object of arranging the reaches crosswise of one another is well known in the art, and will be clearly understood from Fig. 1 of the drawings wherein it is shown by means of dotted lines, that when a turning movement in one direction is given to the front axle, the rear axle will be placed in angular relation to the front axle so that the wheels on the same side of the truck are angularly disposed to one another enabling a short turning movement of the truck body.

The clip, which is the particular subject matter of the present invention, is illustrated more in detail in Figs. 3 and 4 and consists, as shown, of a body portion 12 formed of a single piece of metal which comprises an attaching portion 13 and a projecting lug or reach retaining portion 14. The attaching portion is in the form of a flat plate provided with oppositely disposed holes or openings 15 which receive bolts or other suitable fastening members by which the clips are attached to the axle of the truck, as will be apparent from Fig. 2 of the drawings. The reach retaining portion is formed with an elongated slot 16, and as shown, this retaining portion extends angularly with respect to the attaching portion 13 of the clip.

The ends of the reach members are bent down, as at 17, (see Fig. 2) and each of these ends are intended to be inserted

through the slot 16 of the clip which retains a particular reach end. The reason for the angular disposition of the reach retaining portions 16 is better seen, perhaps, from Fig. 1, and is to place said portion in substantial alinement with the reach when the truck is moving forward, so as to eliminate side strains upon the retaining portion of the clip.

As will be seen from Fig. 3, the reach receiving portion 14 of the clip is placed at one side or along one edge of the fastening portion 13. This arrangement permits of one form or style of clip being universally and interchangeably used in the truck construction. The clips which receive the ends of the upper reach, or the reach indicated in the drawings by the numeral 10, is placed in the position shown in Fig. 3; that is with the reach receiving portion on top. The clips which receive the ends of the lower reach, or the reach 11, are placed in exactly the reverse order from the clips above described; that is, these clips are placed with the reach receiving portion downward. Therefore, when the ends of the reaches are inserted within the slots of their respective retaining clips, one reach will extend above the other at their point of intersection, as is essential in a construction of this type of truck.

The purpose of the elongated slots will be clearly understood from Fig. 1 of the drawings, wherein the axles of the truck are shown in dotted lines in the position they assume during a turning movement of the truck and from this it will be seen that one end of the reach member 11 travels a certain distance within the slot 16 of its retaining clip and thus a play is given to the reach members as is necessary to allow the truck to turn, and as will be seen the idle reach of the reaches is the one which moves in the slot: the pulling reach or the reach 10 in Fig. 1 does not travel in the slot of its retaining member, since the distance between the points of attachment of this reach remains the same.

It is a well known fact, as previously stated, that the distance between the point of attachment of one end of the idle reach from the point of the attachment of the other end of the idle reach does not remain stationary, but varies in the turning movement of the truck, and, therefore, in order to render the device operative some play must be allowed this reach member to compensate for the variation above referred to.

We claim:

1. A clip for cross reaches comprising an attaching portion and a reach retaining portion, said retaining portion consisting of a projecting lug located along one of the horizontal edges of the attaching portion, and said lug being formed with an elongated slot, substantially as described.

2. A clip for cross reaches formed of a single piece of metal and comprising a plate like attaching portion and a reach retaining portion in the form of an outwardly projecting lug extending diagonally from the attaching portion, and said lug being formed with an elongated slot, substantially as described.

3. A clip for cross reaches formed of a single piece of metal and comprising a plate like attaching portion and a reach retaining portion in the form of an outwardly projecting lug extending diagonally from the attaching portion, said lug being formed with an elongated slot, and said lug being arranged along one of the horizontal edges of the attaching portion, substantially as described.

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