

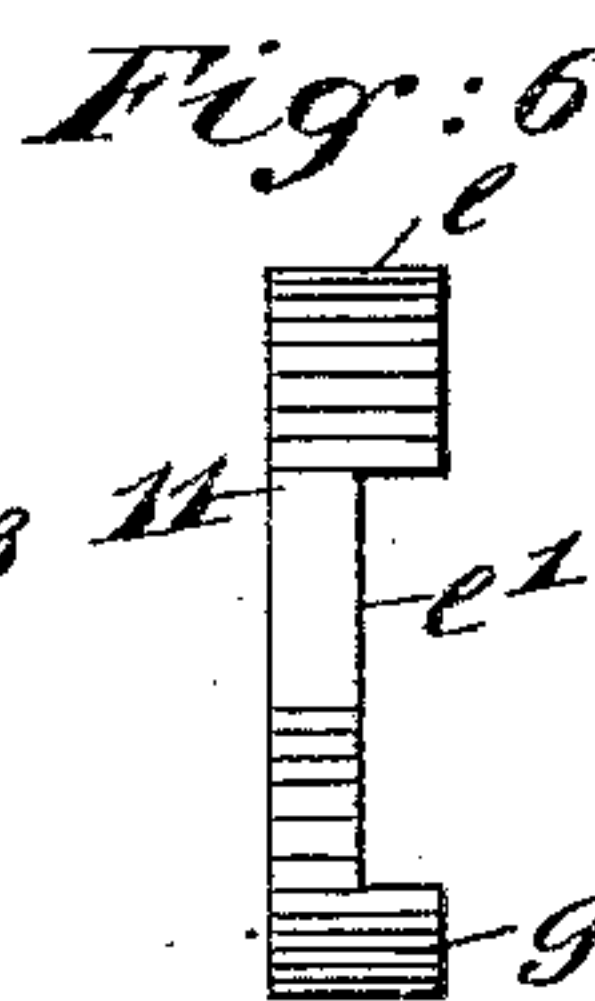
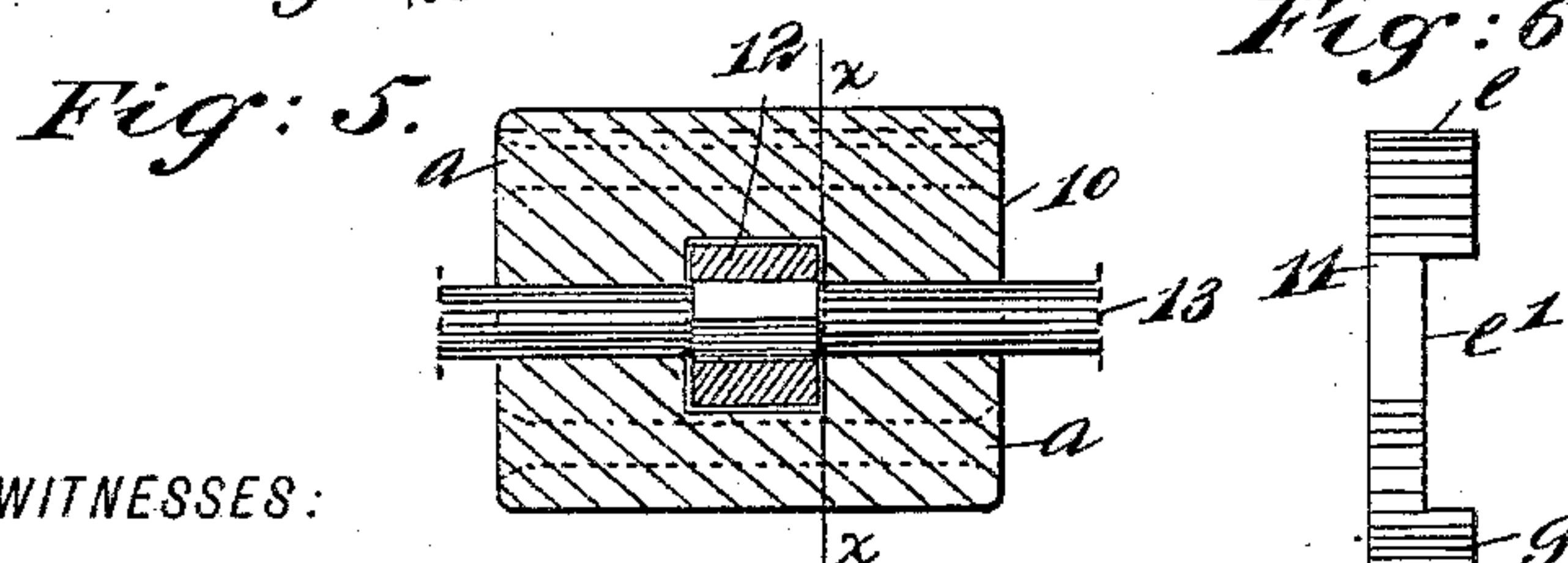
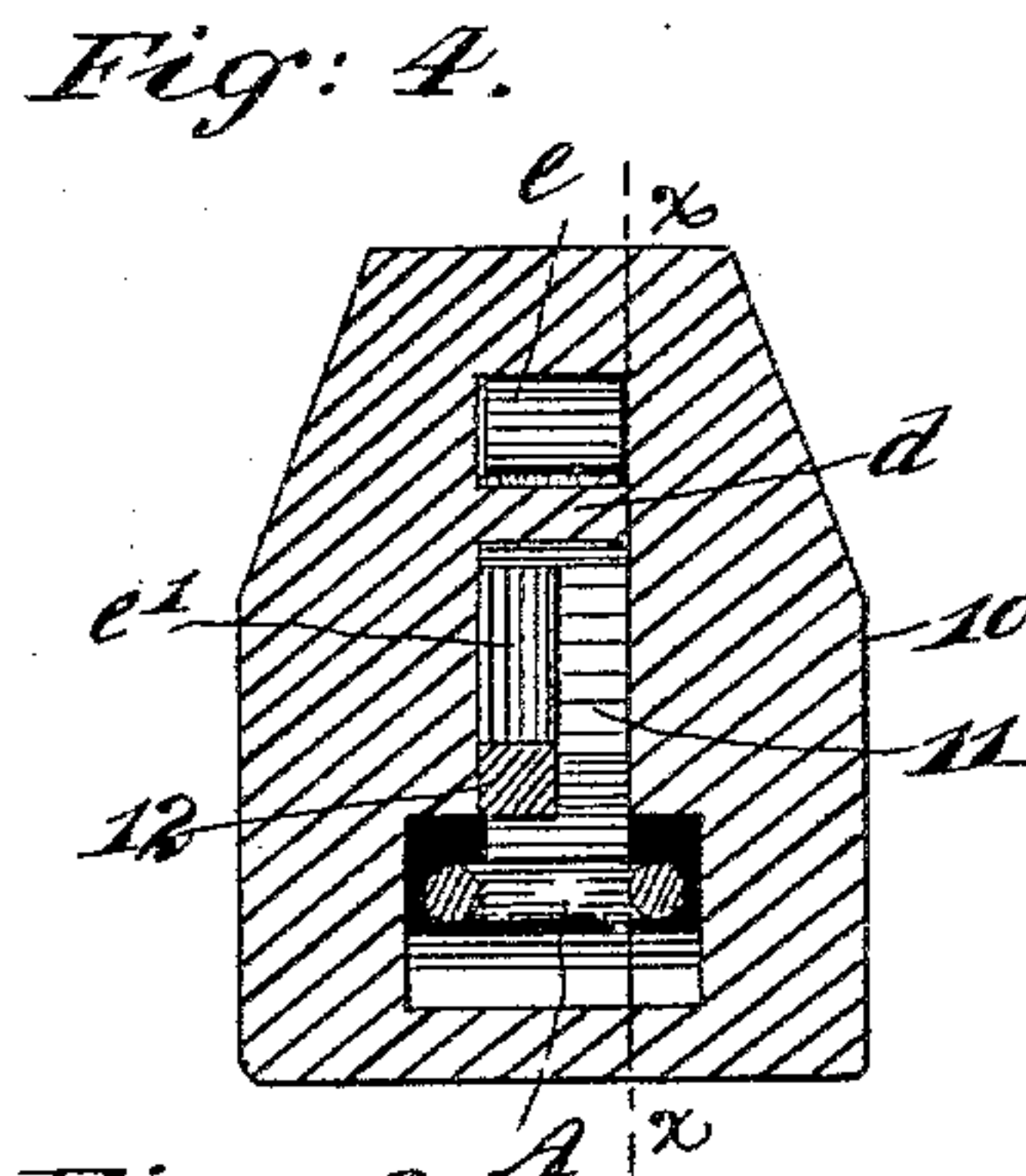
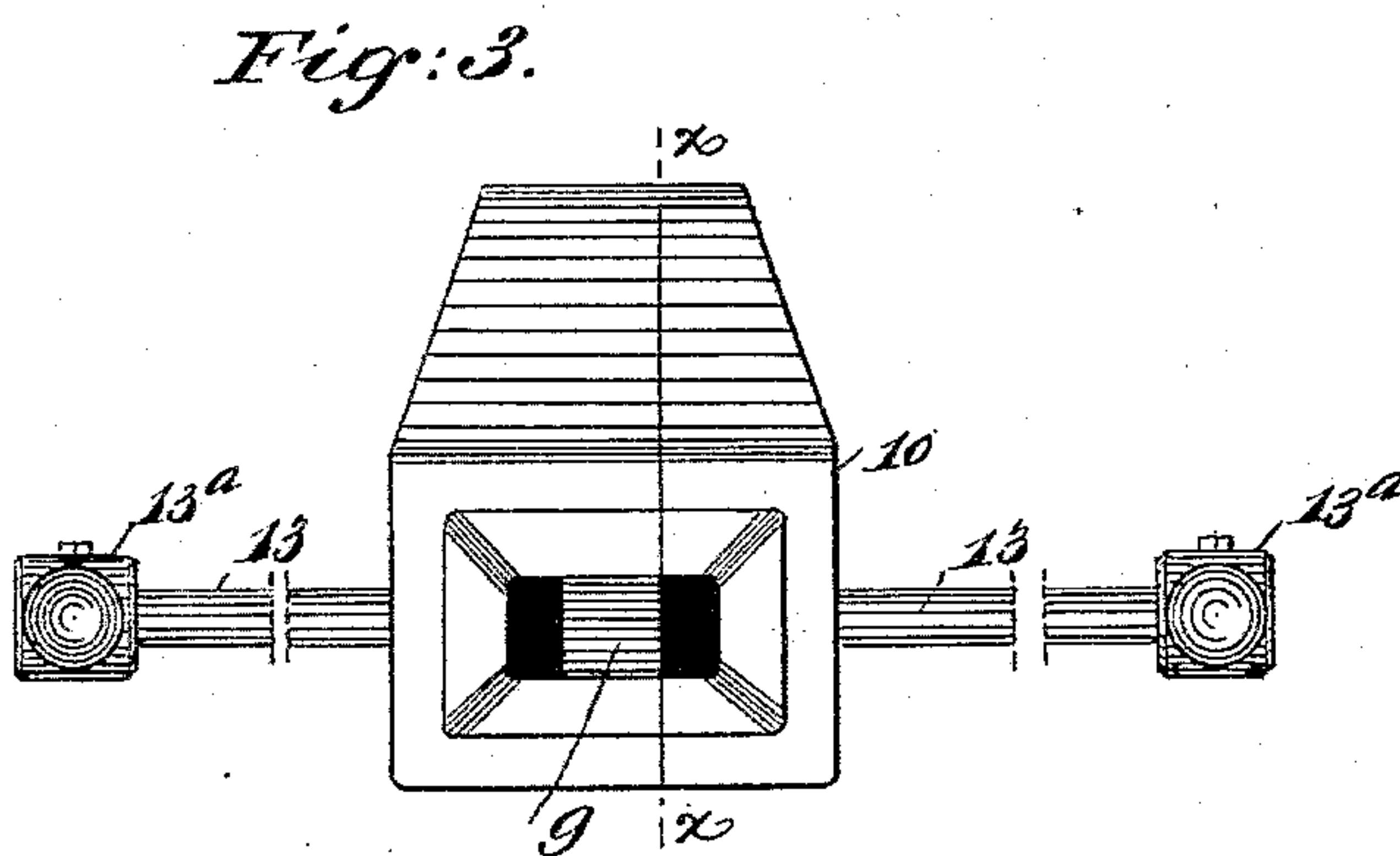
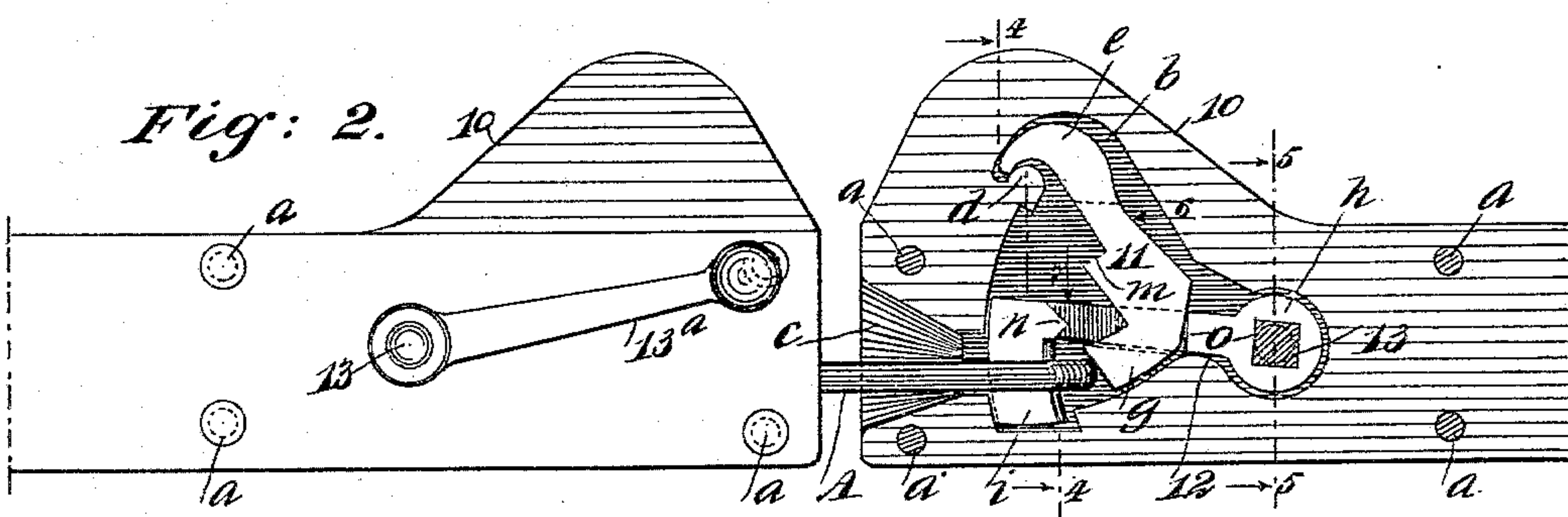
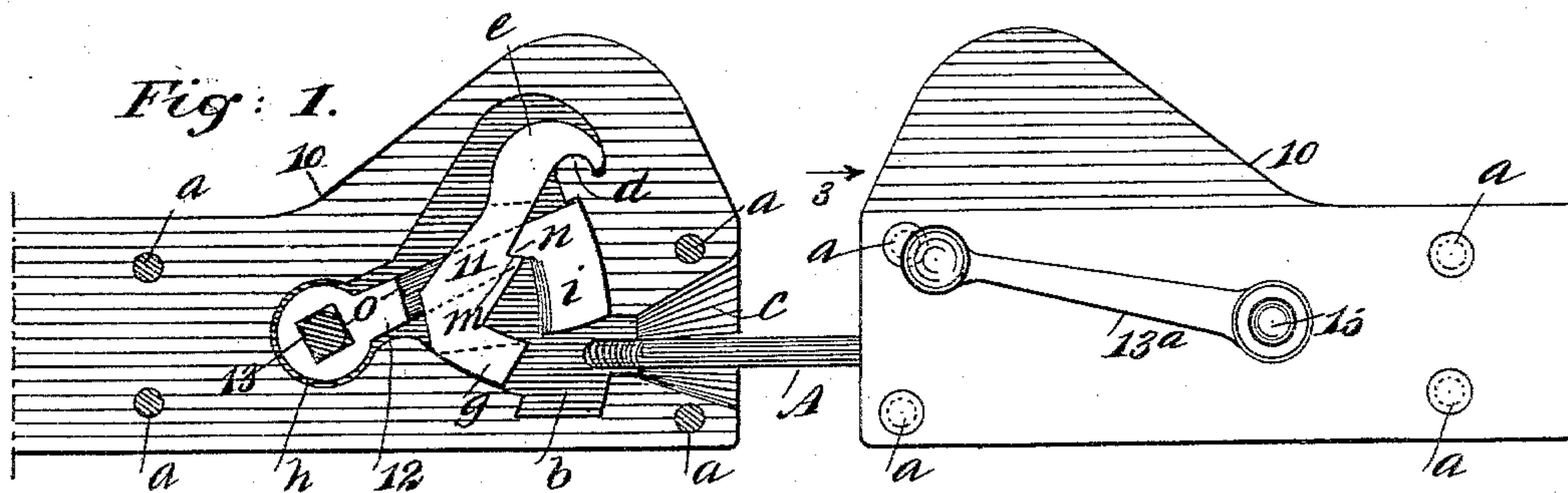
(No Model.)

2 Sheets—Sheet 1.

L. L. MOORE.
CAR COUPLING.

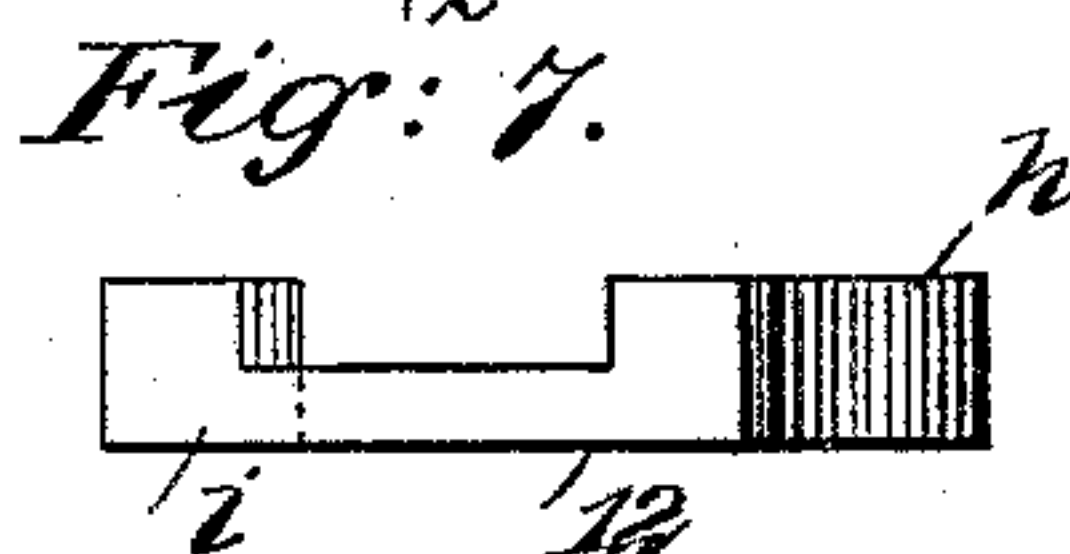
No. 563,607.

Patented July 7, 1896.



WITNESSES:

Wm. L. Patton
A. Lurecott.



INVENTOR

L. L. Moore
BY *Munn & Co*

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

L. L. MOORE.
CAR COUPLING.

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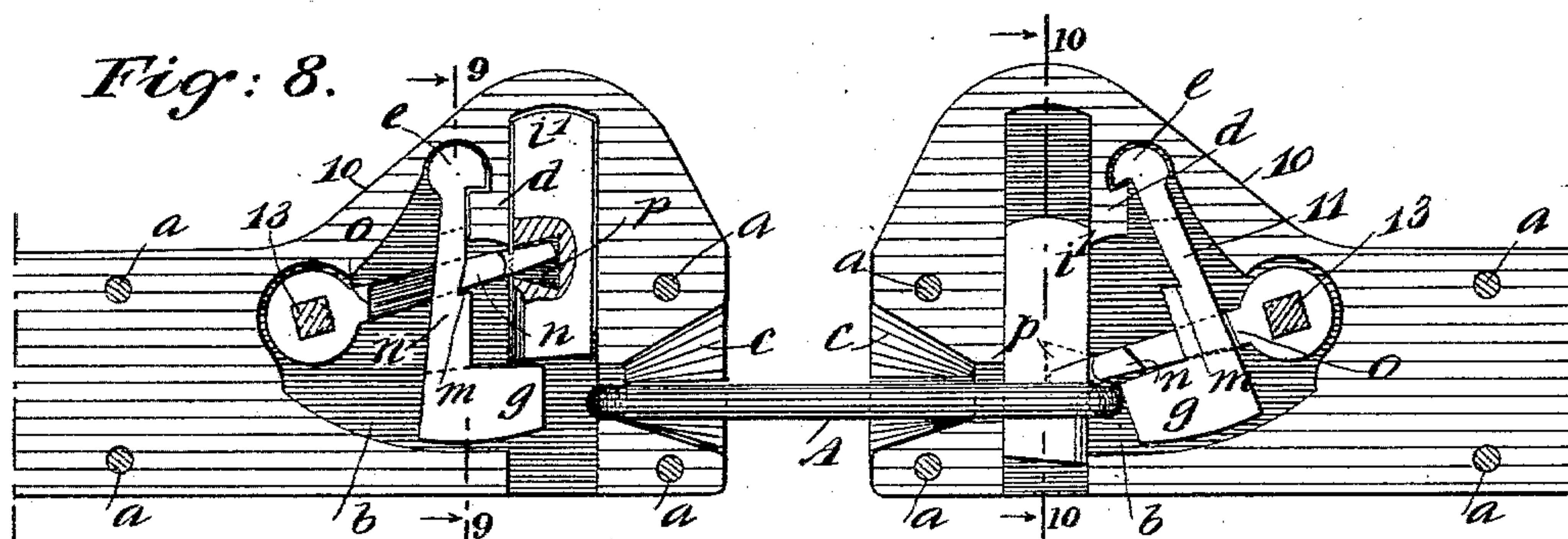


Fig: 9.

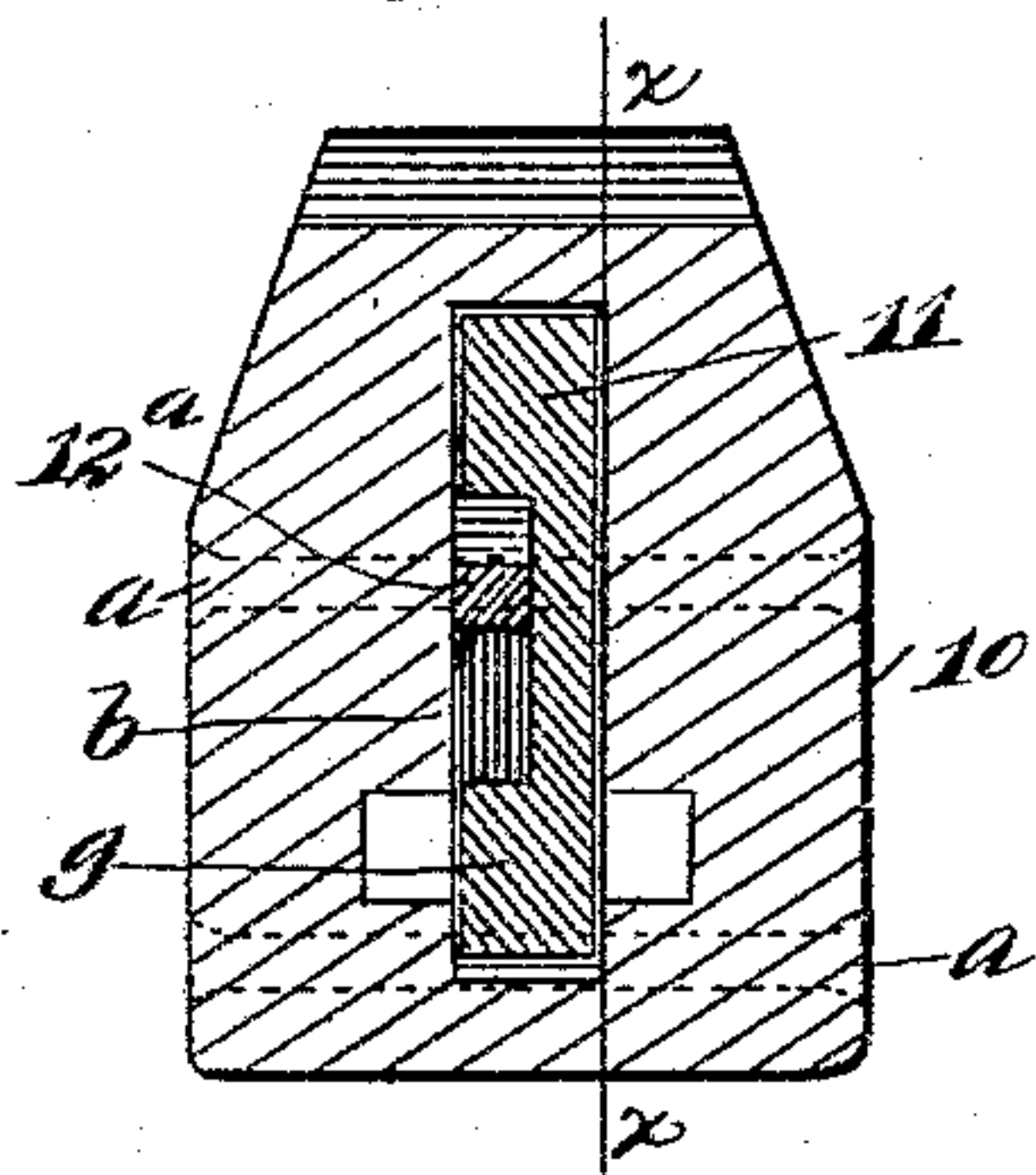


Fig: 10.

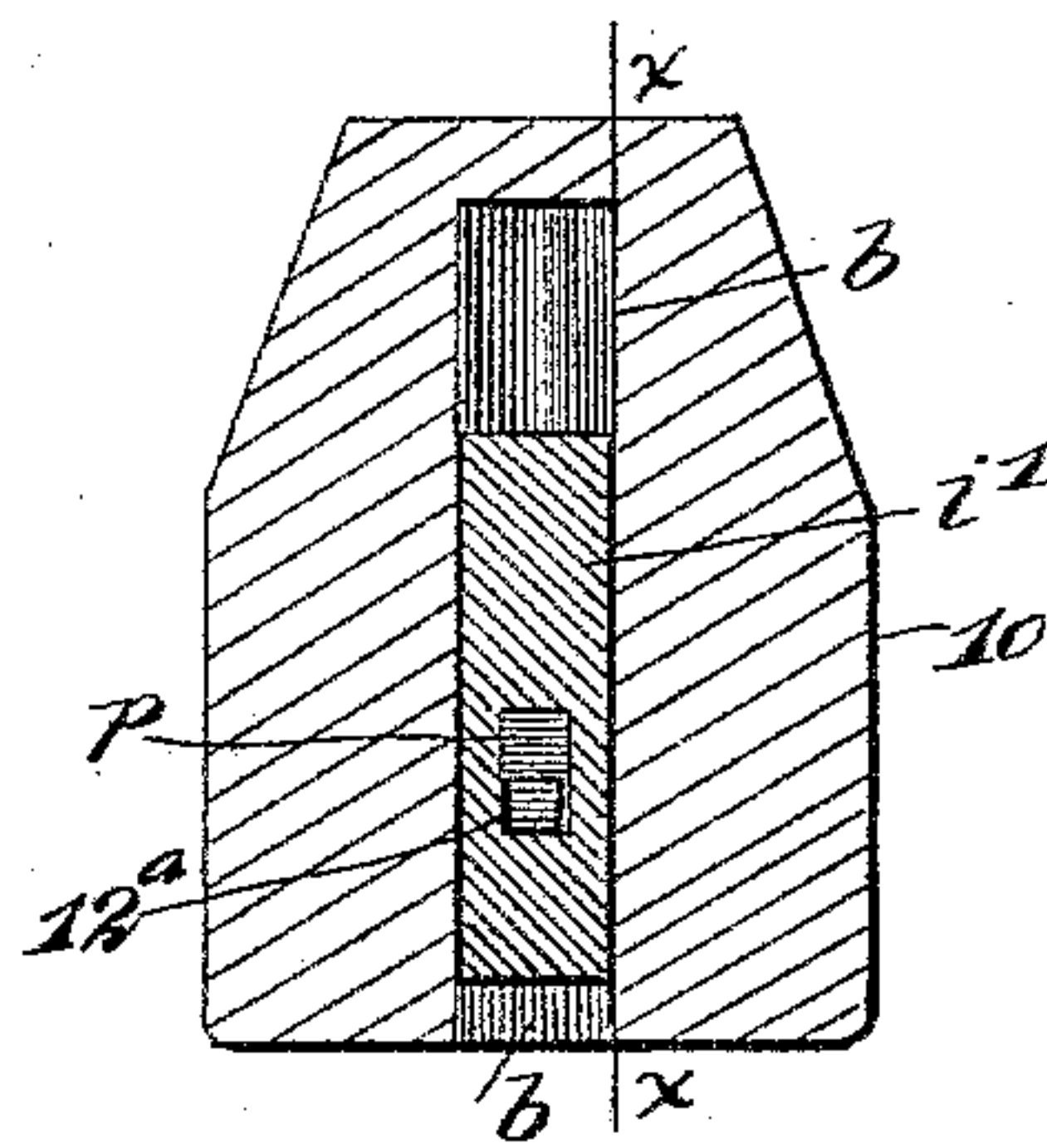


Fig: 11.

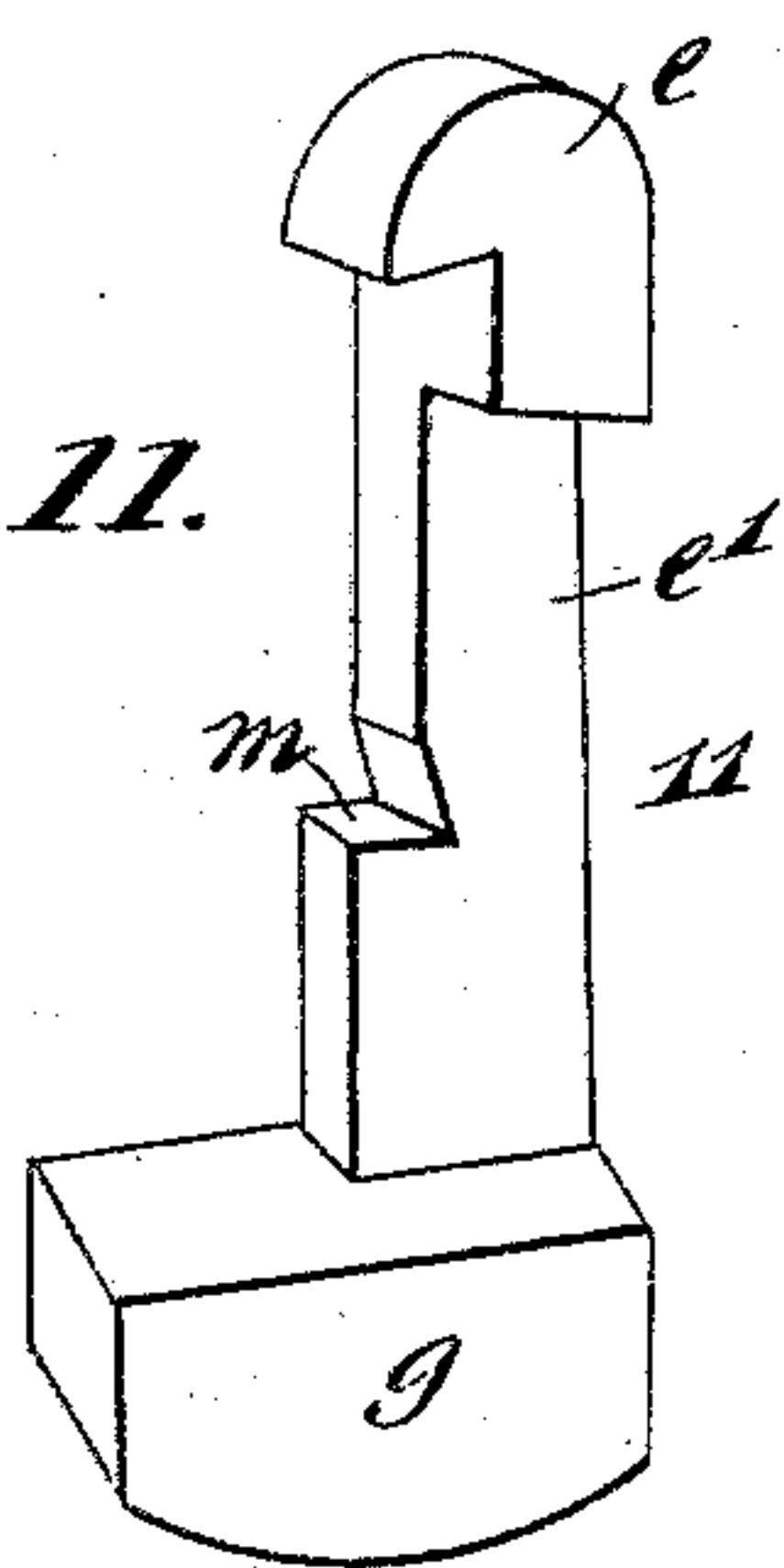
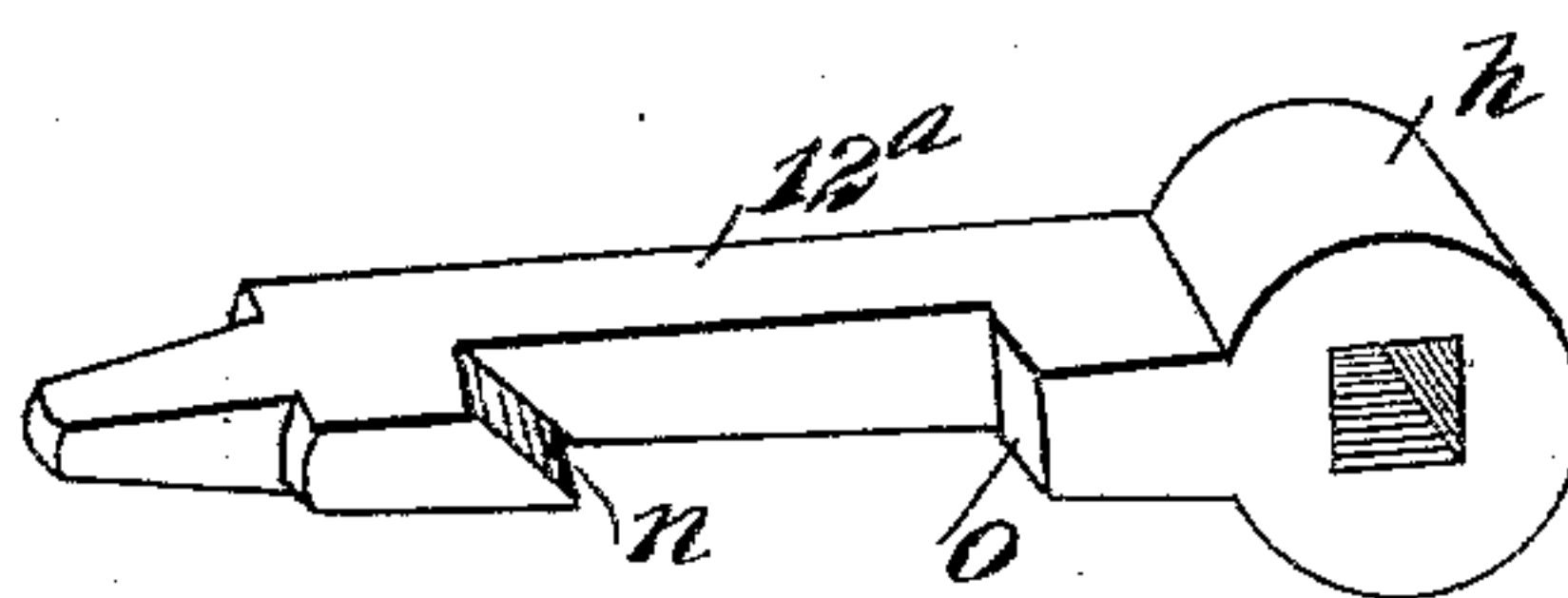


Fig: 12.



WITNESSES:

Wm. P. Patton
A. Lurcott

INVENTOR

L. L. Moore

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

LOUIS L. MOORE, OF CALHOUN, KENTUCKY, ASSIGNOR OF ONE-HALF TO
STEPHEN A. ALLEN, OF EVANSVILLE, INDIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 563,607, dated July 7, 1896.

Application filed November 23, 1895. Serial No. 569,907. (No model.)

To all whom it may concern:

Be it known that I, LOUIS L. MOORE, of Calhoun, in the county of McLean and State of Kentucky, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

This invention relates to an improved car-coupling of the automatic type in which a common elongated coupling-link is employed to connect two draw-heads, and has for its object to provide a novel, simple, and practical device of the indicated character which will be reliable in service and afford means for the safe and easy detachment of two cars having the improvements by manipulation from either side of either car so connected.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and indicated in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of main portions of two car-couplings having the improvements, one coupling being in section and having interior parts adjusted to receive and connect with a coupling-link that projects from the other coupling. Fig. 2 is a side view of two of the improved couplings, one in section showing its coupling mechanism in coupled connection with a link that extends from the opposite coupling. Fig. 3 is a front end view of one of the improved car-couplings, seen in direction of arrow 3 in Fig. 1, the coupling-link being removed. Fig. 4 is a transverse sectional view of details of construction substantially on the line 4 4 in Fig. 2. Fig. 5 is a transverse sectional view essentially on the line 5 5 in Fig. 2. Fig. 6 is an edge view of a pendent dog that supports the coupling-arm in position to receive the coupling-link, seen in direction of arrow 6 in Fig. 2. Fig. 7 is a plan view of the coupling-arm, as shown in Fig. 2, in direction of arrow 7 in said figure. Fig. 8 is a sectional side view of main portions of two car-couplings having features of the improvement, one draw-head being coupled to a link, and mechanism of the other coupling adjusted to receive and connect with said link, the construction being somewhat different from that shown in Figs. 1 to

7. Fig. 9 is a transverse sectional view of parts essentially on the line 9 9 in Fig. 8. Fig. 10 is a transverse sectional view substantially on the line 10 10 in Fig. 8. Fig. 11 is an enlarged perspective view of the pendent dog which supports the coupling-arm in the construction shown in Figs. 8 to 10, and Fig. 12 is an enlarged perspective view of the coupling-arm used in the construction illustrated by Figs. 8 to 10.

The draw-head 10, as shown, consists of an elongated block preferably constructed in two parts that are joined together on a longitudinal line, as indicated at *x x*, by transverse rivets *a* or by other means.

One or both sections of the draw-head are recessed in adjacent sides, thereby producing a chamber *b* for reception of working parts when the sections are secured together; and it will be evident that the production of the chamber in the manner mentioned will avoid the employment of cores to form the same, which greatly reduces expense of production and permits the easy fitting and insertion of the working parts, which will presently be described.

The chamber *b* is forwardly extended near its bottom, and intersects the throat *c*, which is outwardly flared to permit the easy insertion of the ordinary coupling-link *A*.

As represented in Figs. 1, 2, and 8, there is a transverse rib *d* formed in the chamber *b* near its upper wall, which rib may be rounded on its upper surface or be flattened, and in either form it is adapted to afford support for the dog 11, that is hung thereon. The dog 11 has a hook-like formation *e* on its head or upper end, which may be shaped as shown in Figs. 1 and 2 or as represented in Fig. 8, the lateral projection or nose of the hook in either case being designed to loosely engage the rib *d*, and thus pendently sustain the main portion of the dog. The body of the dog 11 is forwardly projected at its lower end, as represented at *g* in Figs. 1, 2, and 8, and the lower edge of said portion or toe-piece of the dog is preferably afforded a convex shape, so that it may swing near to and escape contact with the concave lower wall of the chamber *b*. The dog 11 is cut away on one side from points near the weighty projecting toe-piece *g* and head *e* thereon, so

as to reduce the thickness of its body to preferably one-half that of the head and toe-piece of the same, thereby affording an open recess *e'*, that is designed to receive a portion of the coupling-arm 12.

The arm 12, if constructed as represented in Figs. 1 and 2, comprises an elongated member having a laterally-apertured hub *h* at one end and a weighty coupling-block *i* at its forward end, the latter being adapted to work near the front wall of the chamber *b* when the arm 12 is rocked on a transverse shaft 13. Said shaft is inserted through opposite perforations in the sides of the draw-head, and also through the aperture of the hub *h*, the body of the shaft where it engages the hub being made angular, so as to fit the similarly-formed aperture of the latter, and thus be adapted to oscillate the coupling-limb when the shaft is rocked. The side of the coupling-arm 12 that in service is nearest to the pendent dog 11 is in a like manner recessed so as to reduce its thickness about one-half between the hub *h* and coupling-block *i*, and the thinner portions of the dog and arm have loose contact when said parts of the coupling are assembled within the chamber *b*.

On the front edge of the pendent dog 11, at a suitable point below the hook of the head *e*, a latch-shoulder *m* is formed, and at the rear of the coupling-block *i* on the arm 12 an angular tongue *n* is produced, which tongue will engage with the shoulder mentioned if the block *i* is elevated, and the pendent dog 11 is rearwardly swung to permit such an elevation.

It will be seen that when the shoulder *m* is occupied by the tongue *n*, the weight of the toe-piece *g* and coupling-block *i* will enforce an engagement of the parts named, and thus support the coupling-block sufficiently elevated to afford clearance at its lower end for the free insertion of the link *A* within the throat *c* and lower portion of the chamber *b*, as clearly shown in Fig. 1.

The rear wall *o* of the recess in the side of the coupling-arm 12 is designed to arrest the rearward movement of the pendent dog 11 by contact with the heel of the toe-piece *g*, as shown in Fig. 2, a sufficient degree of rearward swinging movement being afforded the dog to permit of coupling the link *A* with the block *i*.

In operation the link *A* is thrust within the chamber *b*, so as to impinge the front end of the coupling-block *i* and press it rearwardly far enough to dislodge the tongue *n* from the shoulder *m*, which will allow the block *i* to drop through the link *A* and couple therewith.

When the link *A* is in coupled condition, its rear looped end will be caught between the rounded rear edge of the block *i* and the inclined front end of the toe-piece *g*, and the weight of the latter will support said rear end of the link so that its body will be maintained in a level condition, resting on the rear end

and lower wall of the throat *c*, the forward portion of the link projecting sufficiently from said throat to enter a similar throat in a mating draw-head.

The transverse shaft 13, in the application of the complete car-coupling to a car, is projected sufficiently at each side of the draw-head 10 to permit crank-handles 13^a to be formed on or secured to the ends of the shaft and lie near each side of the car, so as to be conveniently located for manual adjustment; and, as shown in Figs. 1 and 2, the crank-handles are so disposed that their weight will coact with that of the toe-piece *g* to hold a link *A* supported in level condition when said link is to be entered in another car-coupling.

When two cars coupled by the improved couplings are to be detached, it will be apparent that the upward rocking movement of either crank-handle 13^a on either shaft 13 of two coupled draw-heads 10 will rock the coupling-arm 12 in a like direction, and thus remove the coupling-block *i* from the link *A*, the continuation of upward movement produced in the arm 12 causing the tongue *n* to interlock with the shoulder *m* and thus adjust these parts for a recoupling of the draw-head with another draw-head on a similar coupling.

In Figs. 8 to 12, inclusive, the coupling-block is shown as loosely connected with the end of the arm, instead of being formed on or secured thereto, as hereinbefore explained with regard to the coupling-arm 12. The block *i'* in this case is held to loosely slide vertically in the chamber *b*, and has an aperture or socket *p* formed in its rear edge, at a suitable point for reception of a finger on the front end of the coupling-arm 12^a.

It will be seen that the coupling operation of the slidable block *i'* is the equivalent of that effected by the block *i*, and that when in coupled condition with a link *A* the toe-piece *g* will press the end of the link toward block *i'*, while the rear wall *o* of the recess in the coupling-arm 12^a in like manner with the same wall on the arm 12 is forced into contact with the rear edge of the pendent dog and aids the latter to hold the link *A* in a level position.

It is claimed for this improved car-coupling that it is extremely simple, very durable, cheap to produce, of easy construction, and reliable in all conditions of service, as there are no openings on the upper side of the draw-head and no exposed working parts to be obstructed by sleet or snow in the winter season; and, furthermore, the improvement may be used along with the ordinary link-and-pin car-coupling if this is necessary, so that the adoption of the improved coupling by a railroad may be gradual and not interfere with the continuous operation of the road.

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

1. The combination of the draw-head having a chamber open at the front, a rocking

dog pivotally suspended within said chamber and provided with a shoulder below its fulcrum, and a rocking coupling-arm provided with a tongue adapted to rest on the shoulder of the dog below its pivot, substantially as described.

2. The combination with a draw-head having a chamber open at the front, and a transverse fulcrum-rib within the chamber in its upper part, of a rocking dog having a hook-shaped head and pendent thereby from the fulcrum-rib, and having a shoulder on the front edge below said head, and a rocking coupling-arm having a weighty block on its forward end, and provided with a tongue adapted to loosely engage with the shoulder on the dog, substantially as described.

3. The combination with a draw-head having a chamber intersected at the front by a flared throat, a transverse fulcrum-rib formed in said chamber near its upper wall, and a pendent rocking dog having a hooked head engaging the fulcrum-rib, and provided with a shoulder on the front edge below the hooked head, and having a forwardly-projecting toe-piece on its lower end, of a coupling-arm adapted to rock with a transverse shaft that engages the rear end of said arm, and provided with a coupling-block at its front end, and also provided with a tongue adapted to rest on the shoulder of the dog and hold the coupling-block raised above the throat of the draw-head, substantially as described.

4. The combination of the draw-head, having a chamber open at the front, a rocking dog pivoted to the draw-head within said

chamber, and provided with two shoulders below its pivot, and a rocking coupling-arm having limited movement between the two shoulders of the dog and adapted to rest on the lower shoulder, substantially as described.

5. The combination with a draw-head having a chamber open at the front, and a pendent rockable dog hung by its upper end in the chamber and having a weighty toe-piece on its lower end, an open recess on one side, and a shoulder on its front edge above the toe-piece, of a coupling-arm pivoted at its rear end in the chamber and recessed to lap on the pendent dog in its recess, the said arm having a weighty coupling-block on its front end, and also provided with a tongue adapted to rest on the shoulder of the pendent dog to hold the coupling-block elevated, and an elongated coupling-link insertible in the front opening of the draw-head chamber and adapted to detach the tongue of the coupling-arm from the shoulder of the dog and permit the coupling-block to drop through the link when said link pushes the dog rearwardly, substantially as described.

6. The combination of the draw-head having a chamber open at the front, a rocking dog in said chamber, a rocking arm adapted to be held in a receiving position by said dog, and a coupling-block fitted to slide in the draw-head and loosely connected to the said arm, substantially as described.

LOUIS L. MOORE.

Witnesses:

J. L. SHUTT,
W. D. SHUTT.