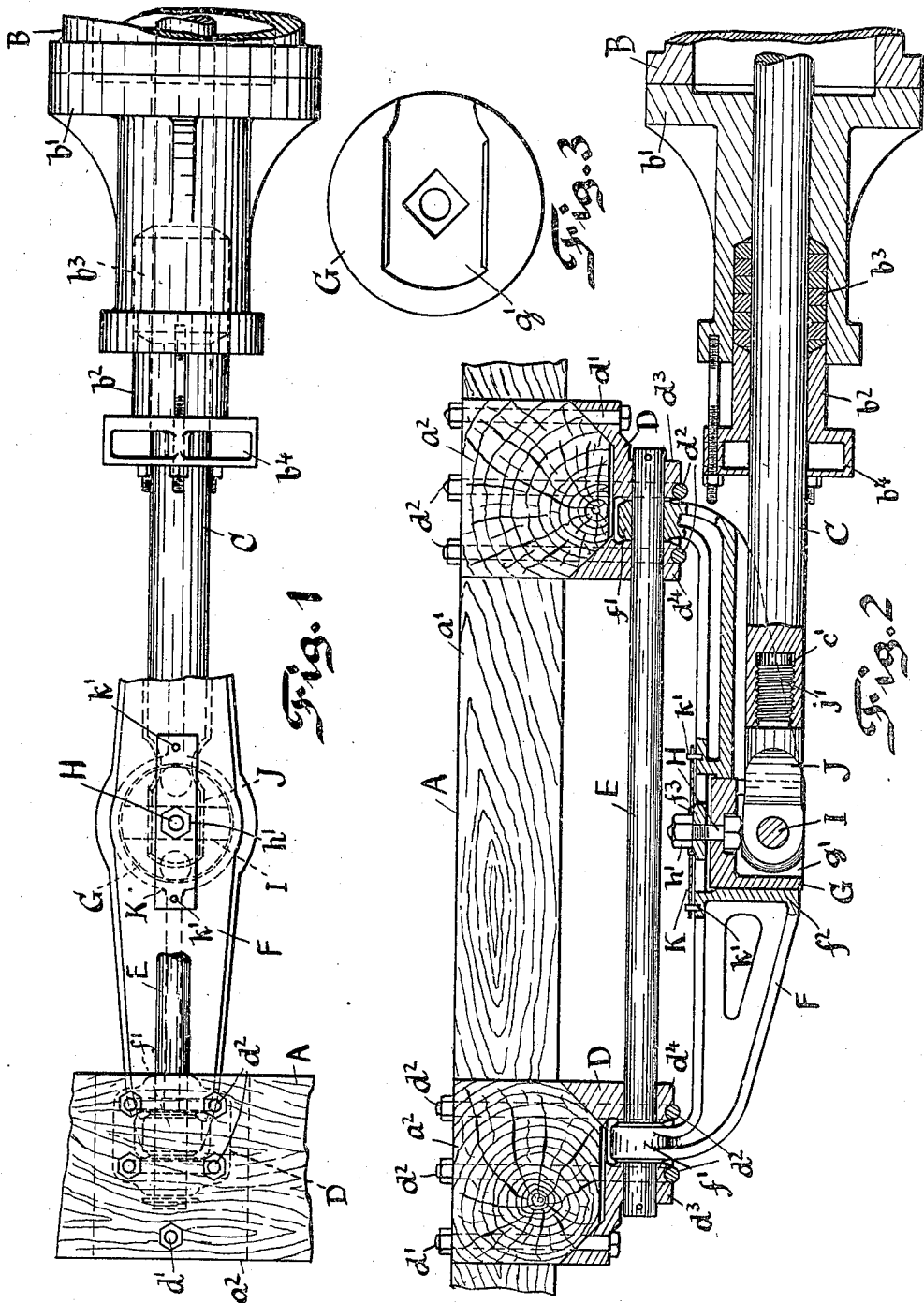


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 FEED CARRIAGE CONNECTION FOR SAWMILLS.
 APPLICATION FILED JULY 29, 1909.

951,976.

Patented Mar. 15, 1910.



Witnesses

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FEED-CARRIAGE CONNECTION FOR SAWMILLS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM HENRY TROUT, of Milwaukee, Wisconsin, have invented a Feed-Carriage Connection for Saw-mills, of which the following is a specification.

This invention consists of a means of connecting a feed-carriage such as is used in saw-mills with the piston-rod of the propelling-cylinder to avoid certain difficulties which have been found to exist in the mode of construction as now commonly carried out.

Saw-mill carriages in their long reciprocating movements are usually propelled in each direction by a steam piston in a long cylinder which is fixed to the floor-timbers of the mill-frame, and centered to move in line with the movement of the carriage, which latter runs upon a track laid on the same floor-timbers. It is necessary that the joint of the piston-rod with the carriage should be in a true line with the axis of the cylinder, so that there shall be no side-strain upon the rod and the packing-gland, which is accentuated in that position in which the carriage is drawn up close to the end of the cylinder. To enable the lateral adjustment of the joints to take place, it is customary to mount the end of the rod so that it is free to swing in a lateral direction, but this provides no means of vertical adjustment; whereas, even if the point be exactly centered vertically when the carriage is new, it will soon become out of line by the wear upon the wheel- and rail-treads and journals.

The object of the present invention is, more particularly stated, to provide not merely a lateral adjustment for the piston-rod joint, but also means for adjusting it vertically, whether it be properly centered in the design of the carriage or not; thereby enabling the piston-rod end to lie in the true axis of the cylinder at all times.

Furthermore I aim to provide a novel style of frame connection to the transverse beams of the carriage, more particularly one enabling the frame to be tightened upon the carriage in case it becomes loose by wear, and which shall act directly upon both of the transverse beams of the carriage so as to distribute the strain as much as possible and to avoid eccentric action.

The nature of my invention can best be understood from the accompanying drawings, wherein—

Figure 1 is a plan-view of portions of a carriage, the connection in question, piston-rod, and steam propelling-cylinder. Fig. 2 is a longitudinal section through the same; and Fig. 3 is a bottom plan-view of the cylindrical joint-block.

Only so much of the saw-mill carriage A is here shown as is sufficient to illustrate the invention; to wit, a longitudinal beam a' and two cross-beams a^2 of the carriage; and only the front end of the cylinder B is here shown, comprising the cylinder-head b' , packing-gland b^2 , packing b^3 compressed thereby, and the oil-well b^4 in the head of the gland for the purpose of lubricating the piston C. These elements in themselves form no part of my invention.

The joint of connection between the carriage and the piston-rod is made by means of the following elements, to wit: A pair of base-blocks D which are secured to the lower faces of the cross-beams a^2 , each being secured by an ordinary bolt d' and two stirrup-bolts d^2 ; a pintle-rod E, which extends longitudinally of the carriage and is supported at each end in sockets formed in the blocks D; a yoke-member F which has a pivot-lug f' formed on each end and journaled upon the pintle-rod E between the cheeks of the two lugs d^3 , d^4 of the face-blocks D; a cylindrical joint-block G turning in a cylindrical bored socket f^2 in the center of the yoke-piece F, said joint-block being supported by a bolt H passing through a cross-bar f^3 of the yoke-piece F over the joint-block; a wrist-pin I passing through and mounted transversely in said joint-block; and the end-piece J of the piston-rod C, which is journaled on said wrist-pin with-in the recess g' of the joint-block G and is provided with a threaded stem j' engaging in the threaded socket c' in the end of the piston-rod C.

It will be seen that the mounting of the end-piece J is such as to give a universal adjustment, inasmuch as it can swing in a vertical plane upon the wrist-pin I and in a horizontal plane in the socket f^2 ; furthermore the yoke-piece F, being free to swing upon the pintle-rod E, gives the end-piece I a horizontal adjustive movement, and it is

adjusted vertically by turning the nut h' of the bolt H so as to raise or lower the joint-block G as required. To retain the nut h' in its adjustive position, it is held in place
 5 by some holding device such as a locking-plate K, which is fixed upon two pins h' and has a polygonal hole in the center fitting over the nut. Furthermore it will be observed that the lower edges of the transverse
 10 beams a^2 are beveled, and the upper faces of the base-blocks D are beveled in like manner, so that the latter may be drawn up tightly upon the former, and any wear which would tend to loosen the union between them
 15 can be immediately taken up by drawing up the bolts d' d^2 . This adjustment takes place without any change in the horizontal position of the joint, and the amount which the joint is raised vertically thereby is compensated by the adjustment of the bolt H. As
 20 furthermore the stirrup-bolts d^2 surround and inclose the lugs d^3 and d^4 of the base-block, they pin them tightly to the carriage and will serve to support them even should
 25 they become fractured. By arranging the yoke-piece to bear equally upon both blocks, the propelling-force is evenly distributed, and the couple acting between piston-rod and carriage does not produce any twisting action
 30 upon the joint.

It is to be observed that while the joint-block G cannot fall below its proper position at any time, it is still free to rise in place without adjustment, and this will permit the end of the piston-rod to aline itself
 35 automatically to take up wear of the wheels, rails and journals, especially when the piston-rod is drawn in and the carriage is close to the cylinder; thereby avoiding side-strain
 40 which might occur if the joint-block were fixed.

While I have hereinabove shown the most improved form of my invention, I wish it understood that not all of the features are
 45 essential thereto or necessarily made in the exact form shown, but various changes and modifications in the constructions as herein shown may be made without departing from the spirit of my invention, and I wish it
 50 understood therefore that the latter is not otherwise limited than by the reasonable scope of my claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a saw-mill-carriage connection, the combination with the carriage and piston-rod of a joint-member to which the piston-rod is connected, said joint-member permitting a lateral adjusting movement and a
 60 second member mounted on said joint-member and having a vertical adjusting movement, said piston-rod being connected to said second-member and having a universal angular adjustment.
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2. The combination with the carriage and piston-rod of a joint-member mounted on the carriage, a joint-block mounted on said joint-member and having a rotative movement about a vertical axis, said piston-rod
 70 being connected to said joint-block; and means for vertically adjusting said joint-block.

3. The combination with the carriage and piston-rod of a joint-member mounted on the carriage, and a joint-block mounted on said joint-member and having a rotative movement about a vertical axis, said piston-rod
 75 being pivoted upon a horizontal axis on said joint-block.

4. In a connection of the type described, in combination with a joint-member, a second joint-member mounted thereon and having a vertical adjusting movement, means for manually raising said second joint-member with respect to the first, and the piston-rod end connected to said second joint-member; said second joint-member being free to rise in its position above the position to which it is adjusted.
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5. In a connection of the type described, the combination with a transverse beam of a feed-carriage having downwardly converging faces upon its lower side, of a base-block having converging faces coacting
 90 therewith and fitting thereon; and means for drawing up said base-block in tight engagement with said beam.

6. In a connection of the type described, the combination with a transverse beam of a feed-carriage having downwardly converging faces upon its lower side, of a base-block having converging faces coacting therewith and fitting thereon, and one or more stirrup-bolts embracing said base-block and passing through apertures on said transverse beam whereby said base-block may be held in close engagement with said transverse beam.
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7. The combination with a saw-mill carriage having transverse beams, of a pair of base-blocks mounted on the respective beams, a pintle-rod mounted on said base-blocks, and a yoke-piece having lugs on its ends pivotally mounted on said pintle-rod; each of said base-blocks having a pair of thrust-lugs disposed on opposite sides of the corresponding lug on the yoke-piece.
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8. The combination with a saw-mill carriage having transverse beams, of a pair of base-blocks mounted on the respective beams, a pintle-rod mounted on said base-blocks, and a yoke-piece having lugs on its ends pivotally mounted on said pintle-rod; said beams having converging faces on their under sides and said blocks having coacting converging faces; and stirrup-bolts encompassing said base-block and the ends of said pintle-rod and having their ends passing through apertures in said transverse
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beams and nuts on their ends above said transverse beams; whereby said blocks are drawn tightly against said transverse beams.

9. The combination with the carriage having transverse beams and the piston-rod for propelling the same, of a pair of base-blocks mounted on the under side of the respective beams, a yoke-piece having pivot-lugs on its ends which are pivotally mounted upon a longitudinal horizontal axis on said base-blocks, a joint-block mounted upon said yoke-piece and rotatable about a vertical axis thereon, means for vertically adjusting said joint-block, and means connecting said piston to said joint-block.

10. The combination with the carriage having transverse beams and the piston-rod for propelling the same, of a pair of base-blocks mounted on the under side of the respective beams, a yoke-piece having pivot-lugs on its ends which are pivotally mounted upon a longitudinal horizontal axis upon said base-blocks, a joint-block mounted upon said yoke-piece and rotatable about a vertical axis thereon, a transverse wrist-pin mounted in said joint-block, and an end-piece mounted on the end of said piston-rod and pivotally mounted on said wrist-pin.

11. The combination with the carriage having transverse beams and the piston-rod for propelling the same, of a pair of base-blocks mounted on the under sides of the respective beams, a yoke-piece having pivot-lugs on its ends which are pivotally mounted upon a longitudinal horizontal axis on said base-blocks, a joint-block mounted upon said yoke-piece and rotatable on a vertical axis, a transverse wrist-pin mounted on said joint-block, and an end-piece mounted on the end of said piston-rod and journaled on said wrist-pin.

12. The combination with the carriage and the piston-rod for propelling the same, of a yoke-piece having its ends pivotally

mounted upon the lower sides of the respective transverse beams of the carriage and depending therefrom so as to have a swinging adjusting movement, a joint-block rotatably mounted in a vertical socket in said yoke-piece, means connecting said piston-rod to said joint-block, and a vertical bolt in the center of said block connecting it with a portion of the yoke-piece immediately above it.

13. The combination with the yoke-piece connected to and swinging from the lower side of the carriage and having a vertical socket therein, of a joint-block rotatably mounted in said socket and having a recess in its lower side to receive the piston-rod-end, a wrist-pin extending across said recess, a piston-rod-end journaled upon said wrist-pin, a bolt centrally mounted in an aperture in the upper portion of said joint-block and passing through an aperture in said yoke-piece immediately above it, and a nut on the upper end of said bolt.

14. The combination with the yoke-piece connected to and swinging from the lower side of the carriage and having a vertical socket therein, of the joint-block rotatably mounted in said socket and having a recess in its lower side to receive the piston-rod-end, the wrist-pin extending across said recess, the piston-rod-end journaled upon said wrist-pin, a bolt centrally mounted in an aperture in the upper portion of said joint-block and passing through an aperture in said yoke-piece immediately above it, a nut on the upper end of said bolt, and a locking-plate removably mounted over and engaging said nut.

In witness whereof I have hereunto set my hand this 24th day of July, 1909.

WILLIAM HENRY TROUT.

Witnesses:

GEORGE W. CALLES,
PAUL STOVER.