

(No Model.)

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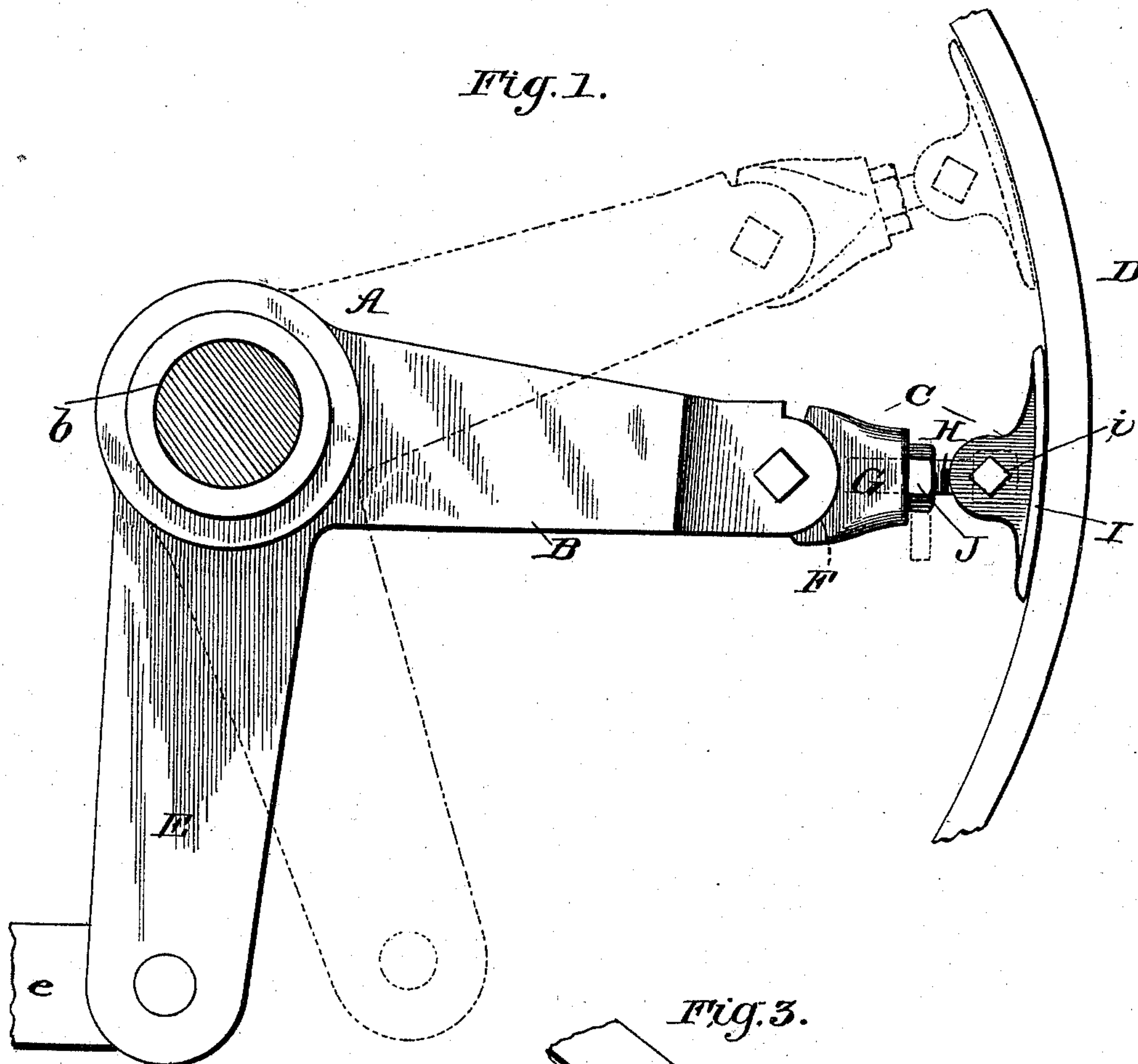
J. B. RAUCH & T. KENNEDY.

APPARATUS FOR THROWING ENGINES OFF DEAD CENTERS.

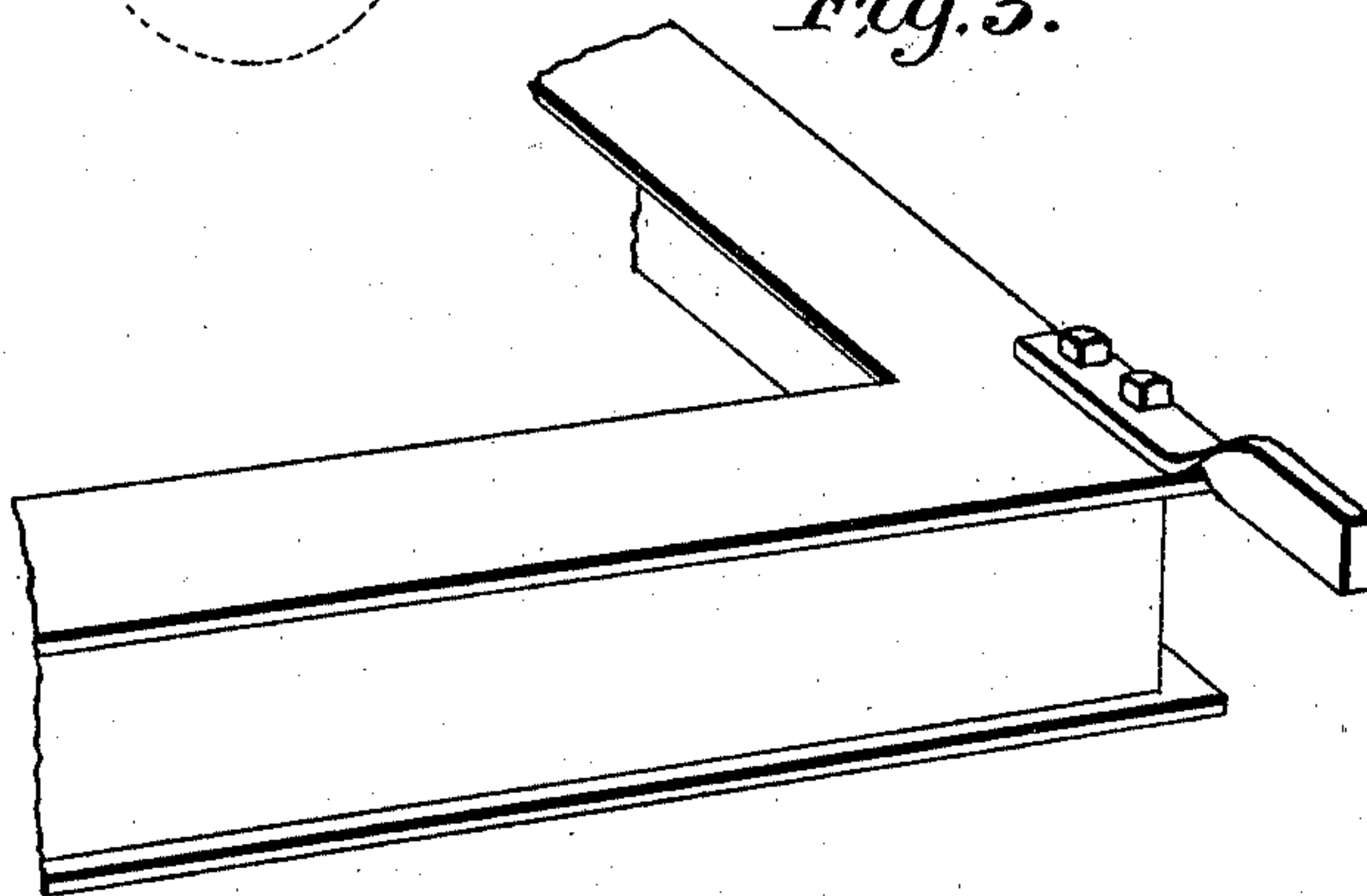
No. 584,703.

Patented June 15, 1897.

*Fig. 1.*



*Fig. 3.*



WITNESSES:

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*James B. Rauch*  
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BY

*Munn & Co.*

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(No Model.)

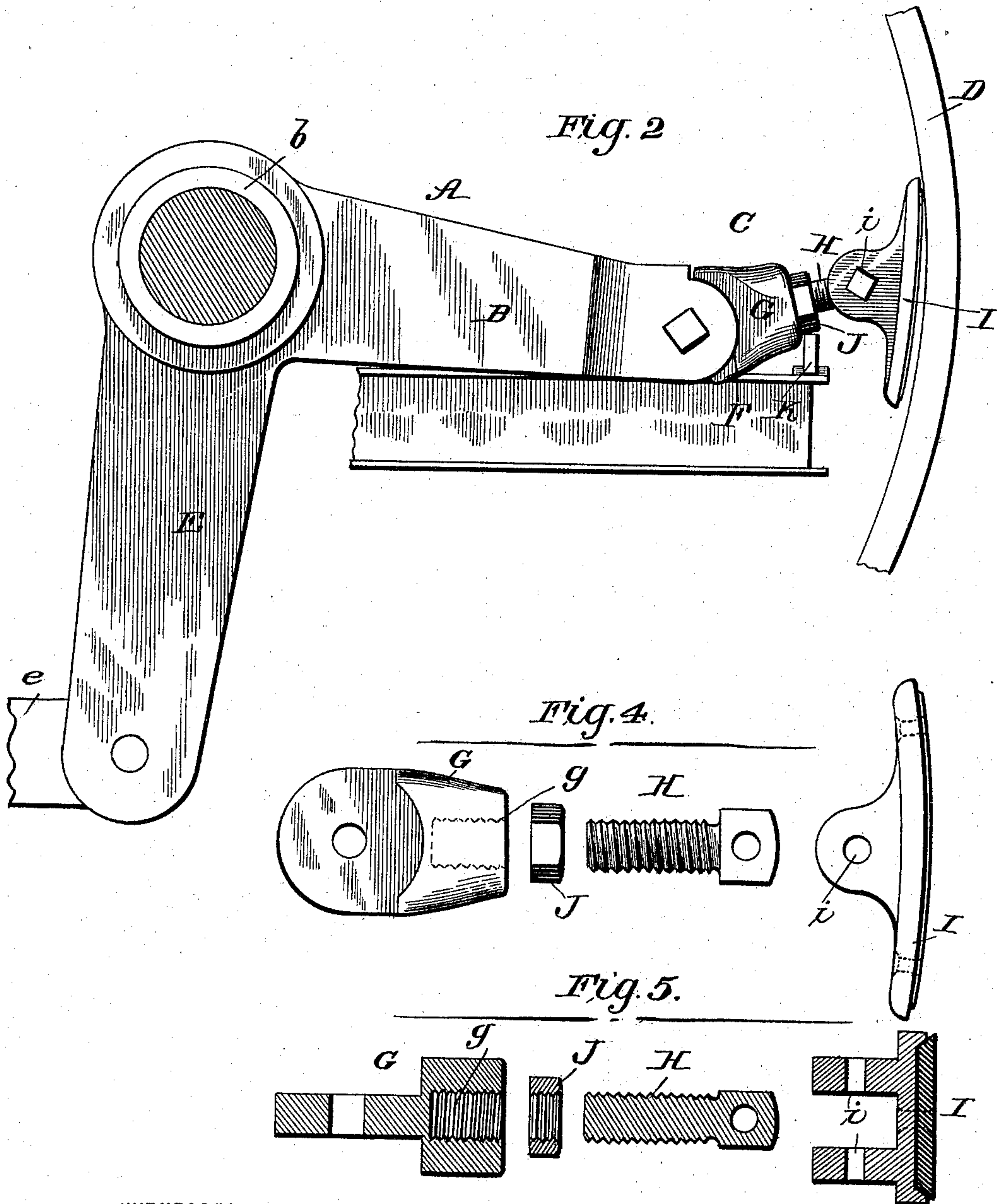
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# UNITED STATES PATENT OFFICE.

JAMES B. RAUCH AND THOMAS KENNEDY, OF GALENA, KANSAS.

## APPARATUS FOR THROWING ENGINES OFF DEAD-CENTERS.

SPECIFICATION forming part of Letters Patent No. 584,703, dated June 15, 1897.

Application filed October 28, 1896. Serial No. 610,320. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES B. RAUCH and THOMAS KENNEDY, of Galena, in the county of Cherokee and State of Kansas, have invented a new and useful Improvement in Apparatus for Throwing Engines Off Dead-Centers, of which the following is a specification.

Our invention is an apparatus for use in throwing engines off dead-centers; and it consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side view of a part of a wheel provided with our improvements, the shoe being shown engaged with the wheel and dotted lines illustrating the movement of the wheel. Fig. 2 is a similar view, the shoe being freed from binding contact with the wheel. Fig. 3 is a detail view of a part of the engine-frame, showing the abutment for breaking the joint between the main and shoe sections. Fig. 4 is a side view, and Fig. 5 a sectional view, showing the parts of the shoe-section detached.

The arm A is preferably made in two sections, a main section B and the shoe-section C, and the main section B is adapted at its inner end at *b* to fit on the shaft or hub of the wheel D, which it is desired to turn to throw the engine off the center. Power may be applied to the arm A in any desired manner, but it may be preferred to provide it with the lever-arm E and connect such lever by a pitman *e* with an engine or other suitable operating mechanism. The shoe-section C has a rule-joint connection at F with the section B, so the section C can rock up slightly out of line with the section B, but will be stopped against downward movement. Thus the said shoe-section will bind the rim of the wheel on the upward movement of the arm B, and so carry the wheel up and off the center as the arm A is properly operated.

The section C is adjustable lengthwise and is preferably formed with the link G, which is jointed to the arm B and has a threaded socket *g*, the stem H threaded at one end to enter the socket *g*, the shoe I pivoted at *i* to the outer end of the stem H, and the jam-nut J turning on the stem H up against the link and tending to lock the threaded stem

at any desired point. This longitudinal adjustment permits the adaptation of the arm to different sizes of wheels and its accurate fitting to the wheel.

Below the arm A and preferably in position to be engaged by the nut J of section C we provide an abutment or stop K, supported on the framing of the engine or machine and arranged to trip the section C when lowered to set its shoe clear of binding contact with the wheel, as shown in Fig. 2.

In operation if the engine is on the dead-center the shoe is put in binding contact with the wheel-rim by lifting the arm A, and the arm A is lifted, carrying the wheel upward and off the dead-center, and the arm is then dropped until it comes in contact with the abutment or stop which frees the friction-shoe from the wheel. In this operation the joint between the main and shoe sections is forced down, while that between the link and the shoe is forced up, thereby so shortening the lines of contact as to release the friction-shoe from its contact with the inner rim of the wheel.

The friction-shoe has its face recessed and fitted to receive a leather friction-piece held in place by rivets or other suitable fastenings.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a center or support, an arm pivotally supported thereon and made in jointed sections whereby it may be bent to bring such sections into and out of alinement, and the shoe at the outer end of such arm, the shoe approaching the pivotal center when the sections are out of alinement and departing therefrom when the sections are straightened and binding in the latter adjustment against the wheel and operating means substantially as described.

2. In an apparatus for use in turning wheels the combination of a center or support, the arm having an inner section pivoted at its inner end to said support, an outer section a rule-joint connection between the inner end of the outer section and the outer end of the inner section, a shoe at the outer end of the outer section, and a stop or abutment by which to trip or break the rule-joint substantially as described.



3. An apparatus substantially as described comprising an arm composed of sections connected by a rule-joint a shoe on the outer section, a pivotal center or support for the inner  
5 section and a stop or abutment by which to break or trip the joint substantially as shown and described.

4. An apparatus substantially as described comprising the arm composed of an inner or  
10 main section and an outer section having a rule-joint connection at one end with the main section and having the pivoted shoe at its other end substantially as shown and described.

5. An apparatus substantially as described  
15 comprising an arm composed of a main section a shoe-section jointed thereto and formed with a link, a stem threaded at one end to said link and the shoe pivoted to said stem substantially as shown and described.

6. In an apparatus substantially as de- 20 scribed the combination of the arm composed of a main section having a projecting lever portion and the shoe-section having a rule-joint connection with the main portion substantially as shown and described. 25

7. The apparatus herein described consisting of the main section pivoted at its inner end, the outer or shoe section jointed at its inner end to the outer end of the main section and composed of the link, the threaded 30 stem, and the shoe, and the abutment arranged to engage said outer section, substantially as shown and described.

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Witnesses:

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