

(Model.)

G. A. HOWE & J. S. GALLUP.

CIRCLE IRON FOR CARRIAGES.

No. 250,663.

Patented Dec. 13, 1881.

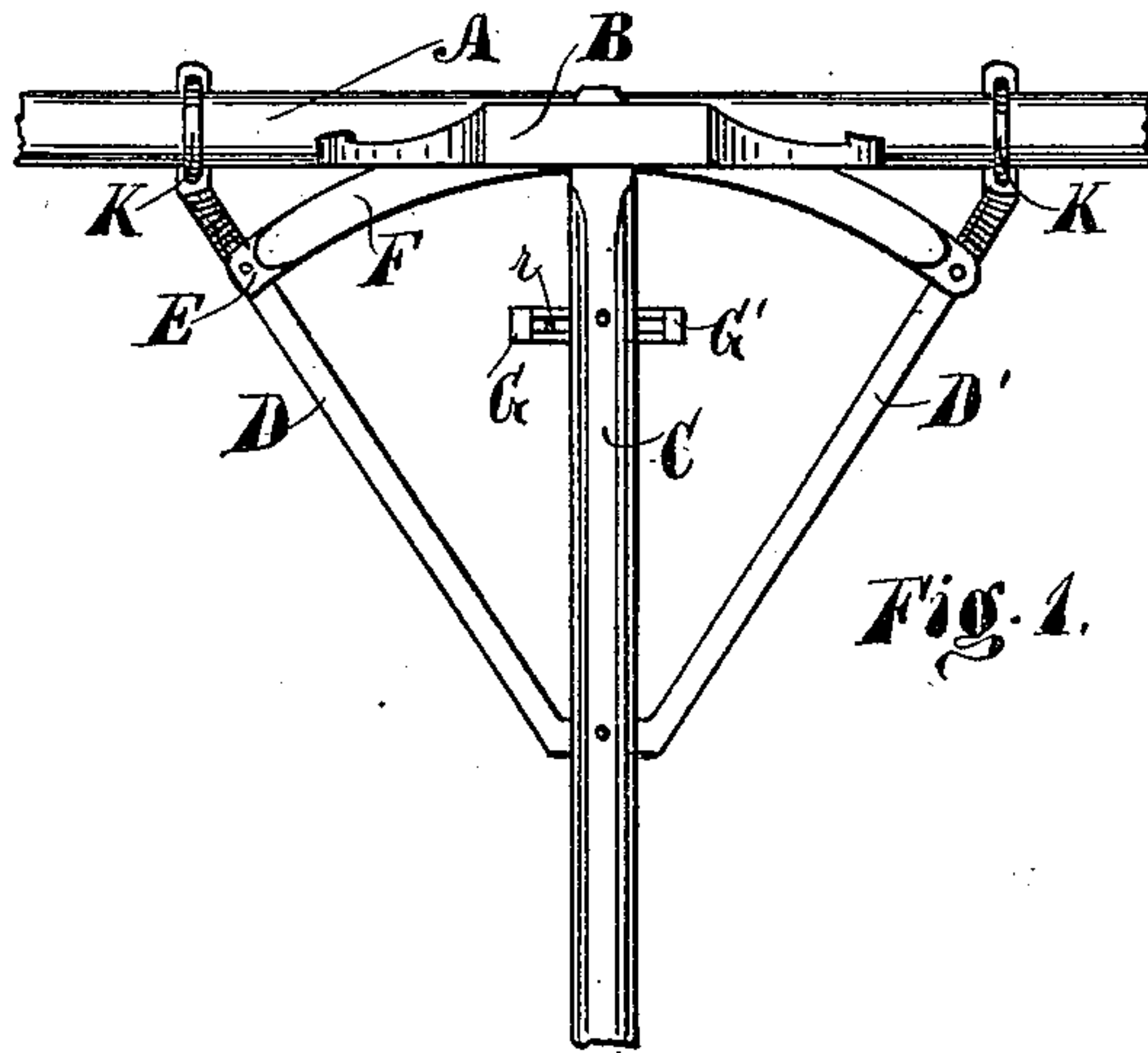


Fig. 1.

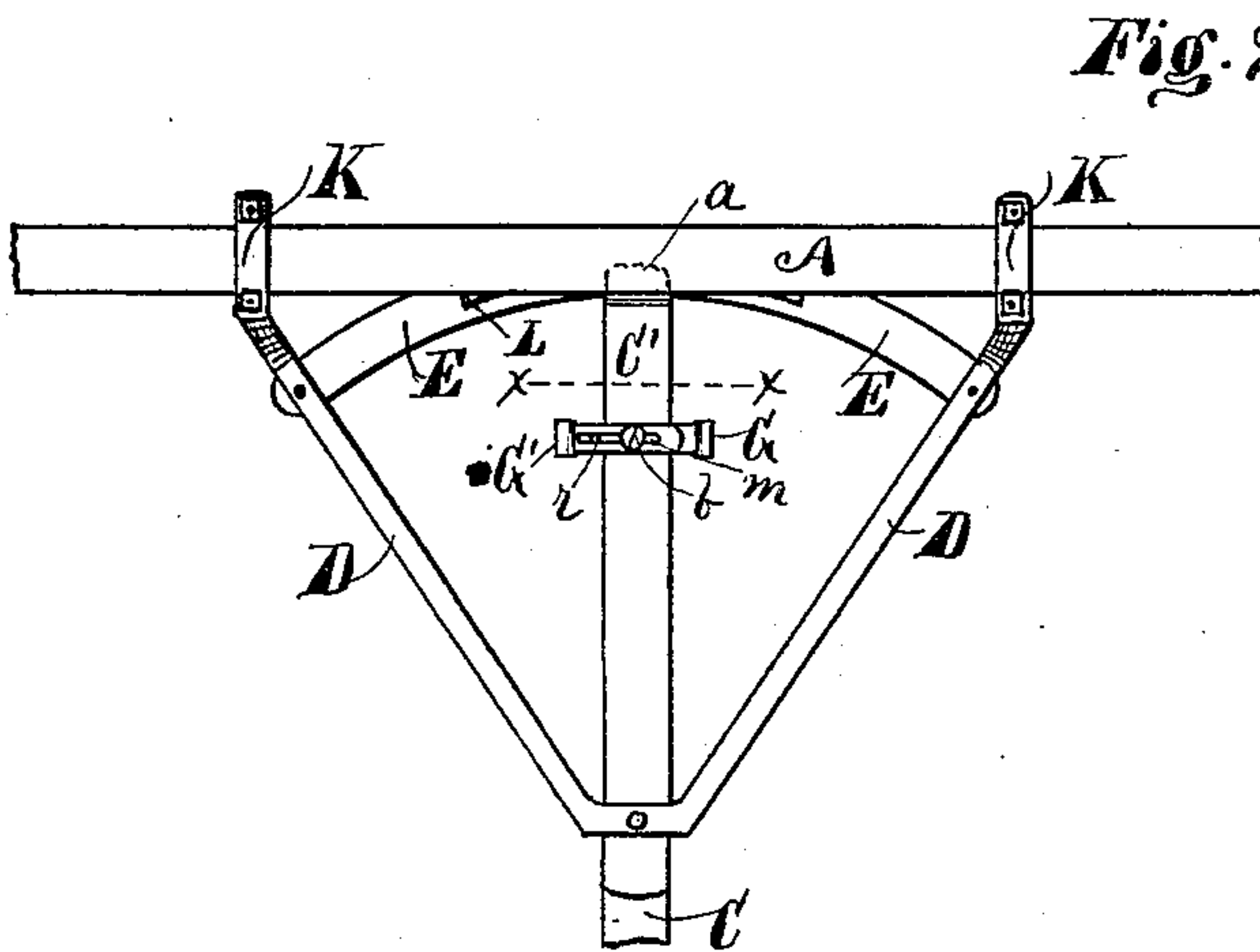


Fig. 2.

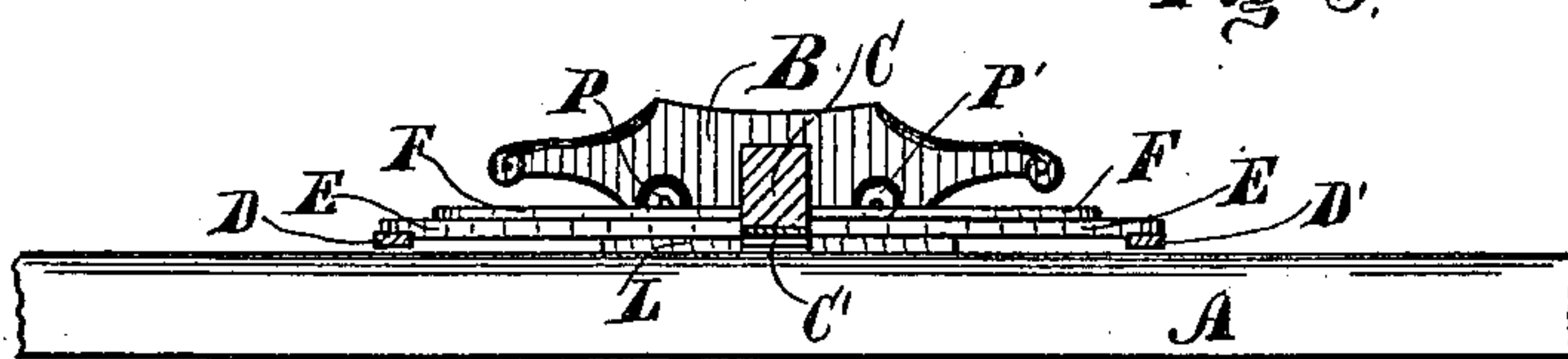


Fig. 3.

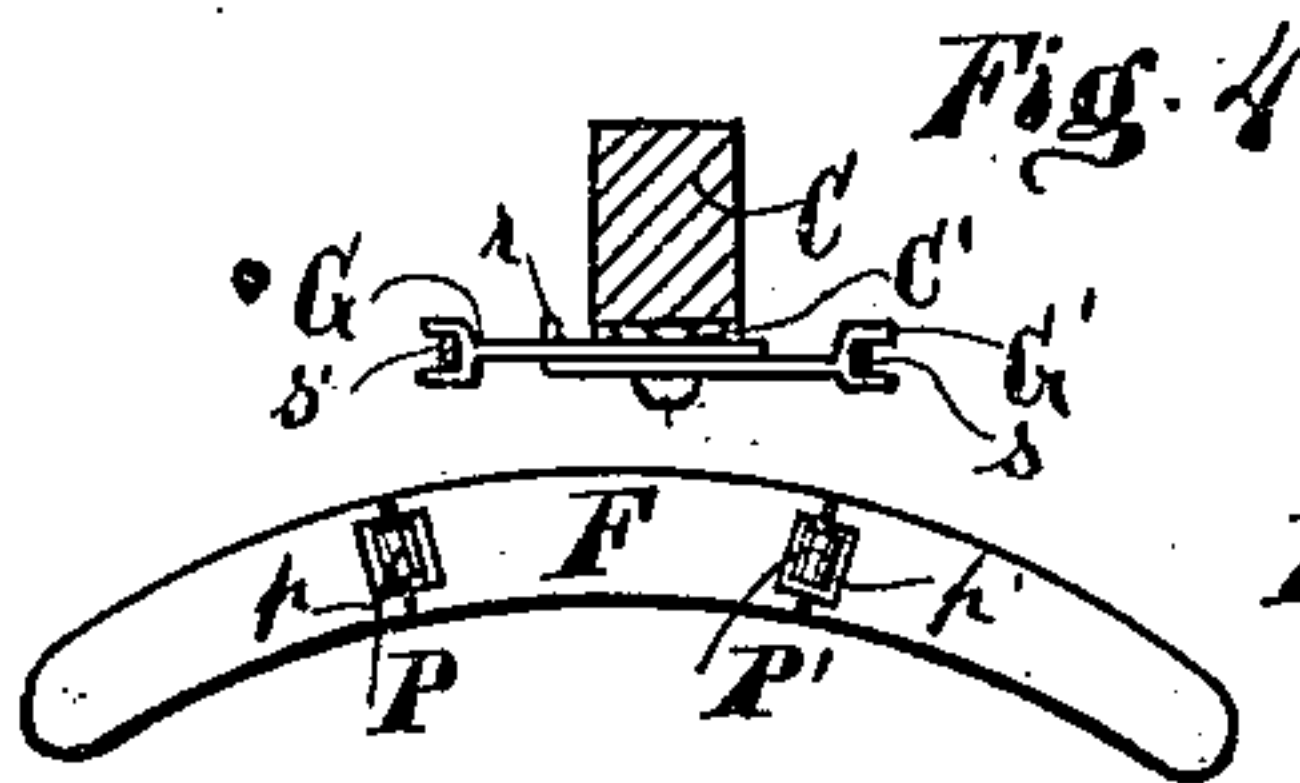


Fig. 4.

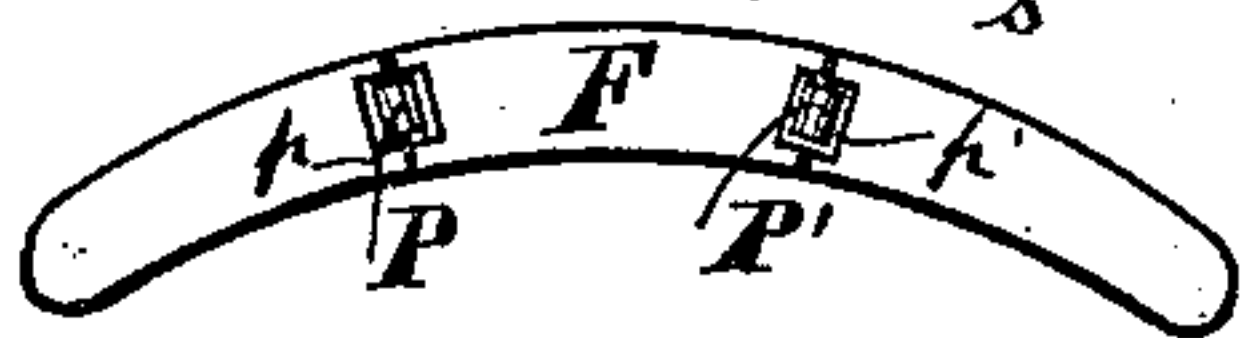


Fig. 5.

Witnesses;  
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GEORGE A. HOWE AND JOHN S. GALLUP, OF NILES, MICHIGAN.

## CIRCLE-IRON FOR CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 250,663, dated December 13, 1881.

Application filed March 19, 1880. (Model.)

*To all whom it may concern:*

Be it known that we, GEORGE A. HOWE and JOHN S. GALLUP, of the city of Niles, county of Berrien, State of Michigan, have made a new and useful Improvement in Circle-Irons and Reach Attachments for Carriages, of which the following is a specification.

The nature of this invention relates to the construction of circle-irons and reach attachments for carriages; and it consists in providing adjustable stops with elastic cushions, to reduce strain on the draw-bars and prevent the front wheels of the carriage from striking the box on turning short, as will be more fully set forth in the following specification.

The accompanying drawings form a part of this specification.

The letters of reference denote the parts indicated by a like letter in the specification.

In the drawings, Figure 1 shows a top view of a device embodying our invention. Fig. 2 is a bottom view, and Fig. 3 is a front elevation of the same. Fig. 4 shows an enlarged transverse section of the reach and an enlarged side view of the adjustable stops. Fig. 5 is a detached top view of the upper circle-iron and its friction-rollers.

Of the letters in the drawings, A represents the axles; B, the head-block; C, the reach; D, the draw-bars; E, the lower circle-iron; F, the upper circle-iron; C', the reach-plate. All of the foregoing parts that are represented by letters are old and not claimed by us, and need no further description.

The circle-iron F is provided with two friction-rollers, P P'. These rollers are pivoted in slots *p p'*, and have a bearing on the lower circle-iron, E, and are recessed into the head-block B. These rollers reduce to a great extent the friction of the circle-irons.

G and G' represent adjustable stops. These stops are slotted and overlap each other at

their inner ends, and are held in position by means of the set-screw *b* and stud *r*, which position may be changed and the stops lengthened or shortened and securely held at any desired point by tightening the set-screw *b*. This set-screw passes through the slots in stops and clamps them to the under side of the reach. The outer ends of the stops G and G' are bifurcated and provided with the cushions *s s*. These cushions are made of some elastic substance, like rubber, (or leather will do,) and serve to break the force of the strain on the draft-bars D D. These stops are set so as to strike the draft-bars and arrest the further sway of the reach in time to prevent the wheels from striking the carriage-box.

C' represents a strap of iron for strengthening the reach C. The front end of strap C' has an offset forming a lip, as seen in dotted lines at *a* in Fig. 2. This lip projects under the back edge of the circle-iron F and holds the circle-irons E F together. The central part of the circle-iron E is strengthened by being made thick on the front edge, as seen at L in Fig. 3.

K K represent clasps for fastening the draw-bars to the axis.

Having thus fully described our invention, we claim—

1. In combination, the stops G G', cushions *s s*, set-screw *b*, and reach C, as shown and described.

2. In combination, the slotted stops G G', cushions *s s*, set-screw *b*, stud *r*, reach C, and draft-bars D D, substantially as shown and described.

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Witnesses:

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