E. P. HARRINGTON.

CAR-COUPLING.

No. 171,280. Patented Dec. 21, 1875.

Fig 1

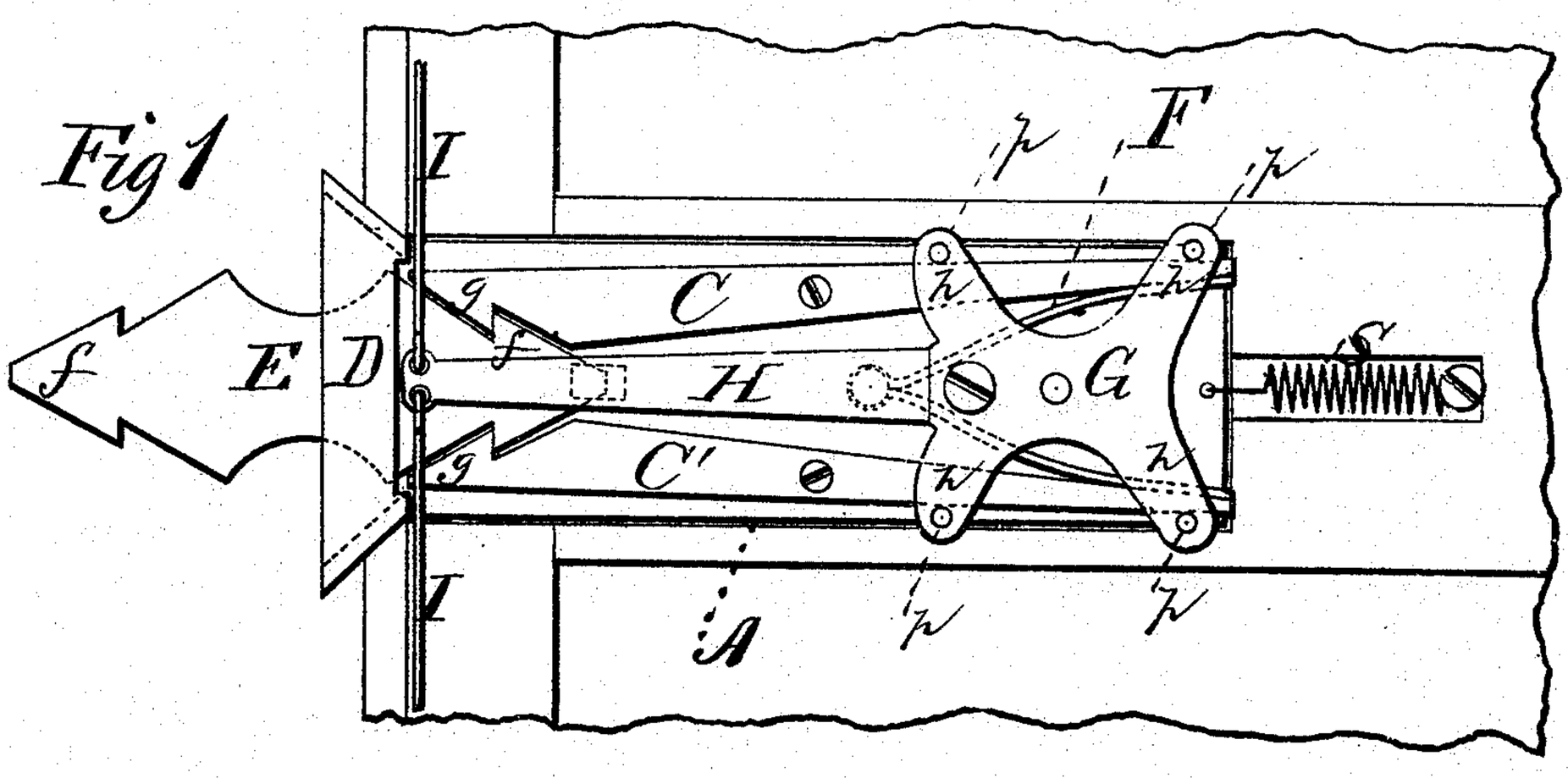


Fig 2

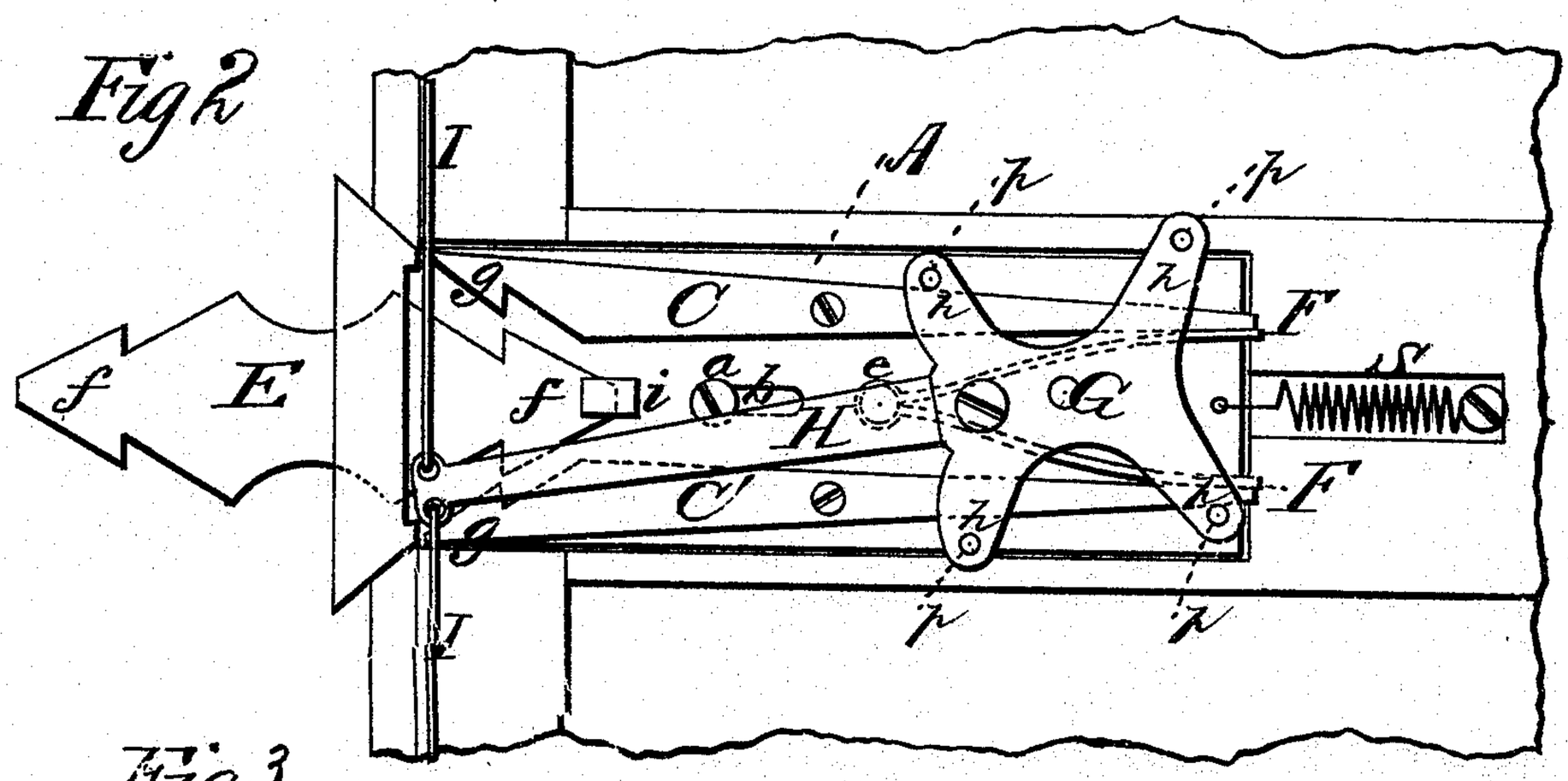
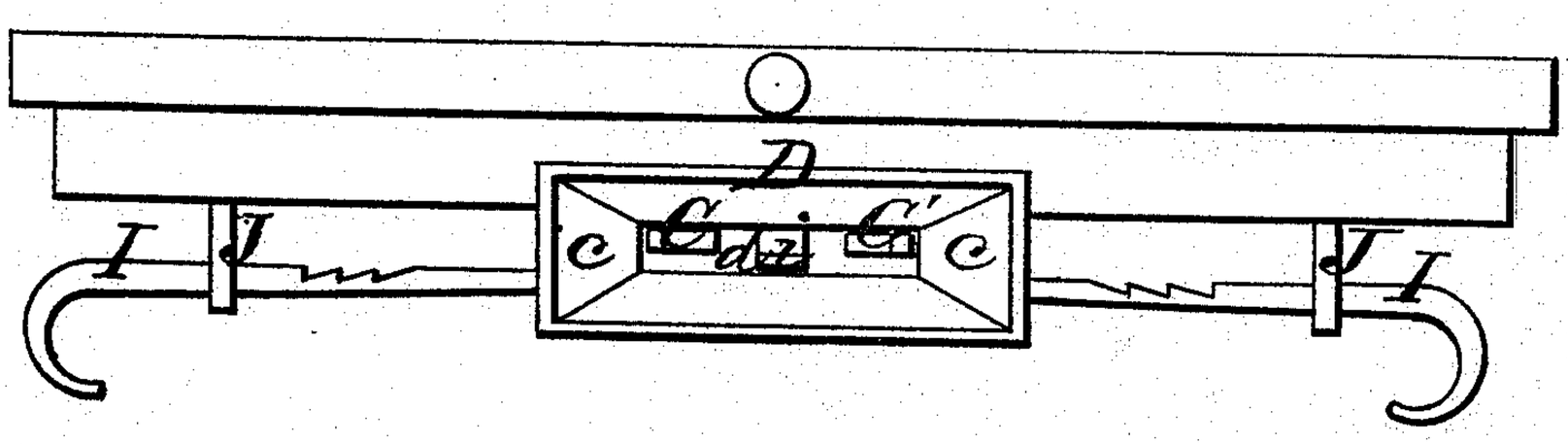


Fig 3



WITNESSES

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ELLIOT P. HARRINGTON, OF DETROIT, MICHIGAN.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **171,280**, dated December 21, 1875; application filed October 16, 1875.

To all whom it may concern:

Be it known that I, ELLIOT P. HARRINGTON, of Detroit, in the county of Wayne and State of Michigan, have invented a new and valuable Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of plan views of my car-couplings, and Fig. 3 is an end view of the same.

This invention has relation to improvements in automatic car-couplers, wherein an arrow-headed coupler, adapted to be received into an open draw-bar, is held by corresponding vibrating spring-actuated barbed arms against being withdrawn out of the said draw-bar; and it consists in means, substantially as hereinafter described, whereby the said barbed arms are simultaneously separated to allow of the withdrawal of the arrow-headed coupler, thereby permitting the latter to be drawn out of the draw-bar, and the previously-coupled cars to be separated, as will be fully understood from the following description.

In the annexed drawings, the letter A represents a strong metallic plate, which is suspended under the front end of a car by means of a bolt, *a*, passing upward through a slot, *b*, cut in the length thereof, and which is further attached to the frame-work of the car by means of a strong helical spring, S, secured in any suitable manner to the rear end of this plate, and to a cross-beam of the said frame. The front end of plate A is provided with a flaring head, D, which is chambered, as shown at *c*, and is provided in the rear end of the said chamber with a horizontal slot, *d*, opening under plate A, for a purpose hereinafter explained. C C′ represent barbed arms, pivoted at or near the center of their length to plate A, and extending to the front to a point just in rear of slot *d*. These arms are held in proper position, in relation to each other, by means of a strong **V**-spring, F, arranged between their rear ends and secured to the plate A by means of a screw, *e*. E represents a metallic plate, having an arrow-head, *f*, on each end, which plate is in the nature of a coupling-link, and is of a size to enter the head D. This coupler is designed to be inserted in the draw-head D of a car, between the hooks *g*, on the ends of arms C C′, where it will be held by the reactive force of **V**-spring F, and it is of sufficient length to project beyond head D a sufficient distance to enter a corresponding head on a car approaching to be coupled, when it will pass between bars C C′, causing them to be separated by their vibrating movement, and the spring F to be compressed. After passing inward a sufficient distance to clear the hooks *g*, the spring F will force the same to an engagement with the barbs of the coupler-plate, and effect a coupling. The slot *d*, in practice, will be of slightly greater width than what would be necessary to receive the barbed coupler; consequently it will be allowed to have a degree of vertical play.

The springs F being compressible, and the arms C C′ being pivoted to plate A, the said arms will also have lateral play, thus providing for any jolting likely to occur in cars of the same height. When the cars are of different heights, the links will be bent in the usual manner.

An uncoupling may be effected from either side of the car by separating the barbed heads *g* of arms C C′ as follows: An **X**-shaped plate, G, is pivoted between the rear ends of arms C C′, and its arms *h* are each provided with pins *p*, which embrace the said arms, as shown in Fig. 1. This plate is provided with a tongue, H, extending to the front a suitable distance, and connected with operating rods I passing through metallic hangers J, depending from the bottom of car, and each extending laterally to the sides of the car. When either of these rods is drawn outward, plate G will be caused to oscillate, thereby bringing two of the pins *p* of the said plate diagonally opposite each other in contact with the power arms of arms C C′, thereby thrusting them inward and opening the griping ends thereof, when the cars may be readily separated in consequence of the release of coupler E.

In practice I may make the pivoting-plate of any form which I may elect, the gist of my invention being the pins *p*, which embrace the

power arms of arms C C′, and its horizontally rotating or oscillating movement. I also propose to serrate or notch the operating rods, so that they may hook over the hanger and hold the jaws *g* apart when it is not desirable to effect a coupling.

In practice I shall prevent the entry of coupler E between barbed arms C C′ farther than is desirable, by means of a hook, *i*, formed on plate A. This hook will receive the blunted end of heads *f*, as shown in Fig. 2.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic car-coupling, the combination of the pivoting or oscillating plate G, having operating pins *p*, with the vibrating hooked arms C C′, embraced by the said pins, substantially as specified.

2. In combination, with the hooked vibrating arms C C′, the vibrating spurred plate G, and their operating mechanism, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ELLIOT P. HARRINGTON.

Witnesses:
J. H. PHILLIPS,
ANDREW J. LINZEE.