

(No Model.)

2 Sheets—Sheet 1.

G. W. DECKER.

CAR COUPLING.

No. 399,316.

Patented Mar. 12, 1889.

Fig. 2.

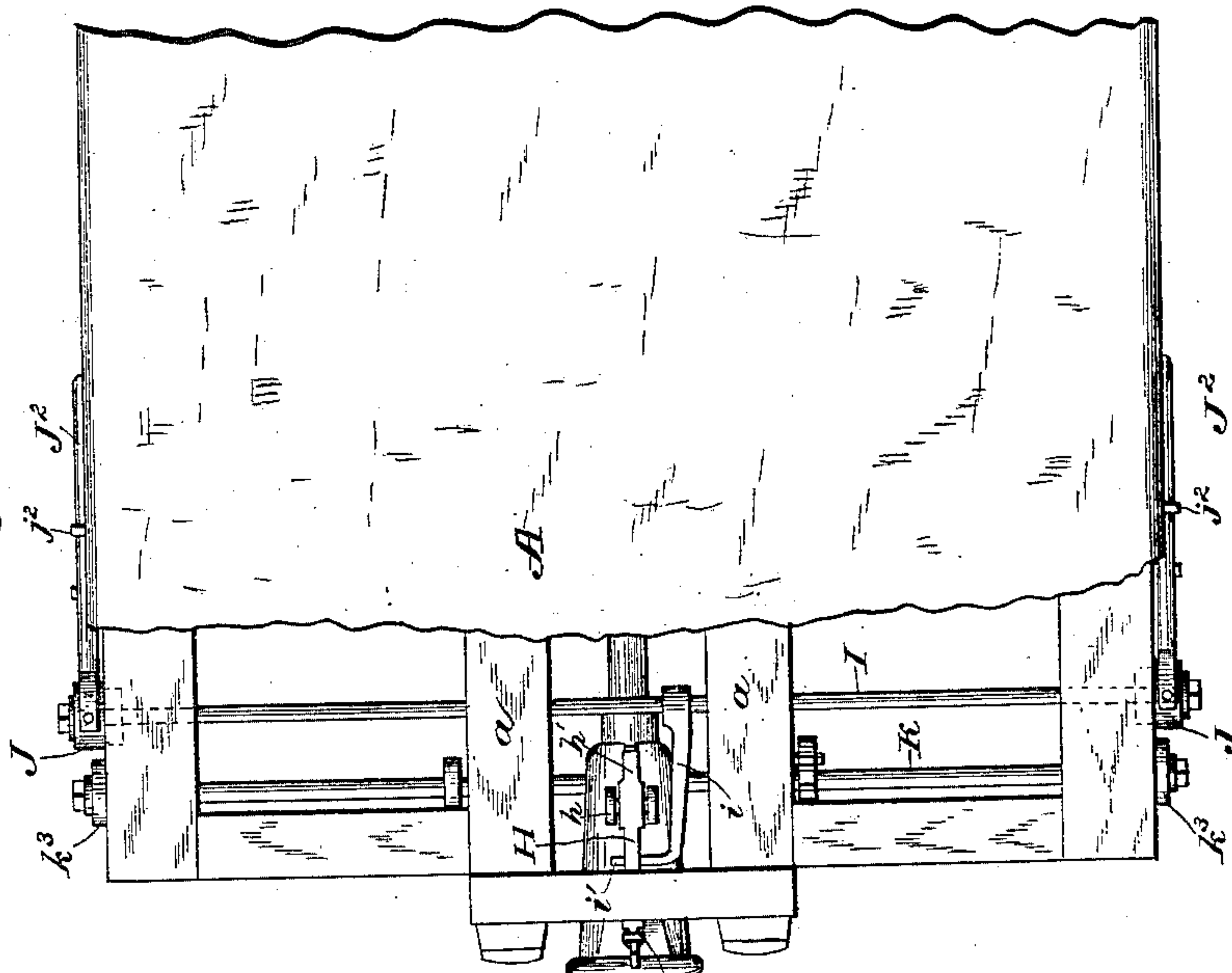
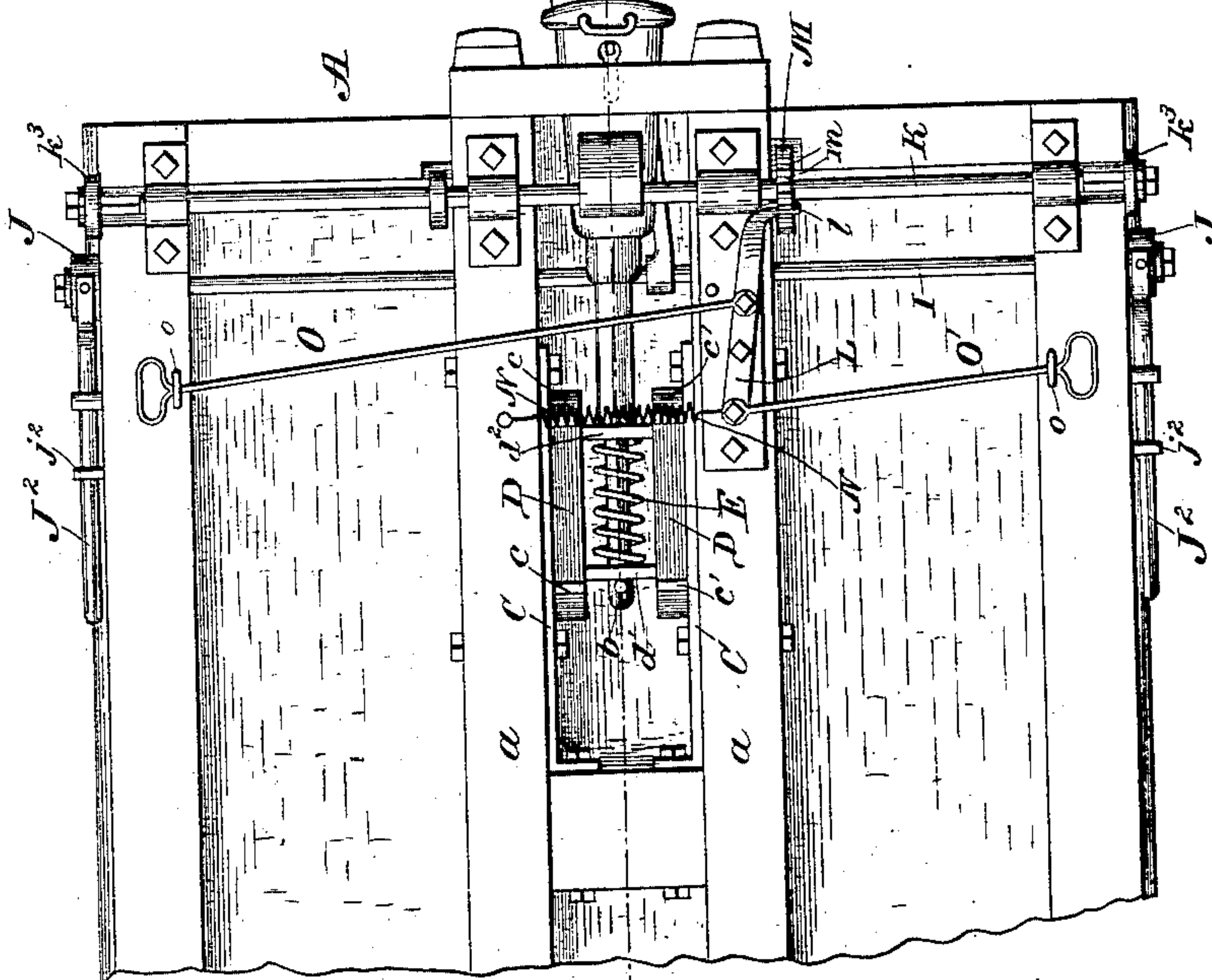


Fig. 1.



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2 Sheets—Sheet 2.

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Fig. 3.

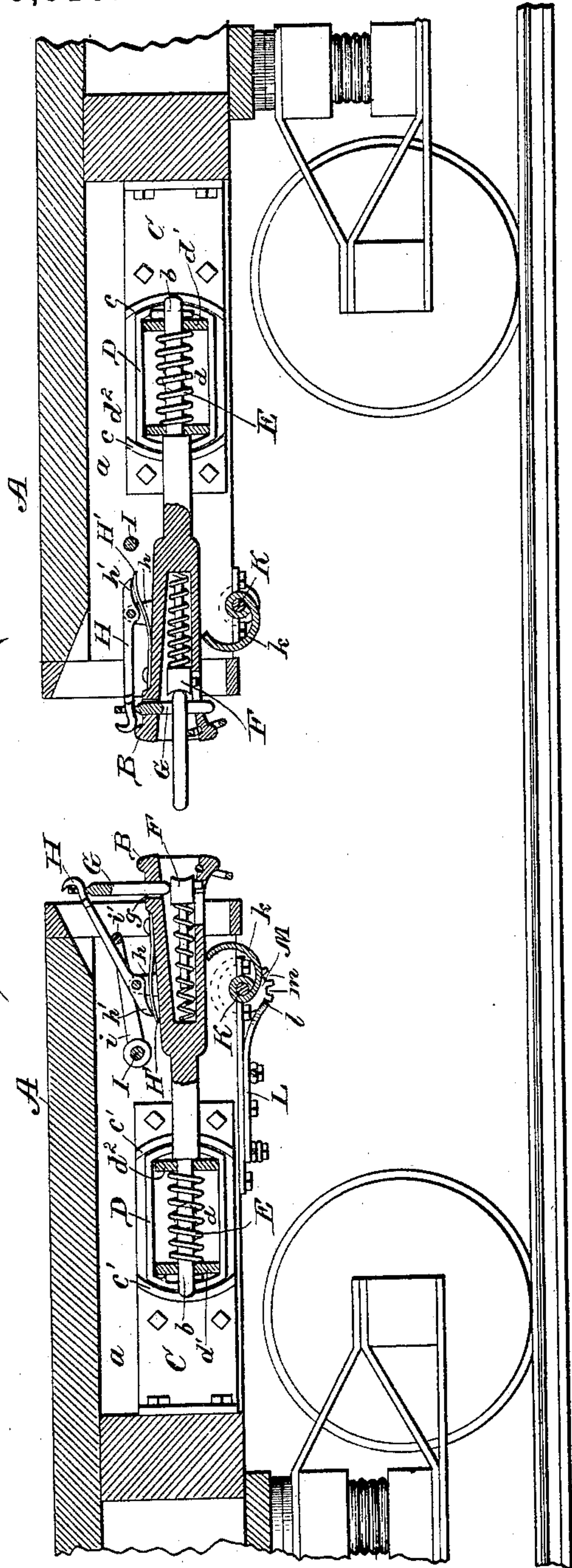


Fig. 4.

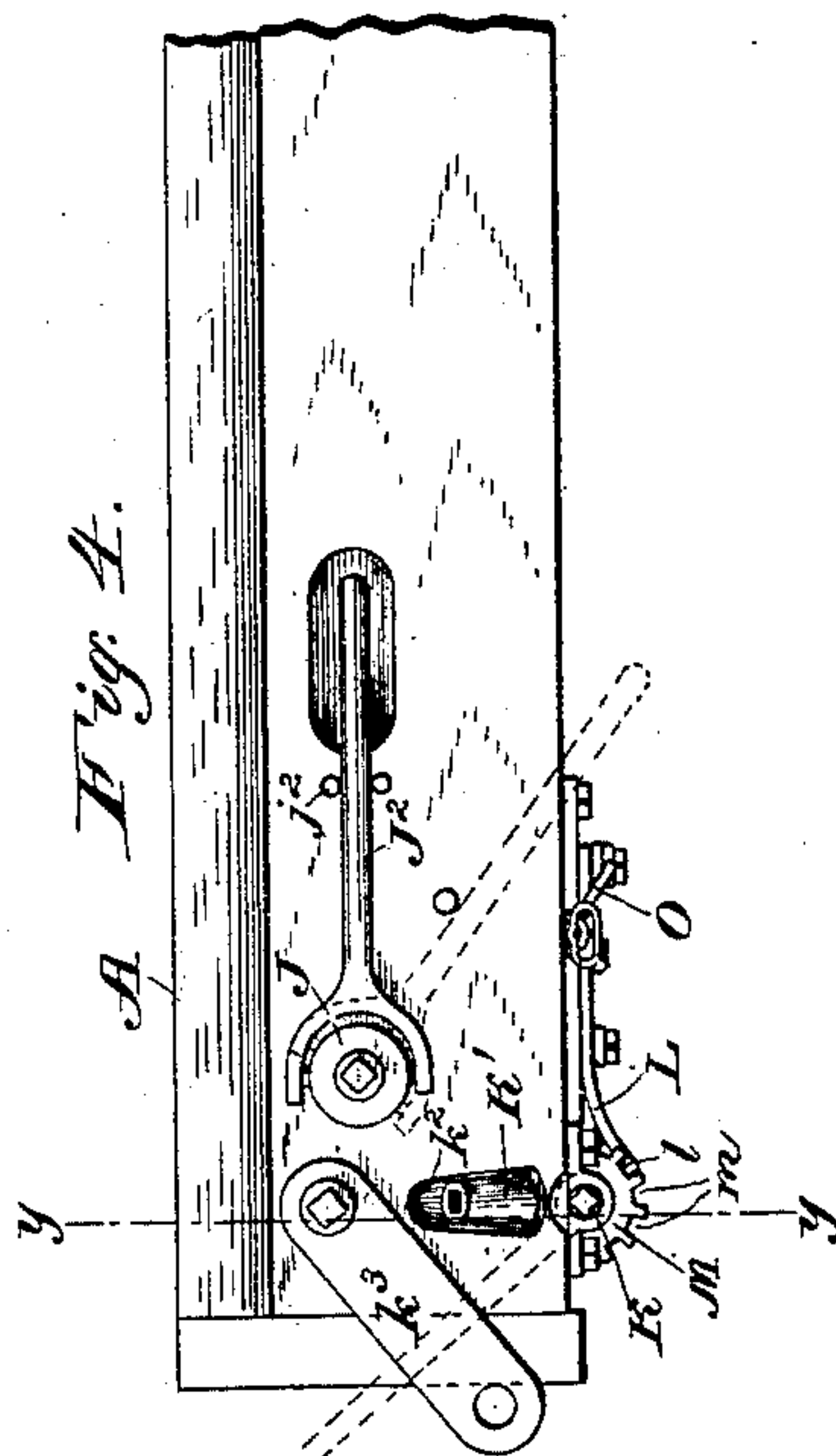


Fig. 5.

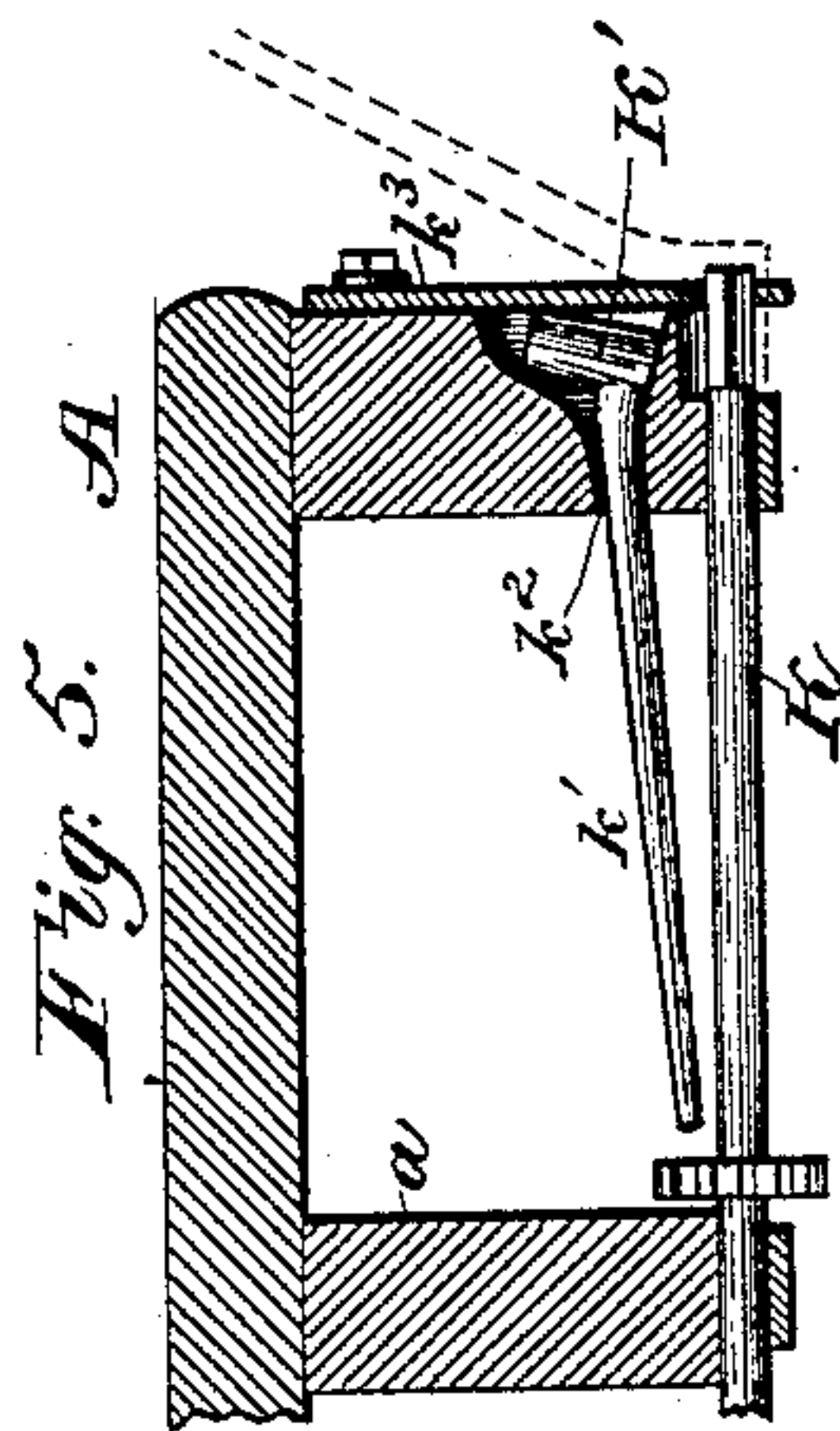
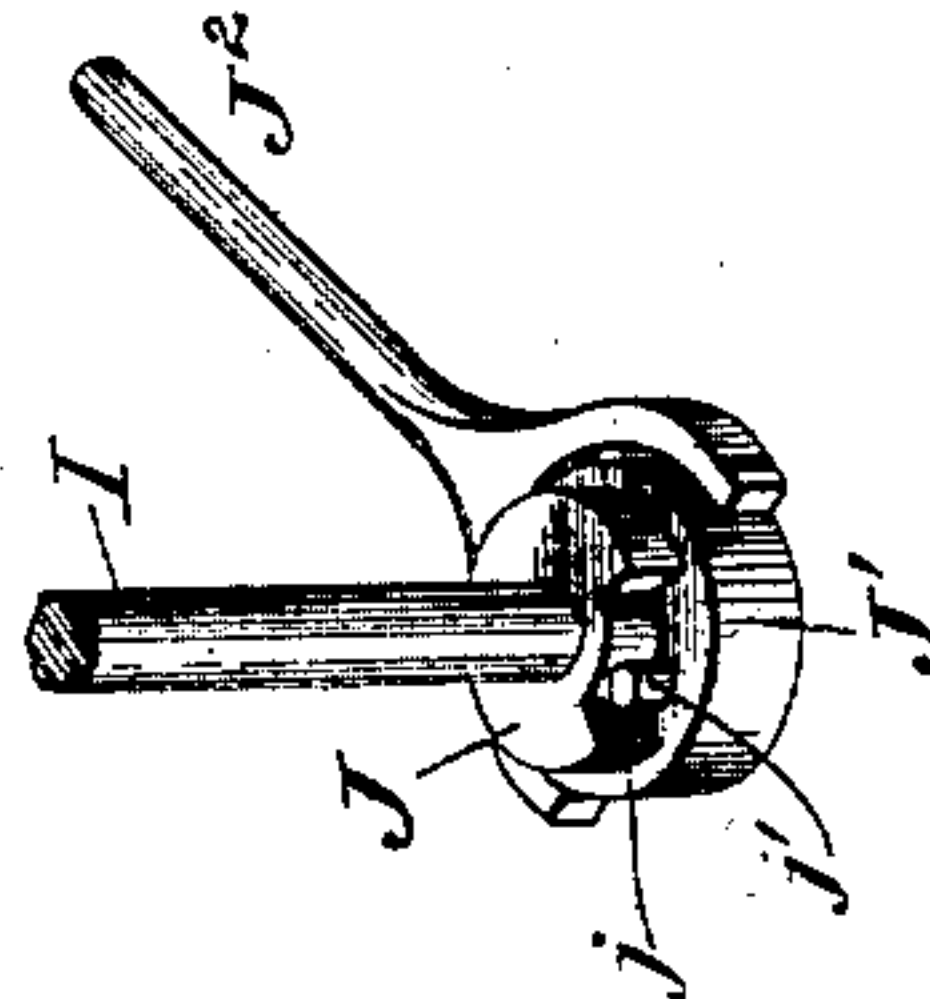


Fig. 6.



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UNITED STATES PATENT OFFICE.

GIDEON W. DECKER, OF WILLOWEMOC, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 399,316, dated March 12, 1889.

Application filed September 18, 1888. Serial No. 285,728. (No model.)

To all whom it may concern:

Be it known that I, GIDEON W. DECKER, a citizen of the United States, of Willowemoc, in the county of Sullivan and State of New York, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, 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.

My invention relates to improvements in car-couplings; and it consists of the peculiar combination of devices and novel construction and arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

The object of my invention is to provide an improved car-coupling which is automatically operated when the cars come together, and which can be operated from either side of the car by the brakeman or attendant to uncouple the cars, and thereby avoid the necessity of going between the cars.

A further object of my invention is to provide novel devices whereby the coupling-pin can be elevated by either of the levers from either side of the car without disturbing the other lever on the opposite side, each of said levers being coupled to the rock-shaft in a peculiar manner, so as to have a limited movement thereon without affecting or turning said shaft.

A further object of my invention is to provide novel means for varying the elevation of the draw-heads, so that the head on one of the cars can be conveniently raised or lowered to adjust it at any desired elevation within a limited radius and cause it to properly align with the draw-head on the other car with which it is to be coupled. This adjustment of the draw-head in a vertical line can also be accomplished by the brakeman from either side of the car, and novel devices are provided whereby the adjusting mechanism is locked in place to sustain the draw-head in its adjusted position, all as will be hereinafter fully described.

In the drawings, Figure 1 is a bottom plan view of a car-coupling embodying my invention. Fig. 2 is a top plan view of the same with a portion of the platform of the car broken

away. Fig. 3 is a longitudinal sectional view on the line *x x* of Fig. 1, showing two draw-heads coupled together. Fig. 4 is a side elevation showing the means for operating the rock-shaft and for locking the same against rotation. Fig. 5 is a detail sectional view on the line *y y* of Fig. 4. Fig. 6 is a detail perspective view of one end of the rock-shaft, showing the clutch and lever for operating the same.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the platform of the car, and between the two central beams, *a a*, thereof I arrange a sliding draw-head, B, which is adapted to swing or turn vertically for a limited distance, as will be presently described.

On the opposing faces of the two central beams, *a a*, of the platform are bolted two castings, C, which are each provided with segmental bearing-flanges *c c'*, that are formed on said castings at suitable points of their length. The flanges of each casting are reversely curved, as shown, and when the castings are properly bolted to the beams *a a* the segmental flanges *c c'* of the castings are arranged diametrically opposite to one another to thereby constitute bearings in which an oscillating carrier, D, is arranged to rock or turn vertically therein. This oscillating carrier D also comprises a casting having the parallel sides *d d*, the rigid transverse or bridge piece *d'*, and a sliding bridge-piece, *d''*. The ends of the parallel sides *d d* of the oscillating carrier are curved to conform to the curvature of the segmental bearing-flanges of the sustaining-castings C, and, if desired, this carrier may be pivoted in the castings to be held thereby against displacement. The rigid bridge-piece of the carrier may be made integral with the sides thereof or suitably secured thereto; but the sliding bridge-piece *d''* is fitted at its ends between the sides of the carrier to slide back and forth between said sides lengthwise of the carrier. Horizontal openings are formed in the rigid and sliding bridge-pieces of the carrier, and through these openings passes the reduced stem *b* of the sliding draw-head B, whereby said draw-head is adapted to move

lengthwise in the carrier. This draw-head is thus connected to the carrier so as to move or turn vertically therewith and be thereby adjusted at any desired elevation within a certain radius, and said draw-head is also capable of a limited endwise movement independently of the vertical movement with the carrier. Around the stem *b* of the draw-head is coiled a cushion-spring, *E*, which is arranged between the rigid and sliding bridge-pieces of the carrier, whereby the shock or jar on the draw-head caused by the latter coming in contact with another draw-head on an approaching car can be taken up and thus prevent injury to the other parts of the coupling.

The draw-head *B* is provided with the usual chamber, in which reciprocates a spring-controlled slide or follower, *F*, and through a vertical opening, *g*, in the upper side of the draw-head a coupling-pin, *G*, is adapted to enter the chamber of the draw-head when the spring-controlled slide is moved or forced back within the chamber. The upper end of this coupling-pin *G* is connected with a lever, *H*, which is pivoted near its rear end to a fixed lug or stud, *h*, on the upper side of the draw-head. A short arm, *h'*, is thus formed on the lower end of the lever, and against this arm presses a spring, *H'*, the outer end of which is secured to the upper side of the draw-head and is so arranged that it normally bears against the short arm of the lever to positively depress the upper end of said lever and force the coupling-pin through the aperture *g* into the chamber of the draw-head when the follower or slide is moved back therein.

To adapt the coupling-pin to be raised from the draw-head by the brakeman standing at the side of the car and thus permit the link to be released without compelling the brakeman to pass between the two cars, I provide a rock-shaft, *I*, that is arranged transversely across the platform *A* in rear of the lever *H* and a short distance above the draw-head. This rock-shaft is journaled in suitable bearings and it carries a tappet-arm, *i*, that projects forwardly from the shaft and is arranged alongside of the lever, the free end of said tappet-arm having a lip or prong, *i'*, that takes beneath the link-controlling lever *H* and is adapted to raise the same and the pin when the shaft *I* is turned or rocked.

To each end of the rock-shaft *I* is secured a disk, *J*, having a segmental or quarter slot, *j*, in one face thereof, and in this slot rides a pin or stud, *j'*, that is fixed to the inner opposing face of another disk, *J'*. The first-mentioned disk *J* is fixed to the rock-shaft to turn therewith, and the latter disk, *J'*, is loosely fitted on the shaft to turn thereon a limited distance without affecting the position of the shaft or rocking the same, the independent or free movement of the disk *J'* on the rock-shaft being limited by the pin *j'* thereof coming in contact with the shoulders formed by the ends of the segmental slot in the fixed disk *J*. To the loose or free disk *J'* is pivotally connected

an operating-lever, *J²*, which is bifurcated, as shown, and pivoted so as to swing horizontally on the loose disk.

It is obvious that when one of the loose disks is turned by its operating-lever to rock the shaft and elevate the coupling-pin, the other lever and the loose disk connected therewith will not be moved, which is due to the fact that the pin of the loose disk merely rides in the slot of the fixed disk on the shaft, the coupling-pin being elevated by the time the pin strikes or is in proximity to one of the ends of the segmental slot; and it will further be observed that the lever at either side of the car can be operated without moving the other lever, which thus permits one of the levers to remain stationary between a suitable fixed keeper, *j²*.

To permit the brakeman to adjust the draw-head from one side of the car to the desired elevation and in position to properly couple with an approaching car, I have provided another rock-shaft, *K*, which is arranged transversely across the car below the draw-head, and this rock-shaft carries a cam or spiral shaped arm, *k*, which is arranged immediately below the draw-head, and on which said draw-head rests by gravity, so that the draw-head can move endwise when struck by an approaching car without hinderance from the devices for moving it vertically. This rock-shaft *K* is adapted to be turned by means of a detachable lever, *k'*, one of which is provided for each end of the shaft. Each lever has a cross-head, *K'*, into which the squared end of the shaft is fitted, so the shaft can be easily turned to cause the cam or spiral arm to elevate or depress the draw-head, which turns with the oscillating bearing to the desired position, and when this lever *k'* is detached it is fitted in aligned openings *k²* in one of the side and middle beams of the car, the cross-head fitting in a recess in the lateral exposed face of the side beam and is covered by a concealing-plate, *k³*, that is preferably pivoted to the car and adapted to be adjusted over the recess and end of the lever.

To prevent the rock-shaft *K* from turning under the weight of the draw-head resting on the cam or spiral shaped arm thereof, I provide devices for locking the shaft against rotation, which devices can also be operated by the brakeman from either side of the car. A latch, *L*, is pivoted at an intermediate point of its length to one of the central beams, *a*, of the car, and one end of the latch is formed with a prong or tooth, *l*, that takes into one of a series of notches, *m*, on the periphery of a disk, *M*, that is fixed to the rock-shaft *K* at one side of the beam to which the lever is pivoted. A coiled retracting-spring, *N*, is connected to the other end of the latch, so as to normally force the toothed end of the latch into position to engage one of the notches in the disk *M*, and to hold said latch in engagement with the notched disk. Endwise-movable operating-rods *O O'* are arranged on opposite

sides of the spring-controlled latch L and connected at their inner ends to said latch, as shown in Fig. 1, on opposite sides of its pivot, while the outer ends of the rods are guided in fixed guides o and provided with suitable handles for operating the same.

It is obvious that either of the operating-rods can be pulled to move the toothed end of the latch out of engagement with the notched disk, which thus frees the shaft K, so it can be turned to raise or depress the draw-head to the desired elevation, and that when the rod is released the spring immediately returns the latch into engagement with the notched disk and holds the shaft and draw-head at the desired adjustment.

The operation of my invention will be readily understood from the foregoing description taken in connection with the drawings.

I would have it understood that I do not confine myself to the precise details of construction and form and proportion of parts herein shown and described as an embodiment of my invention, as I am aware that changes therein can be made without departing from the principle of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination of the fixed castings, an oscillating carrier mounted in the castings to turn a limited distance therein, a draw-head mounted in said carrier to rock therewith and capable of a limited endwise movement in said carrier independent of the rocking movement of the latter, and a cushion-spring for retarding the endwise movement of the draw-head, substantially as and for the purpose described.

2. In a car-coupling, the combination of the fixed castings having the segmental flanges, the oscillating carrier having the parallel connected sides provided with the curved ends, which fit snugly in the segmental flanges, and the sliding bridge-piece fitted between said parallel sides, a draw-head fitted in the fixed and sliding bridge-pieces of said carrier, and a cushion-spring interposed between the fixed and sliding bridge-pieces, substantially as described.

3. In a car-coupling, the combination of an oscillating carrier, a draw-head carried thereby, fixed castings in which said carrier is

mounted to be capable of a limited vertical play, and manually-operated devices for raising or depressing the free end of the draw-head, substantially as described.

4. In a car-coupling, the combination, with a draw-head capable of a limited vertical play, of a rock-shaft having a cam or spiral arm and a notched disk, a spring-controlled latch adapted to engage the disk, and an operating-rod connected to the latch, substantially as and for the purpose described.

5. In a car-coupling, the combination of an oscillating carrier mounted between fixed castings, an endwise-movable draw-head carried by said carrier and retarded by a cushion-spring, a rock-shaft having means for moving the draw-head vertically, and manually-operated devices for locking said rock-shaft and to hold the draw-head in its adjusted position, substantially as described.

6. In a car-coupling, the combination of a draw-head, a rock-shaft having a spiral arm and notched disk, the detachable levers adapted to be fitted in recesses in the car-beams and concealed from view by a plate, a pivoted toothed latch, a spring connected thereto, and operating-rods pivoted to the latch on opposite sides of its fulcrum, substantially as described.

7. In a car-coupling, the combination of a draw-head having a spring-controlled slide operating therein, a coupling-pin, a pivoted spring-pressed lever connected to the pin, a rock-shaft having a tappet-arm for raising said lever and pin, and the operating-levers each coupled to the shaft to be capable of a limited movement thereon without rocking the same, substantially as described.

8. In a car-coupling, the combination of a draw-head, a slide operating therein, a coupling-pin, a lever connected to the pin, a rock-shaft having a tappet-arm for lifting the lever and pin, and provided at its ends with fixed slotted disks, and the levers each pivoted to a disk which is loosely fitted on the shaft and has a pin adapted to ride in the slot of one of the fixed disks, substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GIDEON W. DECKER.

Witnesses:

MATT DECKER,
JAMES M. DECKER.