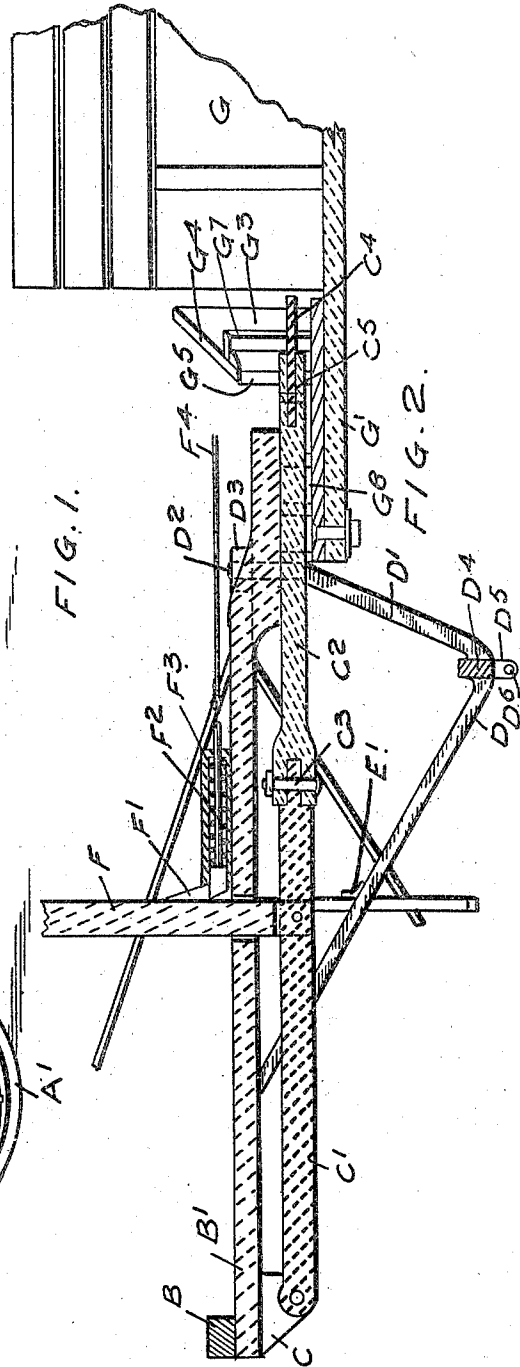
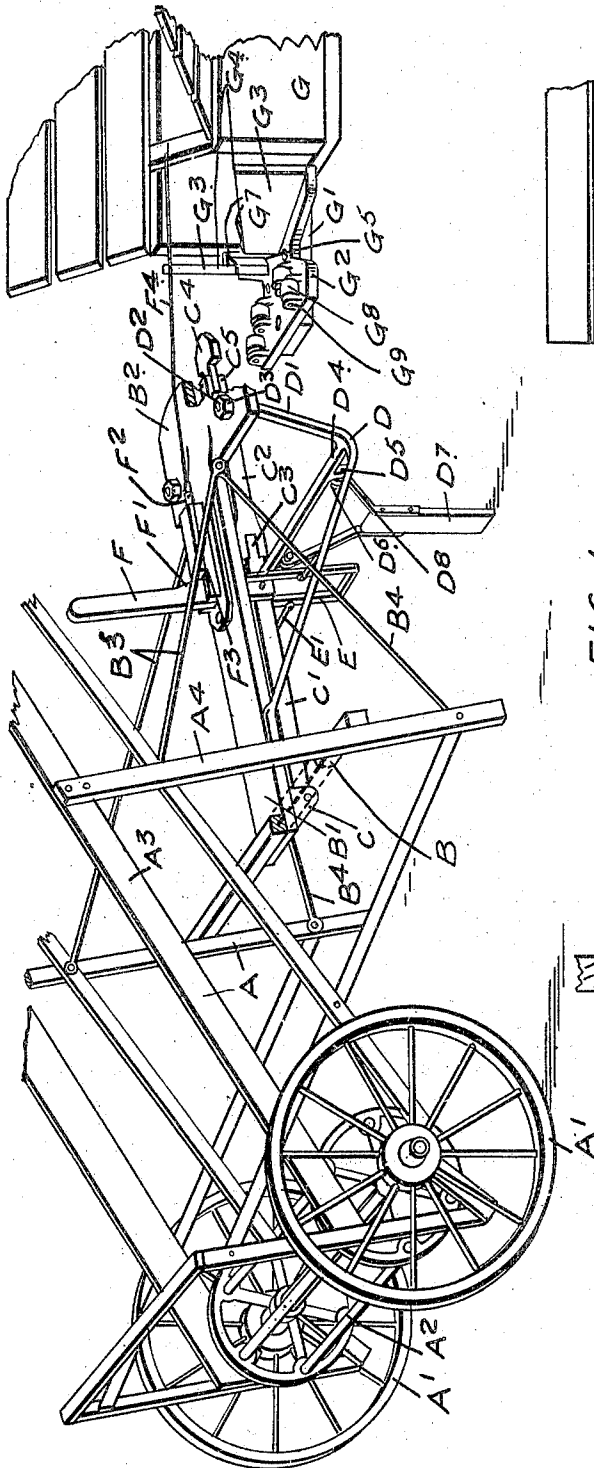


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COUPLING FOR HAY LOADERS.  
APPLICATION FILED APR. 17, 1909.

950,987.

Patented Mar. 1, 1910.  
2 SHEETS—SHEET 1.



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W. BISHOP  
by Fred C. Fetherstonhaugh ATT'Y.

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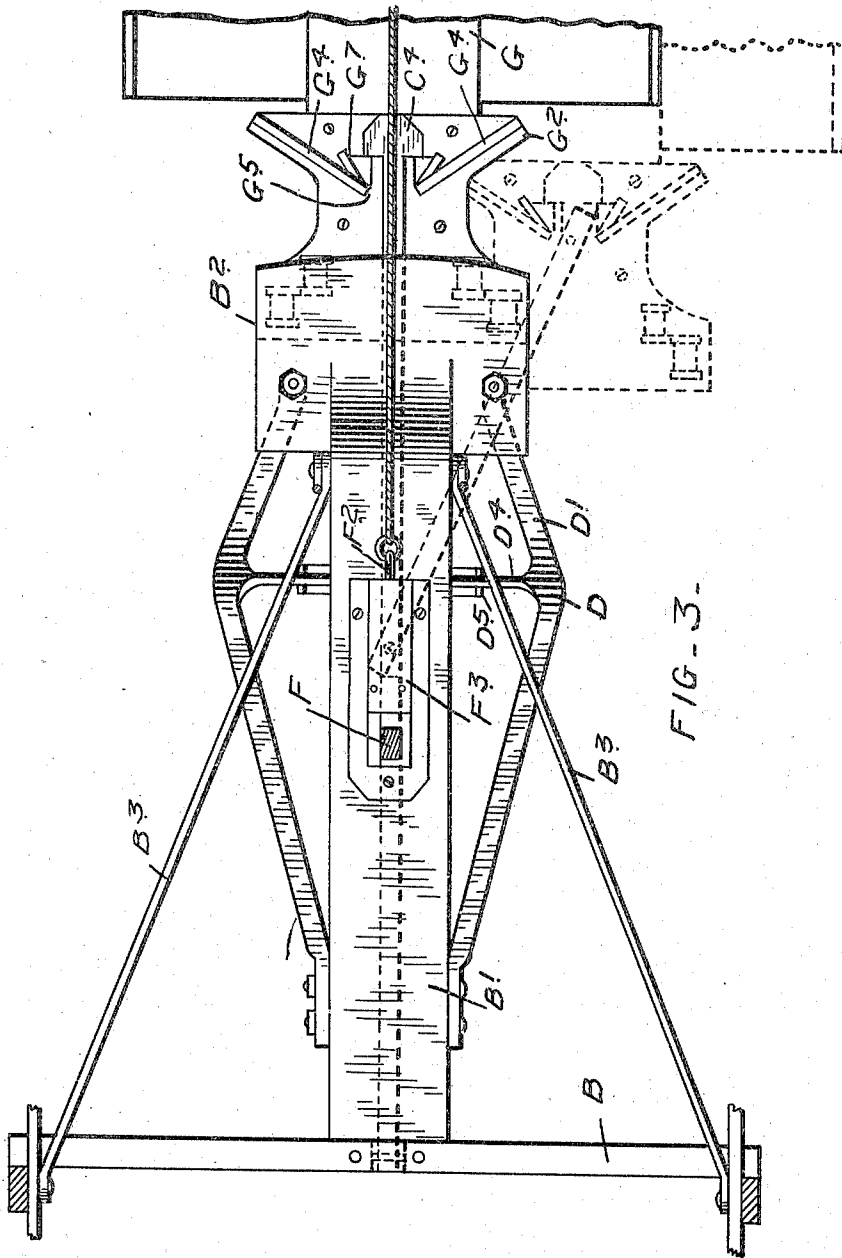


FIG. 3.

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# UNITED STATES PATENT OFFICE.

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## COUPLING FOR HAY-LOADERS.

950,987.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed April 17, 1909. Serial No. 490,572.

*To all whom it may concern:*

Be it known that I, WILLIAM BISHOP, of the town of Grand Valley, in the county of Dufferin, Province of Ontario, Canada, have invented certain new and useful Improvements in Couplings for Hay-Loaders, of which the following is the specification.

My invention relates to improvements in hitching devices for interconnecting a hay loader and wagon and the object of the invention is to provide a simple quick operating device for expeditiously hitching the hay loader to the wagon and by which the operation may be done with a minimum amount of labor, and it consists essentially of a tongue secured to the hay loader having a broadened outer end and supplemental tongue pivoted beneath the aforesaid tongue so as to have both a vertical and a horizontal swing, an arrow headed piece pivoted to the outer end of the supplemental tongue, locking means designed to hold the supplemental tongue in its raised position, a co-acting member secured to the rear end of the wagon comprised by a pair of wings set in a V-shaped form having inclined top edges and an opening separating the approaching ends of the wings, and a releasing means whereby the supplemental tongue may be released so as to drop on to the inclined edge of the wings when the wagon is backed into hitching position beneath the supplemental tongue and a hinge supporting leg connected to a suitable frame work depending from the tongue of the hay loader as hereinafter more particularly explained by the following specification.

Figure 1, is a general perspective view of a portion of a hay loader and rear end of a wagon with my device shown in position ready to be brought into operation. Fig. 2, is a longitudinal sectional detail extending through the hitching device showing the same in connected position. Fig. 3, is a plan view of my hitching device as shown in Fig. 2 of the drawings.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the loader, A' the supporting wheels, A<sup>2</sup> the reel, A<sup>3</sup> the side bars of the elevating portion of the loader and A<sup>4</sup> the side standards of the loader.

B is a cross bar extending between the side standards A<sup>4</sup> of the loader and connecting them together.

B' is a tongue secured centrally of the

length of the cross bar B and extending outwardly at right angles thereto. The tongue B' is provided with a broadened outer end B<sup>2</sup> for a purpose which will be hereinafter explained.

B<sup>3</sup> and B<sup>4</sup> are upper and lower braces connecting the outer end of the tongue B' with the top and bottom of the side standards A<sup>4</sup>.

C are brackets secured beneath the rear end of the tongue and C' is a supplemental tongue pivotally connected between the brackets C so as to have a vertical swinging movement therein.

C<sup>2</sup> is an extension to the supplemental tongue C' and connected to the supplemental tongue C' by a hinged connection C<sup>3</sup> by means of which the extension C<sup>2</sup> is capable of swinging movement in a horizontal plane. The outer end of the extension C<sup>2</sup> is provided with an arrow headed portion C<sup>4</sup> which is pivotally connected in a notch C<sup>5</sup> formed in the outer end of the extension C<sup>2</sup>.

D is a frame comprising the angularly depending side bars D', the front ends of the side bars being provided with the reduced threaded portion D<sup>2</sup> which extends through the flattened end B<sup>2</sup> of the tongue B' and in which they are secured by the nuts D<sup>3</sup>. The rear end of the side bars are connected to each side of the tongue B' in proximity to the rear thereof. From the angle of the side bars D' the cross bar D<sup>4</sup> extends connecting the side bars D' together. The cross bar D<sup>4</sup> is provided with depending lugs D<sup>5</sup> through which extend bearing pins D<sup>6</sup>.

D' is a supporting leg on the upper end of which is secured the outwardly extending bars D<sup>8</sup> provided with holes at the inner end thereof through which the bearing pins D<sup>6</sup> extend so as to form a swinging connection for the leg D' on the cross bar D<sup>4</sup>.

E is a U-shaped bracket depending from the tongue B' to each side of the supplemental tongue C'.

E' are supplemental bars extending from each side of the U-shaped bracket E to the side bars D' of the frame D.

F is a lever pivotally connected at its inner end to the supplemental tongue C' and F' is a projection extending from the front portion of the lever F.

F<sup>2</sup> is a spring plunger secured in a casing F<sup>3</sup> secured to the top of the tongue B'. The plunger F<sup>2</sup> normally extends beneath the

projection F' so as to hold the lever F and the supplemental tongue pivotally connected thereto in their upper position.

F<sup>4</sup> is a cord connected to the spring plunger F<sup>2</sup> and extending forwardly over the wagon to a suitable position so as to be operated by the driver.

G is a wagon provided with a rearwardly extending portion G' to which is suitably secured a bracket G<sup>2</sup>. The bracket G<sup>2</sup> is provided with upwardly extending wings G<sup>3</sup>. The wings G<sup>3</sup> are arranged in a V-shaped position with the apex of the V extending rearwardly. The upper edge G<sup>4</sup> of the wings G are inclined from inside to outside as shown in the drawings.

G<sup>5</sup> is an opening separating the inner ends of the wings and to each side of the opening and extending from the wings G<sup>3</sup> are supplemental projecting ribs G<sup>7</sup>.

G<sup>8</sup> are bearing rollers journaled in suitable lugs G<sup>9</sup> extending from the brackets G<sup>2</sup>. These rollers serve to support the broadened end of the tongue B' when the hay loader is hitched to the wagon.

Having now described the principal parts involved in my invention I will briefly describe the operation of the same.

When hitching the hay loader to the wagon the driver backs his wagon toward the hay loader so as to bring the wings G<sup>3</sup> of the wagon beneath the outer end of the supplemental tongue C'. He then pulls on the cord F<sup>4</sup> so as to withdraw the spring plunger F<sup>2</sup> from beneath the projection F' of the lever F. By this means the supplemental tongue is freed and allowed to drop vertically downwardly into the opening G<sup>5</sup>. If the wagon is not backed so as to bring the opening G<sup>5</sup> directly in alinement with the supplemental tongue C', such supplemental tongue falls on one of the inclined upper edges G<sup>4</sup> of the wings G<sup>3</sup>. By means of the hinged connections between the forward extension C<sup>2</sup> of the supplemental tongue C' such forward extension swings laterally and is guided by the inclined top edge G<sup>4</sup> into the opening G<sup>5</sup>. The driver drives the wagon forwardly and the arrow head C<sup>4</sup> engages with the engaging rib G<sup>7</sup> thereby connecting the supplemental tongue to the wagon. Upon the further movement of the wagon the hay loader is drawn forwardly so as to release the supporting leg D' from the ground thereby allowing the tongue B' to drop until the broadening outer end B<sup>2</sup> rests upon the rollers G<sup>8</sup> when the mechanism will be in position shown in Fig. 2 of the drawing. Hitherto when it has been necessary to connect the hay loader with the wagon, the wagon is backed so as to bring the rear thereof as near as possible to the tongue of the hay loader. It is very seldom brought into correct position for connecting and it is therefore necessary for the driver to

dismount from his wagon raise the tongue of the hay loader and draw the hay loader over so as to be brought into position to connect with the wagon. This of course, is a very laborious operation and is dispensed with by the use of my hitching device. By the use of my hitching device it is only necessary to bring the wagon in close proximity to the tongue and not in direct alinement therewith before the hitching can be accomplished as has already been shown. The supplemental tongue C' is carried into the central and correct position by the inclined upper edges of the wings G<sup>4</sup>.

From this description it will be seen that I have devised a very simple device whereby the hay loader may be easily and quickly connected to the wagon without the driver dismounting from his seat or exerting any unnecessary labor. By providing a broadened outer end to the tongue B' which rests upon the rollers G<sup>8</sup> and also by the use of the hinge connections between the extensions C<sup>2</sup> and the supplemental tongue C' I provide means whereby the lateral swing of the hay loader is allowed for and at the same time giving a solid bearing surface for the end of the tongue.

What I claim as my invention is:

1. In a hitching device of the class described, the combination with the tongue forming part of the hay loader, of a supplemental tongue swung beneath the hay loader, releasable locking means designed to connect the supplemental tongue in a parallel position with the tongue of the hay loader and a hinged extension on the supplemental tongue designed to swing horizontally, a headed piece pivotally connected to the outer end of the extension and engaging means forming portion of the rear end of the wagon designed to guide such hinged extension into the direct line of draft upon the releasing of the locking means and upon the insertion of the engaging means beneath the tongue as and for the purpose specified.

2. In a hitching device of the class described, the combination with the tongue forming part of the hay loader, of a supplemental tongue swung beneath the tongue of the hay loader and capable of vertical movement, a hinged extension on the supplemental tongue capable of horizontal movement, a headed pin piece pivotally connected at the end of the extension and also capable of horizontal movement, locking means for normally supporting the supplemental tongue in a substantially parallel position to the tongue of the hay loader, engaging means forming part of the rear end of the wagon and designed to guide the outer end of the supplemental tongue into the line of draft upon such supplemental tongue being freed, a swingable supporting

member connected to the outer end of the tongue designed to support such outer end on a higher level than the level of the engaging means forming part of the wagon as and for the purpose specified.

3. In a hitching device of the class described, the combination with the tongue forming part of the hay loader, of a swingable tongue pivotally connected beneath the aforesaid tongue and having vertical movement, a hinged extension to the supplemental tongue capable of horizontal movement a U-shaped depending bar extending from the tongue of the loader and to each side of the supplemental tongue, a latch bar pivotally connected at its lower end to the supplemental tongue and extending through a slot in the tongue of the hay loader and having an engaging projection extending therefrom, a spring latch secured to the hay loader tongue and normally engaging with the projection of the latch bar, a swingable engaging piece pivotally connected to the outer end of the supplemental tongue, engaging means forming part of the wagon designed to guide the outer end of the supplemental tongue into the direct line of draft upon such tongue being released and a supplemental supporting leg connected beneath the tongue of the hay loader and designed to hold such tongue and supplemental tongue above the engaging means forming part of the wagon as and for the purpose specified.

4. In a hitching device of the class described, the combination with a tongue of a

hay loader, a supplemental flexible tongue pivotally connected beneath the tongue of the hay loader, means for normally locking the supplemental tongue to the hay loader tongue, engaging means forming part of the wagon designed to guide the free end of the supplemental tongue into the direct line of draft on such supplemental tongue being freed from its normal position above the level of the engaging means forming part of the wagon as and for the purpose specified.

5. In a hitching device of the class described, the combination with the tongue of the hay loader having a broadened outer end, a flexible tongue pivotally connected beneath the tongue of the hay loader having an enlargement at its outer end and an engaging recess formed at the rear of the wagon, means extending to each side of the said recess designed to guide the flexible tongue thereinto, locking means designed to connect the flexible tongue to the tongue of hay loader, a swingable supporting member designed to normally support the tongue on the ground and above the level of the engaging means forming part of the wagon, and rollers journaled at the rear of the wagon and upon which the broadened end of the tongue is designed to bear as and for the purpose specified.

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Witnesses:

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MARTHA J. DUFFY.