

(No Model.)

2 Sheets—Sheet 1.

R. L. FINLEY & H. H. HARPER.

CAR COUPLING.

No. 421,129.

Patented Feb. 11, 1890.

Fig 1

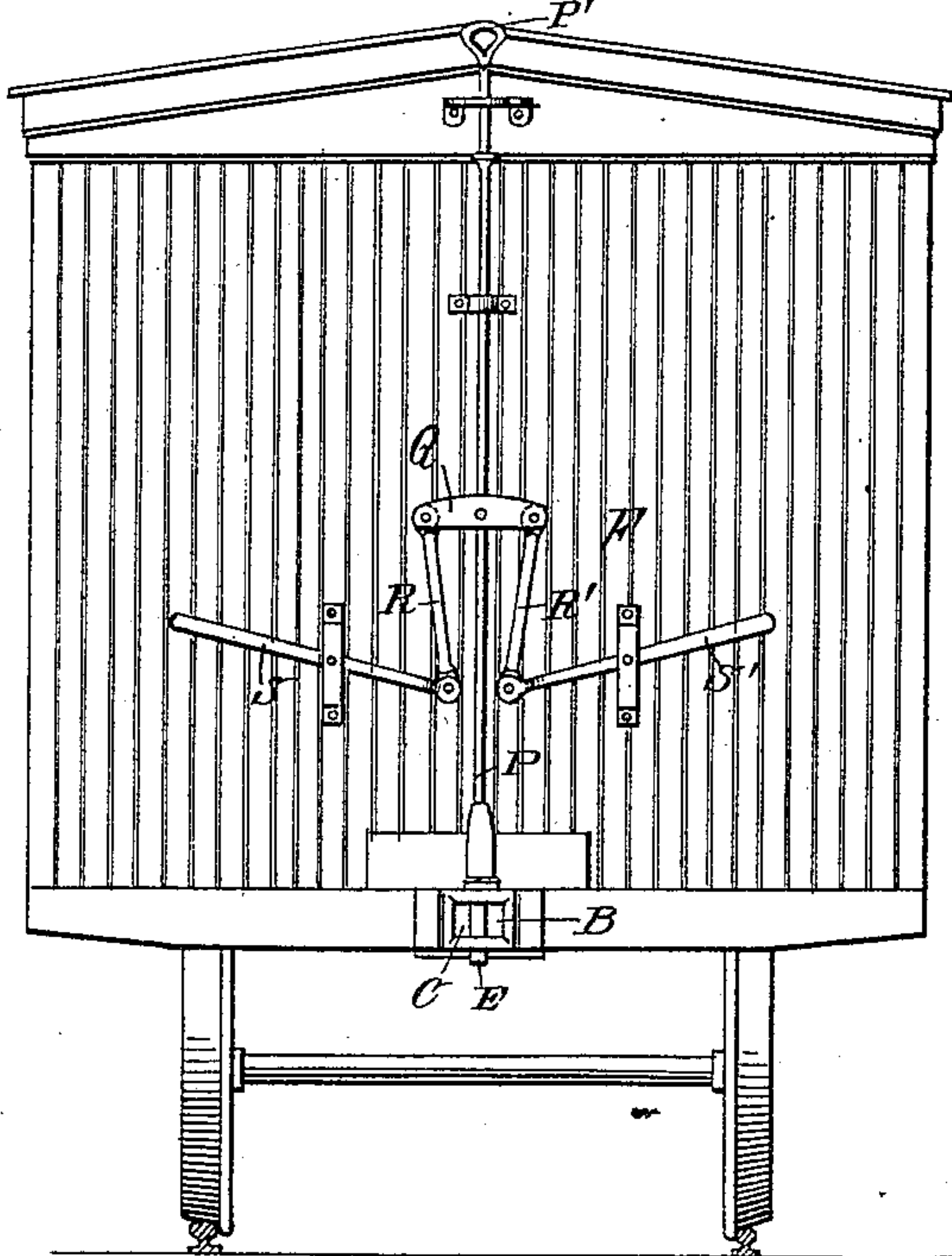


Fig 2

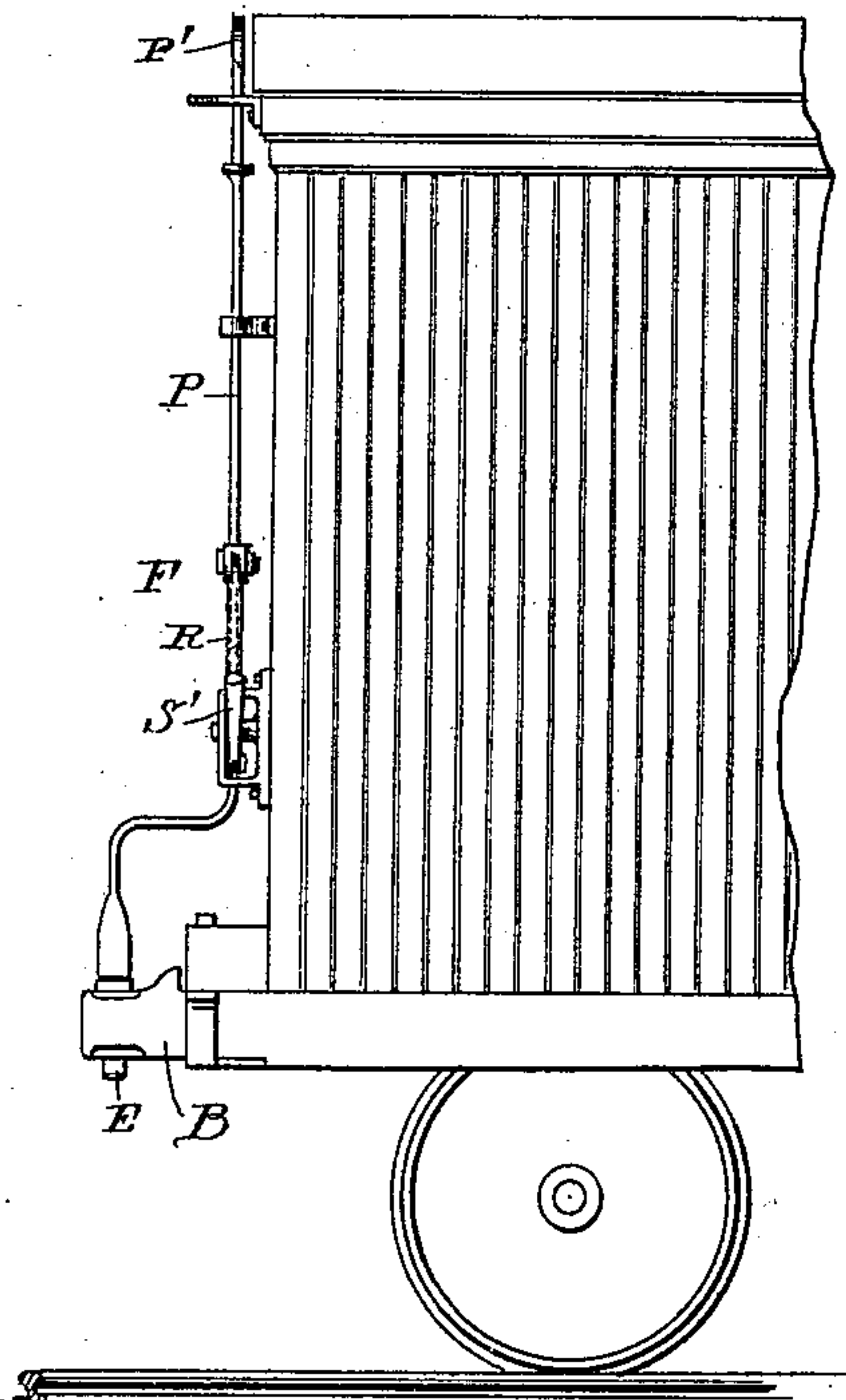


Fig 3

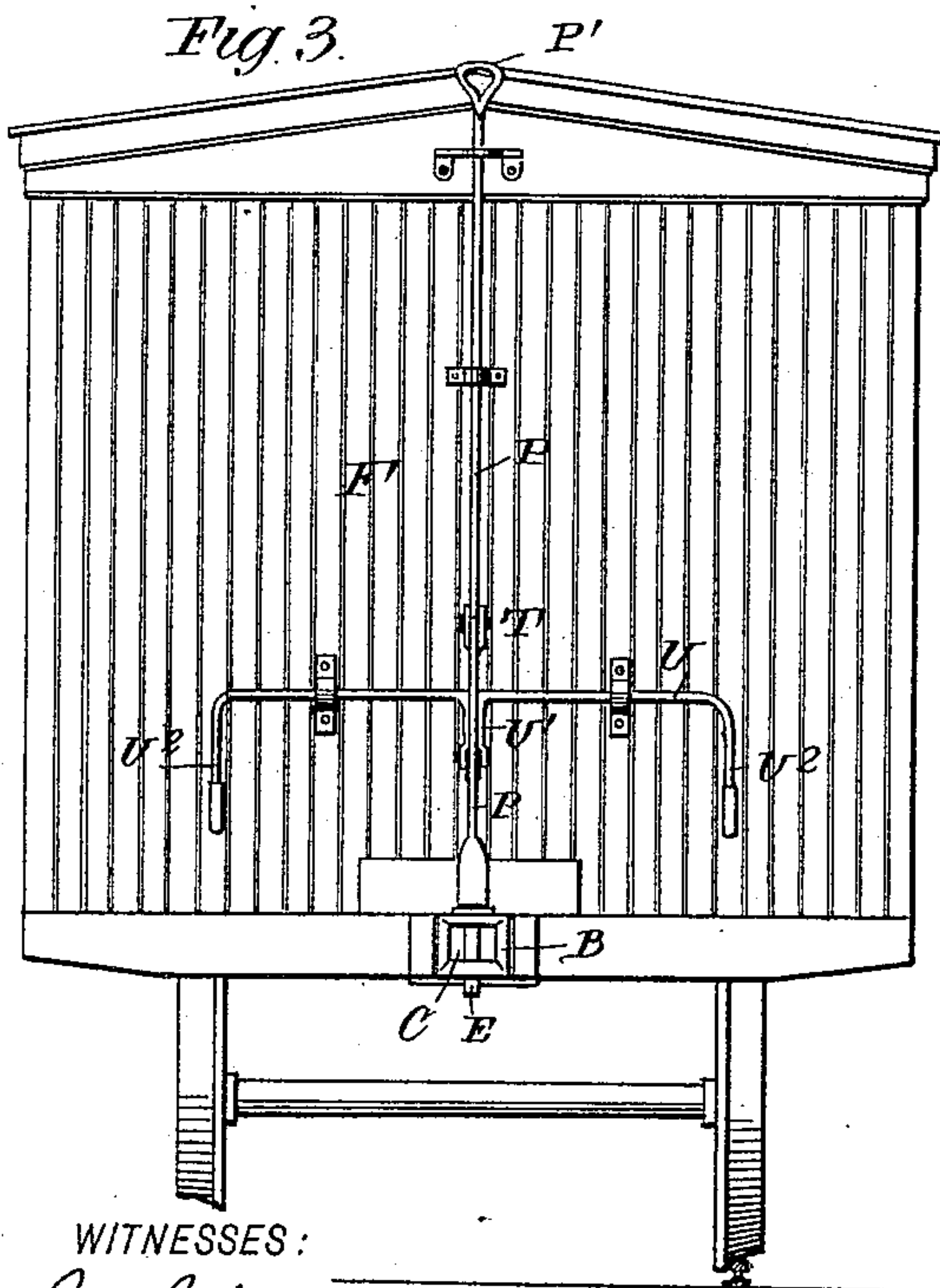
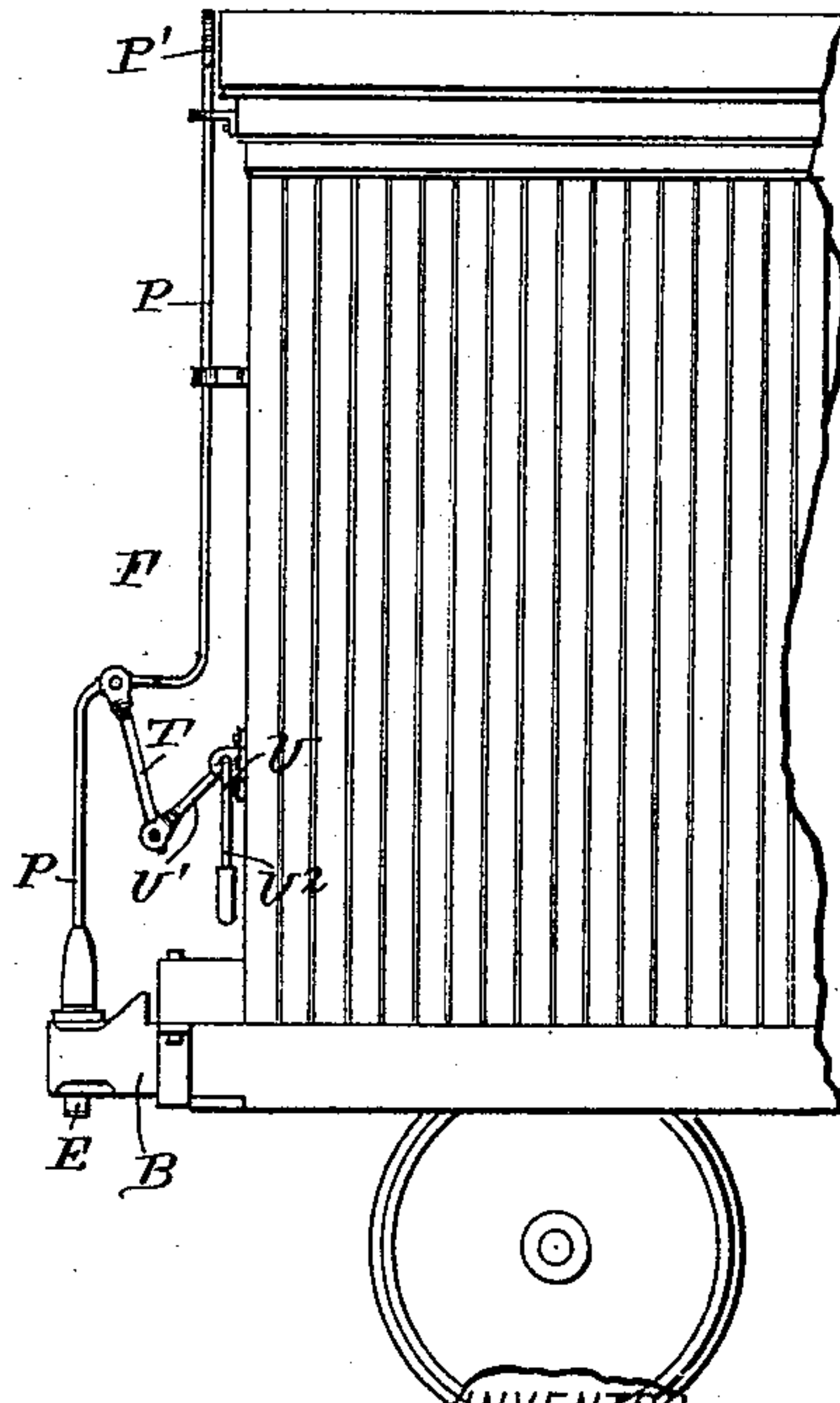


Fig 4



WITNESSES:

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INVENTOR:

R. L. Finley  
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ATTORNEYS.

(No Model.)

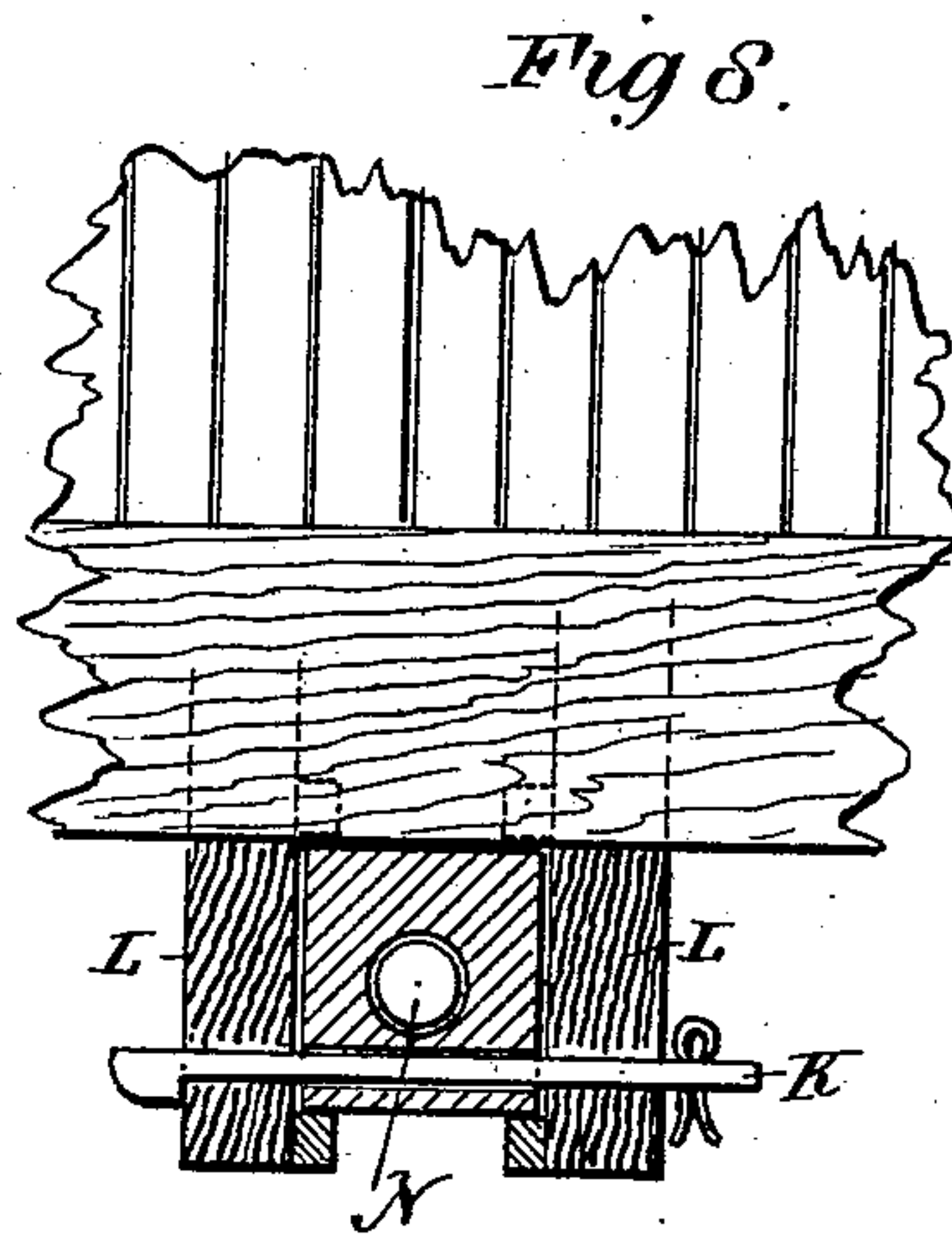
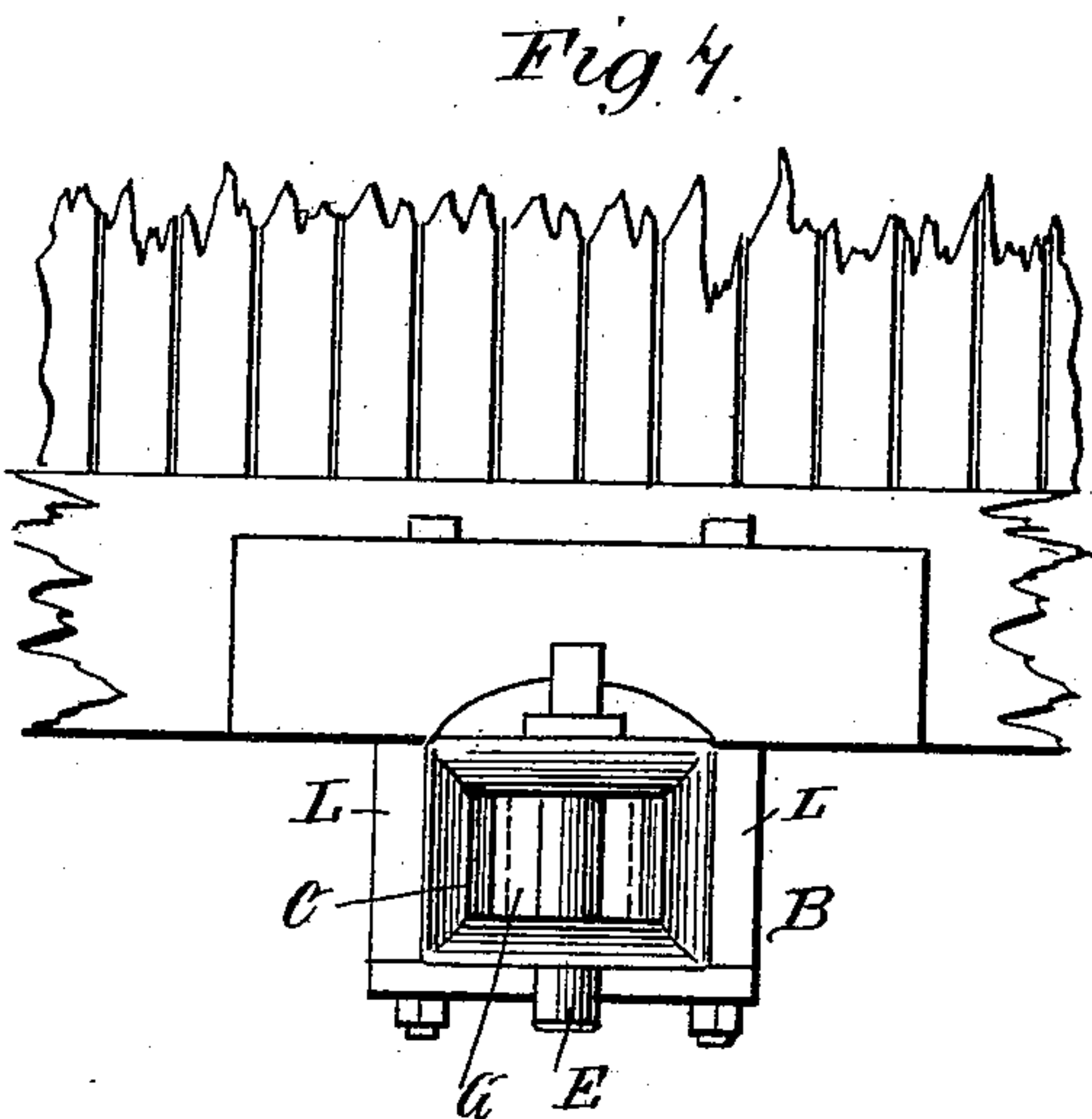
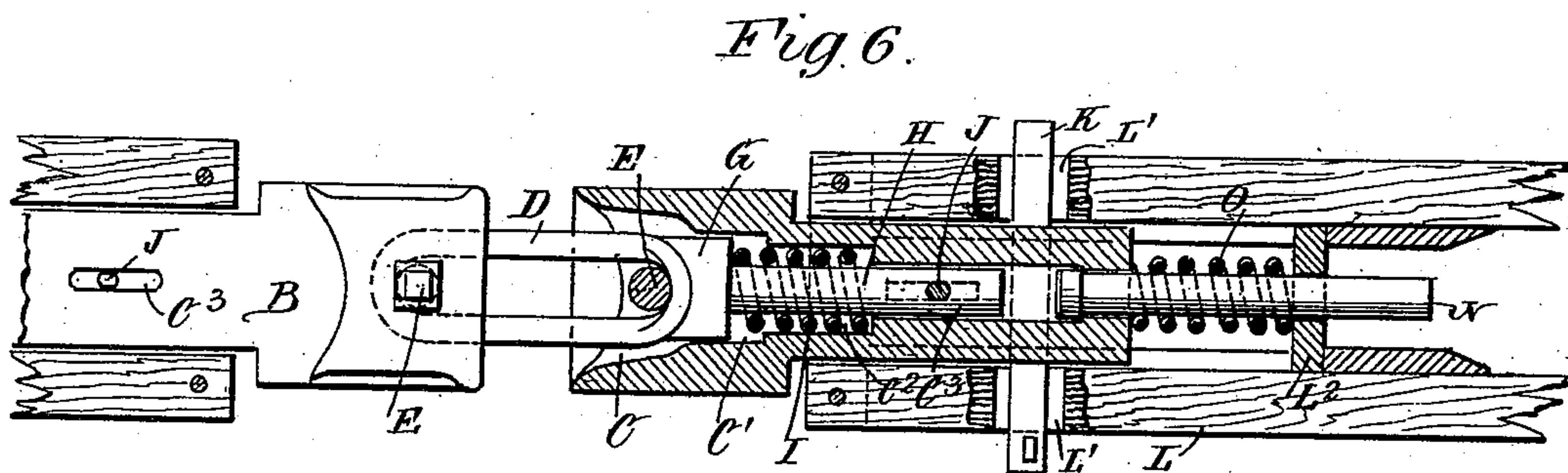
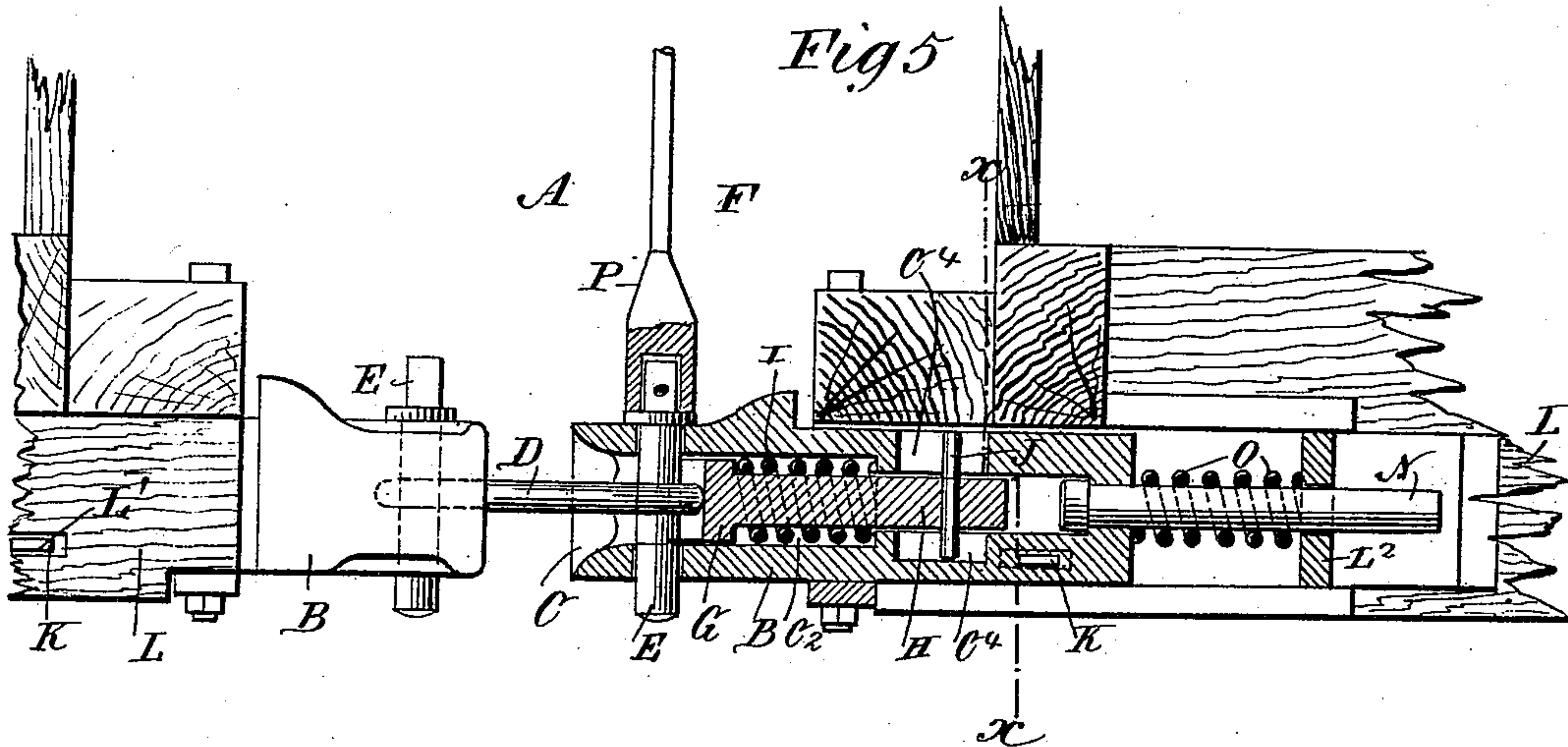
2 Sheets—Sheet 2.

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WITNESSES:

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# UNITED STATES PATENT OFFICE.

ROBERT LEE FINLEY AND HENRY HUGHES HARPER, OF BONHAM, TEXAS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 421,129, dated February 11, 1890.

Application filed November 5, 1889. Serial No. 329,316. (No model.)

*To all whom it may concern:*

Be it known that we, ROBERT LEE FINLEY and HENRY HUGHES HARPER, both of Bonham, in the county of Fannin and State of Texas, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-coupling which is simple and durable in construction and very effective and automatic in operation.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

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

Figure 1 is a front view of the improvement as applied. Fig. 2 is a side elevation of the same. Fig. 3 is a front view of the improvement with a modified form of pin-lifting device. Fig. 4 is a side elevation of the same. Fig. 5 is an enlarged sectional side elevation of the improvement. Fig. 6 is a sectional plan view of the same. Fig. 7 is a front view of the same, and Fig. 8 is a transverse section of the same on the line *xx* of Fig. 5.

The improved car-coupling A is provided with a draw-head B, mounted in the usual manner on the end of the car. The draw-head B is provided at its outer front end with the usual opening C, into which is adapted to pass the coupling-link D, adapted to be engaged by the coupling-pin E, held to slide vertically in the draw-head B, and raised by a suitable lifting device F, hereinafter more fully described.

The opening C in the draw-head B continues rearward into an opening C', in which is mounted to slide longitudinally a block G, having its front end concave, so as to be conveniently engaged by the end of the coupling-link D. The block G serves to support the coupling-pin E previous to coupling the cars. On the rear end of the block G is secured a rearwardly-extending rod H, fitted to slide in the draw-head B, and on which is coiled a spring I, resting with one end against the block G and its other end on a shoulder

formed in the draw-head B. The spring I is held in an opening C<sup>2</sup>, which opens at one end into the opening C' and at its other end into the opening C<sup>3</sup>, in which operates the rod H. A pin J is secured in the rod H, and its projecting ends extend into the slots C<sup>4</sup>, formed on the top and bottom of the draw-head B, said pin serving to limit the inward and outward movement of the rod H, and the block G, secured to the said rod.

In the draw-head B is held a transversely-extending key K, passing through longitudinal slots L', formed in the beams L, in which the draw-head is mounted to slide. The key K limits the forward and inward movement of the draw-head. The rear end of the draw-head is guided on a pin N, on which is coiled a spring O, one end of which presses on a transverse plate L<sup>2</sup>, secured between the side beams L, and the said spring presses at its other end against the inner or rear end of the draw-head B.

When the two cars are uncoupled and the operator desires to couple them, the pin E in one of the cars is raised, so that the spring I forces the block G outward, so that the coupling-pin can rest on top of the block G. The coupling-pin in the other car engages the link D in the usual manner. Now when the two cars come together the projecting end of the coupling-link D passes into the opening C of the draw-head B and presses against the block G, so that the latter moves rearward, compressing the spring I and permitting the suspended pin E to drop downward and engage the coupling-link D. The cars are thus coupled.

The devices for raising the pin E may be of any construction, preferably, however, of the construction shown in Figs. 1 to 4, inclusive. As shown in Figs. 1 and 2, the upper end of the coupling-pin E is rigidly connected with an upwardly-extending bar P, mounted to slide in suitable bearings on the end of the car.

On the extreme upper end of the rod P is formed a handle P', to be taken hold of by the operator on top of the car, so as to raise the coupling-pin E, whenever desired, from the top of the car. In order to raise the coupling-pin from either side of the car without the operator stepping between the two cars, a



transverse bar G is secured to the rod P, and its ends are pivotally connected by the links R and R' with the inner ends of the levers S and S', respectively, fulcrumed on the front end of the car and extending in opposite directions, as is plainly shown in Fig. 1. The operator, standing on either side of the car, by taking hold of the outer end of lever S or S' and pressing the said end downward, raises the coupling-pin E until the block G is forced outward by the spring I, to support the pin E, as above described.

In the modification shown in Figs. 3 and 4 the rod P is pivotally connected by the link T with an arm U', formed on a longitudinally-extending shaft U, mounted to turn in suitable bearings in the end of the car. On each end of the shaft U is formed a handle U<sup>2</sup>, which hangs downward when the pin E is in its lowermost position.

When the operator desires to raise the pin E from one side of the car, he turns the respective handle U<sup>2</sup> upward, so that the shaft U is turned, and its arm U', pressing the link T upward, lifts the rod P, and consequently the pin E, secured to the lower end of the said rod.

It will be seen that by this simple device two cars are automatically coupled, and as soon as the link held by one car passes into the draw-head of the other car it pushes the block G rearward to allow the pin E to drop into place.

Having thus fully described our invention,

we claim as new and desire to secure by Letters Patent—

1. In a car-coupling, the combination, with the draw-head B, having the opening C C' C<sup>2</sup> C<sup>3</sup> and the slots C<sup>4</sup>, of the block G, having a concave front end, the rod H, secured to the block and provided with the pin J, projecting into the slots of the draw-head, and the spring I, surrounding the said rod, substantially as herein shown and described.

2. In a car-coupling, the combination, with a coupling-pin, of a sliding rod having its lower end rigidly secured to the coupling-pin and extending up to the top of the car, levers pivoted on the end of the car, and a link-connection between said levers and sliding rod, substantially as herein shown and described.

3. In a car-coupling, the combination, with a coupling-pin, of a sliding rod having its lower end secured to the coupling-pin and extending to the top of the car, the shaft U, mounted to turn in bearings on the end of the car and provided with the arm U' and handles U<sup>2</sup>, and the link T, pivoted to the said arm and rod, substantially as herein shown and described.

ROBERT LEE <sup>his</sup> × FINLEY.  
HENRY HUGHES HARPER. <sup>mark</sup>

Witnesses:

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