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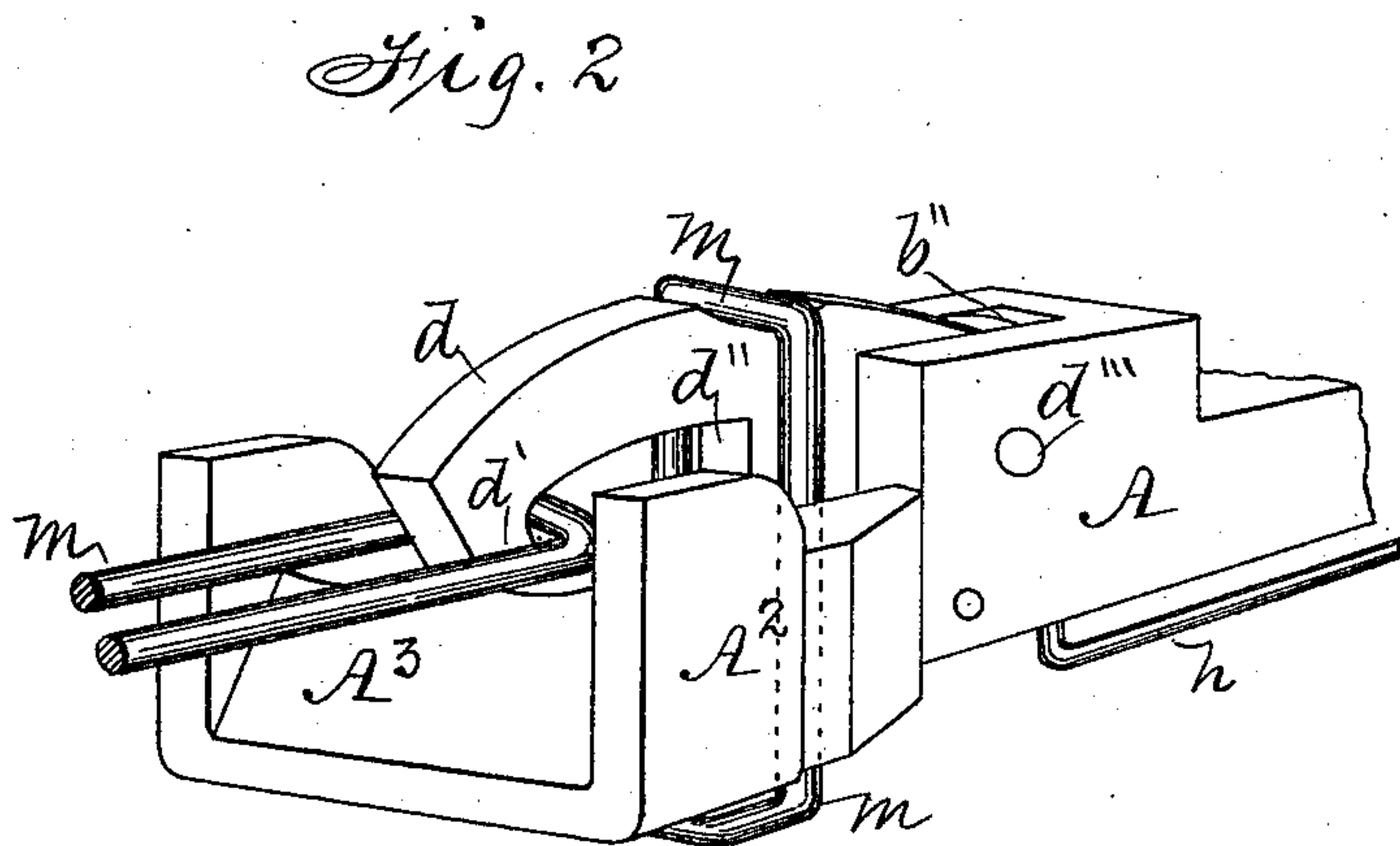
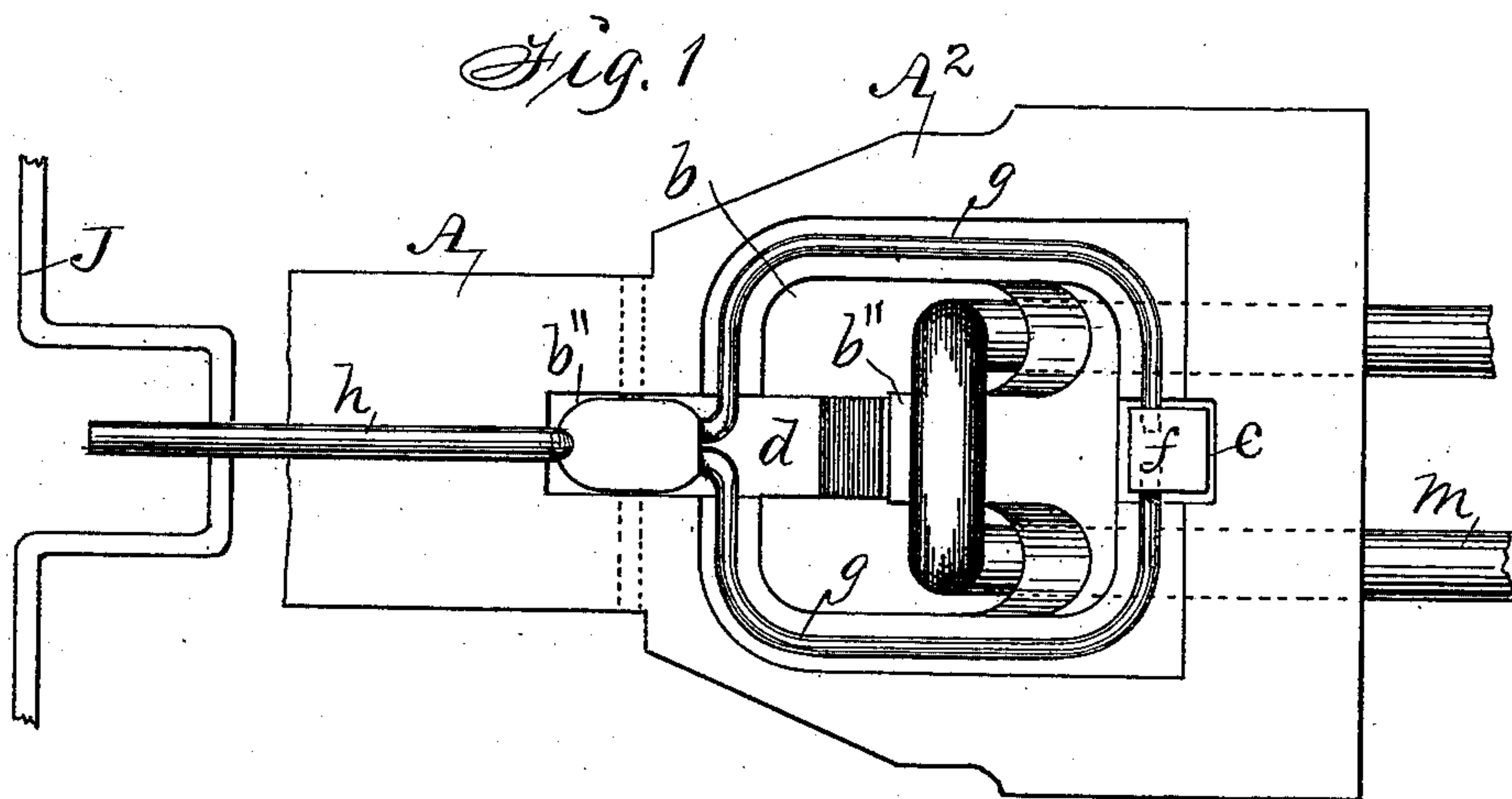
2 Sheets—Sheet 1.

J. F. & W. J. ROWLEY.

CAR COUPLING.

No. 359,577.

Patented Mar. 15, 1887.



Witnesses:

R. H. Orwig.
Ch. S. S. S.

Inventors:

James F. Rowley,
William J. Rowley,
By Thomas G. Orwig, Atty.

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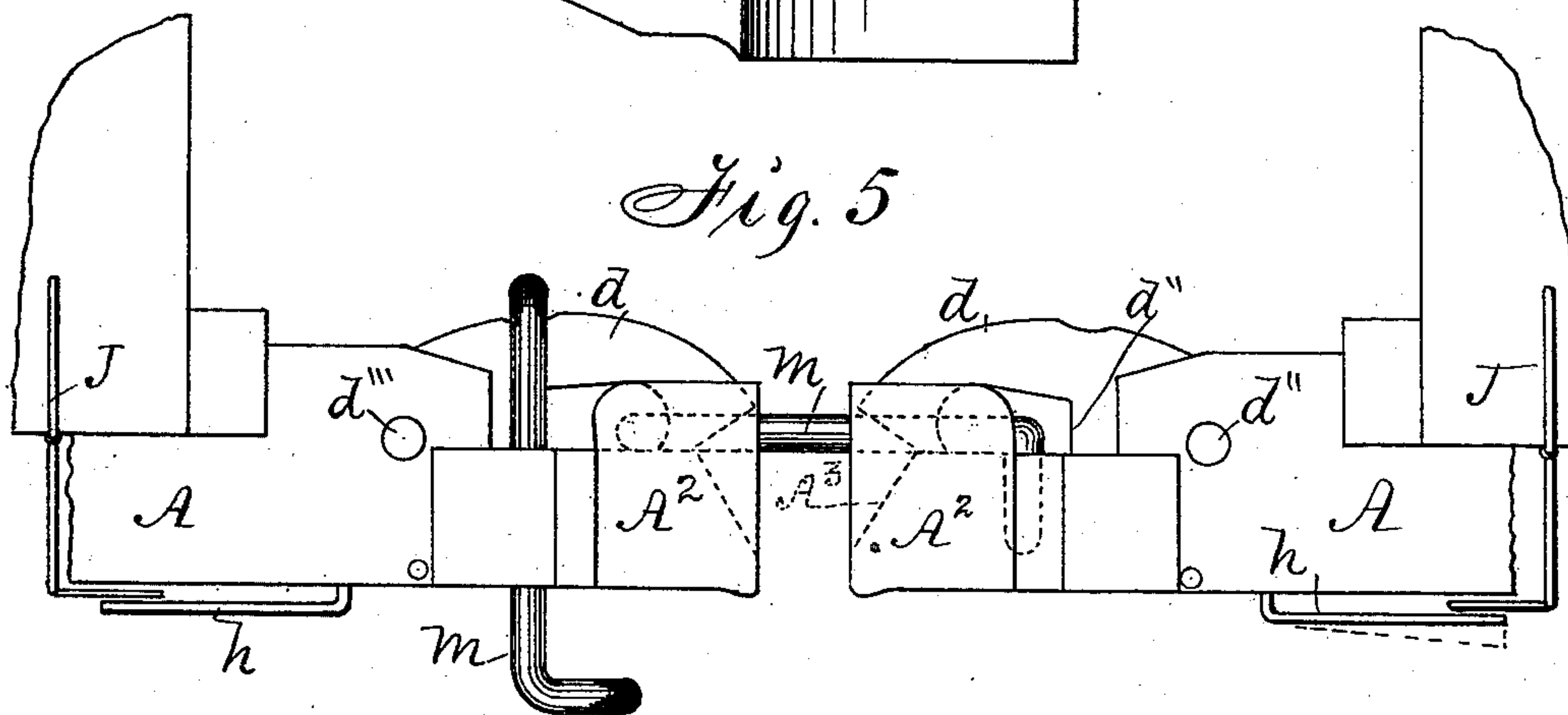
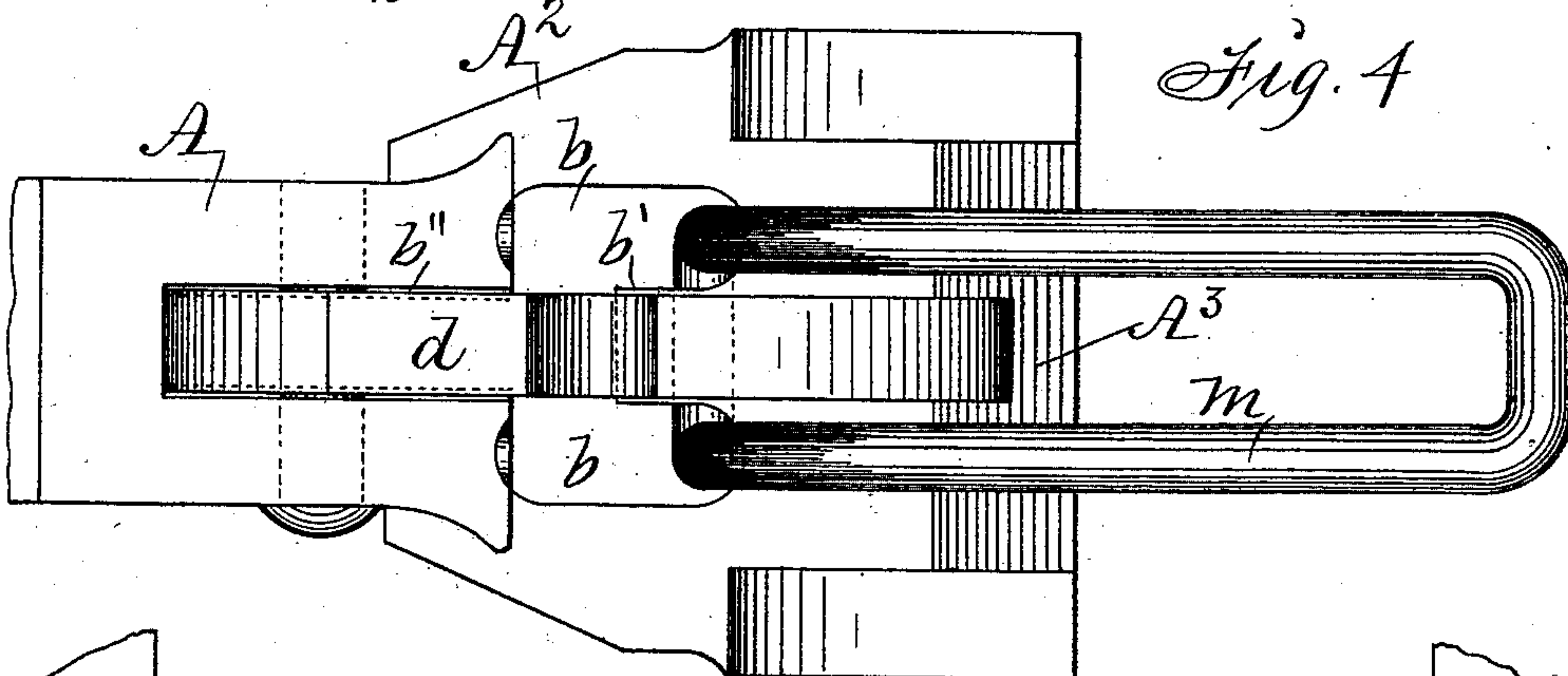
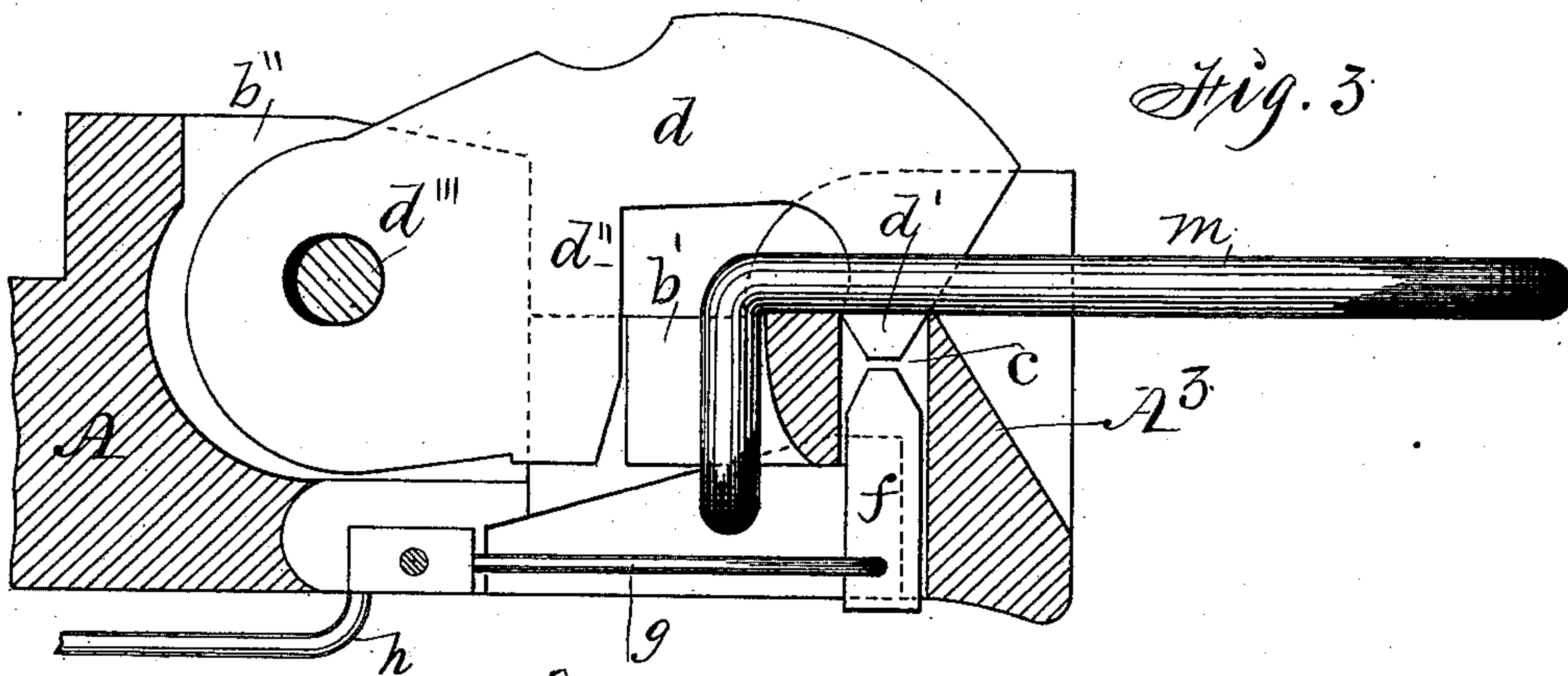
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R. H. Orrig. } James F. Rowley
C. W. Stiles. } and William J. Rowley,
By Thomas G. Orrig, Att'y.

UNITED STATES PATENT OFFICE.

JAMES F. ROWLEY AND WILLIAM J. ROWLEY, OF DES MOINES, IOWA, AS-
SIGNORS OF ONE-THIRD TO W. F. CARSON, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 359,577, dated March 15, 1887.

Application filed December 27, 1886. Serial No. 222,724. (No model.)

To all whom it may concern:

Be it known that we, JAMES F. ROWLEY and WILLIAM J. ROWLEY, citizens of the United States of America, and residents of Des Moines, in the county of Polk and State of Iowa, have invented an Automatic Car-Coupling, of which the following is a specification.

Our invention consists in the construction and combination of a draw-head, a coupling-link, link-retaining jaws, and jaw-operating mechanism, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a view of the under side of our draw-head and the jaw-governing device combined therewith. Fig. 2 is a perspective view of the draw-head, showing one link in a suspended vertical position and a second link in a horizontal position and engaged by the upper jaw, as required when two cars are coupled together. Fig. 3 is a longitudinal vertical sectional view of the draw-head, showing the jaws combined therewith. Fig. 4 is a top view of the draw-head, upper jaw, and a link combined therewith and in position as required to engage a mating draw-head. Fig. 5 is a side view representing two cars coupled together and one of the links in a suspended position upon the jaw that engages the other link.

A is the body of the draw-head. It may vary in form, as required, to adapt it to be attached to cars of different kinds.

A² is the head, formed integral with the body, open at its top, and provided with a single lip or inclined plane, A³.

b is a link-cavity that extends vertically through the head.

b' is a projection that extends rearward into the link-cavity from the front portion of the head.

b'' is a vertical slot that extends rearward from the rear side of the link-cavity b to admit the rear end of the upper jaw and a lever for operating the jaw.

c is a vertical and central opening, immediately in rear of the lip or inclined plane A³, to admit the lower jaw.

d is the upper jaw, pivoted at its rear end within the slot b'' in such a manner that the

point of its hook-shaped front end will, in its normal condition, rest in the open top of the cavity c, as clearly shown in Fig. 1. The front face of this upper jaw inclines in an opposite direction from the inclined lip A³ of the draw-head in such a manner that when the free end of a coupling-link comes in contact therewith it will lift the jaw and pass rearward under the jaw to let the point d' of the jaw drop through the link, as clearly shown in Fig. 2.

d'' is a shoulder on the under side of the jaw, that engages the projection b' in the link-cavity b and relieves the pivot d''' from strain.

f is the under jaw fitted in the cavity c. Its top end has beveled edges, that facilitate the passage of a link backward and forward between the jaws, as required, in coupling and uncoupling. Its lower end is pivoted to a frame, g, that is fitted in the enlarged lower end of the link-cavity and rigidly fixed to a lever, h, that is pivoted in the lower side of the link-cavity, as clearly shown in Fig. 1.

J is a rock-shaft in bearings fixed to the car. It has a right-angled bend at its center that overlaps the free end of the lever h in such a manner that when the shaft is rocked by means of handles on its ends it will depress the rear end of the lever and elevate the front end, and thereby move the under jaw, f, upward through the opening c, for the purpose of lifting the upper jaw as required to let a link escape from the hook-shaped end of the upper jaw.

m is an open link bent at right angles at one end, as clearly shown in Fig. 5. One of the links m is placed on each draw-head on each end of each car in such a manner that the bent end will extend down through the link-cavity b and encircle the projection b' and the body of the link extend forward over the inclined lip A³ of the draw-head, as clearly shown in Fig. 4.

Whenever two cars thus equipped come together on a track, one of the free ends of the two links projecting toward each other will pass under the other and come in contact with the inclined lip A³ and slide upward thereon, and then come in contact with the oppositely-inclined face of the upper jaw and lift it and slip under; and as the under link is thus raised to slip under the upper jaw, it tilts the upper

link in such a manner that the free front end of the link will stride the upper jaw and hang suspended therefrom, as clearly shown in Fig. 5, so that the weight of the link will aid in retaining the gravitating jaw depressed as required to retain the link through which the hook-shaped end of the jaw has dropped. By the reciprocal action of the two links two cars are thus automatically and securely coupled.

To uncouple it is only necessary for a person at either side of the car to rock the shaft J, so that the bend at its center will depress the rear end of the lever *h* and thereby elevate the under jaw in the opening *c*, as required, to lift the hook-shaped end of the upper jaw out of the link.

We claim as our invention—

1. A draw-head for car-couplings having a single lip or inclined plane at its front end, a vertical and central opening in rear of said lip or inclined plane, and a vertical and central open-bottomed and open-topped link-cavity, and a central projection extending rearward from the front of said link-cavity, for the purposes stated.

2. The draw-head A^2 , having a body or lateral extension, *A*, and an inclined lip, A^3 , a link-cavity, *b*, a projection, *b'*, a slot, *b''*, and an opening, *c'*, a jaw, *d*, having a hook-shaped end, *d'*, and a movable jaw, *f*, constructed and combined to operate in the manner set forth.

3. The hook-shaped jaw *d*, having a shoulder, *d''*, in combination with a draw-head having a projection, *b'*, for the purposes stated.

4. The combination of a jaw, *f*, with a draw-head having an opening, *c*, and mechanism connected with the lower end of the jaw and the under side of the draw-head for lifting the jaw, for the purposes stated.

5. The combination of the jaw *d*, having a hook-shaped end, *d'*, the jaw *f*, connected with a lifting device, and a draw-head having an in-

clined lip, A^3 , and an opening, *c*, for the purposes stated.

6. The frame *g*, fixed to the lever *h*, and the jaw *f*, in combination with a draw-head having an opening in its bottom to admit the said frame *g* and an opening to admit the said jaw *f*, for the purposes stated.

7. The rock-shaft J, having a lateral bend or projection at its center, in combination with a car and the lever *h*, pivoted to the bottom of the draw-head, for the purposes stated.

8. The draw-head A^2 , having an inclined lip, A^3 , a link-cavity, *b*, a projection, *b'*, a slot, *b''*, and an opening, *c'*, a jaw, *d*, having a hook-shaped end, *d'*, a jaw, *f*, a frame, *g*, a lever, *h*, a rock-shaft, J, and a bent link, *m*, constructed, arranged, and combined with a car, to operate in the manner set forth.

9. A coupling-link bent at right angles at one of its ends, in combination with a draw-head having an open-topped and open-bottomed link-cavity and a jaw or hook extending forward over said link-cavity, to operate in the manner set forth.

10. An automatic car-coupling consisting of a draw-head that has a single inclined lip adapted to direct a coupling-link upward and an open-topped and open-bottomed link-cavity, a gravitating and hook-shaped jaw extending forward over said link-cavity, a jaw moving vertically in an opening in the draw-head to engage the mating jaw, mechanism for lifting the said vertically-moving jaw, and an open link bent at right angles at one end, arranged and combined with a car, to operate in the manner set forth.

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Witnesses:

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