No. 777,004. PATENTED DEC. 6, 1904.

C. B. COLLINS.

HORSE RELEASER.

APPLICATION FILED SEPT. 27, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

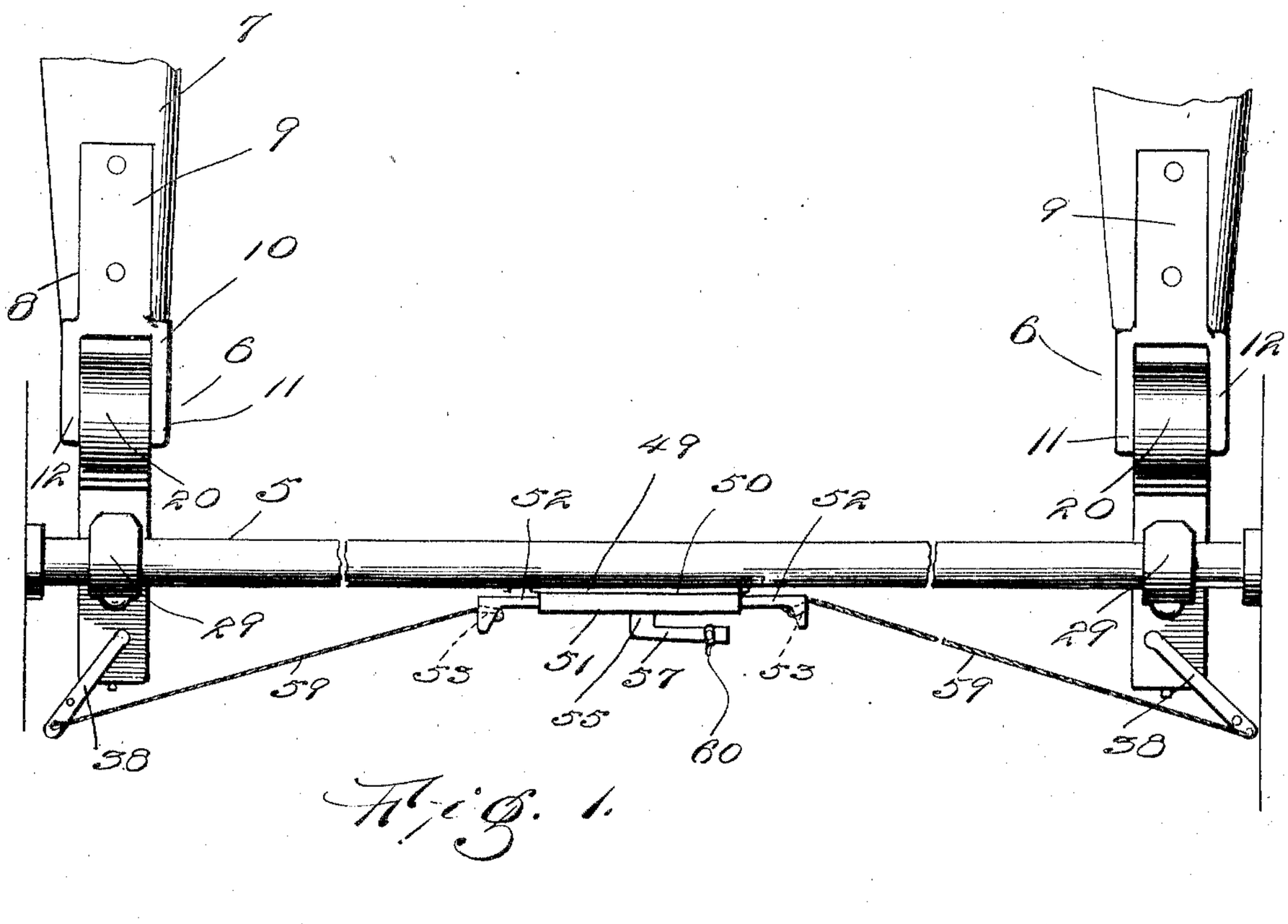

Fig. 1.

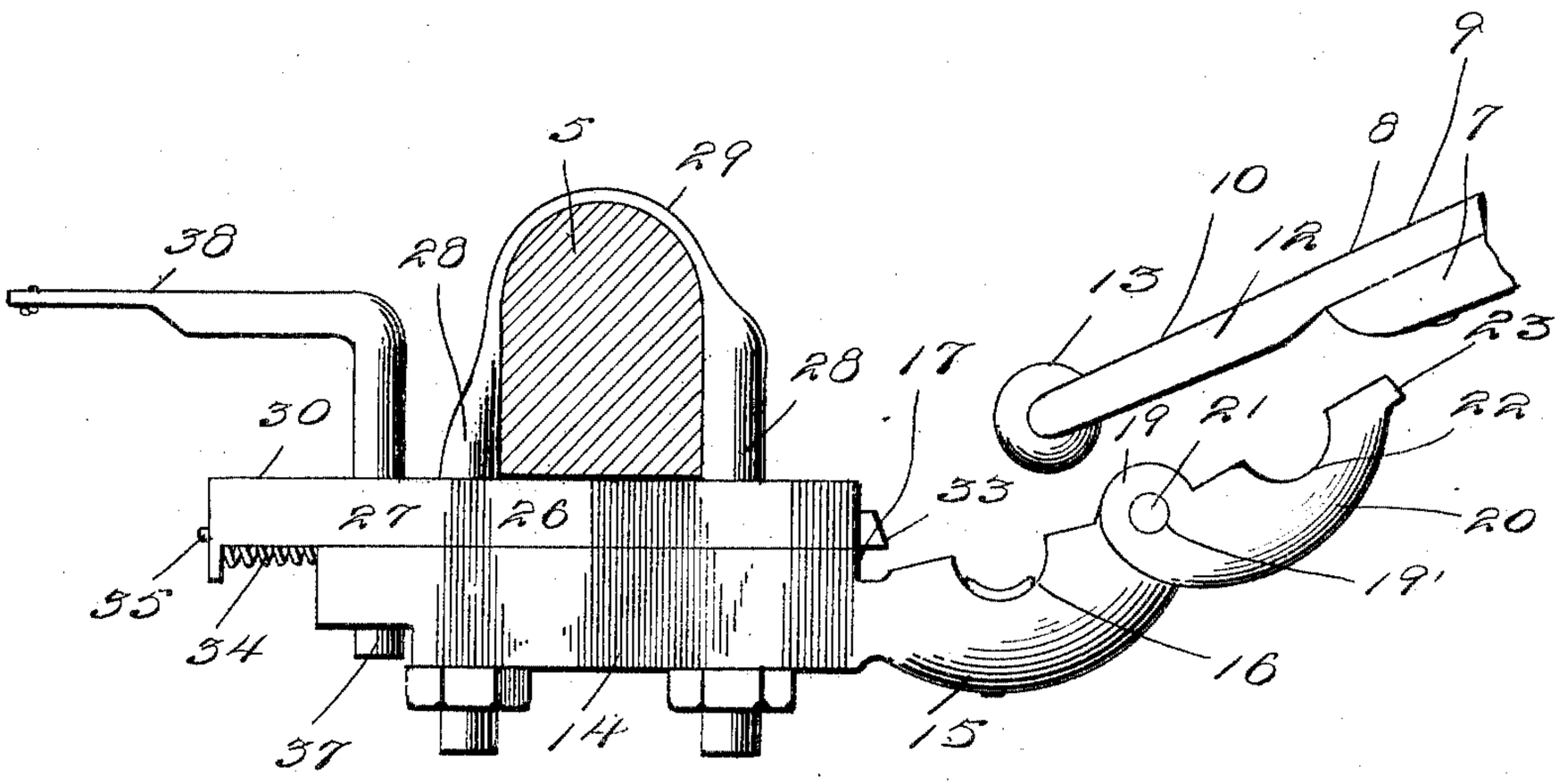

Fig. 2.

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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

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NO MODEL. 2 SHEETS—SHEET 2.

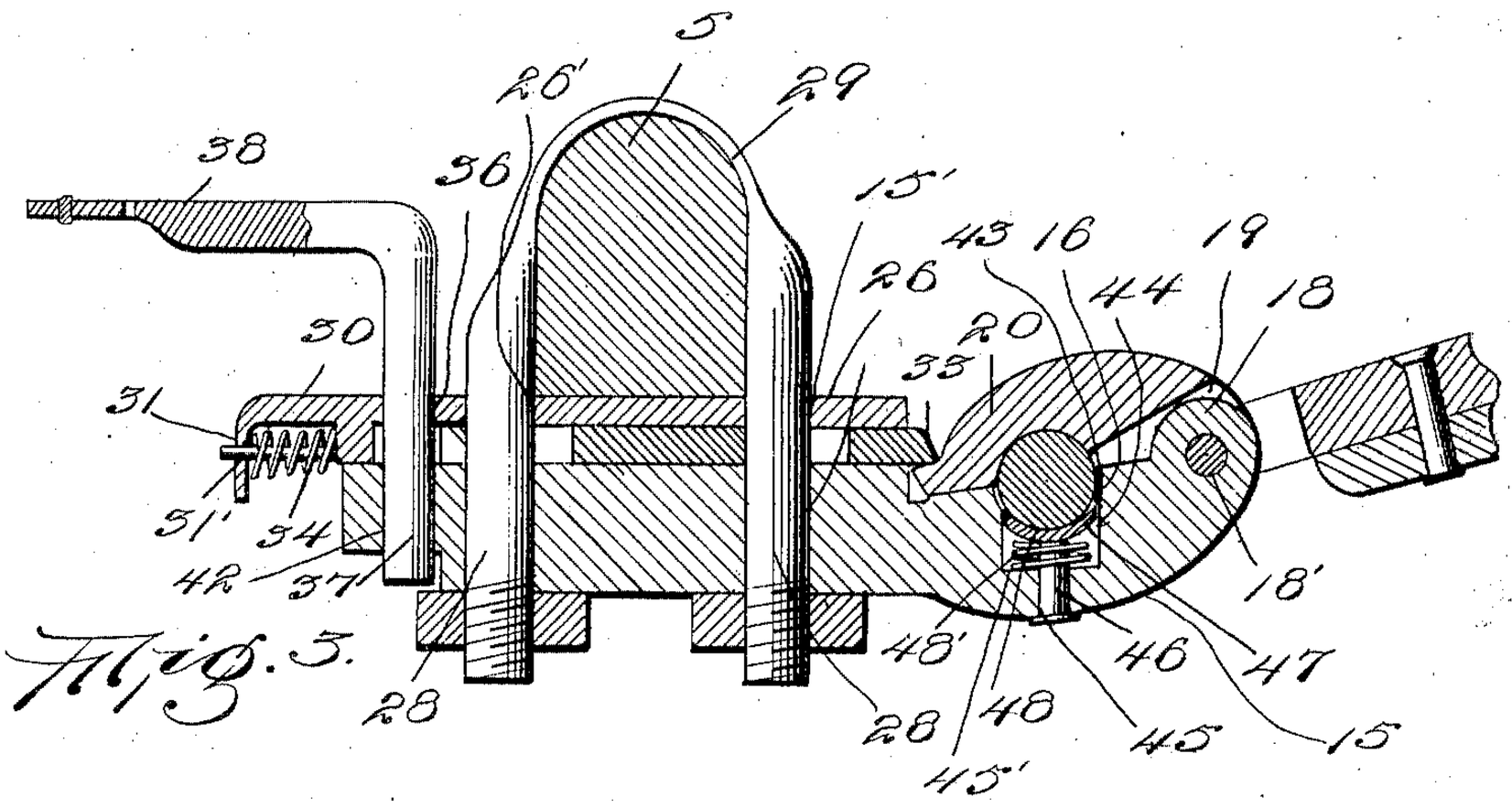

Fig. 3.

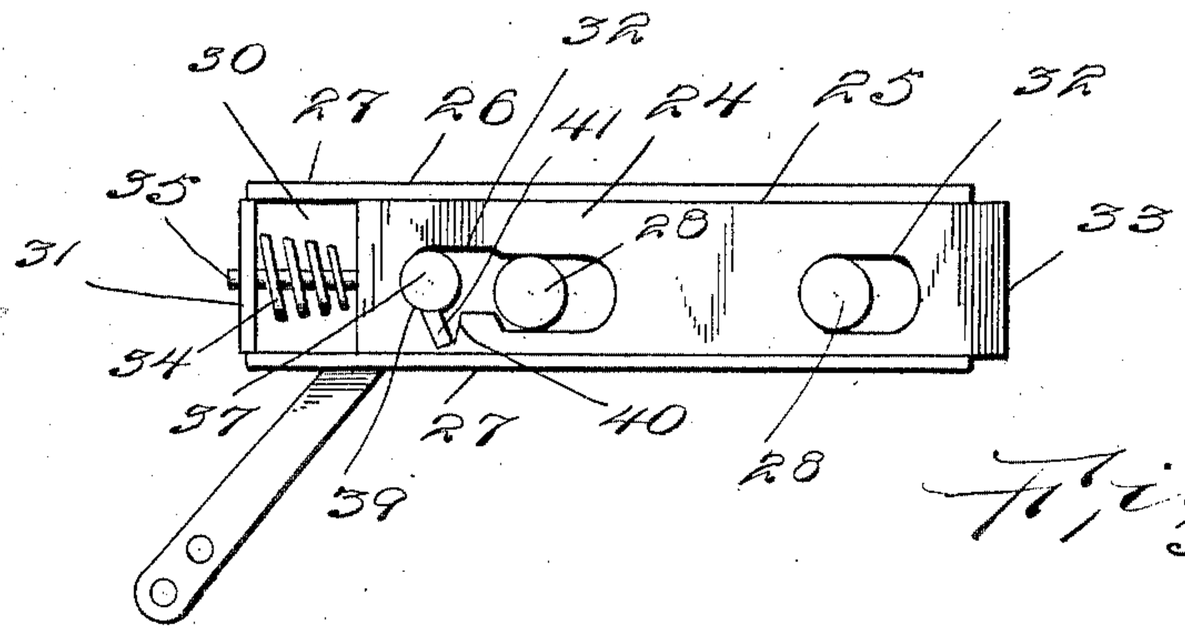

Fig. 4.

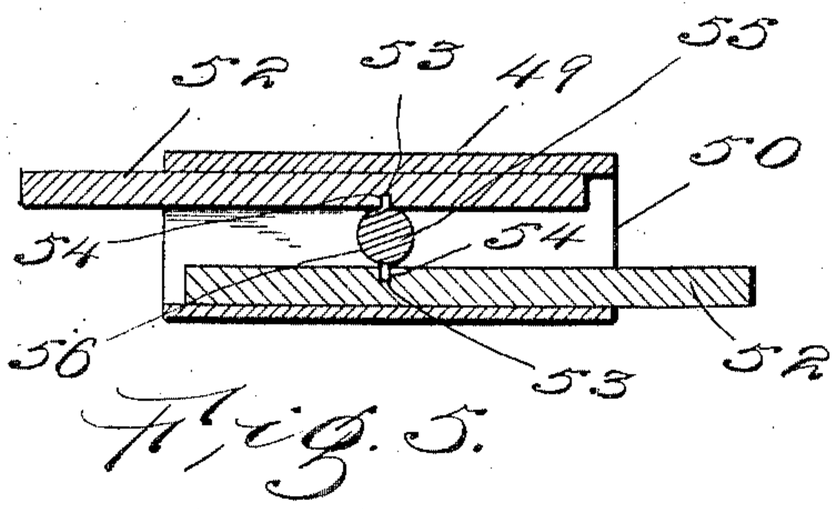

Fig. 5.

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No. 777,004. Patented December 6, 1904.

UNITED STATES PATENT OFFICE.

CHARLES B. COLLINS, OF BENTLEY, KANSAS.

HORSE-RELEASER.

SPECIFICATION forming part of Letters Patent No. 777,004, dated December 6, 1904.

Application filed September 27, 1904. Serial No. 226,179. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. COLLINS, a citizen of the United States, residing at Bentley, in the county of Sedgwick, State of Kansas, have invented certain new and useful Improvements in Horse-Releasers; 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.

This invention relates to horse-releasers, and more particularly to that type of releasers in which the shafts are disconnected from the wagon at the thill-couplings, and has for its object to provide a releaser, including thill-couplings, which will be arranged to hold the shafts to the vehicle in the usual manner under normal conditions, and which, when desired, may be quickly operated to release the thill, the arrangement being such that efficient operation of the parts is assured.

Other objects and advantages will be apparent from the following description, and it will be understood that modifications of the specific construction shown may be made and any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view showing a portion of a pair of thills and of an axle equipped with the present releasing mechanism. Fig. 2 is a side elevation of one of the couplings in active position. Fig. 3 is a longitudinal section of Fig. 2. Fig. 4 is a bottom plan view of the locking-bolt and its actuating parts. Fig. 5 is a horizontal section through the operating mechanism.

Referring now to the drawings, there is shown the axle 5 of a vehicle, adjacent to the ends of which the coupling members 6 are attached in a manner to be presently described. Each of the thills 7 is equipped with a metallic member 8, comprising a shank 9, to which the thill is connected in any suitable manner, and a transversely-enlarged head 10, including spaced arms 11 and 12, between the outer ends of which there lies a transversely-rounded member 13, which is preferably formed integral with the arms and has substantially the shape of an ellipsoid.

The coupling members 6 are identical, so that a description of one will suffice for both. Each of the members 6 consists of a metallic block 14, having a head 15 at its forward end, which is inclined upwardly at a slight angle, and which has a transverse groove 16 formed in its upper face, the groove extending from side to side of the head and being semicircular in cross-section. The block 14 extends slightly above the head 15 to form a shoulder 17, as illustrated. At its outer end the head 15 is reduced transversely to form a lug 18, having a central perforation 18′, and embracing this lug are the ears 19, carried by the outer end of a jaw 20, the ears 19 having perforations 19′, alining with the perforation 18′ for the reception of a pin 21, so that the jaw is pivotally connected with the head. Formed transversely of the jaw, in the face thereof which lies against the upper face of the head, is a transversely semicircular groove 22, which registers with the groove 16 to form a circular passage, and in this passage there is received the rounded member 13. At its free end the jaw 20 carries a lip 23, which lies upon the upper face of the head at the inner end thereof and with its upper face flush with the upper face of the block 14. To hold the jaw 20 in coöperative relation to the head 15, a latch 24 is provided, moving in the groove 25 of a channel-iron 26, which is disposed with the free edges of its side portions 27 upon the block 14, in which position it is held by the spaced legs of a yoke 29, which are passed downwardly through alining perforations 26′ and 15′, formed in channel-iron 26 and the block 14, respectively, the yoke 29 extending above the channel-iron for engagement with the axle 5, as illustrated, to hold the coupling thereto. At its rearward end the top portion 30 of the channel-iron is somewhat longer than its side portions 27, as shown at 31, and this portion 31 is turned downwardly at right angles to lie between the side portions and is provided with perforations 31′.

The latch 24 is provided with longitudi-

nally-elongated slots 32, in which the legs 28 of the yoke are engaged, and the latch is held normally with its forward end 33 projecting beyond the forward end of the channel-iron and above the lip 23 by means of a helical spring 34, disposed between the rearward end of the latch and the portions 31 of the channel-iron and encircling a pin 35, carried by the rearward end of the latch and slidably engaged in the perforation 31′. Formed through the top portion 30 of the channel-iron, rearwardly of the perforations 26′, there is a perforation 36, in which there is revolubly engaged a vertical shaft 37, having a laterally-extended arm 38 at its upper end, and this shaft is also revolubly engaged in a perforation 39, formed through the latch 24 and having a laterally-extending reduced continuation 40, in which there is disposed a laterally-extending pin 41, carried by the shaft 37, the lower end of this shaft being revolubly disposed in a perforation 42 in the block 14.

Formed in the bottom of the groove 16 is a recess 43, and centrally of this recess there is formed through the head a passage 44, having a reduced lower end 45, and in this passage there is disposed the stem 46 of a circular plate 47, having a concaved upper face 48, the concavity of which is such that when the plate 47 lies within the recess 43, which is of a size to receive the plate, the upper face of the plate is flushed with the curvature of the groove 16. The lower end of the stem 46 extends through the reduced end 45 of the passage and is headed over to prevent disengagement therefrom, and between the shoulder 45′, the result of the reduced end 45 of the passage, and the plate 47 there is disposed a helical spring 48, which encircles the stem and which holds the plate 47 normally raised out of the recess 43.

In use the rounded portions 13 of the thill members 8 are engaged in the grooves 16, and the jaws 20 are moved into coöperative position with the heads 15, the latches 24 being retracted to permit of this operation, and when this is done the latches are permitted to return to their normal positions under the action of the springs 34 to prevent movement of the jaws. It will be readily understood that the members 13 force the plates 47 into the recesses 43, and when it is desired to release the thills the shafts 37 are moved to retract the latches and disengage them from the lips 23 of the jaws 19. The pressure being thus removed from the members 13 the springs 46 raise the plates 47 and therewith the thills, the jaws 20 moving pivotally to release the thills.

To move the shafts 37, a mechanism is provided which is shown at 49 and which consists of a plate 50, having a channel-iron 51, disposed with the free edges of its side portions thereagainst. Slidably mounted within the channel-iron are two members 52, having eyes 53 at their outer ends, and these members are disposed parallel to each other, as shown, and are provided with notches 53 in the mutually-adjacent faces, in which are engaged pins 54, carried by a shaft 55, revolubly mounted in a perforation 56 in the top portion of the channel-iron and having a laterally-extending arm 57 at its outer end. The plate 50 is secured to the rearward face of the axle 5, and the eyes 53 are connected by suitable cords 59 with the ends of the arms 38, and it will thus be seen that if the shaft 56 be moved the members 52 will be moved in opposite directions to move the shafts 37 and disengage the latches. A cord 60 is connected to the arm 57, by means of which the mechanism may be operated from within the vehicle.

It will be understood that the plates 47 besides acting in the manner above described also perform the function of antirattlers to prevent movement of the members 13 with respect to the jaws and heads, and that they also take up wear of the parts should any occur.

What is claimed is—

1. The combination with a vehicle-axle, of a block having a head at its forward end, a jaw pivoted to the forward end of the head, a slidably-mounted latch arranged for movement into and out of engagement with the jaw, a spring arranged to hold the latch yieldably in engagement with the jaw, means for moving the jaw against the action of the spring, means for actuating the last-named means, and a member removably engaged between the head and the jaw, said member being arranged for attachment to a thill.

2. The combination with a vehicle-axle, of blocks connected thereto and having heads at their forward ends, said heads having transverse grooves therein, a spring-supported plate carried by each head in its groove, a jaw pivoted to each head, thill members having portions engaged between the plates and the jaws, latch-plates arranged for engagement into and out of engagement with the jaws to hold the latter in active position, means for holding the latch-plates in engagement with the jaws, means for moving the latch-plates out of such position, and means for actuating the last-named means of the two latch-plates simultaneously.

3. The combination with a vehicle-axle, of a block secured thereto and having a head at its forward end, said head being provided with a transverse groove, a jaw pivoted to the head and arranged for coöperation therewith, a thill member having a portion engaged between the jaws and head and lying in the groove of the latter, a channel-iron disposed with the free edges of its side portions upon the block, a latch slidably disposed in the channel for movement into and out of en-

gagement with the jaw to hold the latter in operative position, means for holding the latch yieldably in engagement with the jaw, means for moving the latch against the action of the holding means, and a yoke having spaced legs passed through the channel-iron and block and projecting beyond the latter and being secured thereagainst, to hold the channel-iron to the block, said yoke being engaged with the axle.

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

CHARLES B. COLLINS.

Witnesses:

U. S. G. COLLINS,

J. F. JORGENSEN.