

No. 698,970.

Patented Apr. 29, 1902.

H. T. KRAKAU.  
CAR COUPLING.

(Application filed Aug. 21, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 2.

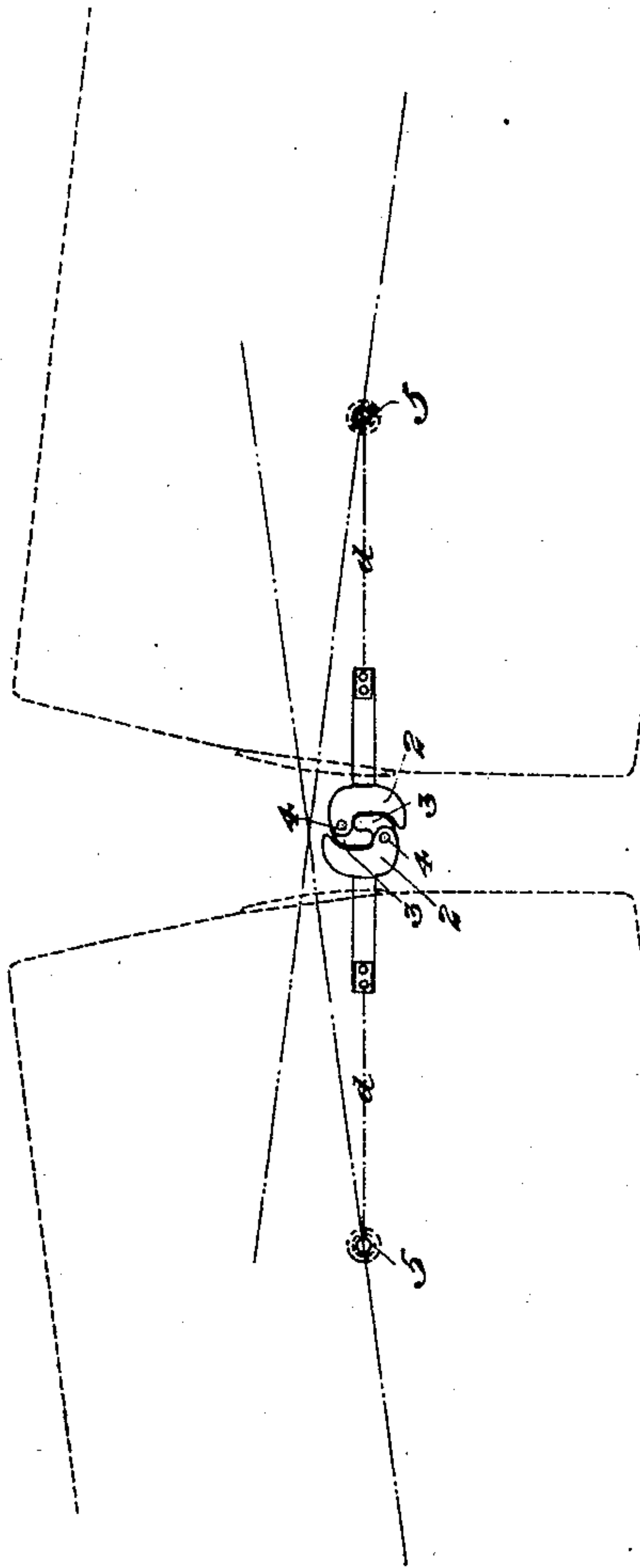
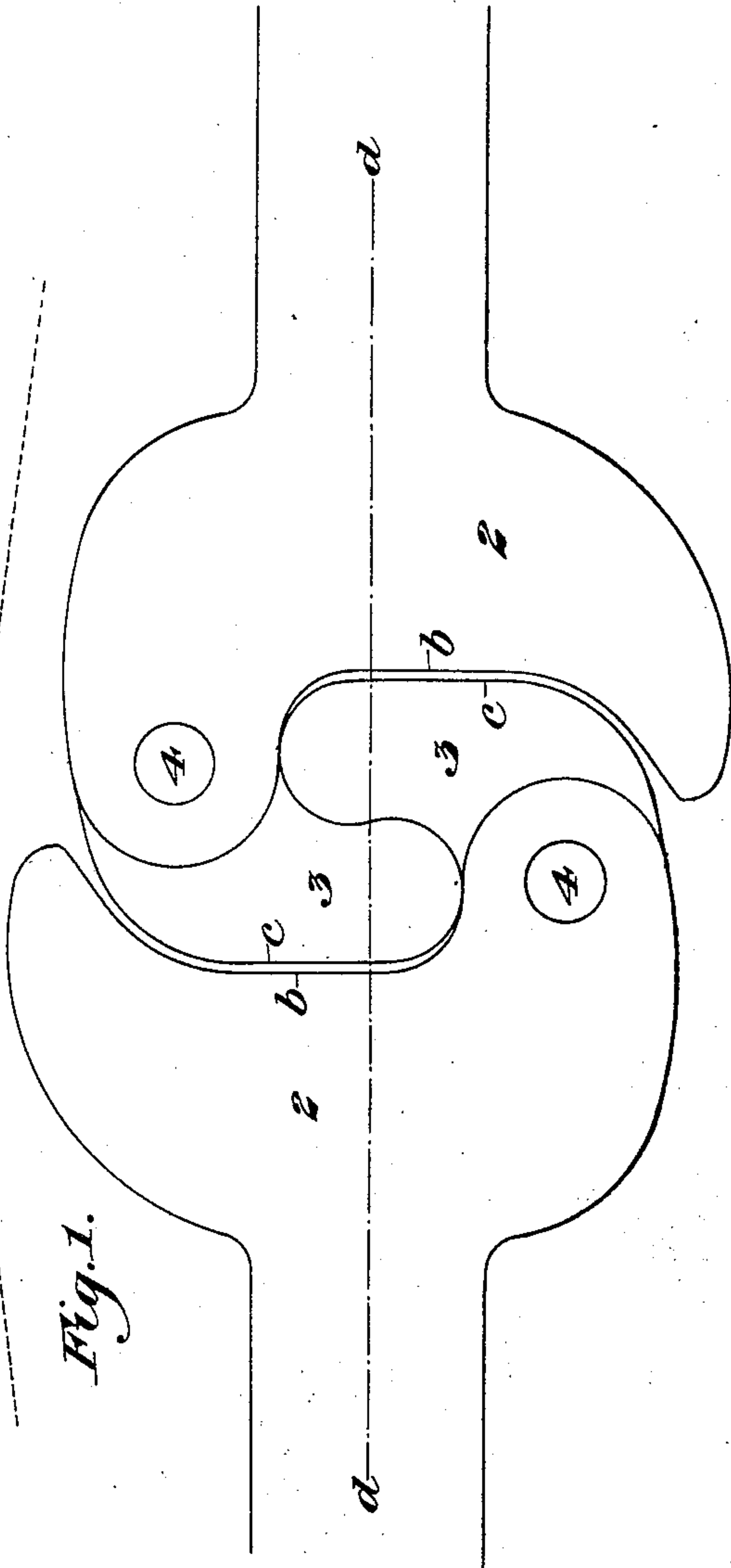


Fig. 1.



WITNESSES

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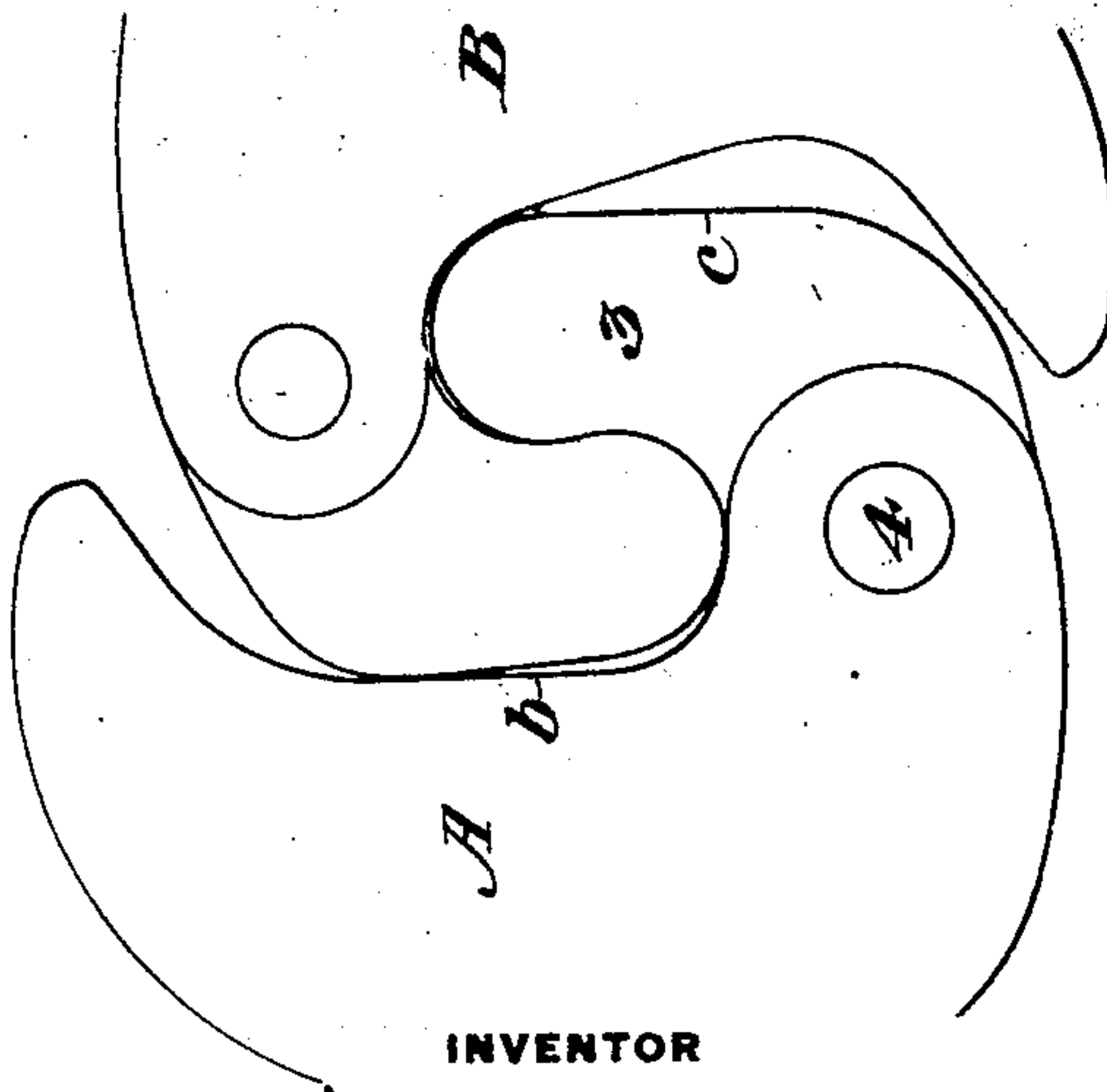
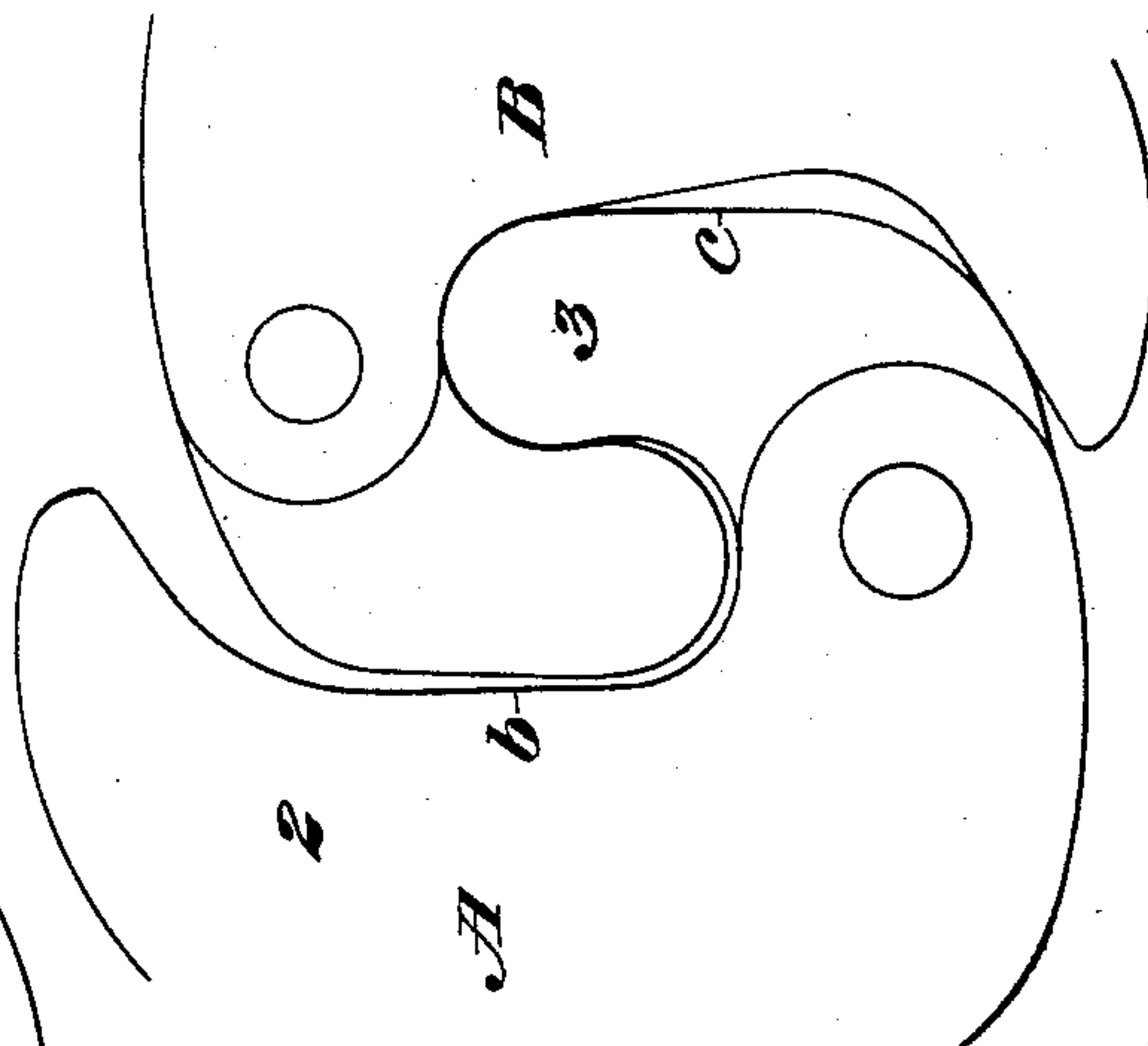
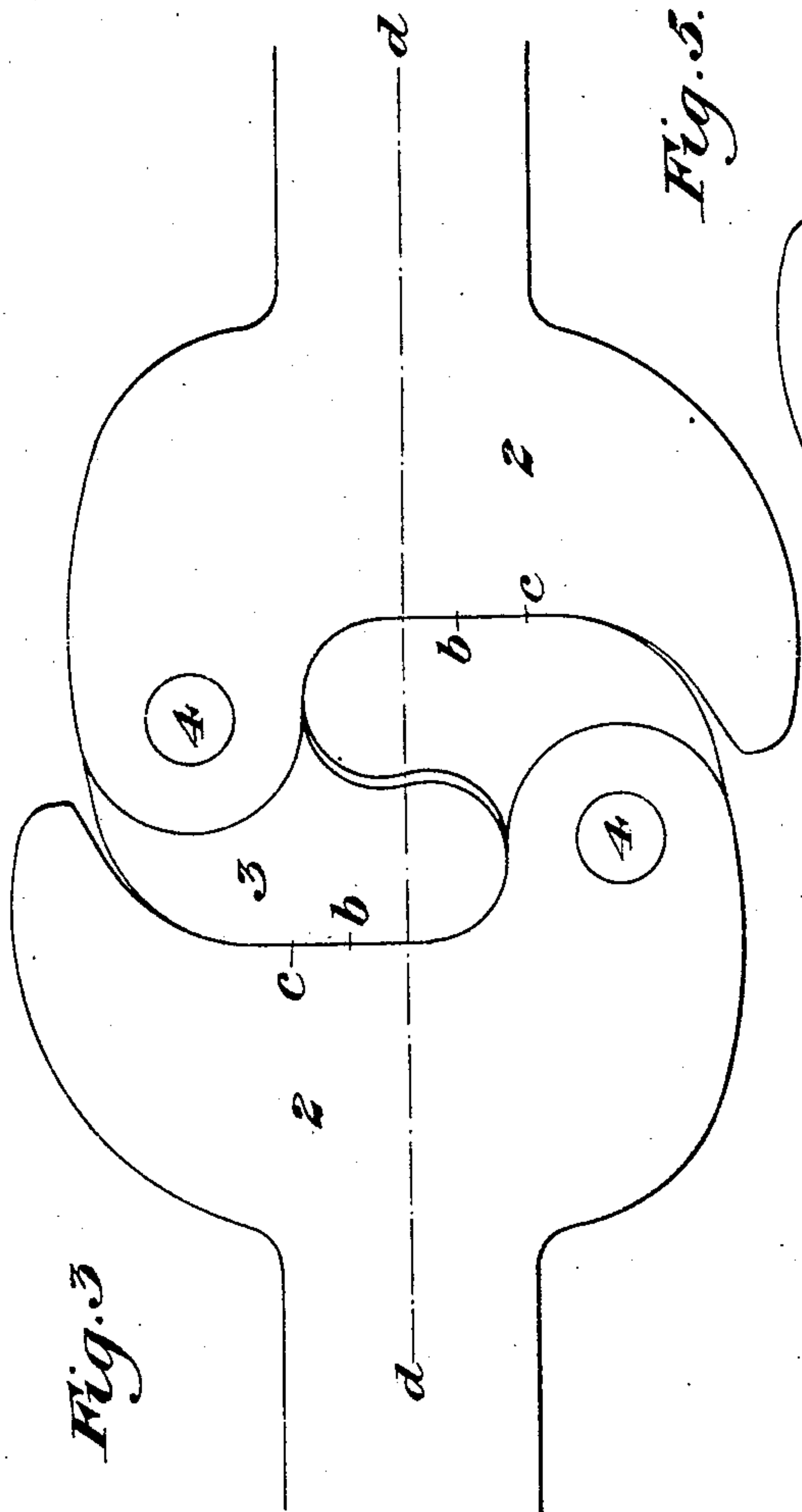
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WITNESSES

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# UNITED STATES PATENT OFFICE.

HARRY T. KRAKAU, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 698,970, dated April 29, 1902.

Application filed August 21, 1901. Serial No. 72,755. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY T. KRAKAU, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Car-Coupling, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows two of my improved couplers coupled together and in draft. Fig. 2 is a diagram view, on a smaller scale, showing the connection of the couplers to the cars. Fig. 3 is a view like Fig. 1, but showing my couplers in buffing. Each of Figs. 4 and 5 shows one of my couplers connected with a coupler constructed as heretofore.

Heretofore in the construction of automatic couplers it has been customary to construct the front wall of the coupler-head at an angle to the front wall of the knuckle when locked, so that when the knuckles are locked together there shall be free space or clearance, allowing play to the parts and rendering the couplers flexible, so as to permit the cars to travel on curves. This construction, however, results in serious disadvantages. In buffing or pushing the front wall of the knuckle is not backed and supported by any surface, the strain of buffing and pushing is exerted solely on the extreme ends of the knuckles, and as a consequence the knuckles are almost always bent, and frequent breakages result from the fatigue of the metal, which the bending back and forth of the knuckle occasions. My invention is designed to avoid these difficulties and to provide a coupler of greatly-increased strength and durability. I accomplish this by forming the coupler-head so that its front wall is substantially parallel with the front wall of the knuckle when locked instead of being at a considerable angle, as heretofore, and preferably I make these lines at right angles to the line of draft of the draw-bar. Then in order to afford the necessary flexibility I connect the draw-bar or its connected draft-rigging pivotally to the frame of the car. The consequence is that in buffing or pushing the front of the knuckle

comes into contact with the front wall of the coupler-head and is backed and supported thereby, so that it is not apt to bend and break, and by doing away with the clearance-space above mentioned thickness of metal may be added to the coupler-head and knuckle in the vicinity of the knuckle-pivot, and greatly-increased strength is thus secured. I am also enabled to use a pivot-pin of greater diameter than heretofore, and the lines of my coupler diminish greatly the possibility of accidental disengagement of the knuckles from each other when in use.

In Fig. 1 of the drawings, 2 2 represent the coupler-heads, 3 3 are the knuckles, and 4 4 the pivot-pins. The walls *b b* of the couplers instead of being formed at angles to the front walls *c c* of the knuckles are parallel therewith and are preferably at right angles to the line of draft *d d* of the draw-bars. The consequence is that in buffing the walls *b b* constitute a support for the knuckle and back the same, and the advantages above indicated are secured. This construction results in substantial rigidity of connection of the knuckles when coupled and does not permit lateral flexibility of the couplers at the knuckles. Sufficient flexibility is, however, provided by connecting the draft-riggings of the draw-bars to the car-frame in a pivotal manner at points 5 5, Fig. 2, which are back of the position of the end sills and substantially coincident with the centers of motion of the car-trucks, and this pivotal connection is preferably made as described and shown in my reissued Patent No. 11,904, granted to me on April 9, 1901.

In Fig. 1 I show two of my improved couplers as they are when in draft. In Fig. 2 I show them as they are when the cars are passing around a curve. In Fig. 3 I show them as they are during buffing and pushing. In Fig. 4 I show one of my improved couplers A connected with a coupler B of former construction, shown as they are when the cars are passing on a curve to the left, and in Fig. 5 I show like couplers A B when the cars are passing around a curve to the right.

Those skilled in the art will be able to modify the form of the parts to suit couplers of different construction, since

What I claim is—

5 1. A coupler having a coupler-head and knuckle, the front walls of the head and knuckle being substantially parallel when the knuckle is closed and the coupler-head being connected with the car by a pivotal con-  
10 nection substantially coincident with the center of motion of the car-truck.

2. A coupler having a coupler-head and knuckle, the front walls of the head and knuckle being substantially parallel when the  
15 knuckle is closed; and the coupler being pivotally connected with the car at a point back of the position of the end sill.

3. A coupler having a coupler-head and knuckle, the front walls of the head and  
20 knuckle being substantially parallel when the knuckle is closed, and substantially at right angles to the line of draft of the coupler, and

the coupler being connected pivotally with the car.

4. The combination of couplers having 25 coupler-heads and pivoted knuckles shaped to interlock substantially inflexibly together, said couplers being connected pivotally to their respective cars at points substantially coincident with the centers of motion of the 30 car-trucks.

5. The combination of couplers having coupler-heads and pivoted knuckles shaped to interlock substantially inflexibly together, said couplers being connected pivotally to 35 their respective cars at points back of the position of the end sills.

In testimony whereof I have hereunto set my hand.

HARRY T. KRAKAU.

Witnesses:

O. K. BROOKS,  
D. W. CALL.