

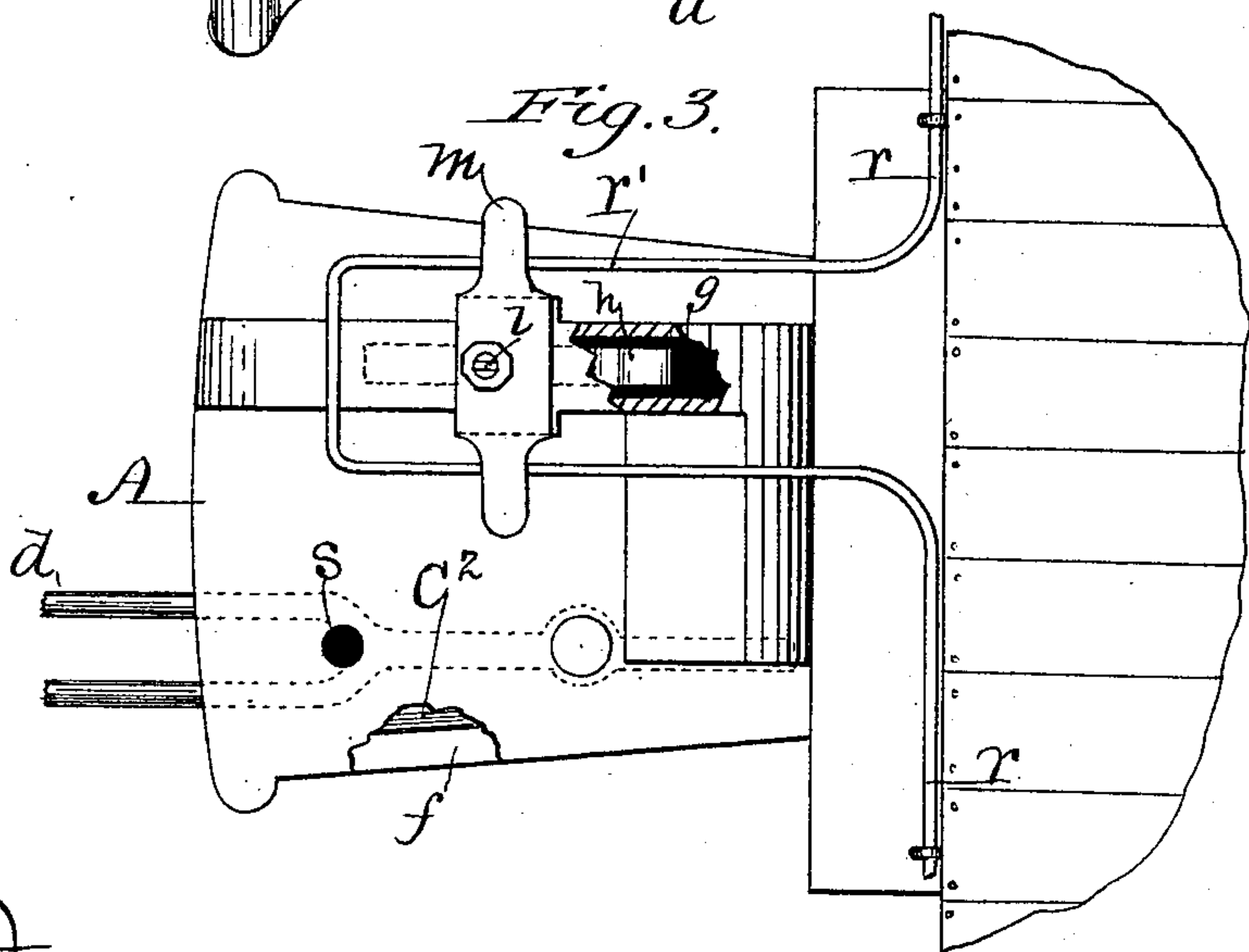
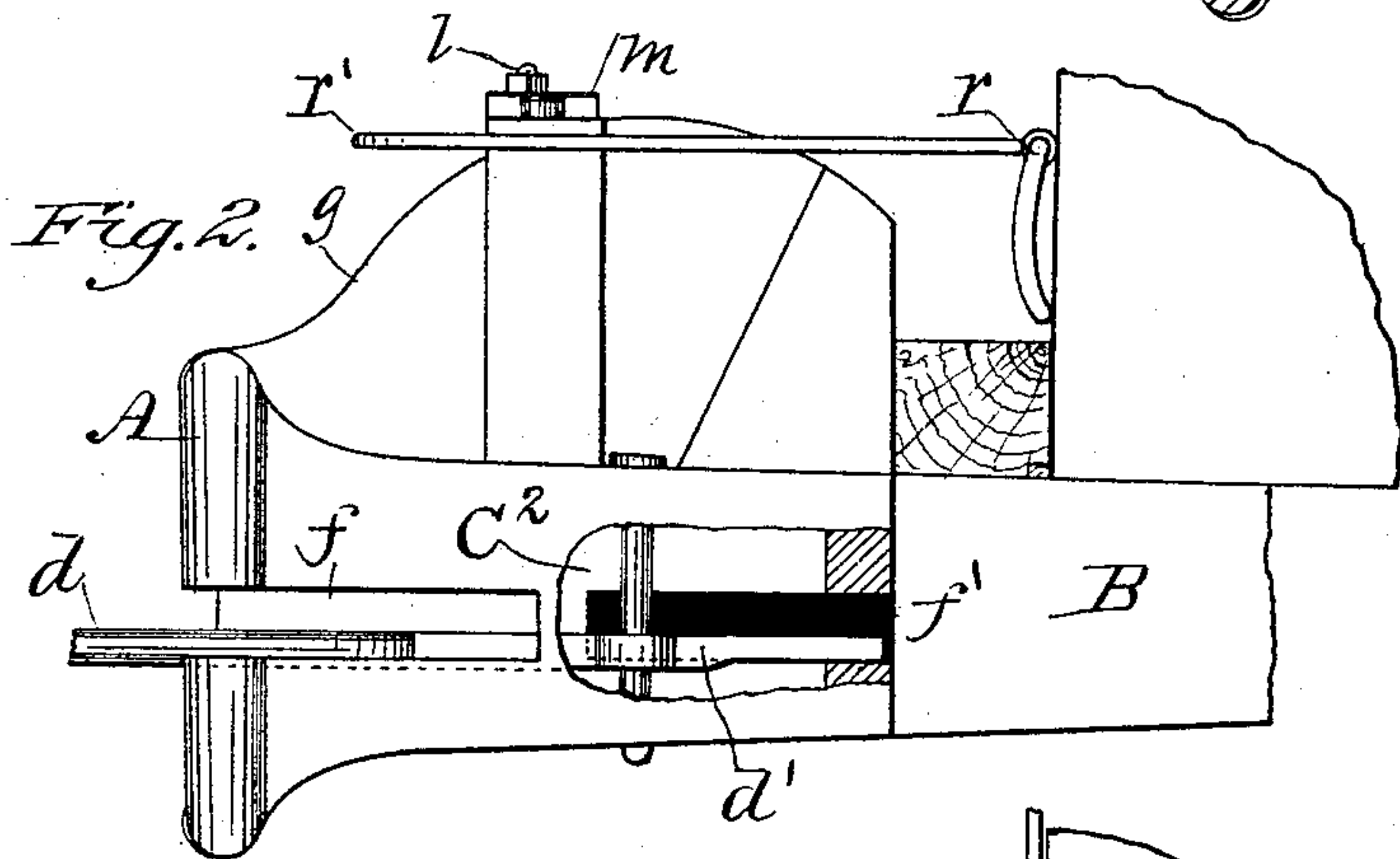
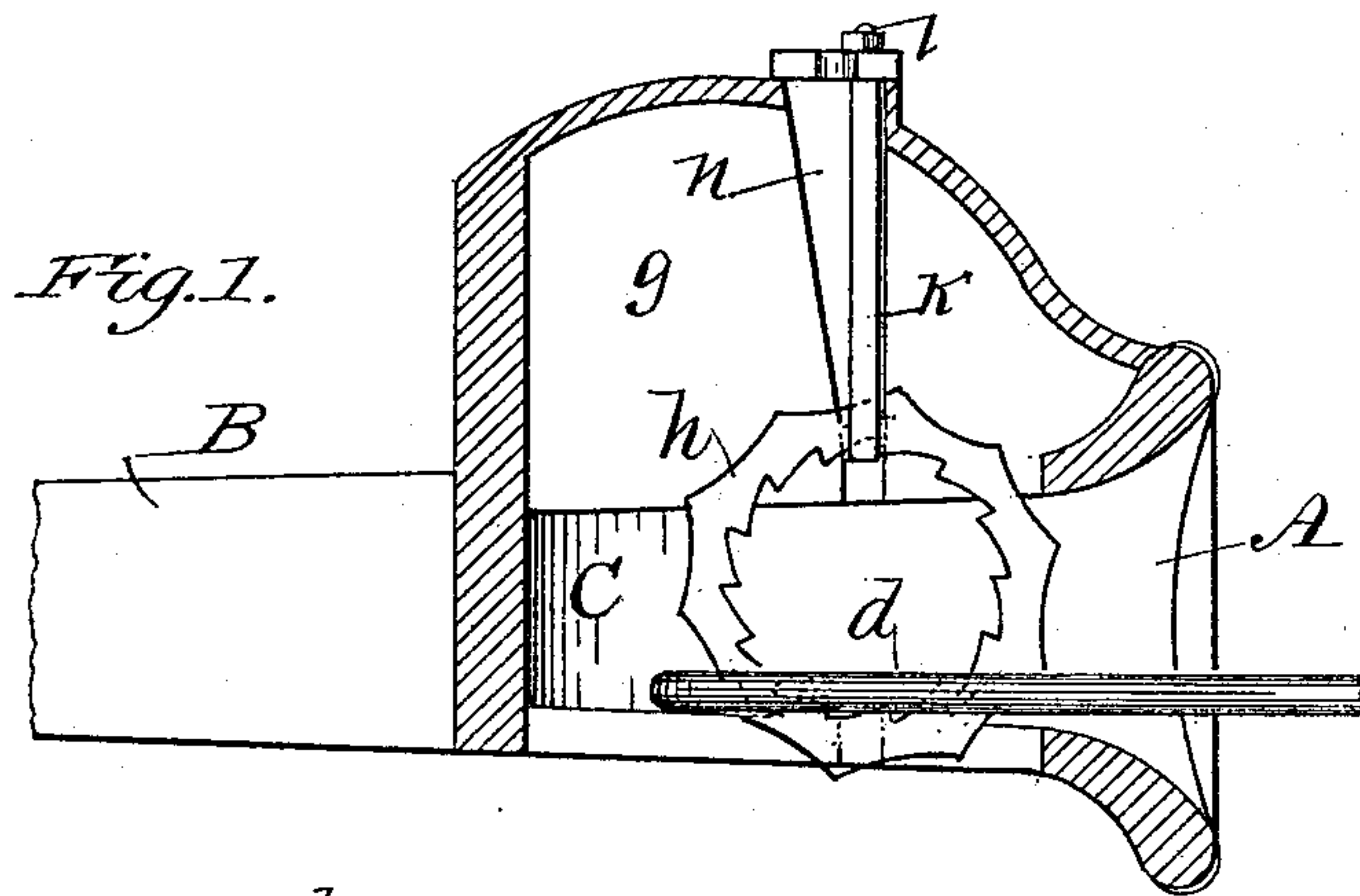
(No Model.)

A. SIME & W. MOORE.

CAR COUPLING.

No. 372,390.

Patented Nov. 1, 1887.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALEXANDER SIME AND WILLIAM MOORE, OF EMMETTSBURG, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 372,390, dated November 1, 1887.

Application filed April 7, 1887. Serial No 233,981 (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER SIME and WILLIAM MOORE, citizens of the United States of America, and residents of Emmettsburg, in the county of Palo Alto and State of Iowa, have invented an Automatic Car-Coupling, of which the following is a specification.

Our object is to avoid the dangers and accidents incident to the use of common car-coupling links and pins in coupling railway cars; and our invention consists in the construction and combination of draw-heads, links, and rings, and a ring-lifting device, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of our draw-head, showing a solid ring suspended in a link-cavity and a coupling-link engaged by the ring. Fig. 2 is a side view showing the draw-head and the ring-lifting device connected with a section of a car and a part of the draw-head broken away to show an interior cavity that allows the pivoted link to be swung outward and through a horizontal slot to be carried inoperative, as required, when our draw-head is to be coupled to a common draw-bar by means of a common coupling-link and common pin. Fig. 3 is a top view showing our draw-head and ring-lifting device applied to a section of a car and in position, as required, for practical use as an automatic coupling, in which two links will be simultaneously engaged by rings in place of pins, as heretofore, and two mating draw-heads reciprocally connected by means of two links or by a single link, as may be desired.

A is the head, and B the body, of a draw-bar adapted to be attached to a car in a common way.

C is a link-cavity that has a flaring mouth adapted to admit a link in a common way.

C² is a second link-cavity that extends parallel with the cavity C.

d is a coupling-link that has a rear extension, d', pivoted in the cavity C², as shown in Figs. 2 and 3.

f is a slot in the outside wall of the cavity C², that allows the link d to be turned on its pivot and projected laterally whenever desired to retain it inoperative.

f' is an interior slot that allows the rear end of the extension d' to swing inward when the link d is swung laterally through the slot f.

g is a ring chamber formed integral with the top face of the draw-head. It is open at its bottom and intersects the link-cavity C, as clearly shown in Fig. 1, in such a manner that the solid ring h, suspended therein, can be lifted above the link-cavity and at the same time remain concealed and protected.

k is a yoke composed of a bar of metal bent double, and after the ring h is placed thereon its free ends are united to produce a split screw-bolt, l, upon which a cross-head, m, is applied after the ring has been passed upward through a slot, n, in the floor of the link-cavity C, and the top end of the yoke k through a corresponding opening in the top of the ring-chamber g.

r is a rock-shaft that has a lateral bend, r', at its center. This shaft is attached to the front of the car in such a manner that the bend r' will project forward under the cross-head m, as required, to lift the ring h to uncouple.

s is a pin-hole through the roof and floor of the link-cavity C², by means of which, when the link d d' is turned out of the way, a common coupling-pin may be used to engage a common link to couple a car that has a common draw-head.

When two cars on a track are equipped with our automatic couplings and come together, the links d will enter the link-cavities C, and strike the suspended rings h and push them backward and upward, as required, to let the links slip through under them, and the rings, by force of gravity, to assume their normal positions, and in so doing drop through the links, as shown in Fig. 1, and as required to prevent the links from being withdrawn. A reciprocal coupling is thus produced by means of the two links and two solid rings when both links project forward. To couple with only one link the other link is made to project laterally through the open-ended slot f. The coupling thus effected with two or with one link will be flexible and allow the links all the vertical and lateral play required.

The rings are preferably provided with concaves on their peripheries, and internal

notches, as shown in Fig. 1. The concaves on the outside prevent the ends of the links from slipping when they strike the rings.

By means of the rock-shafts $r r'$, the yokes k , and cross-heads m , the rings h are readily lifted by a person at the side of the track as required to uncouple.

We are aware that a plain solid ring has been suspended in a draw-head, by means of a rod having an eye or hook on its lower end, in such a manner that the ring would engage a coupling-link, and also in such a manner that the ring could be lifted by means of a lever to disengage the ring from the coupling-link; but the ring could not be elevated independent of the rod and lever, and consequently when a link passed into the draw-head it had to lift the ring, rod, and lever jointly. By our combination of a yoke with a ring the ring is allowed free and independent vertical play relative to the yoke and the draw-head and a coupling-link that enters the draw-head.

We claim as our invention—

1. In a car-coupling, a vertically-moving yoke having a solid ring inclosed so the ring will have independent vertical motion within the yoke, in combination with a draw-head having a ring-chamber and an opening for the vertical play of said ring and yoke, substantially as shown and described, for the purposes stated.

2. A draw-head having two parallel link-cavities, C and C^2 , a ring-chamber, g , a ring, h , suspended by means of a vertically-moving yoke, k , and a link, $d d'$, constructed and combined to operate in the manner set forth, for the purposes stated.

3. The draw-head A , having a link-cavity, C , and a ring-chamber, g , a yoke, k , a ring, h , a cross-head, m , and rock-shaft $r r'$, constructed and combined to operate in the manner set forth, for the purposes stated.

4. The draw-head A , having a link-cavity, C^2 , and slots f and f' , extending longitudinally and horizontally and intersecting said cavity, and a link, d' , constructed and combined to operate in the manner set forth, for the purposes stated.

5. An automatic car-coupling comprising a draw-head having two parallel link-cavities, a ring-chamber extending vertically from one of said link-cavities, a ring suspended within said ring-chamber, mechanism for raising and lowering said ring, and a link having a solid rear extension pivoted in one of the said link-cavities, provided with slots in its walls to allow the links to be projected laterally from the draw-head, to operate in the manner set forth.

6. The draw-head A , having link-cavities C and C^2 , a ring-chamber, g , and slots $f f'$, intersecting the cavity C^2 , a ring, h , a yoke, k , a cross head, m , a rock-shaft, $r r'$, and a link, $d d'$, constructed and combined substantially as shown and described, for the purposes stated.

7. In a car-coupling, a solid ring having concaves on its periphery, in combination with a suspending device and a coupling-link, for the purposes stated.

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