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PATENTED JAN. 1, 1907.

W. M. HOAG & M. H. KRIEGER.

RUNNER FOR VEHICLES.

APPLICATION FILED OCT. 30, 1905.

FIG. 1.

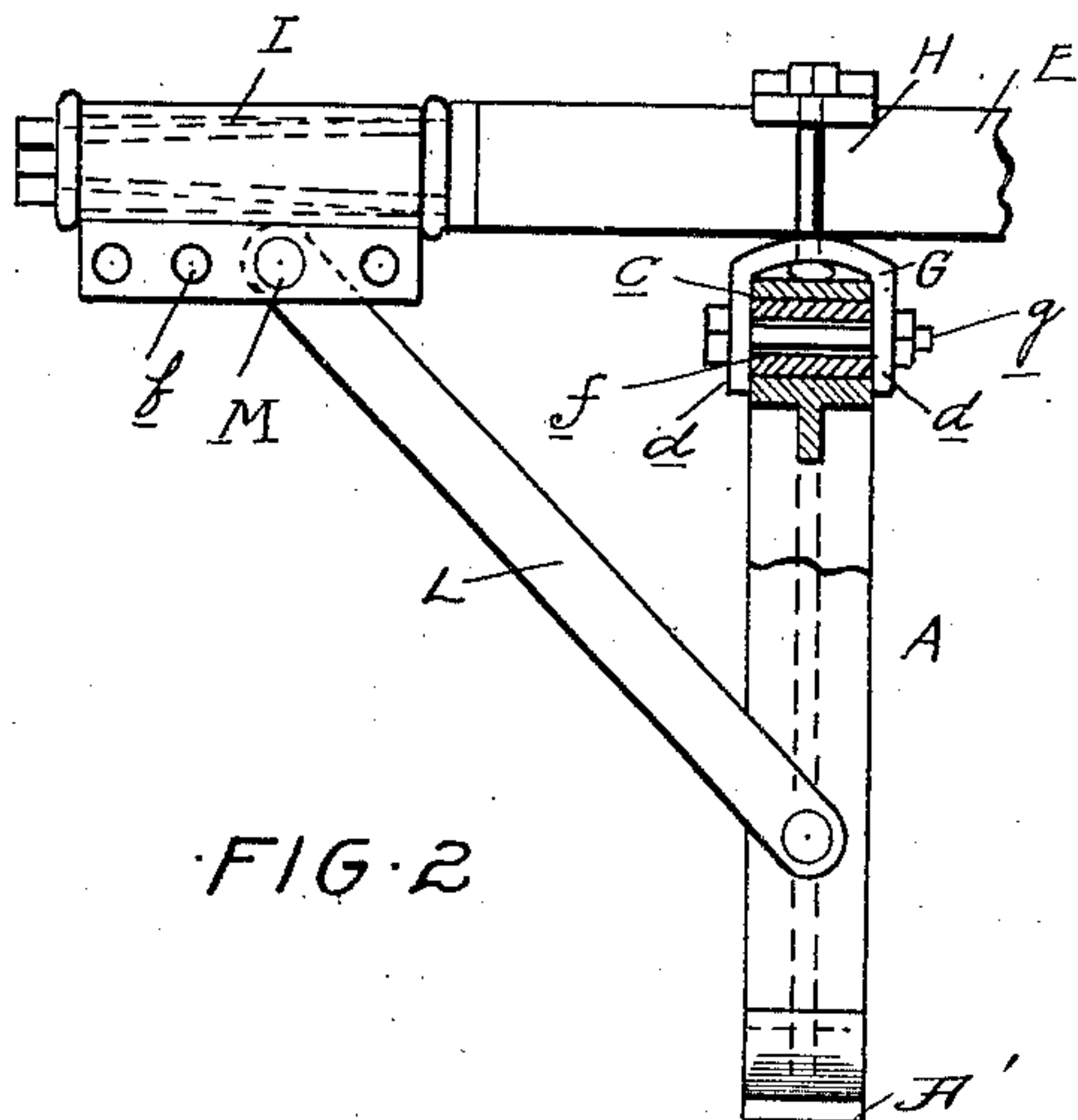
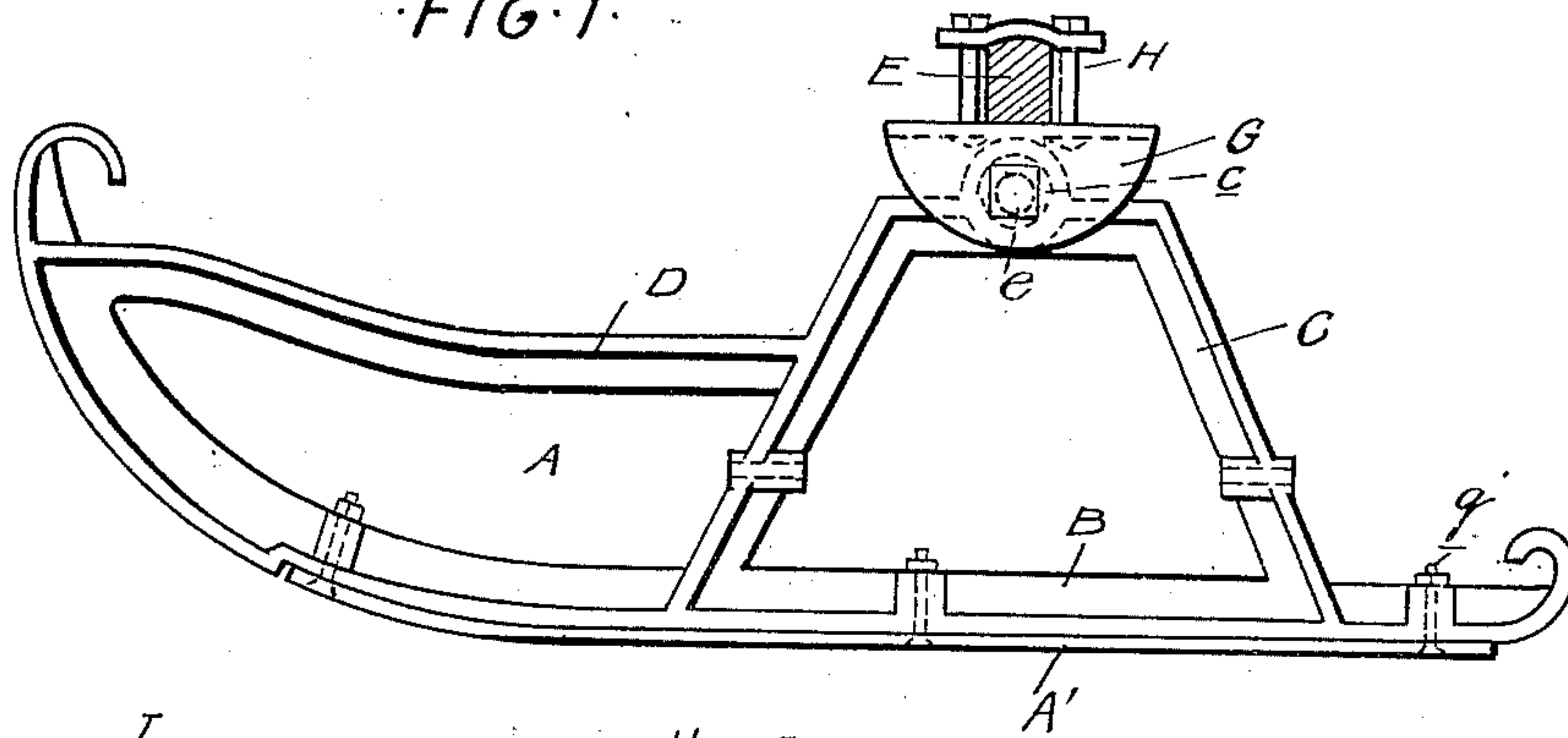


FIG. 2.

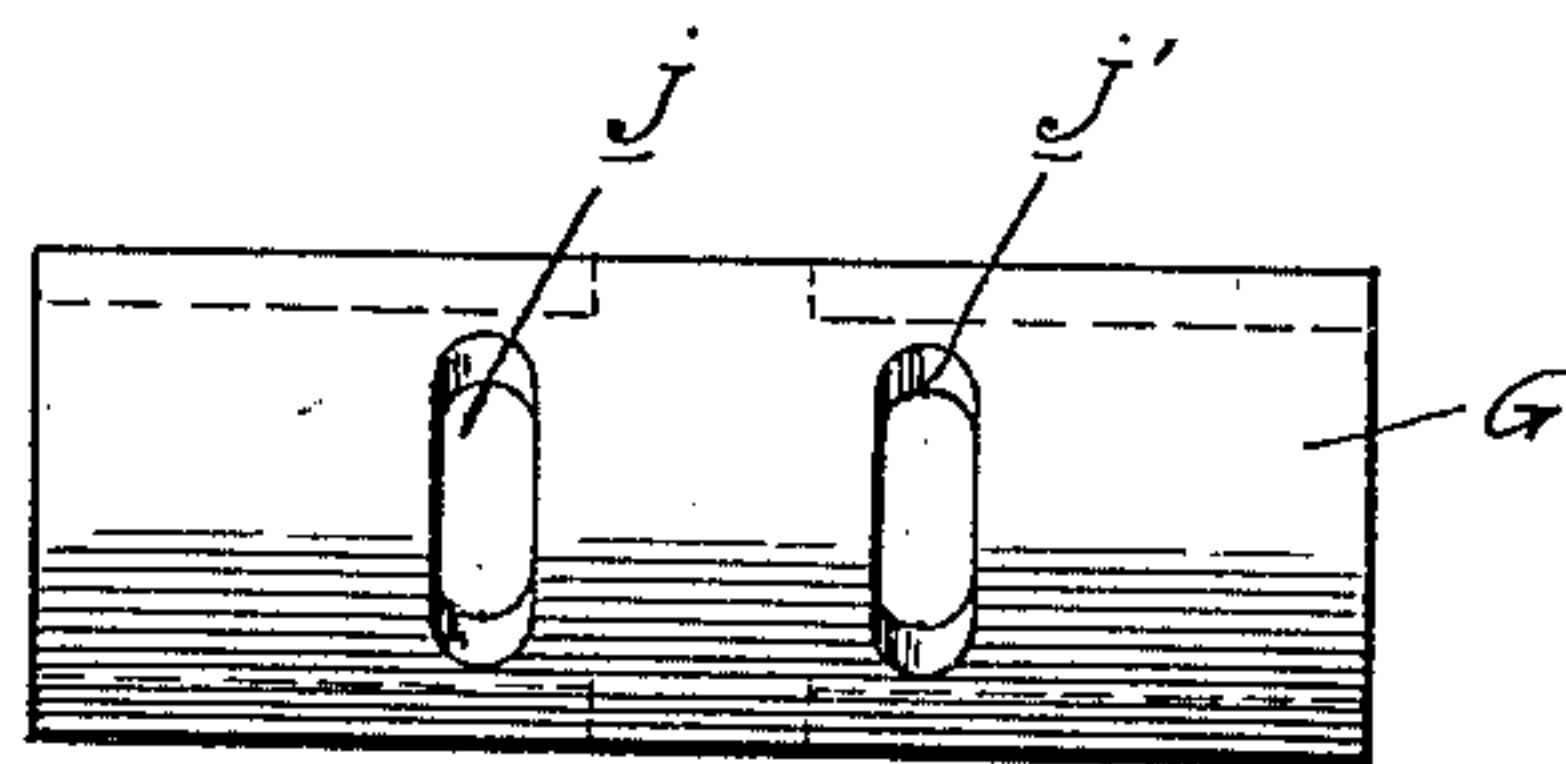


FIG. 3.

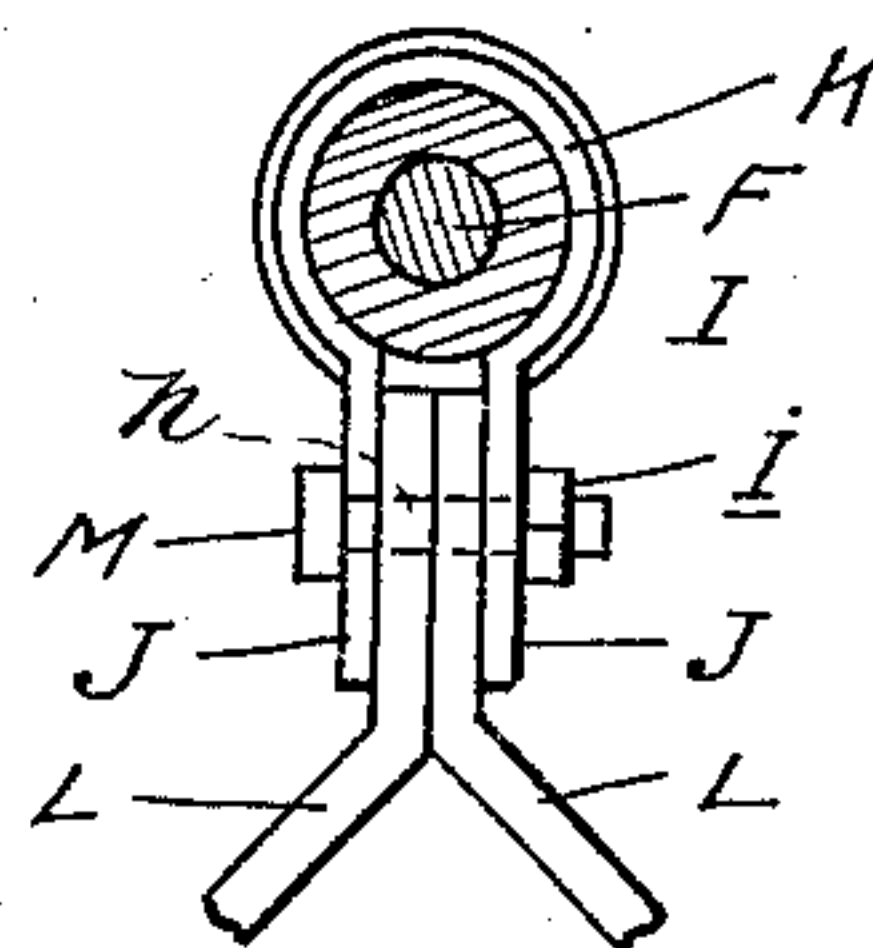


FIG. 4.

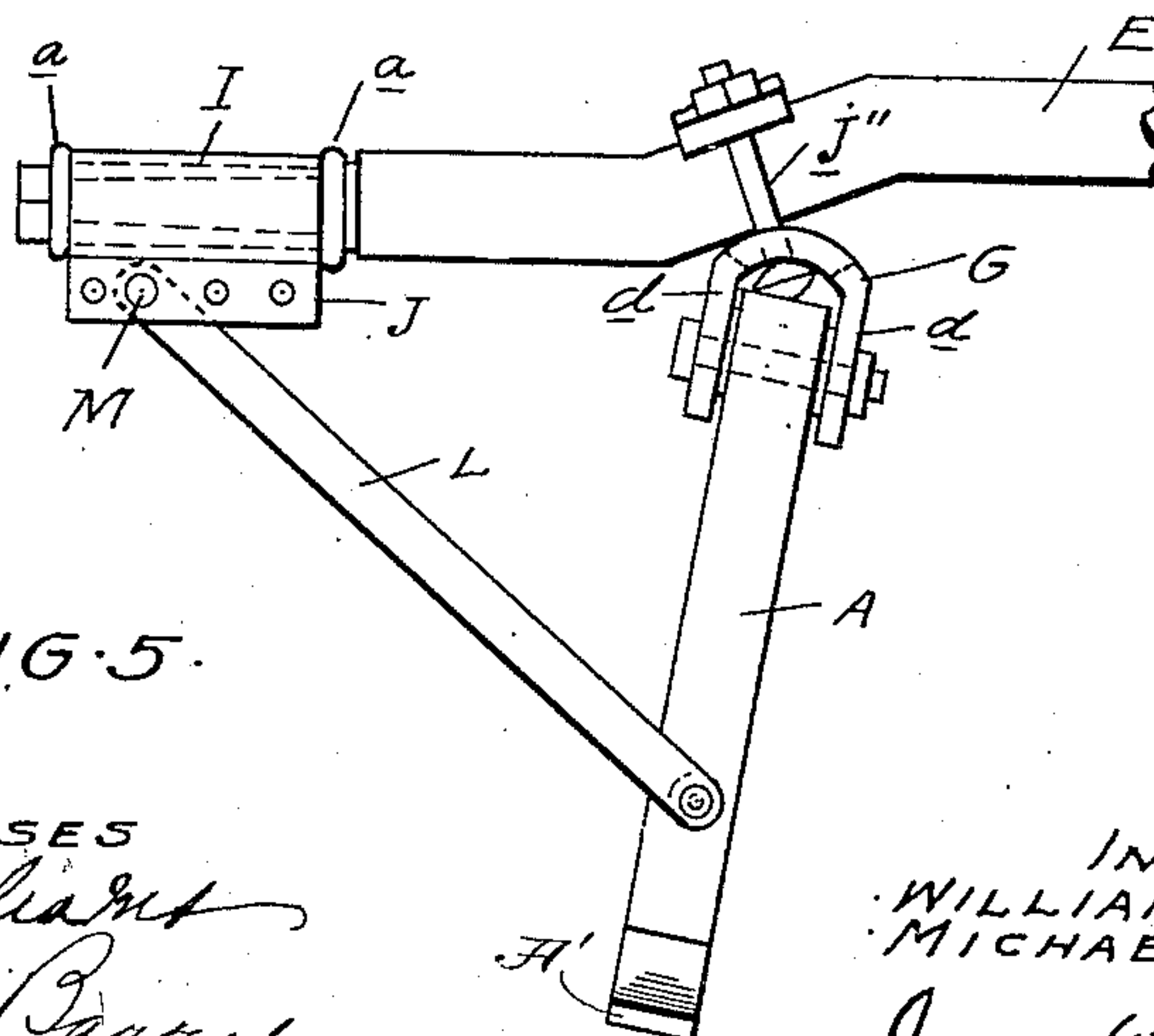


FIG. 5.

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RUNNER FOR VEHICLES.

No. 839,929.

Specification of Letters Patent.

Patented Jan. 1, 1907.

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To all whom it may concern:

Be it known that we, WILLIAM M. HOAG and MICHAEL H. KRIEGER, citizens of the United States of America, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new useful Improvements in Runners for Vehicles, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to a sleigh-runner especially designed to be applied to the axles of carriages, wagons, or like vehicles in place of wheels, so as to convert the wheeled vehicle into a sleigh; and the invention consists in the novel and simple construction of runner, in the manner of connecting the same to the vehicle, and in other details of construction, as will be more fully hereinafter set forth.

In the drawings, Figure 1 is a view in side elevation of the improved runner detached from the vehicle with the brace and axle-box removed. Fig. 2 is an end elevation thereof as applied to the axle, partly in section. Fig. 3 is a top plan view of the runner-support. Fig. 4 is an end view of the axle-box and upper portions of the braces; and Fig. 5 is an end view of the runner, showing an adjustment of the latter in angular relation to the axle.

The reference-letter A designates the runner, which may be of any improved construction, in this instance consisting of the runner proper, B, the upright supporting-frame C constituting the body of the runner and D the connection between the body and forward end of the runner proper.

E represents the vehicle-axle, to which the runner is to be applied, and F its spindle.

G is a support for the runner, preferably in the form of a saddle, as hereinafter more fully described, and H is a clamp connecting the support with the axle at a distance from the spindle, as plainly indicated in Fig. 2.

I represents an axle-box of any suitable construction having depending apertured sections J, formed in this instance by a sheet of metal K, encircling the box intermediate the flanges a, the edge portions of the metal constituting the depending sections referred to and being spaced one from the other, as indicated in Fig. 4.

b represents the series of apertures ar-

ranged horizontally in each depending section.

The body of the runner is provided at its upper end with a horizontal opening c, and this apertured section extends within the saddle-support intermediate the sides d thereof, the opening being in alinement with apertures e, formed in the saddle sides, as indicated. The runner is connected to the saddle in such manner as to permit of a vertical rocking movement, and to provide against the saddle clamping the runner-body too tightly to permit of the movement desired a tubular spacing member f is employed, arranged within the opening of the body intermediate the saddle sides.

g designates a bolt extending through the saddle sides and spacing member, as shown, and forming the pivotal connection between the parts.

L represents braces in the form of bars pivoted at their lower ends to the opposite sides of the body in proximity to the runner proper, while their upper ends are apertured, as at h, contact with each other, and extend between the depending sections J of the axle-box in registration with one of the pairs of apertures.

M represents a bolt serving to clamp the upper ends of the braces between the box-sections, held in place by a suitable nut i, as shown in Fig. 4.

Both the runner and axle-box described are of a construction that will permit of their being used on either side of the vehicle, which is advantageous, as in event that the usual metal shoe A' on the runner proper becomes worn instead of replacing it it is merely necessary to transfer the runner to the opposite end of the axle. This may be readily effected by removing the bolt g to free the runner from the saddle and the bolt M connecting the brace-bars to the axle-box, the latter being placed upon the opposite spindle and the runner within the opposite saddle.

It is frequently desired to apply the runner to a vehicle so that the lower portion of the runner will spread outwardly in the usual manner of a sleigh-runner. To accomplish this, we have provided means for permitting an angular adjustment between the runner and the axle to which it is connected, which, in addition to giving the desired inclination,

will also form a solid bearing for the runner. The preferable construction is as illustrated, wherein the top of the saddle G is curved and apertured, as at $j' j''$, the apertures being of considerably greater magnitude than the diameter of the bolts j'' of the clamp and of less size than the bolt-heads. This permits the runner-support to be clamped to the axle in an inclined position, as indicated in Fig. 5, there being a rigid connection, however, between the support and the axle forming the desired solid bearing. The brace-bars being pivoted to the runner-body and having adjustable connections with the axle-box may be properly adjusted to correspond to the angle of inclination given to the runner.

In addition to spreading the runners, as set forth, we are also enabled by means of the angular adjustment described to apply the runner to bent or arched axles, as indicated in Fig. 5, the clamp for the runner being capable of being secured, as shown, to the inclined portion of the axle intermediate the axle proper and the extremity immediately adjacent the spindle. It is obvious that the clamp may be as readily applied to an axle bent downwardly.

What we claim is —

1. The combination with a clamp adapted to be rigidly attached to the vehicle-axle, of a support depending from and adjustable longitudinally of the axle in angular relation to the clamp, the runner connected to said support, an axle-box, and a brace pivoted to the runner and having adjustable connections with the box.

2. The combination with a clamp adapted

to be rigidly secured to the axle, of a saddle member rigidly attached to the clamp and adjustable longitudinally of the axle in angular relation thereto, the runner extending within the saddle and pivoted thereto for vertical rocking movement, the axle-box, and brace-bars pivoted to the runner and having adjustable connection with the box.

3. The combination with an axle-clamp, of a saddle member constituting the runner-support depending therefrom, the runner having a transverse opening formed in its upper portion and the apertured section engaging within the saddle, a tubular spacing member within the runner-opening registering with apertures formed in the saddle sides, a bolt extending through the saddle and spacer, the axle-box, and brace-bars intermediate said box and the runner-body.

4. The combination with the axle-clamp, of the runner having pivotal connections therewith, the axle-box carrying depending sections provided with horizontal series of apertures, a pair of brace-bars pivoted at their lower ends to the runner-body and having their upper ends apertured, in contact and engaging between the depending sections of the axle-box in registration with one of the pairs of apertures therein, and a bolt extending through the axle-box sections and braces.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM M. HOAG.
MICHAEL H. KRIEGER.

Witnesses:

J. W. BAILEY,
C. L. WHELOCK.