

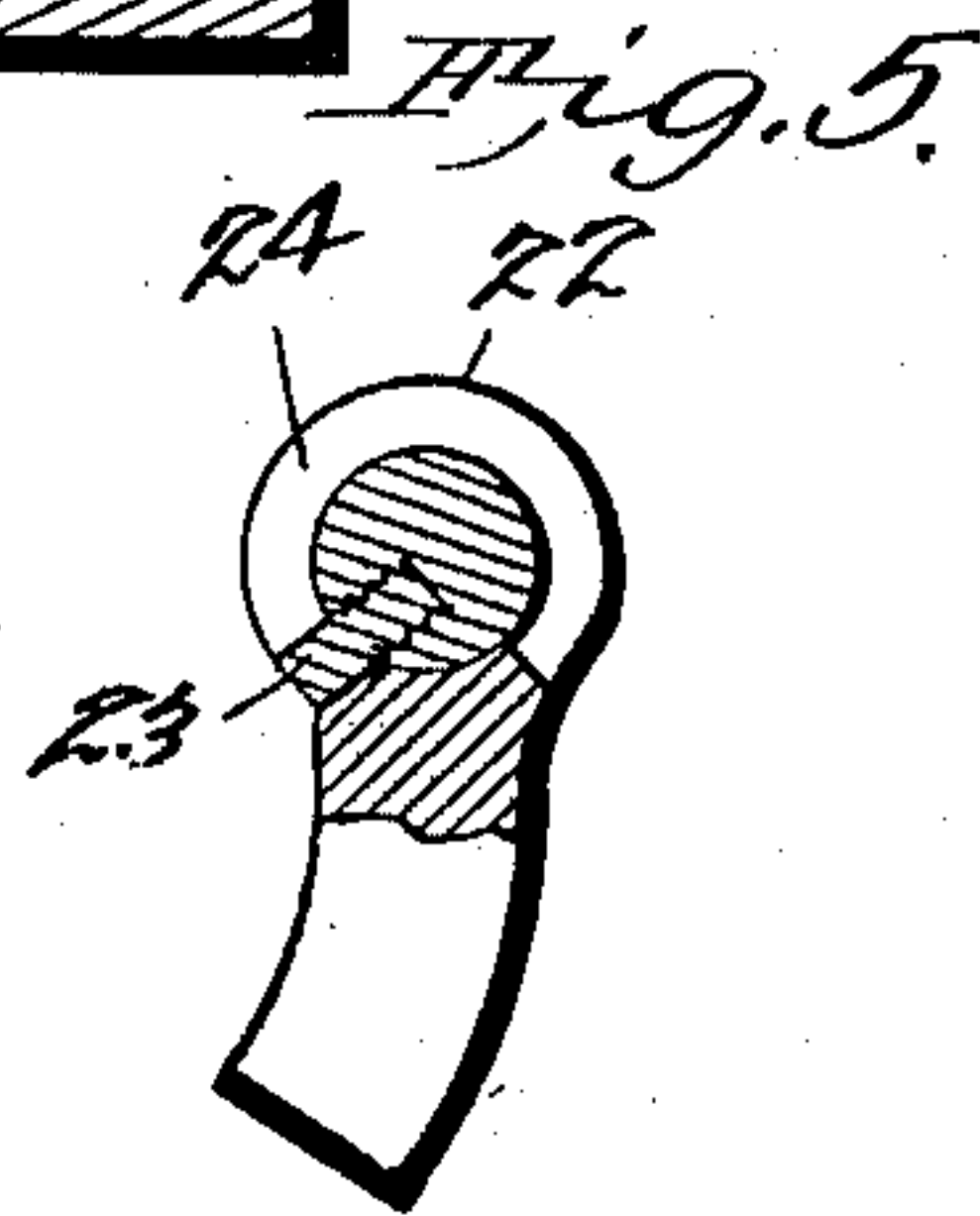
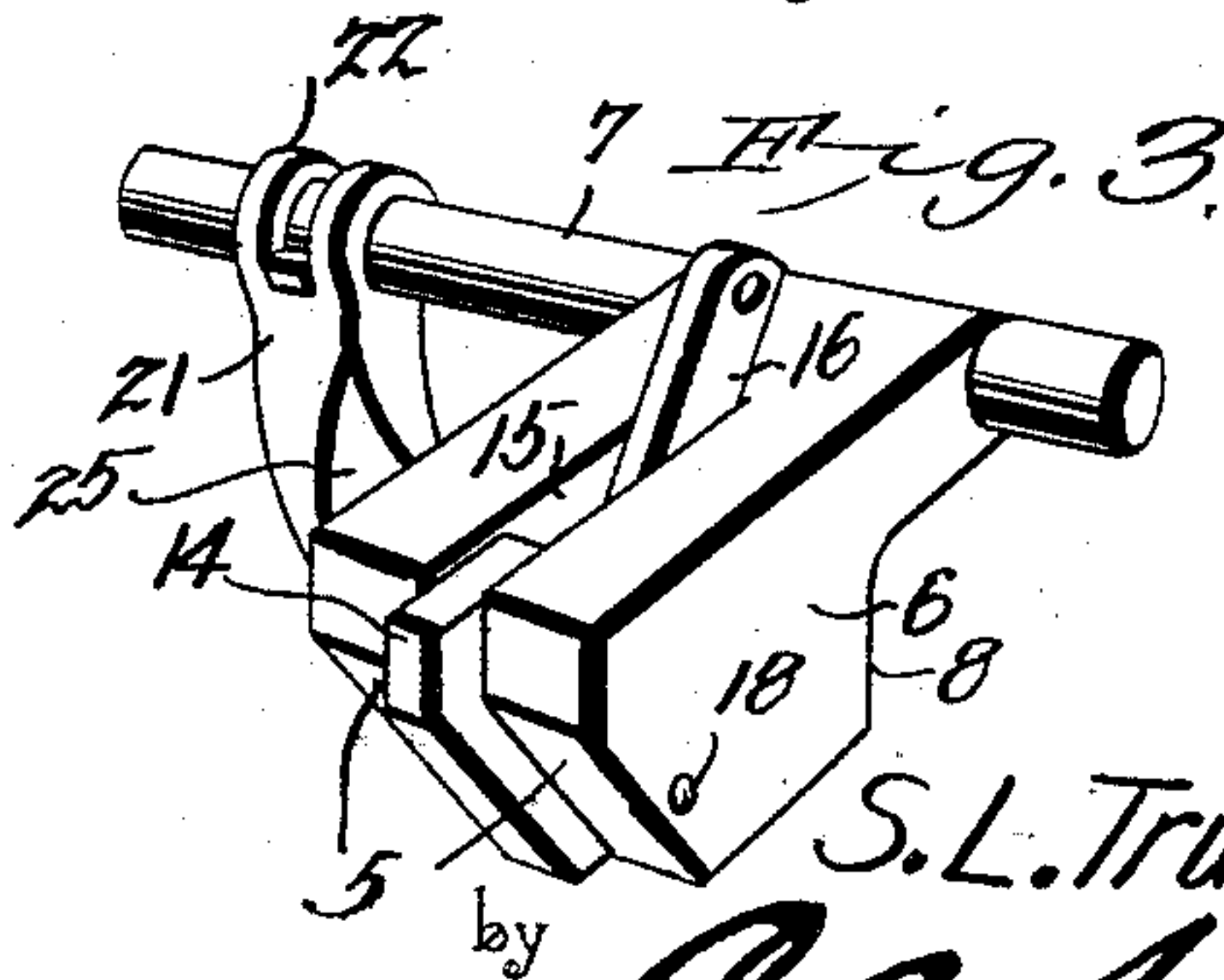
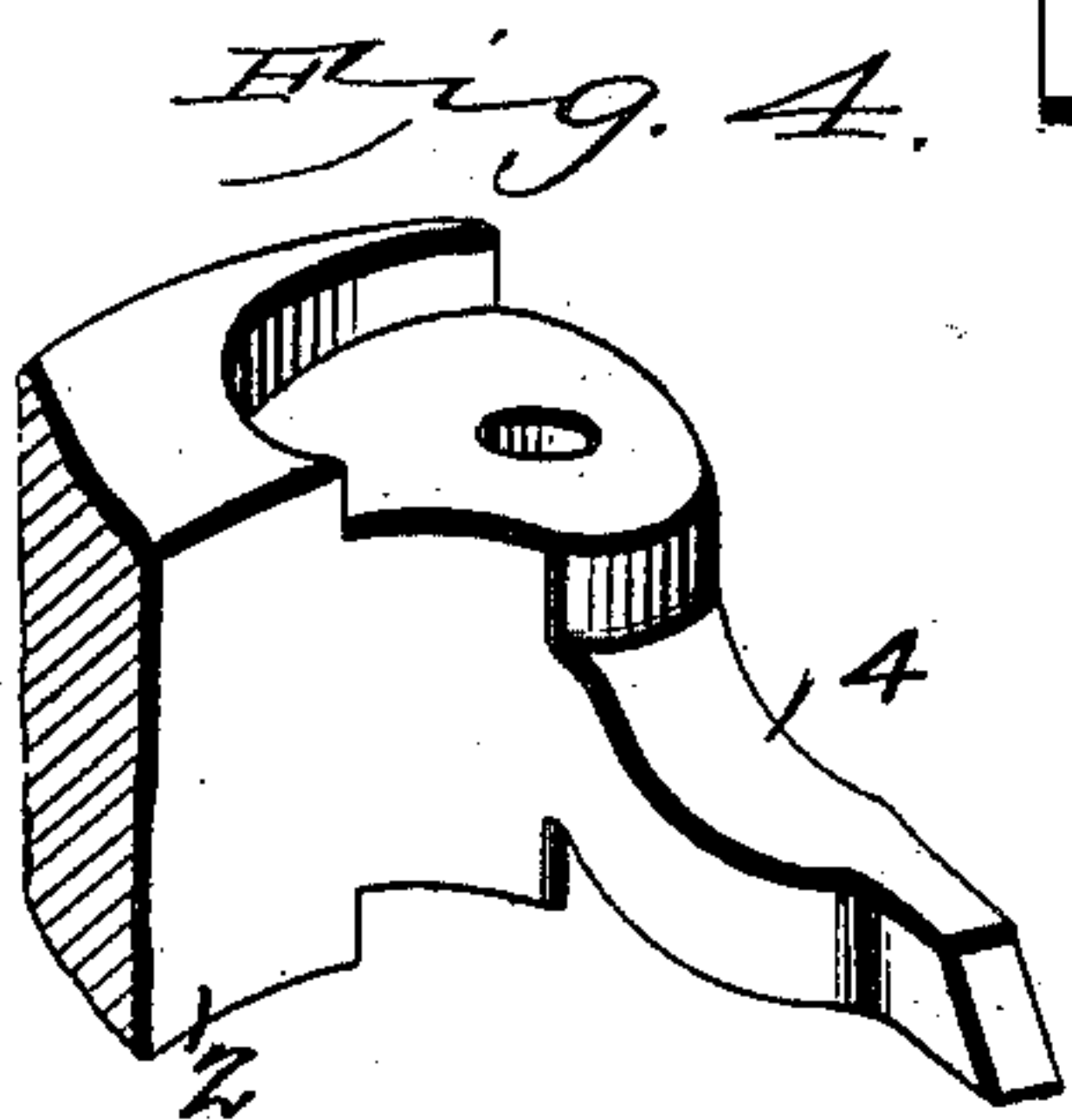
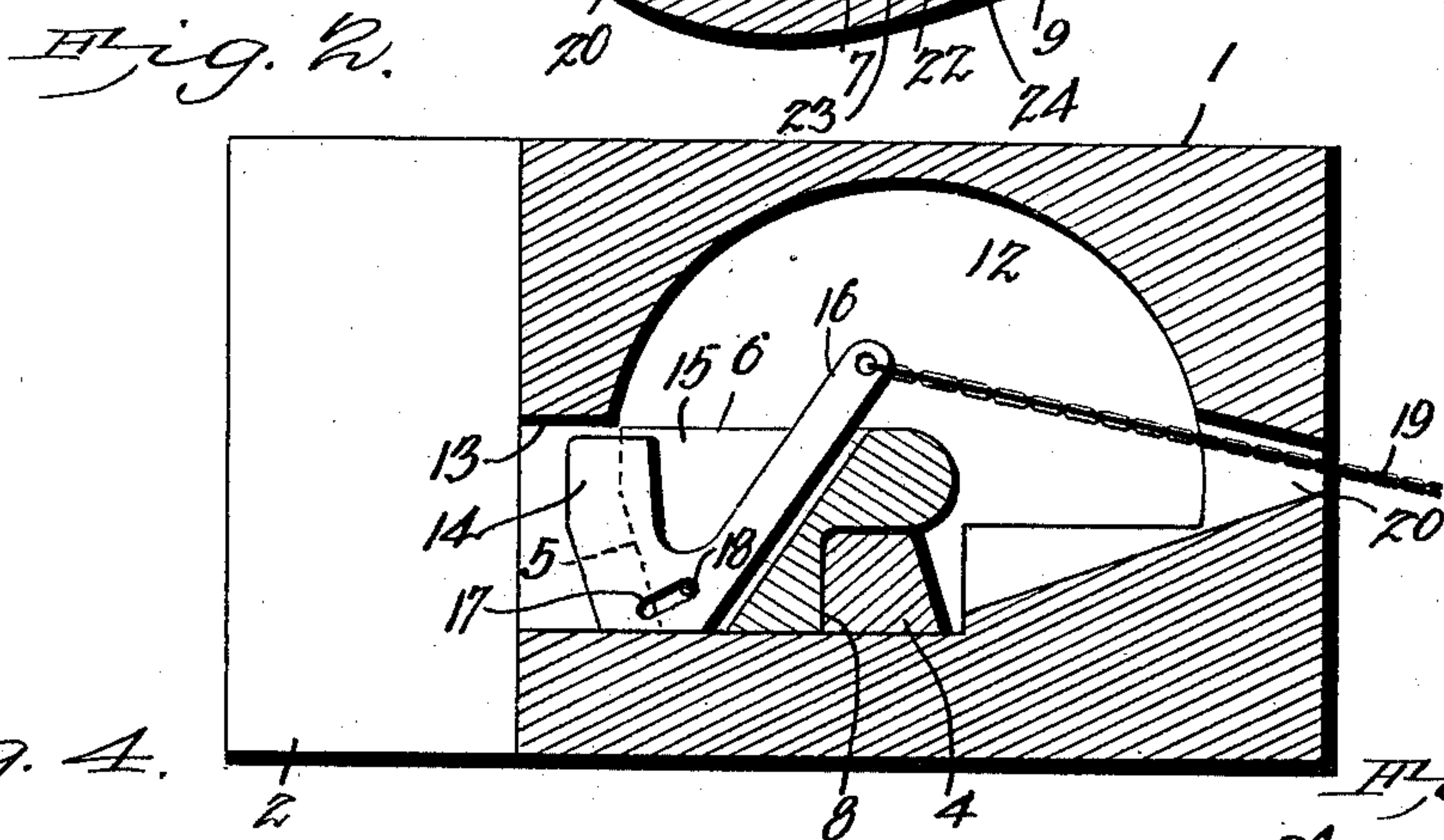
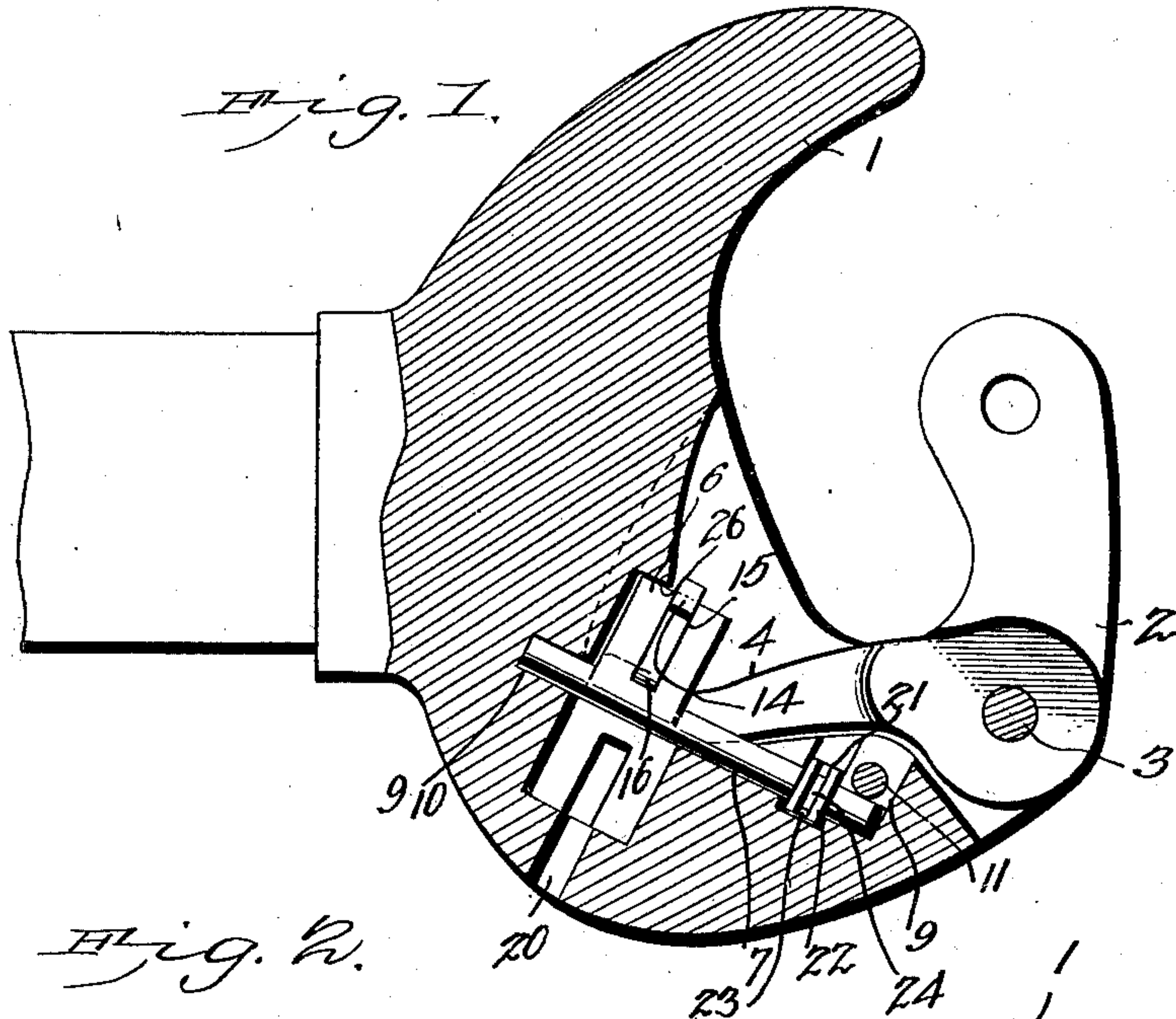
No. 722,192.

PATENTED MAR. 3, 1903.

S. L. TRUEBLOOD.  
CAR COUPLING.

APPLICATION FILED APR. 16, 1902.

NO MODEL.



Witnesses  
*E. J. Stewart*  
*J. J. Riley*

S. L. Trueblood, Inventor.  
*C. A. Snow*  
Attorneys



# UNITED STATES PATENT OFFICE.

SAMUEL L. TRUEBLOOD, OF KENOVA, WEST VIRGINIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 722,192, dated March 3, 1903.

Application filed April 16, 1902. Serial No. 103,225. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL L. TRUEBLOOD, a citizen of the United States, residing at Kenova, in the county of Wayne and State of West Virginia, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

10 The object of the present invention is to improve the construction of car-couplings and to provide a simple, inexpensive, and efficient one of great strength and durability adapted to couple automatically and capable  
15 while in motion of being readily operated to release the knuckle for uncoupling and to open the knuckle to arrange the parts for automatic coupling.

A further object of the invention is to provide a car-coupling of this character in which the knuckle-locking mechanism will be positive and reliable in its operation in permitting the arm of the knuckle to engage it automatically and which will be positively retained  
25 in engagement with the knuckle and effectually prevented from being thrown out of such engagement by jar and vibration.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated  
30 in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a horizontal sectional view of a car-coupling constructed in accordance with this invention, the knuckle being closed. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a detail perspective view of the pivoted catch. Fig. 4 is a detail view of a portion of the knuckle. Fig.  
40 5 is a detail view illustrating the manner of mounting the arm on the shaft or pintle of the catch.

Like numerals of reference designate corresponding parts in all the figures of the drawings.  
45

1 designates a draw-head provided at one side with a guard-arm and having a knuckle 2, pivoted at the opposite side by means of a knuckle-pin 3, arranged in suitable eyes of the draw-head in the usual manner. The  
50 knuckle 2 is provided with an arm 4, beveled at its inner end and adapted, as hereinafter

explained, to engage a beveled end face 5 of a pivoted catch 6, preferably formed integral with a shaft or pintle 7; but it may be fixed to the same in any other suitable manner. The catch is provided with an inner shoulder 8, which is arranged to engage the arm of the knuckle to lock the latter in its closed position. The shaft or pintle 7 is removably arranged in bearings 9 and 10, located at the inner and outer walls of the recess or opening of the draw-head. The inner bearing 10 consists of a socket to receive the inner end of the shaft or pintle, and the outer bearing 9 is open at the outer side to permit the shaft or pintle to be readily introduced into and removed from its bearings. The shaft or pintle is retained in its bearings by a vertical pin 11, arranged in a suitable perforation of the draw-head and located at the outer side of the outer end of the shaft or pintle, as clearly illustrated in Fig. 1 of the drawings. The draw-head is provided with an approximately segmental recess 12 to permit the catch to swing backward and forward to engage and release the arm of the knuckle, and the segmental recess 12 is offset from the outer face of the knuckle to provide a wall or shoulder 13, to be engaged by a latch 14, hereinafter described. The latch 14, which is mounted in a slot or bifurcation 15 of the catch, consists of an upright portion and an arm 16, arranged at an acute angle to the upright body portion of the latch and disposed at an inclination, as clearly shown in Fig. 2, when the knuckle is closed and locked. The outer edge of the latch conforms to the configuration of the front or outer end face of the catch, and it is adapted to fit flush against the same when the latch is drawn inward. The lower portion of the latch is provided with an inclined slot 17, through which passes a pin 18, and which permits the latch to be drawn inward to carry its upright body portion out of engagement with the wall or shoulder of the draw-head to permit the catch to swing upward and backward. The arm 16 of the latch extends above the catch when the latter is in engagement with the arm of the knuckle, and the said arm 16 is connected with a chain 19 or other suitable flexible connection, which extends outward through an opening 20 at one side of the draw-head and



which may be connected with any suitable operating mechanism. When the chain or other flexible connection is drawn outward, the latch is moved into the slot or bifurcation 5 of the catch, and the latter is partly rotated to swing it backward out of engagement with the arm of the knuckle. This operation may be readily performed while a car is in motion, and the knuckle will then be free to open. 10 This will enable cars to be readily shifted and handled in the usual manner in making up trains and distributing cars, and there will be no liability of a person being injured.

In order to obviate the necessity of going 15 between cars and opening the knuckle, especially when it is discovered while a car is in motion that the knuckle is closed, the shaft or pintle 7 is provided with an arm 21, which is adapted when the chain is pulled outward 20 to the limit of its movement to kick the knuckle open and which is also adapted in coupling to be engaged by the arm of the knuckle to throw the catch forward into engagement with the arm of the knuckle when 25 the said catch is thrown backward beyond the center. Should the catch be at the forward limit of its movement and in the position shown in Fig. 2, the beveled portion of the arm of the knuckle will engage the beveled front face of the catch and lift the same, 30 and thereby couple automatically. The arm of the shaft or pintle might be rigid with or integral with the same; but in order to avoid recessing the draw-head to enable the arm to 35 swing the same distance as the catch the latter and the shaft or pintle are permitted a limited movement independent of the arm 21 to enable the latter to depend from the shaft or pintle at all times and to simply oscillate forward or outward from an approximately 40 perpendicular position and backward to such position. The arm will extend forward or outward in position to be engaged by the knuckle when the catch is at 45 the limit of its rearward movement, and it will be arranged approximately in a depending vertical position when the catch is lifted out of engagement with the arm of the knuckle and swung backward slightly beyond the center, so that a further movement of the operating 50 mechanism will carry the arm 21 outward and kick the knuckle open. This movement will also admit of the catch being swung backward out of engagement with the arm of the knuckle without opening the latter, and 55 the parts will remain in such position for automatic uncoupling and will permit the knuckle to open. This operation of the arm is accomplished by means of a slotted collar or head 22, loosely arranged on the shaft or 60 pintle adjacent to the front or outer end thereof and receiving a lug or projection 23, fixed to the shaft and arranged in the slot 24. The lug or projection may be fixed to the 65 shaft in any suitable manner, either by threading it into the same, as shown in Fig. 5, or by forming it integral with the shaft or

pintle. When the lug or projection is formed integral with the shaft or pintle, a suitable entrance-groove leading to the slot 24 will be 70 provided. The slot 24 extends around the top of the collar and terminates at opposite sides of the upper end of the body portion of the arm, and the lug or projection 21 is arranged at the front end of the slot when the 75 catch is in its engaging position. When the catch swings rearward out of engagement with the arm of the knuckle, the lug or projection during a portion of the movement travels in the slot. This movement carries 80 the lug or projection to the rear end of the slot and holds the arm rigid with the shaft or pintle to enable the latter to operate on the knuckle, as before described. The arm 21 is provided with a beveled face 25, arranged to 85 be engaged by the arm of the knuckle. In order to relieve the pintle 7 of strain, the draw-head is provided at the inner or rear side of the segmental recess 12 with a curved wall 26, extending downward to a point be- 90 yond the shoulder 13 and arranged to be engaged by the upper portion of the catch and forming a solid abutment for the same. This prevents the catch from being forced outward when the knuckle is locked and is subjected 95 to a strain, and the shaft or pintle will be thereby greatly relieved of strain. The curved wall 26 terminates short of the bottom of the draw-head to provide sufficient space to form a passage-way for the arm of the knuckle. 100

What I claim is—

1. In a car-coupling, the combination of a draw-head, a pivoted knuckle, a pivoted catch arranged to engage the arm of the knuckle to lock the latter in its closed position, and an arm connected with the pivot of the catch and actuated by and adapted to actuate the same and arranged to be engaged 105 by the knuckle to throw the catch into its engaging position, said arm being also arranged to engage and open the knuckle, substantially as described. 110

2. In a car-coupling, the combination of a draw-head, a pivoted knuckle, a pivoted catch arranged to engage the knuckle, and an arm 115 mounted on the pivot of the catch and arranged to be actuated by the same and adapted to actuate the said pivot and arranged to be engaged by the knuckle to throw the catch into engagement with the same, said arm being also arranged to engage and open the 120 knuckle, substantially as described.

3. In a car-coupling, the combination of a draw-head, a pivoted knuckle, a pivoted catch arranged to engage the knuckle, and a swinging 125 arm connected with the pivot of the catch and arranged to be engaged by the knuckle and also to engage the knuckle, said catch having a limited movement independently of the swinging arm, substantially as described. 130

4. In a car-coupling, the combination of a draw-head, a pivoted knuckle, a pivoted catch having a shaft or pintle provided with a lug or projection, and a swinging arm mounted



on the shaft or pintle and provided with opposite shoulders to be engaged by the lug or projection, substantially as described.

5 In a car-coupling, the combination of a draw-head, a pivoted knuckle, a pivoted catch having a shaft or pintle, an arm having a slotted sleeve loosely arranged on the shaft or pintle, and a lug or projection carried by the shaft and arranged in the slot of the arm  
10 to limit the independent movement of the catch, substantially as described.

6. In a car-coupling, the combination of a draw-head, a pivoted knuckle, a swinging catch movable transversely of the draw-head  
15 and having a slot or bifurcation, a latch arranged within the slot or bifurcation and arranged to extend from the catch to engage the draw-head, and provided with a slot, a fastening device passing through the slot and  
20 securing the latch in the slot or bifurcation of the catch, and means connected directly to the latch for operating the same and the catch, substantially as described.

7. In a car-coupling, the combination of a  
25 draw-head, provided with a recess and having a shoulder at one end of the same, a pivoted knuckle, a swinging catch movable transversely of the draw-head and operating in the recess and arranged to engage the  
30 knuckle, and a slidable latch mounted on the catch and arranged to project normally beyond the same to engage the shoulder of the draw-head, and means connected directly to the latch for operating the catch and the  
35 latch, substantially as described.

8. In a car-coupling, the combination of a draw-head having a recess and provided adjacent to the same with bearings, one of the bearings being open, a pivoted knuckle, a pivoted catch provided with a shaft or pintle  
40 detachably arranged in the said bearings, said catch being arranged to operate in the recess, a pin mounted on the draw-head at the open bearing and retaining the shaft or pintle in the same, a knuckle-engaging arm  
45 carried by the shaft or pintle, and a latch mounted on the catch and arranged to engage the draw-head, substantially as described.

9. In a car-coupling, the combination of a draw-head having a segmental recess and  
50 provided at one side of the same with a curved wall forming a solid abutment and terminating short of the bottom of the draw-head to afford a passage-way for the arm of a knuckle, said draw-head being also provided with  
55 bearings, and a catch having a shaft or pintle arranged in the said bearings, said catch being also arranged adjacent to the said wall and abutting at its upper portion against the  
60 same when it is in engagement with the arm of the knuckle, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL L. TRUEBLOOD.

Witnesses:

W. J. DILLON,  
J. H. JOCHUM, Jr.