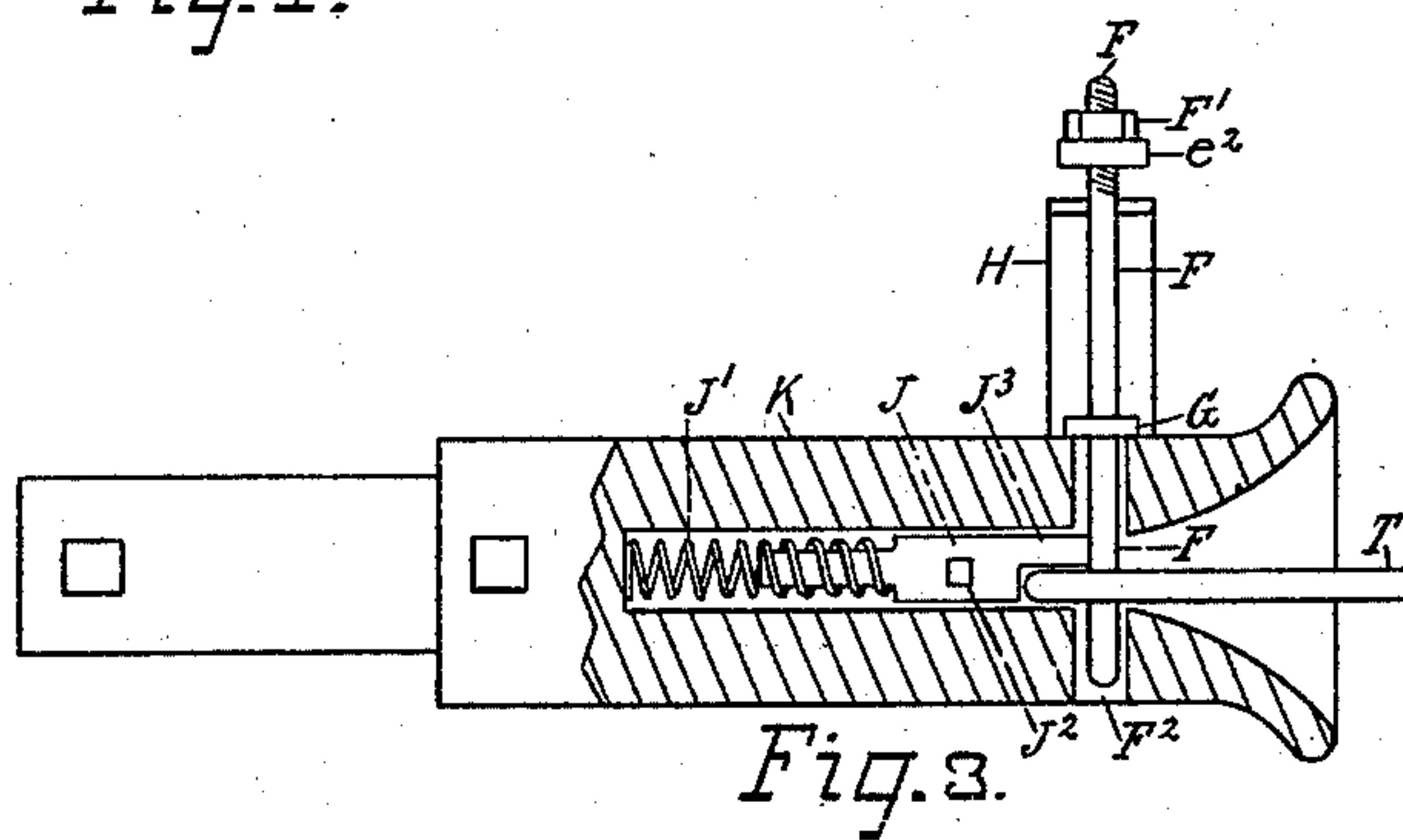
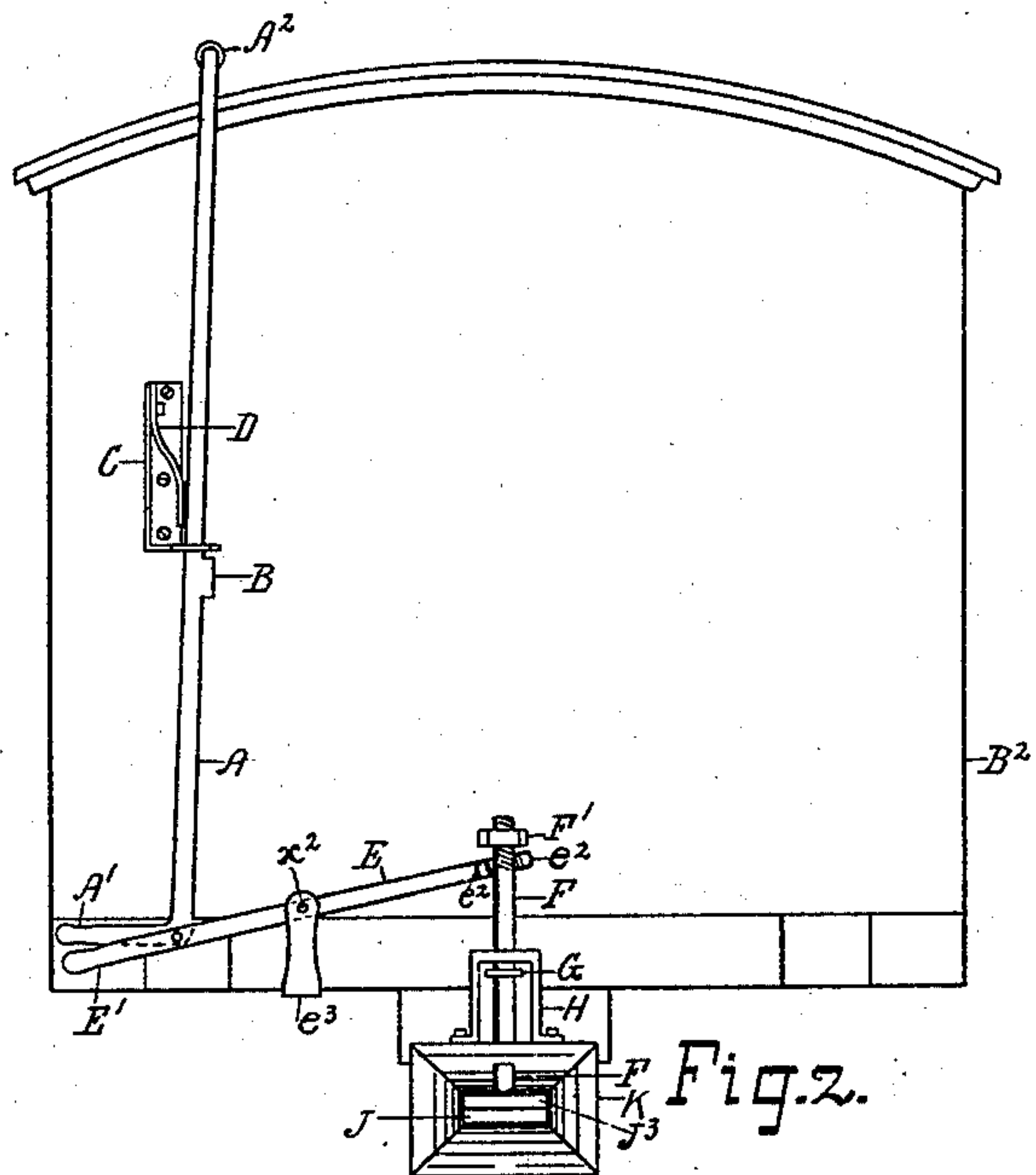
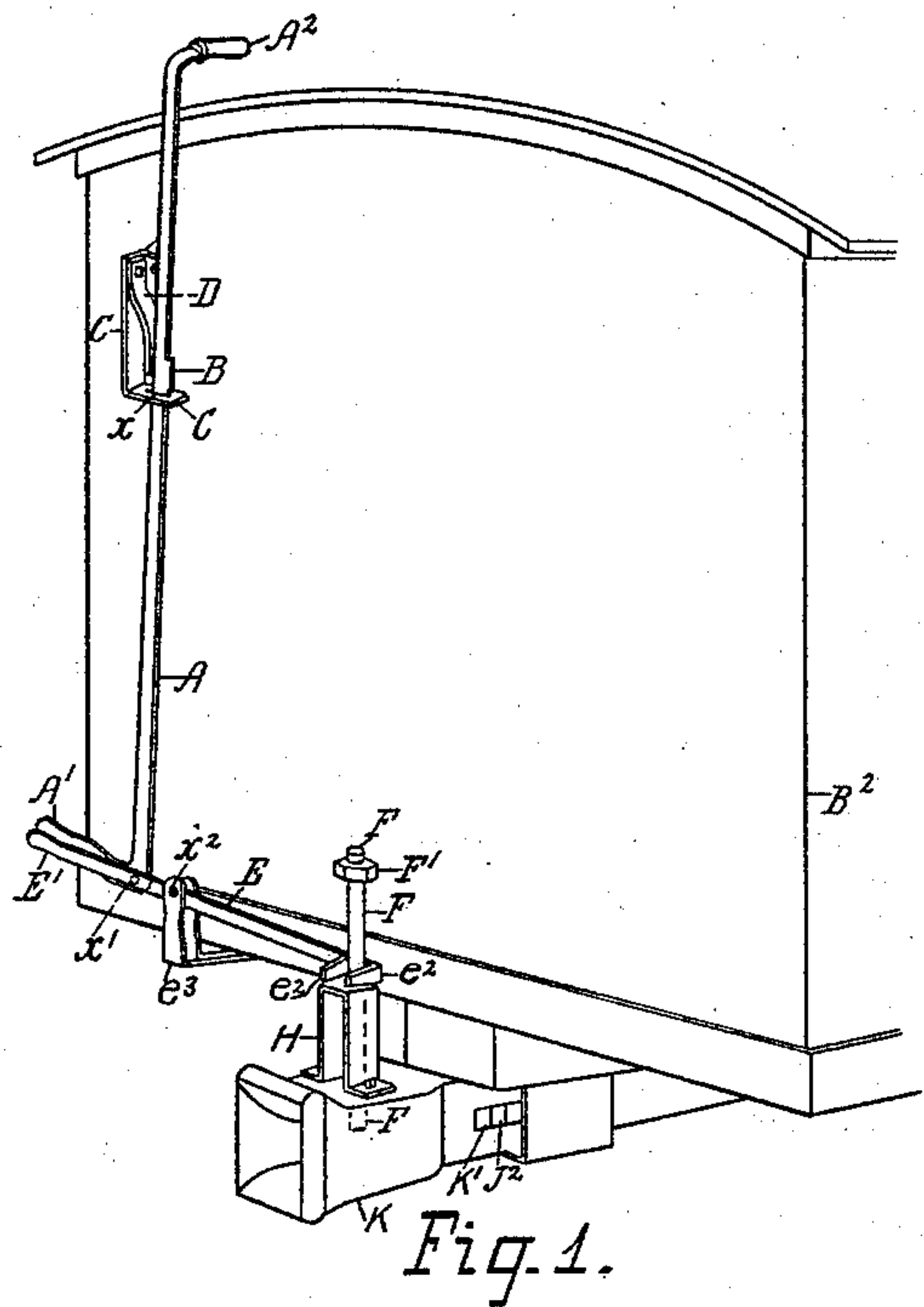


(No Model.)

R. BIGNEY.  
CAR COUPLING.

No. 286,992.

Patented Oct. 23, 1883.



WITNESSES  
A. Edmunds  
Carl Hayden

*Inventor*  
*Robert Bigney*  
*By P. J. Edmunds*  
*Attorney*



# UNITED STATES PATENT OFFICE.

ROBERT BIGNEY, OF COPLESTON, ONTARIO, CANADA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 286,992, dated October 23, 1883.

Application filed July 20, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT BIGNEY, engineer, a subject of the Queen of Great Britain, and a resident of Copleston, in the county of Lambton, in the Province of Ontario, Canada, have invented a new and useful Improvement on Self Car Couplers, of which the following is a specification.

This improvement relates to the invention for which Letters Patent were issued to me the 17th day of April, 1883, No. 275,880; and it consists of the improved construction and combination of parts of the same, which will be hereinafter more fully described and claimed.

Reference being had to the accompanying drawings, Figure 1 is a perspective view of part of a car, showing a perspective view of my improvement. Fig. 2 is an end elevation of same; and Fig. 3 is a view of the draw-bar, partly in section.

A designates an L-shaped upright lever passing through a slot,  $x$ , in the bracket C, which bracket C is rigidly secured to the car B<sup>2</sup>. This L-shaped upright lever A is provided with handles A' A<sup>2</sup> and stud B, and is pivoted on a pivot-bolt,  $x'$ , secured in and near one end of the lever E.

D is a spring secured to the bracket C, between the bracket C and lever A, which spring D firmly holds the L-shaped upright lever A in place, preventing said lever A from shaking loose when set to couple or uncouple the cars. This slot  $x$  in the bracket C is long enough to allow the lever A and stud B to pass through it together when required.

E is a lever provided with handle E' and fulcrumed on pivot-bolt  $x^2$ , supported in a bracket,  $e^3$ , rigidly secured to the car B<sup>2</sup>, and projecting out from this lever E at one side are the fingers  $e^2$   $e^2$ , which clasp the coupling-pin F.

F is a coupling-pin, on the upper end of which a screw-thread is formed, with which a screw-nut, F', engages. This nut F' prevents the coupling-pin F from falling out of the fingers  $e^2$   $e^2$  of the lever E when raising the inner end of the lever E with the coupling-pin F to uncouple the cars.

H is a guide rigidly secured to the draw-bar K for the purpose of guiding and holding the coupling-pin F in an upright position.

G is a collar rigidly secured on the coupling-pin F, which regulates the distance the coup-

ling-pin F enters the pin-hole F<sup>2</sup> of the draw-bar K when coupling the draw-bars K K of the cars together, and this collar G, with the upper part of guide H, regulates the distance that the coupling-pin F is to be raised when uncoupling.

J is a spring-bolt, which is projected longitudinally in the draw-bar K by the spring J'. J<sup>2</sup> is a key which projects through the bolt J. The ends of this key J<sup>2</sup> move back and forth in the slots K' in the sides of the draw-bar K, which allows spring J' to project the bolt J out only sufficient to bring flange J<sup>3</sup> under the lower end of the coupling-pin F.

When the coupling-pin F is in the position shown in Fig. 3 of annexed drawings in both draw-bars K K, the cars are coupled. To uncouple the cars instantly, press down on the handle A' first, which compresses the spring D and brings the stud B over the slot  $x$  in the bracket C, then press down on both of the handles A' and E', which raises the inner end of the lever E, with the fingers  $e^2$  and the coupling-pin F free from the link T, and allows the cars to separate. At the same time as the coupling-pin F is raised the lever A is lowered and the stud B is brought below the bracket C, and as soon as the handle A' is released from pressure the spring D moves the stud B over under the solid portion of the bracket C and holds it there and prevents the lever A from rising. As the cars B<sup>2</sup> B<sup>2</sup> separate and the coupling-link T is drawn out from the draw-bar K the bolt J is projected outward by the spring J' until the flange J<sup>3</sup> comes under the lower end of the coupling-pin F, the distance the bolt J is projected outward being regulated by the length of the slot K' in the draw-bar K, in which the ends of the key J<sup>2</sup> move back and forth. If the draw-bar K, with the coupler adjusted as shown in Fig. 3, were to strike against the draw-bar in which the coupler is adjusted, as shown in Fig. 2 of annexed drawings, they would part again without coupling, and the thrust of the link would move the bolt J back and the flange J<sup>3</sup> from under the coupling-pin F; but the coupling-pin F would be held up by the fingers  $e^2$  under the nut F', and as soon as the link was withdrawn the spring J' would move the bolt J out until the flange J<sup>3</sup> came under the coupling-pin F again.

To adjust the cars to couple instantly when



one of them is adjusted as shown in Fig. 3 to one adjusted as shown in Fig. 2 of annexed drawings, press down on the handle A' until the stud B is brought opposite the slot  $x$  in the bracket C, which compresses the spring D, then raise both handles A' and E', which lowers the inner end of the lever E with the fingers  $e^2$  on the guide H, as shown in Fig. 1 of annexed drawings, the coupling-pin F being still retained in its position by the flange J<sup>3</sup> of the bolt J. At the same time as the inner end of lever E, with fingers  $e^2$ , is lowered the lever A is raised and the stud B is raised through the slot  $x$  in the bracket C, and as soon as the handle A' is released from pressure the spring D moves the stud B over on the solid portion of the bracket C, as shown in Fig. 1 of annexed drawings, and prevents the lever A from lowering.

If a draw-bar, K, with the coupler adjusted as shown in Fig. 3, were to strike the draw-bar with the coupler adjusted as shown in Fig. 1 of annexed drawings, the coupling-link T would force the bolt J back and release the coupling-pin F from the flange J<sup>3</sup>, and the coupling-pin

by its own weight would instantly shoot down through the link T and couple the cars together.

The handle A<sup>2</sup> is for the purpose of adjusting the coupler to uncouple or couple the cars from the top of the car.

Having thus described my invention, I claim—

The combination of the L-shaped lever A, provided with stud B, bracket C, provided with slot  $x$ , spring D, lever E, provided with fingers  $e^2$ , bracket  $e^3$ , coupling-pin F, provided with collar G, nut F', guide H, draw-bar K, provided with slots K', spring J', bolt J, provided with flange J<sup>3</sup>, and key J<sup>2</sup>, constructed substantially as shown and described, and for the purpose specified.

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

ROBERT BIGNEY.

Witnesses:

JOHN DUNFIELD,

ROBERT MCWHORTER.