

J. Griffin,

Motor.

N^o 32,515.

Patented June 11, 1861.

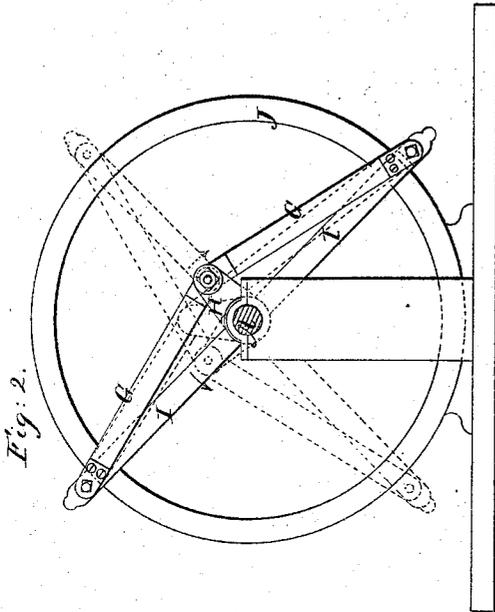


Fig. 2.

Fig. 4.

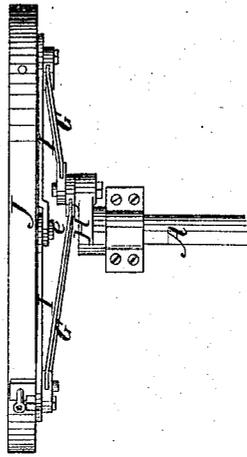


Fig. 1.

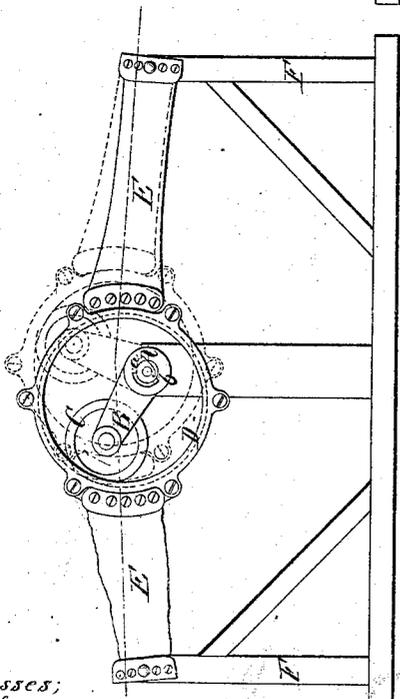
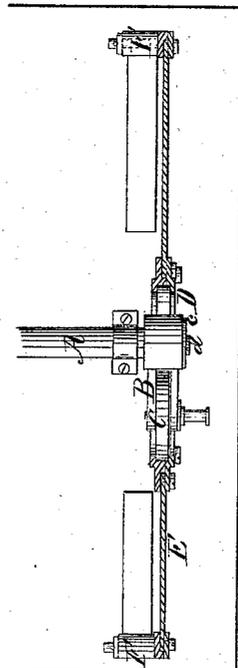


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN GRIFFIN, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN ENGINES, &c., FOR OVERCOMING THE DEAD-POINT IN CRANKS.

Specification forming part of Letters Patent No. **32,515**, dated June 11, 1861.

To all whom it may concern:

Be it known that I, JOHN GRIFFIN, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement for Overcoming the Dead-Point in Cranks, designed more especially for steam cotton-picking devices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2 are side views of my invention; Fig. 3, a horizontal section of Fig. 1, taken in the line *x x*, Fig. 1. Fig. 4, a plan or top view of Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the crank-shaft of a traction-engine, and B is a crank attached to the shaft in such a manner as to be adjustable thereon, the crank having an adjusting movement of one-quarter of a revolution. This result may be attained by having a slot or recess *a* cut in the crank-hub adjoining the shaft A, and having a feather *b* on the shaft fit into said recess, the casual movement of the crank on the shaft being prevented by a washer and screw *c d*. (See Figs. 1 and 3.)

In the outer part of the crank B there is placed a wheel C. This wheel works within a metallic ring D, to which two springs E E are attached at opposite sides, as shown clearly in Figs. 1 and 3, the outer ends of the springs being secured to the uprights F F. The springs E E may be of india-rubber or other suitable elastic material.

The shaft A may have its driving-crank at any suitable point on it, and the crank B is adjusted out of line with the driving-crank about one-eighth of a revolution. By this arrangement it will be seen that the springs E E will have a tendency to throw the driving-crank past its center, as the springs E

will be at an equal tension or in equipoise when the crank B is in a vertical position. The adjusting of the crank B is necessary in order that the springs E E may act when the engine is moving in either direction, one spring only acting at once, as one is stretched as the other is slackened.

A modification of this arrangement is shown in Figs. 2 and 4, in which springs G G are attached directly to a crank H on shaft A, the outer ends of the springs being attached to the outer ends of bars I I, the inner ends of which are pivoted to the center of a circular disk J, as shown at *e*, the pivot *e* being in line with shaft A. By this arrangement it will be seen that the springs G G have an oblique position relatively with the shaft A, and will throw the crank H past its center, one spring being relaxed or slackened while the other is stretched. The position of the springs G requires to be adjusted according to the direction in which the crank-shaft A is moving. This adjustment of the springs G is effected by adjusting the bars I I on the disk J. In Fig. 2 the position of the springs and bars is shown in blue when the shaft A is rotating in the direction of the blue arrow, and their position is shown in tint or color when the shaft is moving in the direction of the red arrow.

I do not claim, broadly, the employment of springs to assist the crank in passing its center; but,

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

The combination, with the crank B, of a suspended ring D, suspended between springs E E, so as to act upon the crank when passing its center, in the manner herein shown and described.

JOHN GRIFFIN.

Witnesses:

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JOHN K. LANE.