

No. 662,639.

Patented Nov. 27, 1900.

C. GIBSON.
DRAW HEAD.

(Application filed Aug. 18, 1900.)

(No Model.)

Fig. 1.

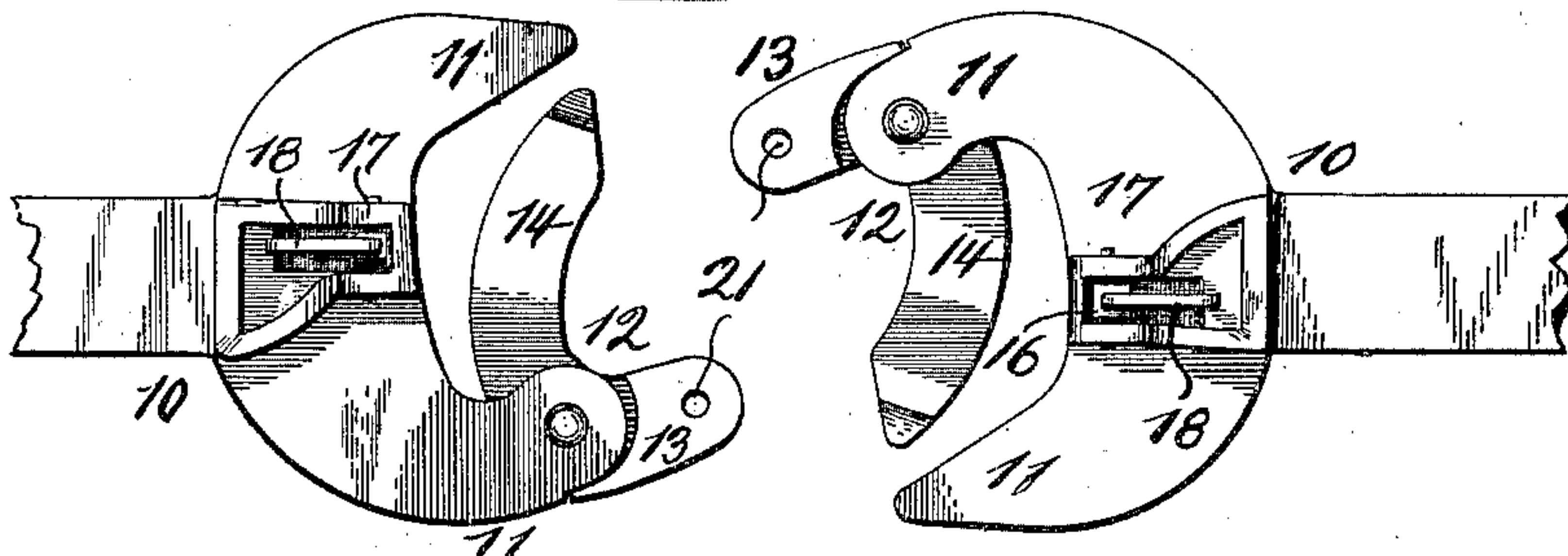


Fig. 2.

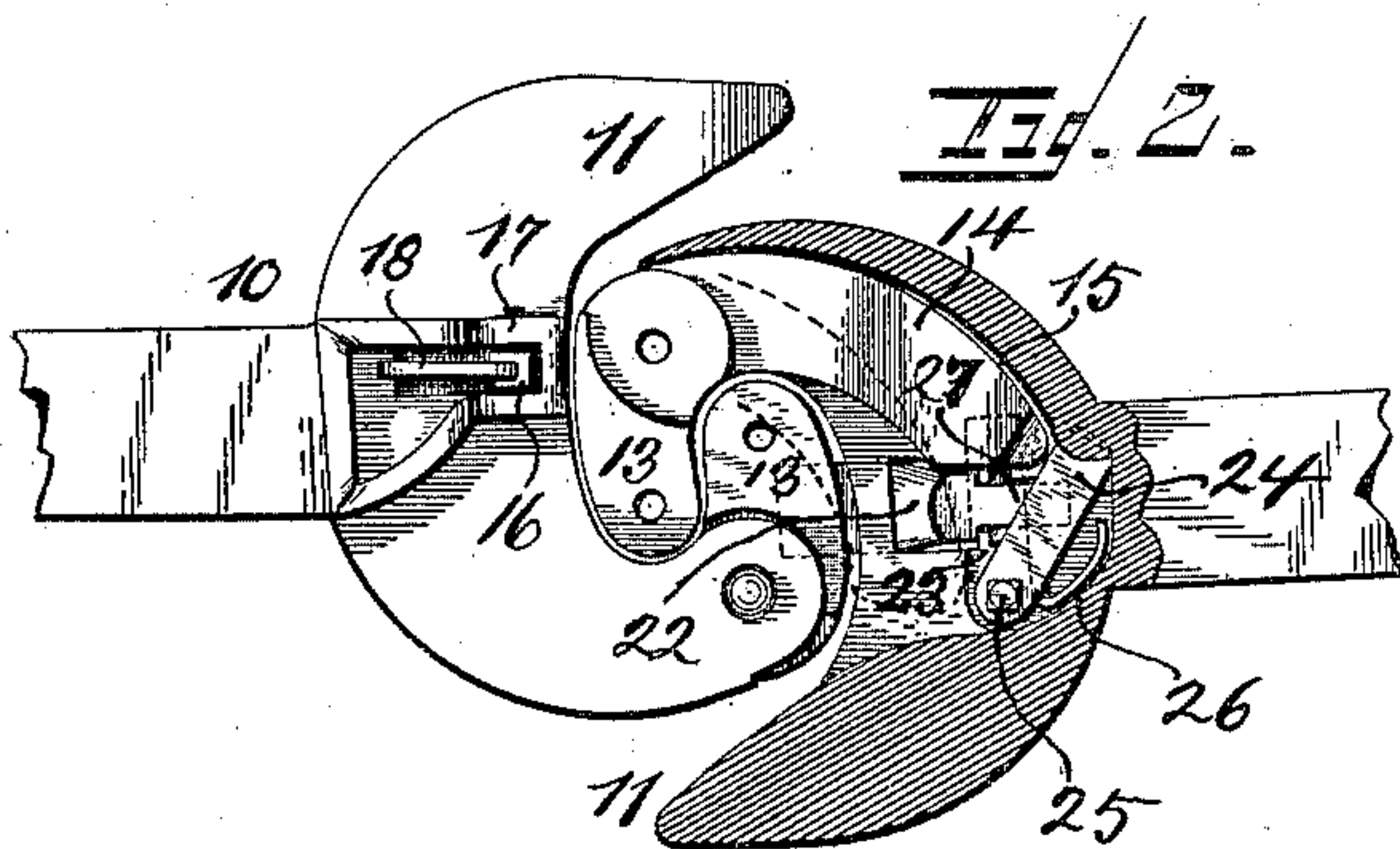


Fig. 3.

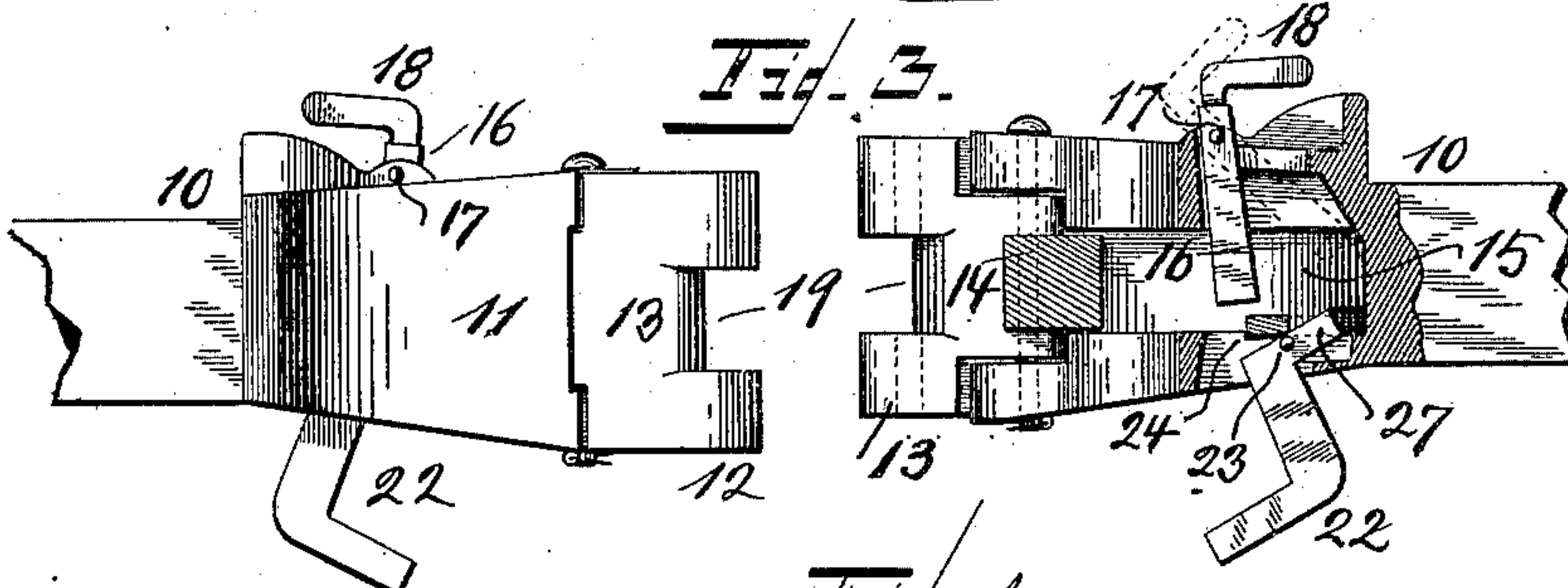


Fig. 4.

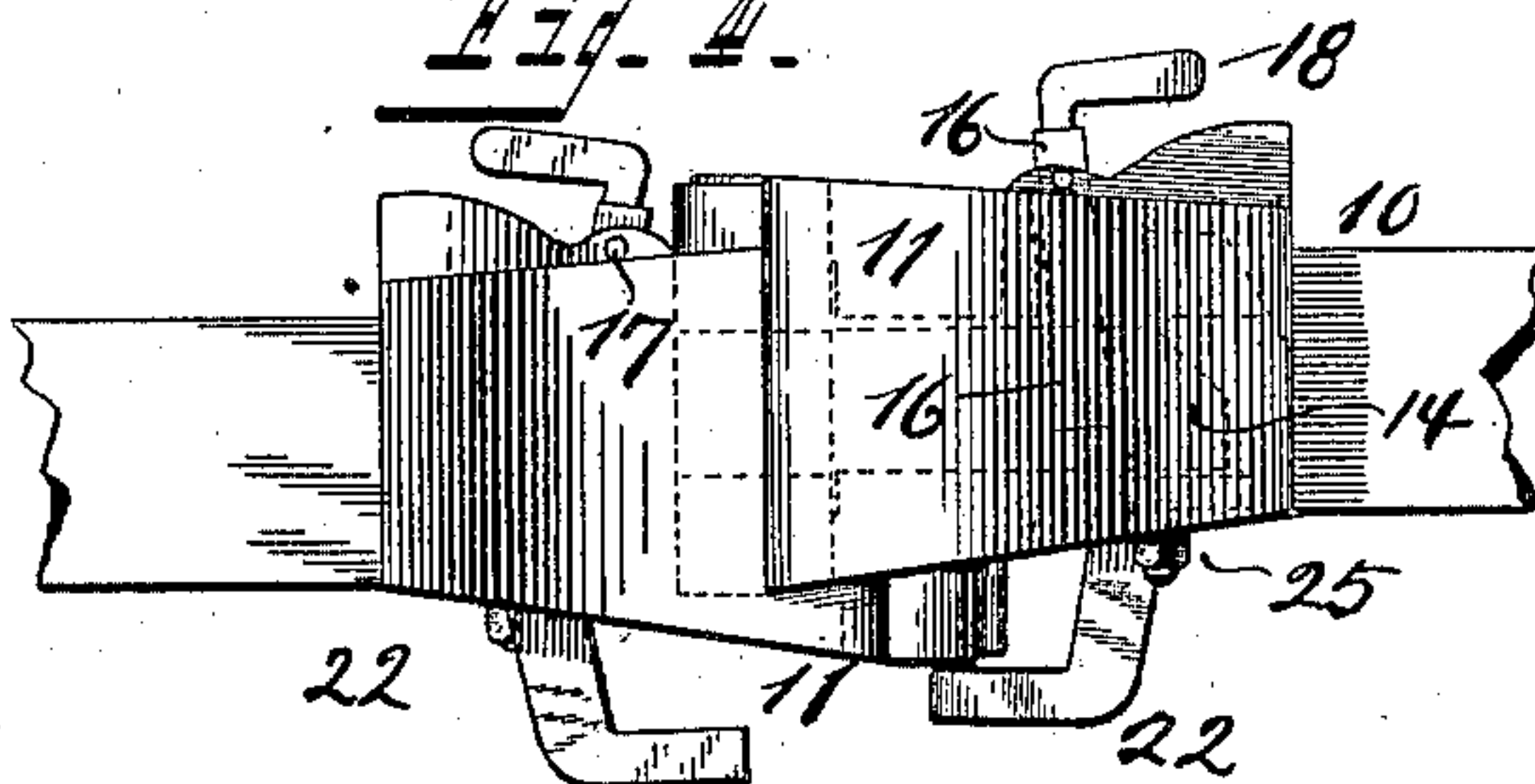
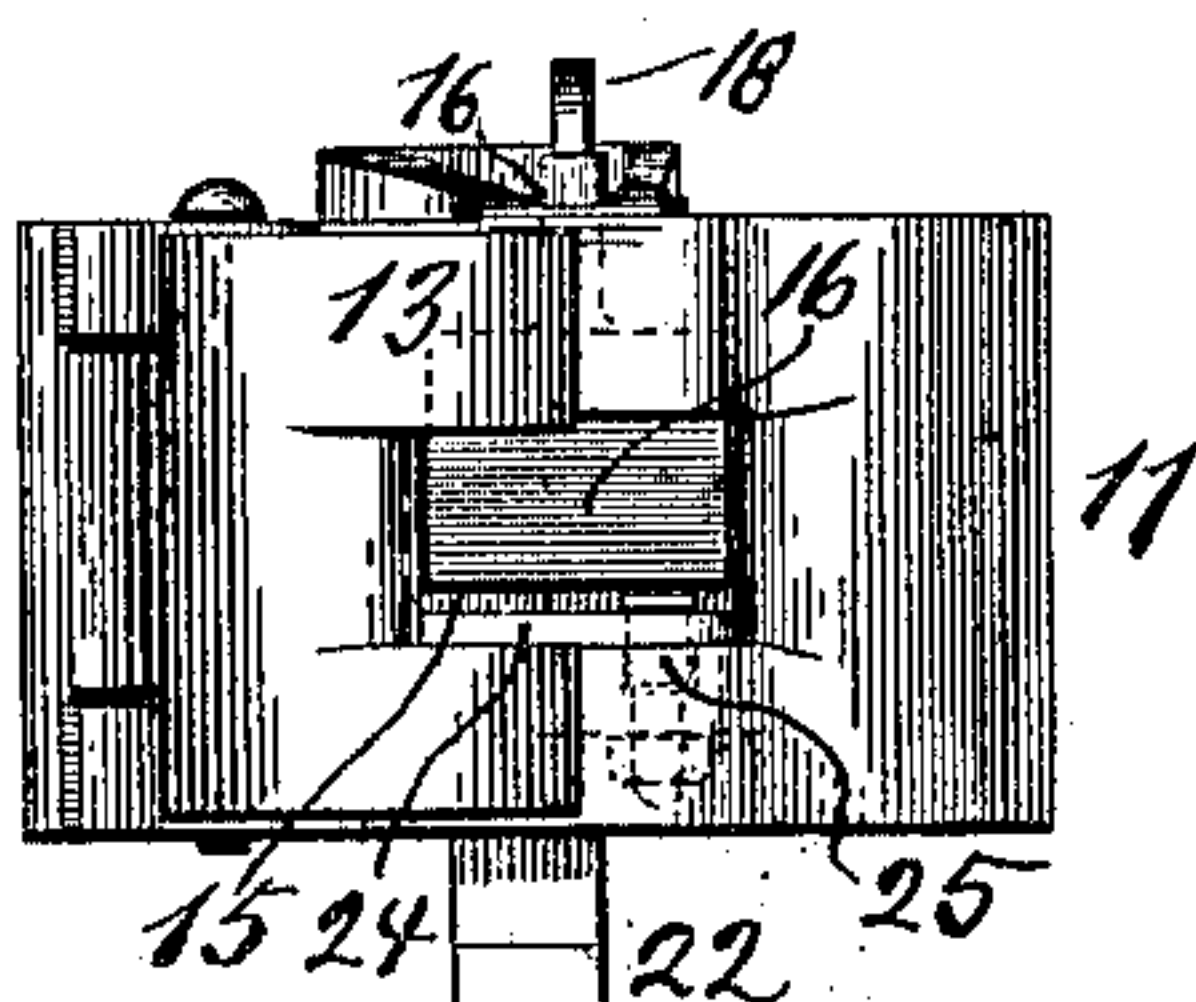


Fig. 5.



Witnesses
Arthur Kline
W.C. Vaughan

Inventor
Christopher Gibson
by C. Spengel Atty.

UNITED STATES PATENT OFFICE.

CHRISTOPHER GIBSON, OF CINCINNATI, OHIO.

DRAW-HEAD.

SPECIFICATION forming part of Letters Patent No. 662,639, dated November 27, 1900.

Application filed August 18, 1900. Serial No. 27,241. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER GIBSON, a citizen of the United States, and a resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Draw-Heads; and I do hereby declare the following to be a clear, full, 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, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form also a part of this specification.

This invention relates to draw-heads, and particularly to that type which couples automatically, and has means whereby one draw-head is capable to support the other complementary one in case this latter becomes disconnected or breaks. In addition to such parts which are actually required to accomplish the prime object of a coupling I provide and add also new and improved means whereby the two couplings or draw-heads to be coupled to each other are raised to a level one with the other and held so in case they are not in line with each other. The object is to cause the two complementary parts of a coupling to engage each other fully to obtain a firm attachment, which would not be the case if one of the couplings was partly more or less above or below the other, and in which case a part only of each coupling would come in actual contact with the other. The result of such partial and incomplete engagement would be an uneven pull or strain and a liability of a disengagement of the coupling by one of the parts slipping away from the other. In case of breakage the disconnected part by dropping onto the track becomes a source of danger, since it is liable to cause derailment and other accidents.

The invention consists, therefore, of the means shown and described, whereby this object is accomplished, the construction being such that the means mentioned are automatically operated and set by the coupling during the act of its operation.

In the following specification, and particularly pointed out in the claims at the end thereof, is found a full description of the invention, together with its operation, parts, and

construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1 shows in a top view the two draw-heads of two approaching cars provided with the features of my invention and both with their parts in normal positions and before they are coupled together. Fig. 2 in a similar view shows the coupling parts of the draw-heads coupled together, parts of one draw-head being broken away. Fig. 3 is a side view of Fig. 1, with one of the draw-heads shown in section. Fig. 4 is a side view of Fig. 2, and Fig. 5 is an end view of one of the draw-heads.

In the drawings, 10 indicates the draw-head having the well-known fork-shaped outer ends, with the two members 11, to one of which the coupling-knuckle 12 is pivotally attached. This knuckle, capable of swinging in a horizontal plane, consists of the outer or engaging member 13, which by engaging another similar member on the complementary coupling accomplishes the connection and maintains the same as long as these members occupy their proper position. This position is in the space between the outwardly-extending members 11 of the draw-heads, within which space one knuckle holds the other one. The knuckles themselves are held in their proper position by the locking member 14 of each and which member preferably forms an integral part of the other member 13, the two being disposed at an angle to each other. For the purpose of causing said knuckles to engage each other automatically they are set, as shown in Fig. 1, so that on approach of the cars member 13 of the one coupling will come in contact with member 14 of the other, and by pushing the same inwardly the knuckles are caused to pass about and engage each other, as will be readily understood. The means whereby the engaging parts of the couplings are so set previous to their automatic operation are the customary appliances, which not being new require no further explanation. During this act of engagement member 14 passes into a cavity 15 within the draw-head, which cavity it occupies thereafter as long as the connection of the couplings is maintained. It is held therein by a gravity-latch 16, pivoted at 17, which is displaced by member 14 when

the same is passing inwardly. As soon as the end of this latter has cleared said latch this latter drops across such end, and thus holds the coupling locked. To permit disengagement of the coupling, said latch must be raised sufficiently to permit the end of member 14 to pass under it and out of cavity 15, for which purposesaid latch is provided with a handle 18. Members 13 are also provided with means to permit connection of the couplings with the ordinary links and pins in case of accident or inoperativeness of the couplings, and which means consist of a cut-out at 19 to admit an ordinary link and of openings 21 to admit a pin.

As will be seen, the means described, after in their proper positions, will readily maintain their engagement in a horizontal plane. To confine them also vertically, so as to hold the parts of one coupling fully within the space intended for it on the other one in cases when two couplings are not or do not come together exactly at one level, there is provided a support 22 in shape of an angle-lever pivotally supported at 23 and having a natural tendency when the parts of the coupling are not engaged to assume a position as shown in Fig. 3. This support is operated by the coupling, and particularly by member 14 of the knuckle, which acts upon a lever 24, pivoted at 25. This lever is spring-actuated by means of a spring 26, which imparts to it a tendency to follow said member 14. When this latter is out during the inoperative position of the coupling, then said lever occupies a position which permits support 22 to tilt into a position above pointed out and as shown in Fig. 3. However, as soon as the engaging parts of the coupling come together and members 14 are pushed inwardly said members will also shift levers 24 and cause them to move over and depress the upwardly-projecting heels 27 of supports 22. As a consequence these latter will be raised as shown in Fig. 4, in which positions they will one of one coupling come below the outer part of the other coupling as these latter approach each other, and if they are not at the same level the lower one will be raised up more or less to a level with the other coupling and in all cases of incomplete or insufficient contact and attachment of one coupling vertically within the other supports 22, by reaching

the one of one coupling under the other coupling, will prevent them from slipping out of each other, and also hold them in such position in case of breakage.

This invention may be used in connection with ordinary or continuous draw-rods.

Having described my invention, I claim as new—

1. A draw-head of the kind which couples and locks automatically by mutual contact and engagement of certain parts of its coupling with the corresponding parts of the coupling of a complementary draw-head, a support pivotally attached to its under side and adapted to occupy two positions, in one of which the support on one draw-head reaches partly under the complementary draw-head of an engaging set and operatively connected means on each draw-head intermediate said support and the operative parts of the coupling on each, which means are adapted to interact simultaneously in a manner that during the act of coupling, the operative parts of one coupling act upon the same means of the coupling on the other draw-head in a manner that the support on one draw-head is moved into operative position below the complementary draw-head substantially as shown and described.

2. In a draw-head, the combination of a coupling-knuckle, consisting of members 13 and 14 means to lock the same, a pivotal support 22 adapted to be projected below a complementary draw-head, a heel 27 thereon and means acting upon this latter whereby said support is operated by the coupling-knuckle for the purpose of moving it into operative position below the complementary draw-head.

3. In a draw-head, the combination of a coupling-knuckle consisting of members 13 and 14, means to lock the same, a pivotal support 22 having a heel 27, and a spring-actuated lever adapted to engage heel 27 of support 22 for the purpose of operating the same, all as shown and described.

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

CHRISTOPHER GIBSON.

Witnesses:

C. SPENGEL,
ARTHUR KLINE.