

No. 628,621.

Patented July 11, 1899.

J. E. CUNNINGHAM.
CAR COUPLING.

(Application filed Jan. 12, 1899.)

(No Model.)

FIG. 1.

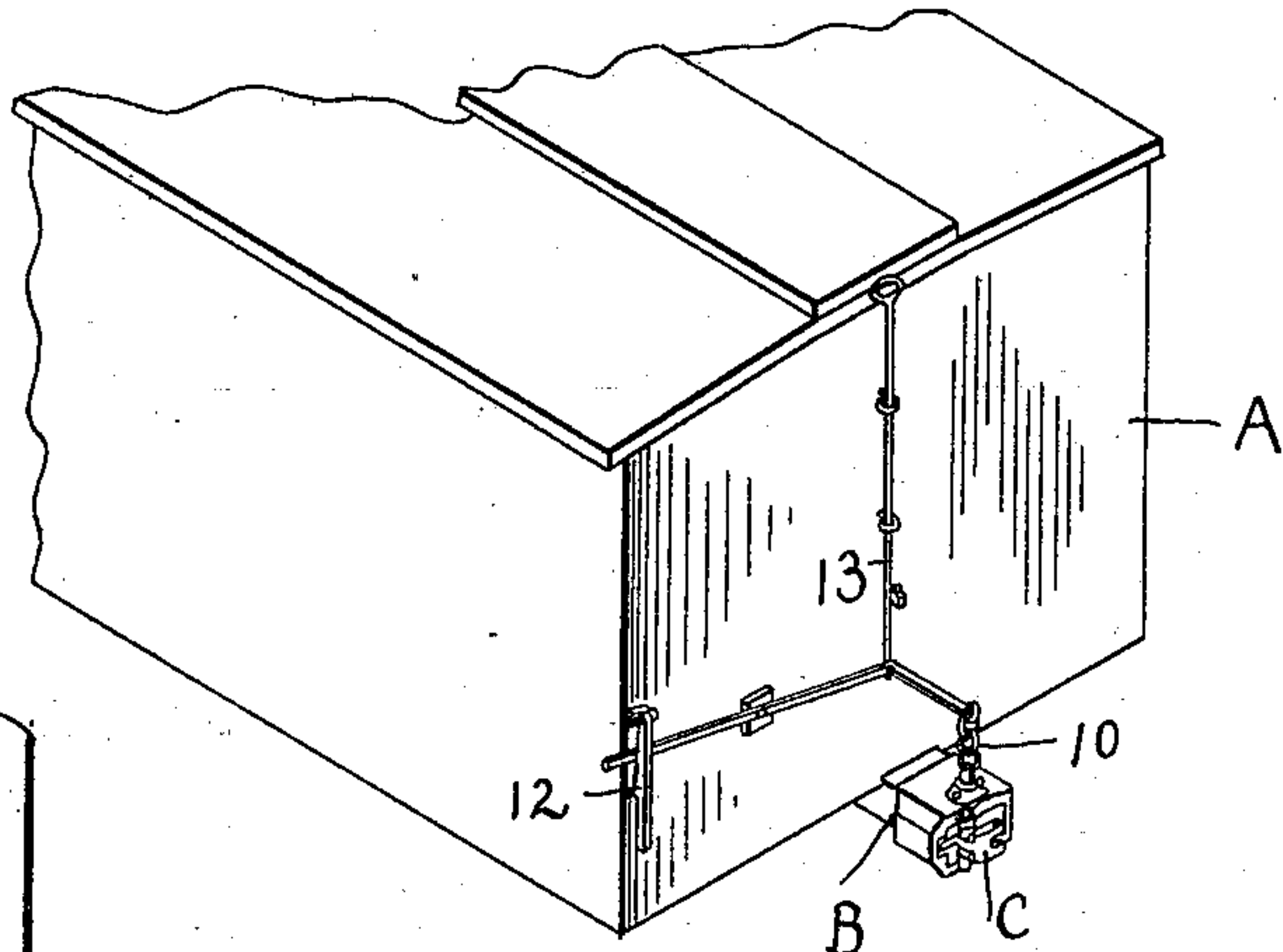


FIG. 2.

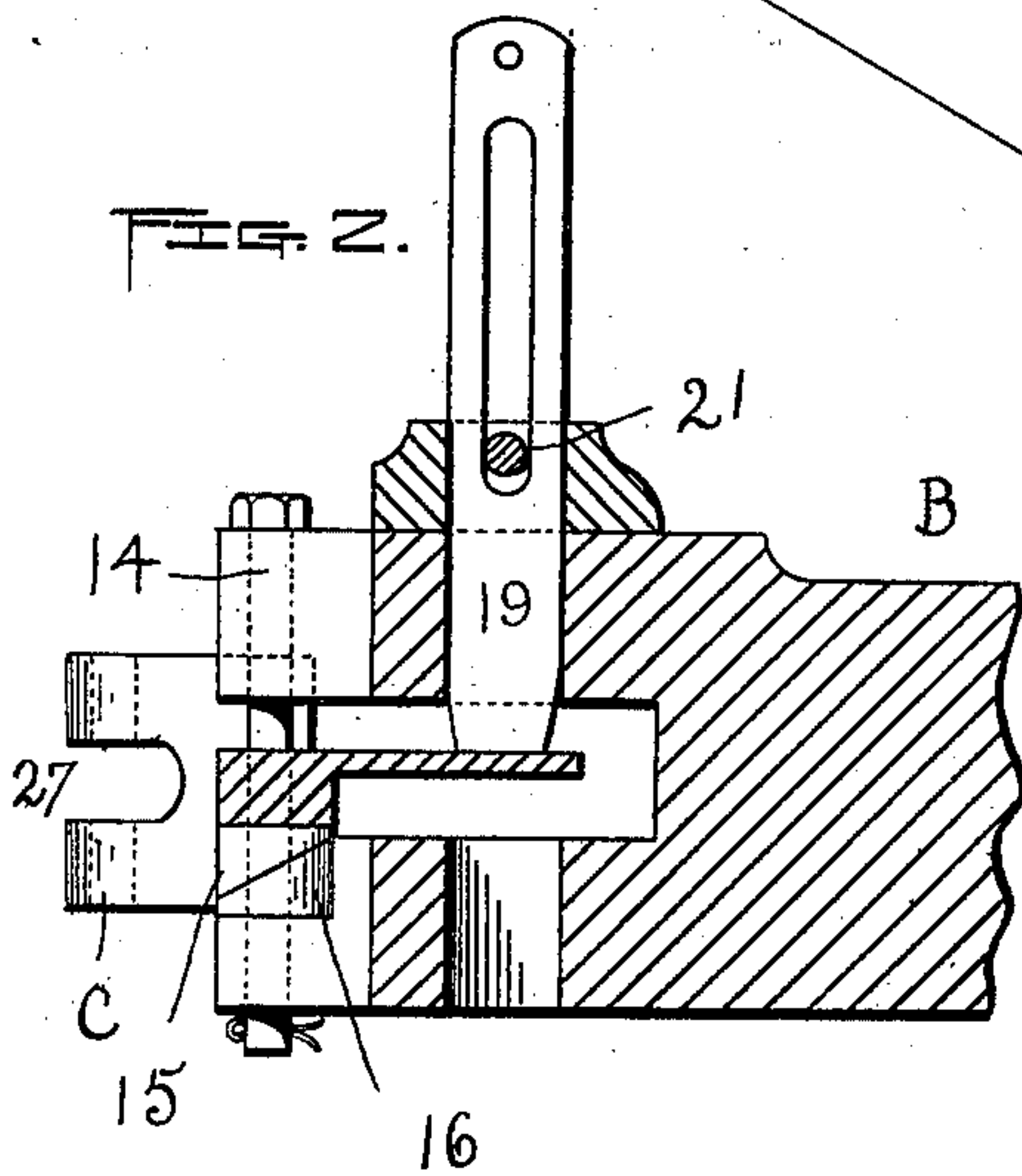


FIG. 3.

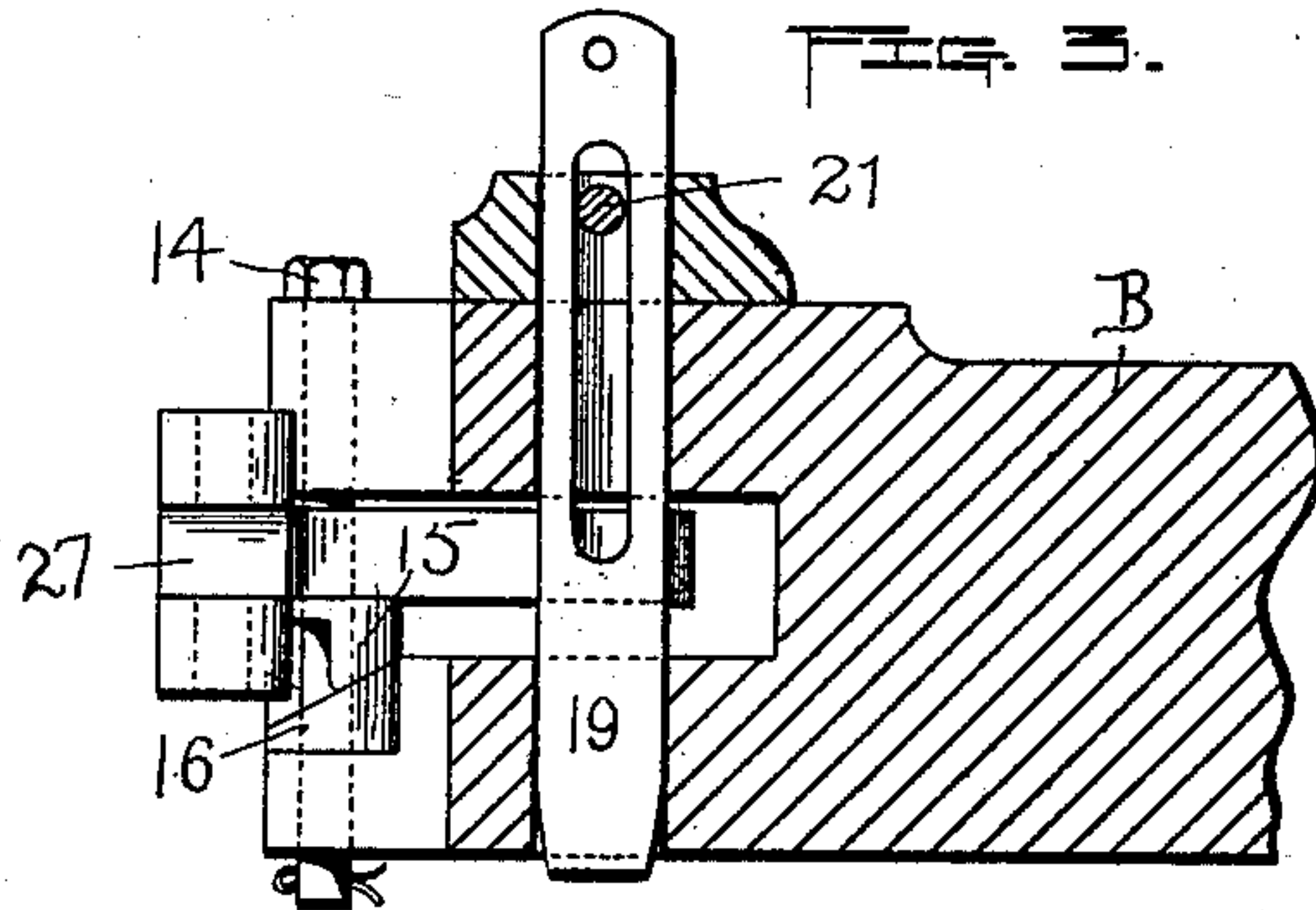


FIG. 4.

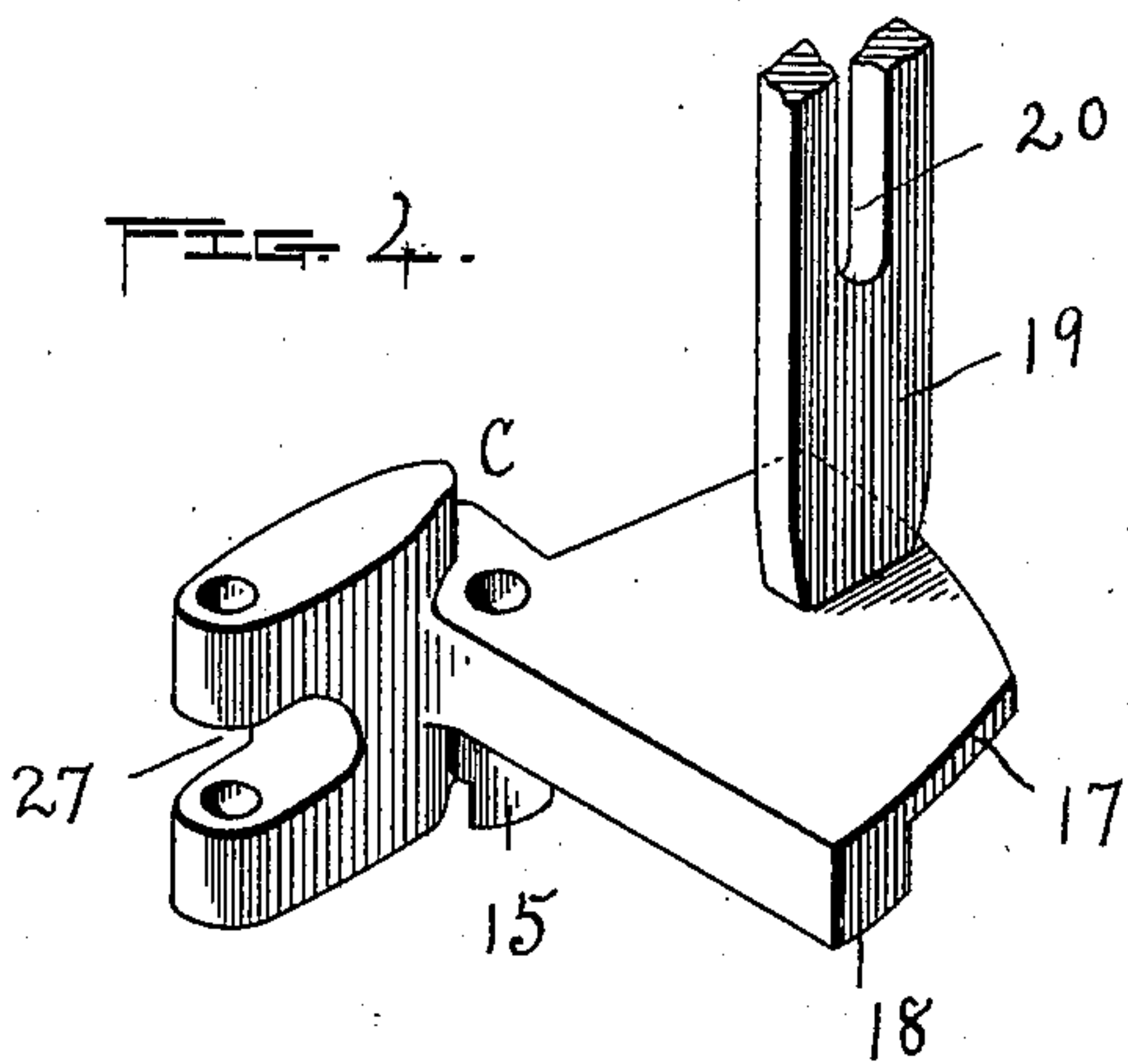
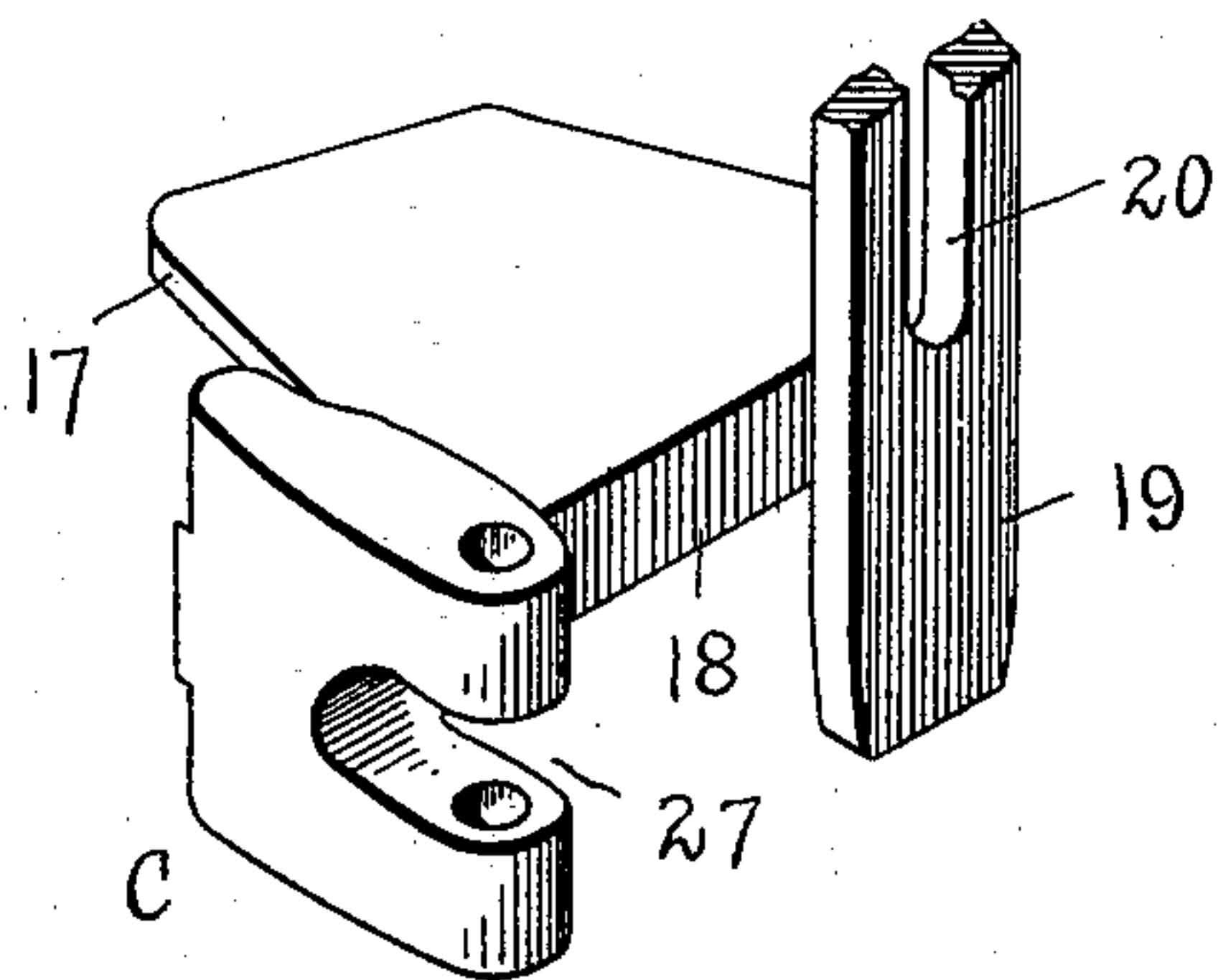


FIG. 5.



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UNITED STATES PATENT OFFICE.

JAMES E. CUNNINGHAM, OF WORCESTER, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 628,621, dated July 11, 1899.

Application filed January 12, 1899. Serial No. 701,897. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. CUNNINGHAM, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to that class of car-couplers in which each draw-head is provided with a knuckle or coupling-head pivoted to turn on a vertical stud or axis and to cooperate with the knuckle or coupling-head of the succeeding car—as, for example, in the well-known “Janney” or in the “Master Car-Builders’” coupling; and the object of this invention is to provide an improved gravity locking mechanism employing a slotted locking-pin which cannot become stuck or fail to operate and which will not be liable to be lost.

A further object of this invention is to provide an improved form of knuckle or coupling-head having a sector-shaped plate for supporting the locking-pin in its uncoupled position and a reinforced engaging face, in front of which the pin drops when in its coupled position, said knuckle or coupling-head also having a cam-section for swinging the same open by gravity when the coupling-pin is withdrawn.

A still further object of this invention is to provide improved connections for drawing the coupling-pin and for holding the same up, so as to prevent coupling, when so desired.

To these ends this invention consists of the parts and combinations of parts, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view of a car provided with a coupling constructed according to this invention. Figs. 2 and 3 are enlarged sectional views of the car-coupling, showing the parts in their uncoupled and coupled positions, respectively. Fig. 4 is a detail perspective view illustrating the relation of the knuckle and its coupling-pin when the parts are in their uncoupled position, and Fig. 5 is a similar view showing the relation of these parts in their coupled position.

Referring to the drawings and in detail, A designates an ordinary car having a draw-head B secured thereto in any ordinary manner.

Pivoted in the draw-head B is a knuckle or coupling-head C, arranged to turn on a bolt 14. As shown most clearly in Figs. 4 and 5, the locking-section of the knuckle or coupling-head C is perforated and notched, as at 27, to receive an ordinary coupling link and pin, so that a coupling constructed according to this invention may when necessary be used in connection with cars employing the old link-and-pin couplers.

The knuckle or coupling-head C is provided with a flat plate or sector 17 for supporting a locking-pin 19. The supporting sector or plate 17 may be made comparatively thin, but is provided along its edge with a thickened portion 18, which engages behind the coupling-pin 19 in its coupled position, as shown in Fig. 5, and has sufficient strength to lock the knuckle rigidly in its coupled position.

On its under surface the knuckle or coupling-head C is provided with a cam-section 15, which rests upon and cooperates with a corresponding inclined or cam section 16 in the draw-head, so that when the coupling-pin is raised to release the knuckle the same will turn by gravity to its uncoupled position, as most clearly illustrated in Fig. 2.

The gravity locking-pin which I preferably employ is substantially rectangular in cross-section, is slotted longitudinally, and is secured in the draw-head B by means of a bolt or pin 21. I prefer to use a gravity locking-pin 19 which is flattened or has the rectangular cross-section referred to rather than a cylindrical pin, as the same will present a flat surface to the section 18 of the knuckle, thus providing a large wearing-surface which will not wear away so quickly or permit so much lost motion as when a cylindrical pin is employed.

The connections which I preferably employ for drawing the locking-pin are most clearly illustrated in Fig. 1. As is shown in this figure, the locking-pin 19 is connected to an L-shaped lever 11 by means of a short chain 10. The chain 10 will permit the necessary motion between the car A and its draw-head B. Connected to the L-shaped lever 11 is a

link or rod 13, which can be operated from the top of the car, the end of the rod 13 being normally below the upper surface of the car, so as not to present an obstruction to free
 5 passage over the tops of the cars when the same are in motion. The end of the L-shaped lever 11 extends so that it may be operated from the side of the car, and cooperating with the L-shaped lever 11 is a gravity-catch 12.

10 In the normal operations of coupling and uncoupling the L-shaped lever 11 is not pushed down far enough to engage its catch 12; but when it is desired to hold the locking-pin up, so as to prevent coupling, the L-shaped
 15 lever 11 may be depressed sufficiently to engage below the gravity-catch 12.

I am aware that changes may be made in the specific construction of my car-coupling by those who are skilled in the art without
 20 departing from the scope of my invention as expressed in the claims and that certain features of my invention—as, for example, the connections for drawing the locking-pin—may be employed in connection with car-couplers
 25 of different types. I do not wish therefore to be limited to the construction which I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

30 1. In a car-coupling, the combination of a draw-head, a knuckle or coupling-head pivotally mounted therein, and a gravity locking-pin, the knuckle being provided with a plate

or sector upon which the lower end of the locking-pin rests when in its uncoupled position, 35 and a thickened portion for engaging behind the locking-pin when in its coupled position, and with an incline or cam resting on a corresponding incline or cam in the coupling-head for normally turning the knuckle to its
 40 uncoupled position when the locking-pin is withdrawn, substantially as described.

2. In a car-coupling, the combination of a draw-head B, a knuckle or coupling-head C pivotally mounted therein, and a longitudi- 45 nally-slotted flat-faced gravity locking-pin 19 secured on a stud or bolt in the draw-head, the knuckle or coupling-head being provided with a plate or sector 17 upon which the lower end of the locking-pin 19 rests when in its
 50 uncoupled position, with a thickened portion 18 for engaging behind the locking-pin, and with an inclined or cam section 15 resting upon a corresponding inclined or cam section 16 in the draw-head for normally swinging the
 55 knuckle to its uncoupled position when the locking-pin is withdrawn, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 60 witnesses.

JAMES E. CUNNINGHAM.

Witnesses:

LOUIS W. SOUTHGATE,
 PHILIP W. SOUTHGATE.