

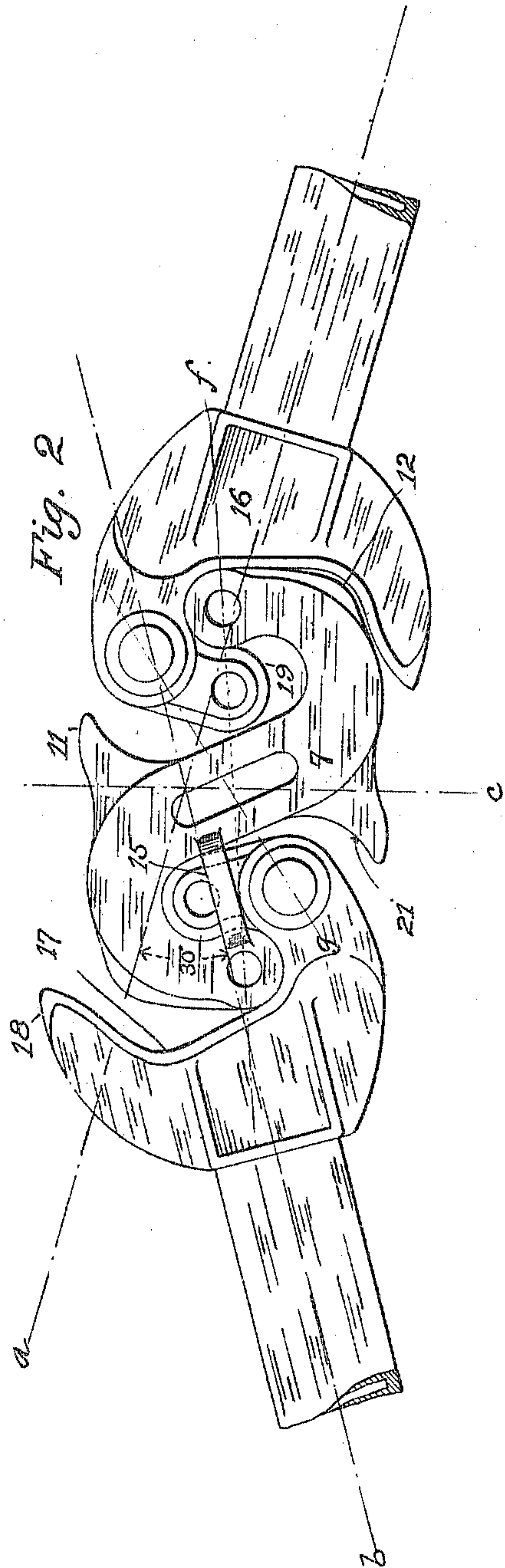
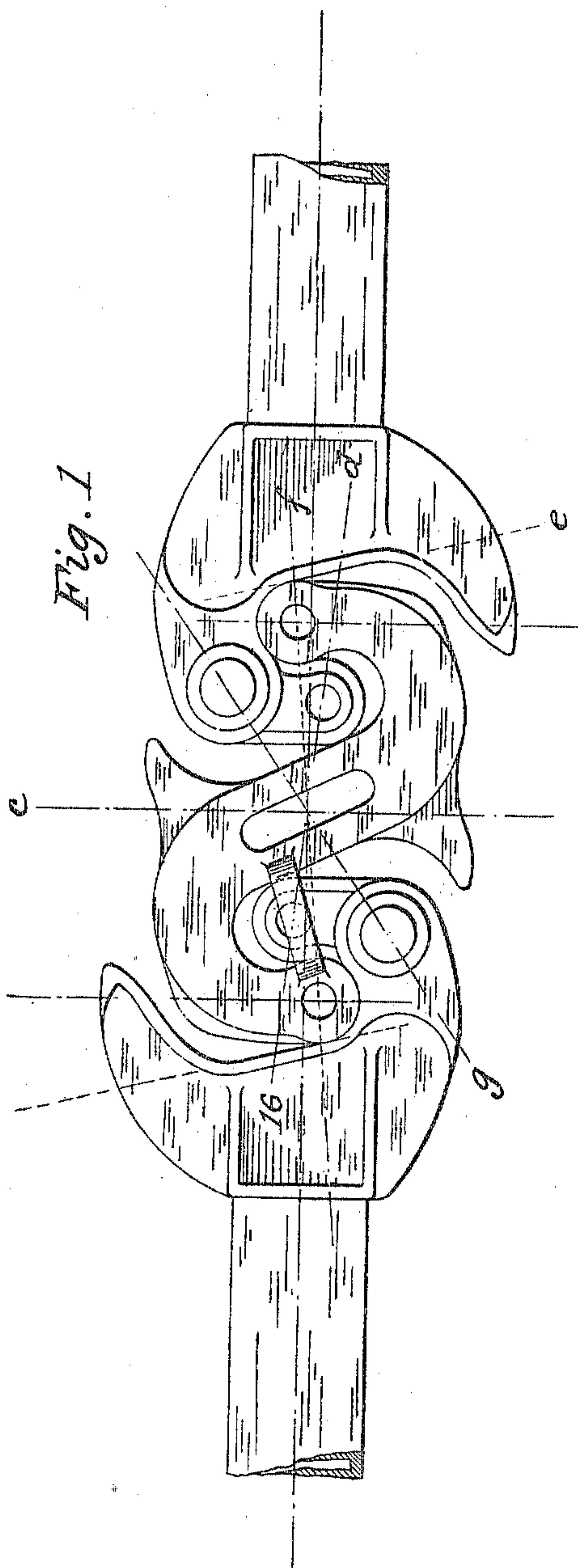
No. 817,342.

PATENTED APR. 10, 1906.

G. W. SCOTT.  
AUXILIARY COUPLING DEVICE.

APPLICATION FILED FEB. 25, 1903.

2 SHEETS—SHEET 1.



Witnesses:

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Fig. 5

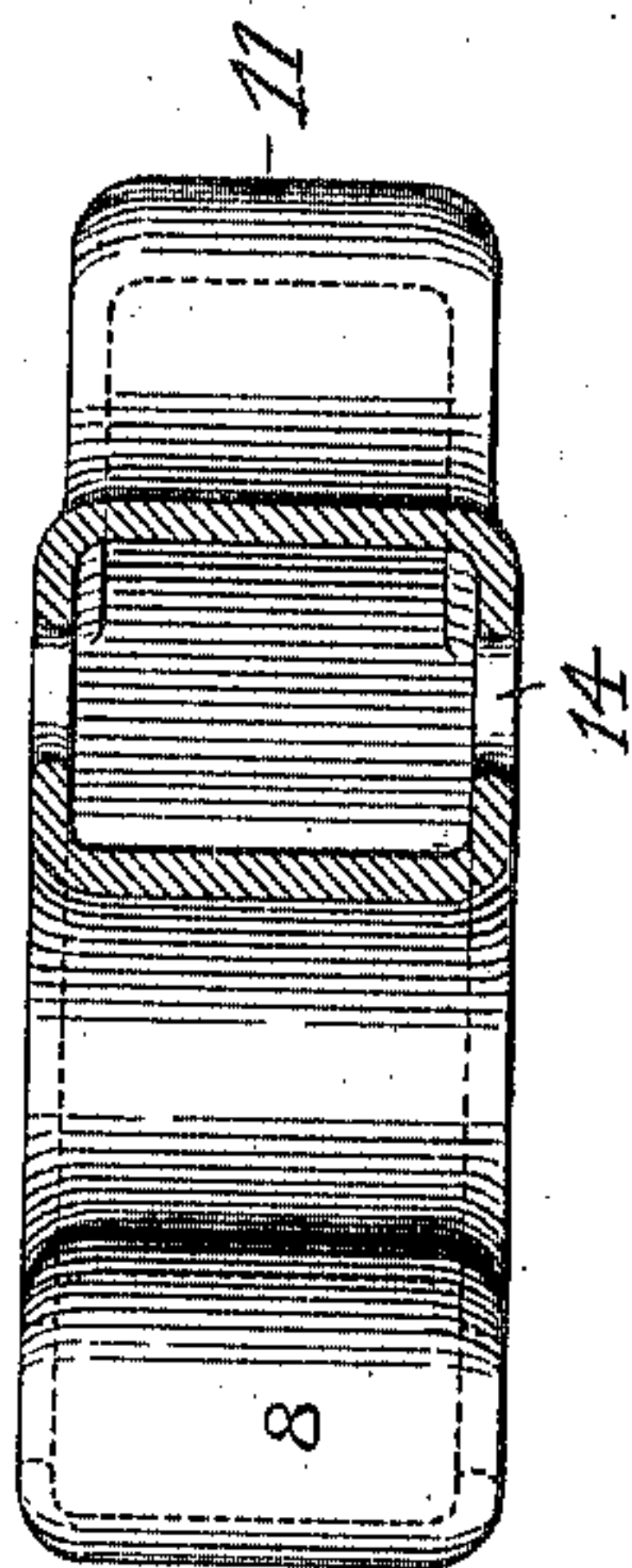


Fig. 6

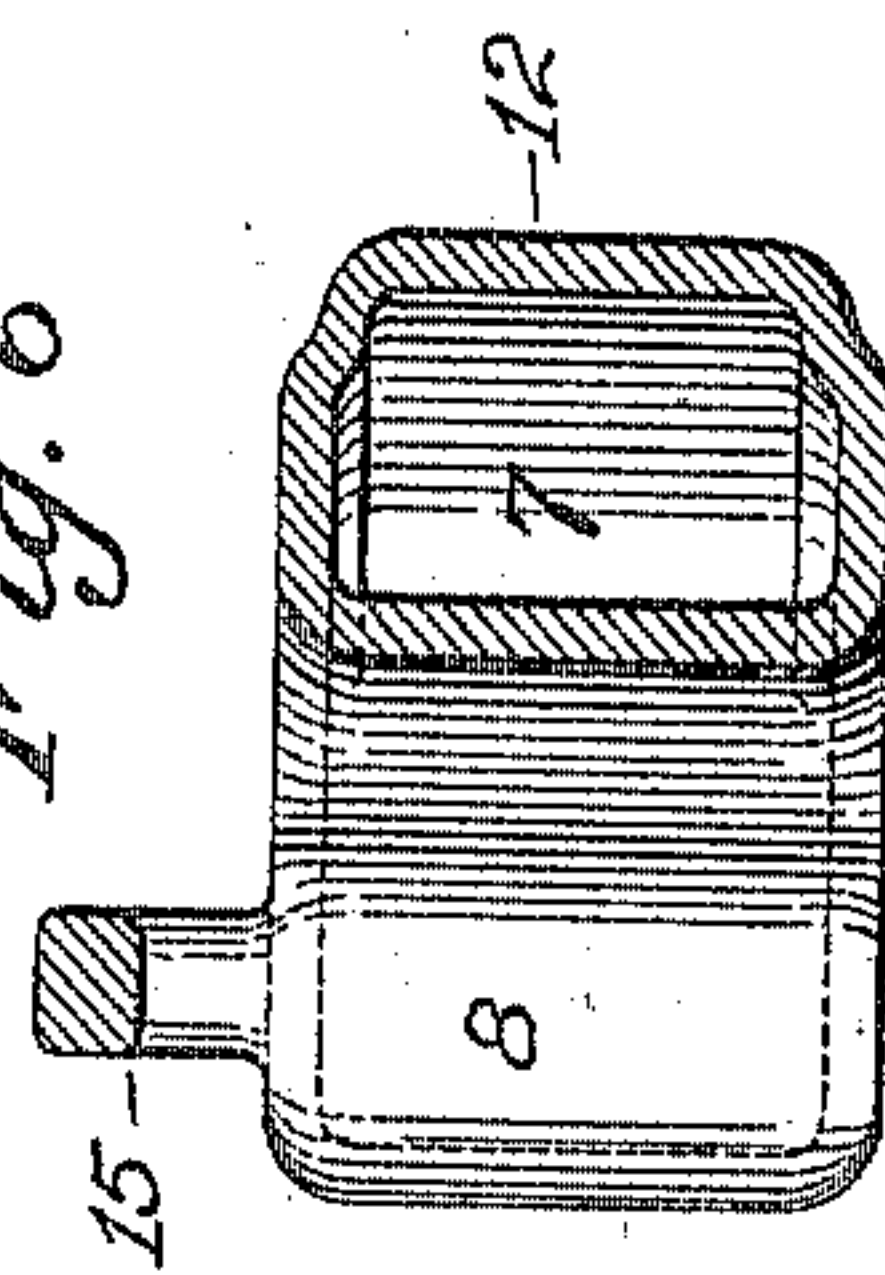


Fig. 3

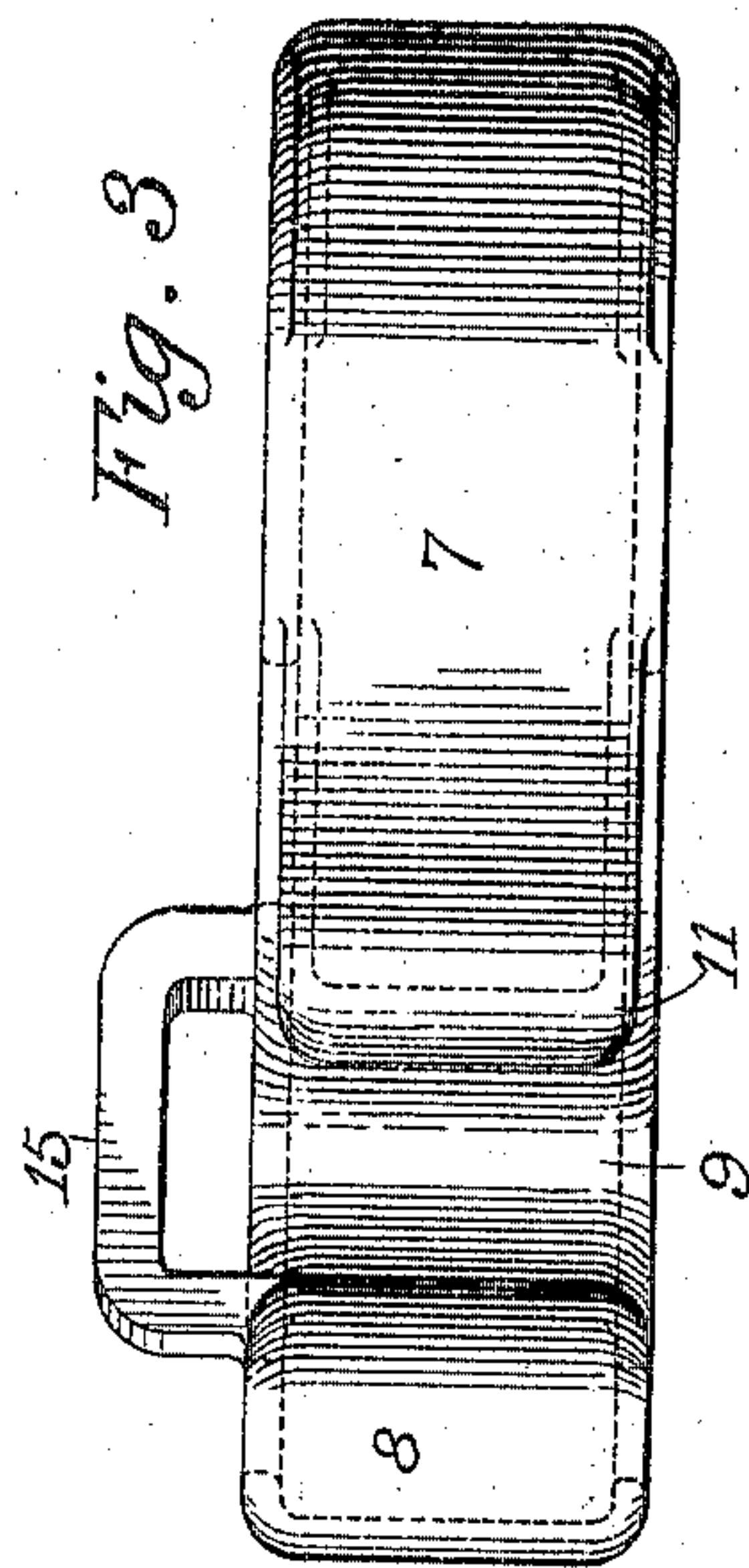
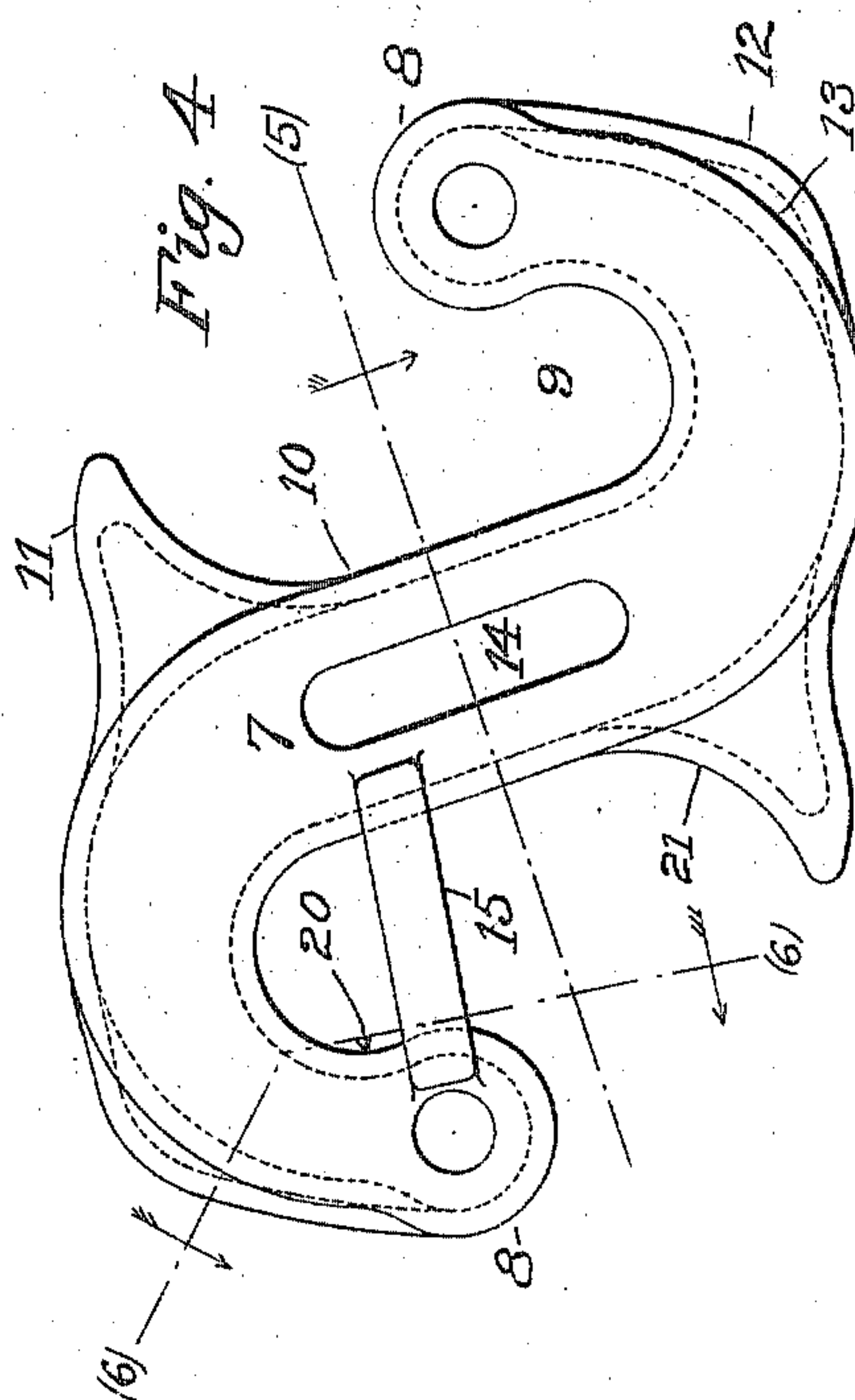


Fig. 4



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# UNITED STATES PATENT OFFICE.

GEORGE W. SCOTT, OF CHICAGO, ILLINOIS, ASSIGNOR TO RAILWAY APPLIANCES COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## AUXILIARY COUPLING DEVICE.

No. 817,342.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed February 25, 1903. Serial No. 144,943.

*To all whom it may concern:*

Be it known that I, GEORGE WELSBY SCOTT, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Auxiliary Coupling Device, of which the following is a specification.

My invention relates to the couplings for railway cars and particularly to means for connecting two of the ordinary coupler heads of the Master Car Builders approved type of construction, in cases where the cars are in such a position as to render it difficult or inconvenient to unite these coupler heads together directly.

The objects of the invention are to provide means by which an automatic coupling may be made by an auxiliary device which is removable from the regular car coupler; to provide such a device as will allow of the greatest possible range of angularity of the regular coupler heads; to provide means by which the auxiliary coupling may be conveniently carried upon one of the regular coupler heads; to so design the auxiliary coupling as to give it capability of taking both pulling and thrusting strains and of allowing the widest range of variation in the alinement of the cars and the regular coupler heads.

The above objects, together with other advantages as will hereinafter appear, I attain by a peculiar construction as illustrated in the accompanying drawings wherein,—

Figure 1 is a plan view of two ordinary car coupler heads joined together by my auxiliary device.

Figure 2 is a plan view of the same with the car couplers at a large departure from straight alinement with each other.

Figure 3 is a side elevation of the coupling device alone.

Figure 4 is a plan view of the same.

Figure 5 is a section of the coupling device taken on the line 5 in Figure 4.

Figure 6 is a section of the coupling taken on line 6-6 shown in Figure 4.

In the movement of railway cars on short radius curves there is great difficulty in connecting them to each other and in attaching them to the engine, so much so that it is common practice to move them by means of a rope or chain; but this is dangerous in practice because the locomotive is not directly

connected with the cars and they are not under proper control. The present invention is designed therefore to overcome these disadvantages by enabling two cars to be positively coupled, on any possible radius of track in use. Moreover it is of great importance to have the coupling device so designed that it may be carried upon one of the regular coupler heads of the cars, and may be capable of connecting the cars at whatever angle they may stand to each other, and furthermore that it be of light construction and yet sufficiently strong to stand the strain imposed upon it.

In Figure 2 I have indicated the coupler heads of two cars standing upon an extremely sharp curve, the coupler heads being set in such a position that the alinement of the center lines *a, b*, is out of the direct by as much as 30 degrees, which represents a curve of the track of 75 foot radius, which is the smallest practicable to handle cars upon at all.

The auxiliary coupling may be composed of a hollow casting as shown in the Figures, 7 being the body of the device and it being of a general S-shape and having two rounded hooked ends 8 and also guard flanges 11. The opening 14 may be provided to support the core in casting the device, and for additional strength I have provided the peculiar contour of the cross section as shown in Figure 6, the operating face 12 of the coupling being projected beyond the general line 13 of the body. At one end the coupler is provided with a raised strap 15 which rests upon the pivoted knuckle of the ordinary coupler head and carries the auxiliary coupling with it, so that it may operate automatically to couple with the head on the opposite car.

The hooked ends 8 are of a proper form to fit within the knuckle of the coupler head 16 and inside of this rounded head 8 the curved line is re-entrant as shown at 20 in Figure 4. The face 10 is of a form to fit the front side of the coupler knuckle 19, but is set at a different angle and is of a greater length than said knuckle face. The projecting guard flange 11 is provided also with a proper form to cooperate with the pivoted knuckle 19 and close the same when the two devices come together. The face 12 is of a general form to fit the inside face 17 of the coupler head.

The plan contour of the device is of a pe-



culiar form; and to illustrate it in its relation to the ordinary Master Car Builders coupler head I have shown the two in conjunction in Figures 1 and 2 and in referring to said Figures the horizontal center line will be referred to as the horizontal and the line *c* at right angles thereto will be referred to as the perpendicular. The knuckles of the coupler being in closed position the bearing surfaces of the hooks of the auxiliary device are inside the center of the rounded ends of the pivoted knuckles. The outside or front face 12 of the auxiliary device is at an angle nearly the perpendicular and greater than the angle of the line *e* on the face of the head with the horizontal. The inside surface 20 of the auxiliary device is re-entrant from the end of the coupler knuckle and approaches the perpendicular in its curve. The diagonal face 10 of the auxiliary device is at a decided angle with the front face of the closed pivoted knuckle in the coupler head. The design of the curved face 21 on the guard flange is such as to allow a lateral displacement of the coupler heads until the line *f* between centers of the auxiliary hooks approaches much nearer the line *d*, between centers of the coupler hooks, when it will come in contact with the outside coupler head. The length of the face 12 is something near the length of the back or inside straight face 17 of the coupler head, so that the couplers being in the position shown in Figure 2, the center lines *a* and *b* making about 30 degrees angle therein, the face 12 will practically fit upon the inside abutting face of the coupler head as shown.

In this position the lateral shifting of the pivoted knuckle 19 out of the space 9 is prevented by the contact of the lower guard flange 18 of the coupler head, while the auxiliary coupling is prevented from withdrawing from the space in the opposite coupler head by reason of its guard flange 21, which it will be seen will strike against the outside of the coupler jaw before the head 8 at the left of Figure 2 could ride over the pivoted finger 19. The essentials of the design of contour are, that in the position of Figure 1 there is space in front and at the end of the knuckles and space between the front abutting faces of the head and the auxiliary coupling. In the angular position the heads may relatively shift laterally, changing the angle between line *a* or *b* and line *g*, without binding or displacing the auxiliary coupler.

The operation, and the many advantages of this device will readily appear from inspection of the drawings and to those familiar with the use of such devices.

Having thus described my invention and illustrated its use, what I claim, and desire to secure by Letters Patent, is the following:

1. A coupling device consisting of a hol-

low casting formed in a general S-shape and provided with an integral strap thereon for fitting over the pivoted finger of a coupler head.

2. A coupler provided with two hooked ends integrally connected, each of said hooked ends being designed to fit in a Master Car Builders type of coupler head and being longer and of sharper curves so as to depart from the lines of the head in all contact points except the rounded ends of the said hook, when the coupling devices are all in alinement.

3. A coupling device consisting of a body with parallel sides and two integral hooked ends, said hooked ends being designed to fit in a Master Car Builders type of coupler head and the hooked end being longer than the pivoted knuckle of said coupler.

4. An auxiliary coupling consisting in a body portion and a hooked end portion longer than the standard coupler knuckle, said body portion being designed to fit upon the outside of the closed knuckle and head of a standard coupling in one position and capable of fitting the inside face when in another position.

5. A rigid coupling of a general S-shape formed with two hooked ends designed to rev- olubly engage a pivoted knuckle of the Master Car Builders type of coupler, and having a fixed supporting strap 15 thereon adapted to engage the pivoted knuckle.

6. An auxiliary coupling device provided with a hooked end which differs from the contour of a Master Car Builders type of coupler when the knuckle is closed, by having a longer finger with a re-entrant curve inside thereof, and the outside face being at greater angle with the line of draft than the corresponding face of the coupler head, substantially as described.

7. An auxiliary coupling having a face contour departing from the contour of the Master Car Builders standard type of coupler head, when in alinement therewith, only by leaving small spaces inside the jaw, at the round end of the knuckle, and outside the front knuckle face, substantially as described.

8. An auxiliary coupling device consisting of a rigid body of a general S-shape, the hooked ends of which have outside faces about perpendicular to the center line between the rounded ends and curves inside said ends re-entrant from the perpendicular, and the side body faces being at an angle less than the perpendicular with said center line.

In testimony whereof I have hereunder signed my name in the presence of the two subscribed witnesses.

GEORGE W. SCOTT.

Witnesses:

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PAUL SYNNESTVEDT.