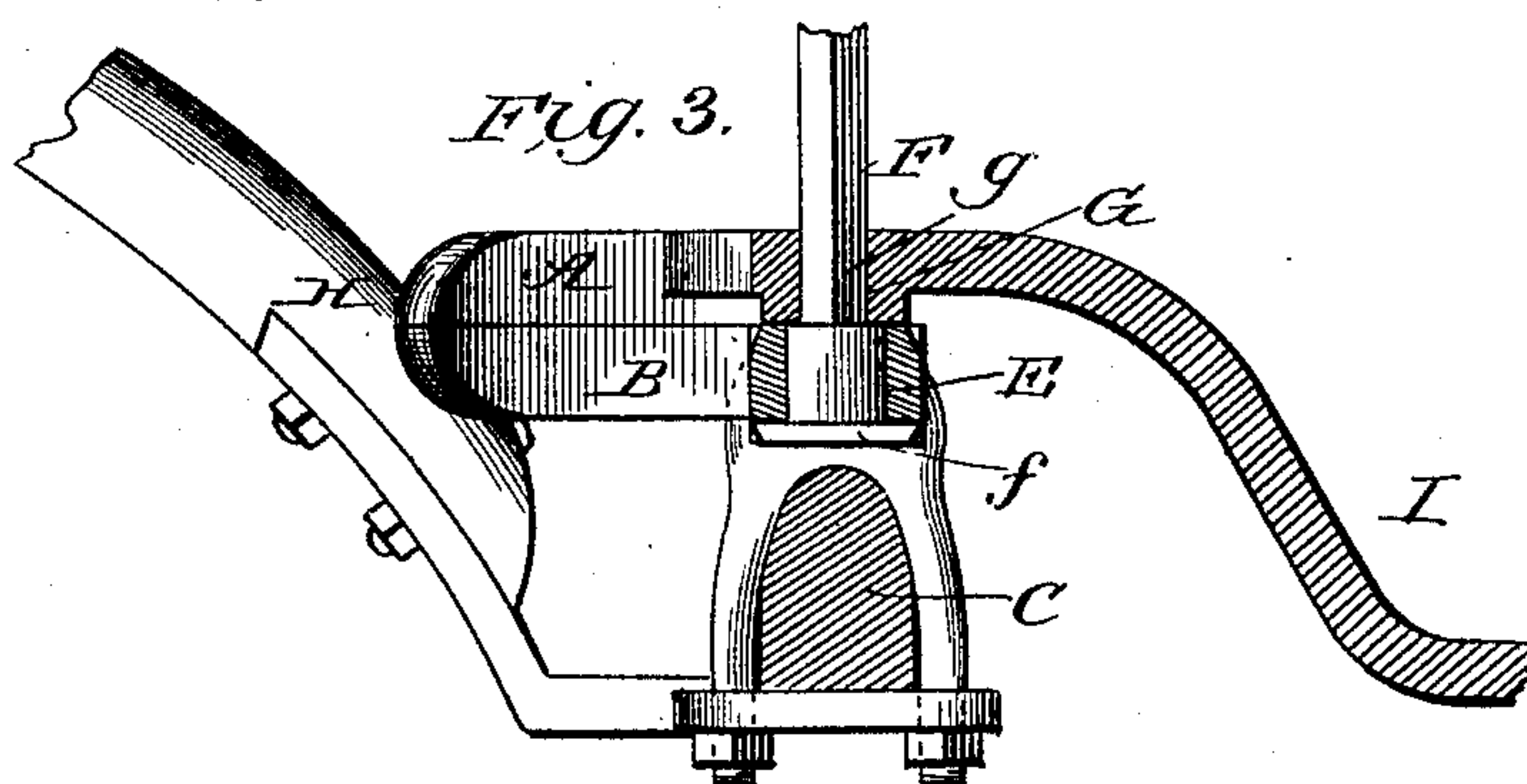
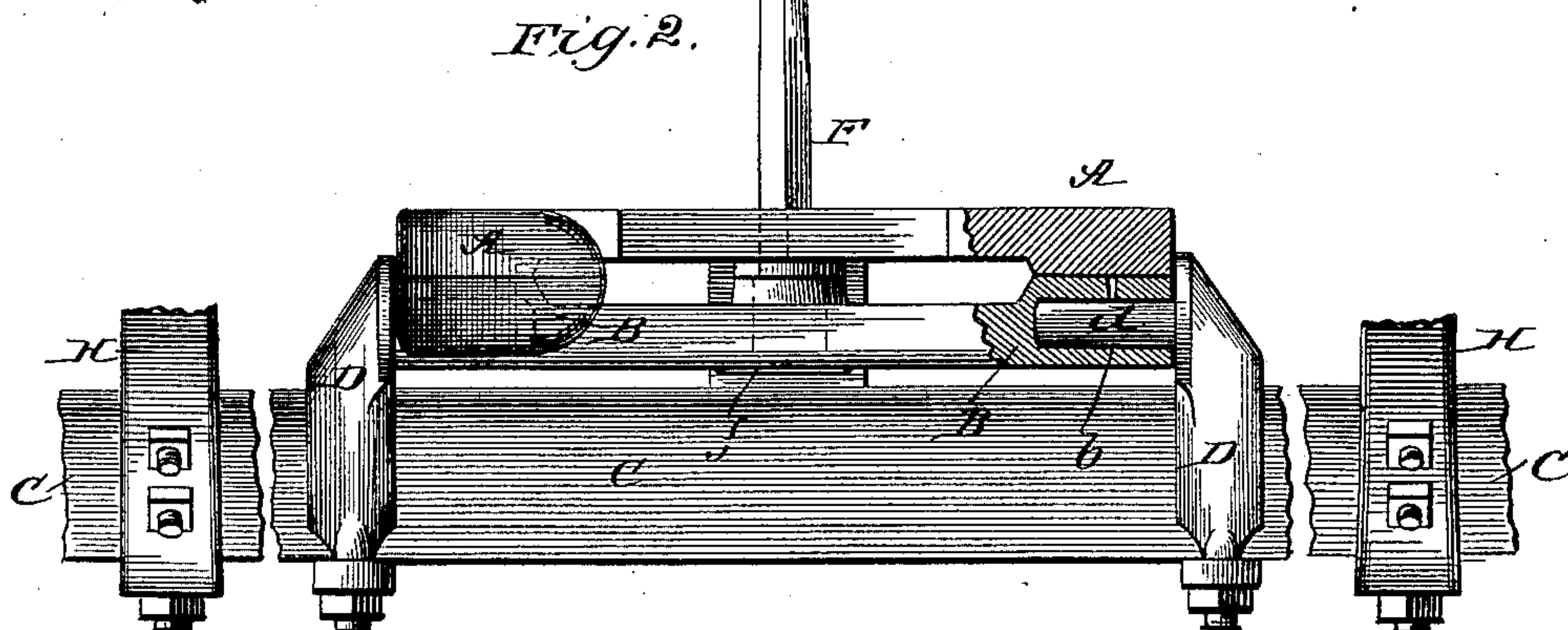
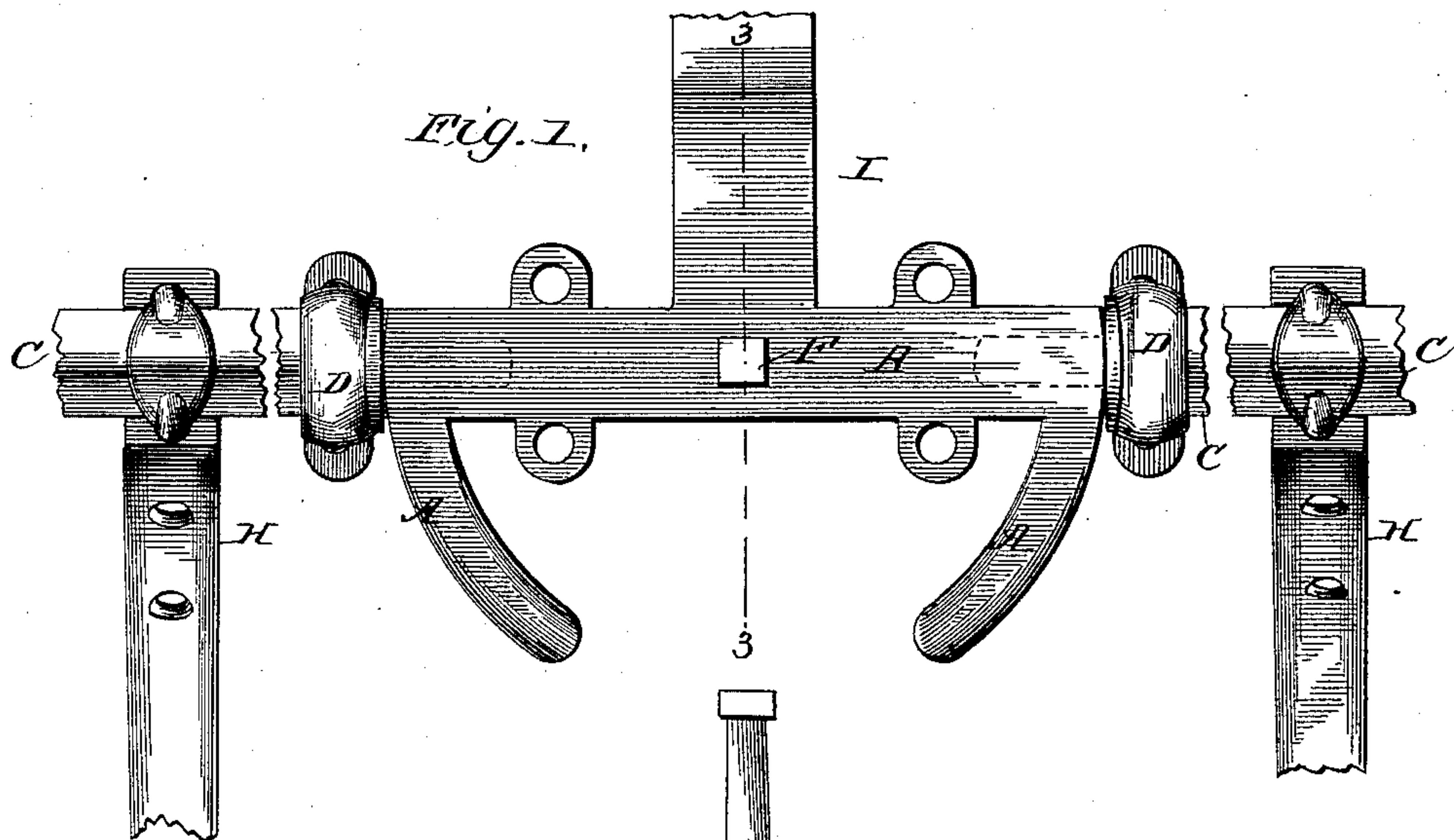


(No Model.)

P. ERB.
VEHICLE GEARING.

No. 428,835.

Patented May 27, 1890.



WITNESSES:
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UNITED STATES PATENT OFFICE.

PARIS ERB, OF NEWPORT, ASSIGNOR OF ONE-HALF, BY MESNE ASSIGNMENTS,
TO WILLIAM H. SPONSLER AND JACOB L. MARKEL, OF NEW BLOOMFIELD,
PENNSYLVANIA.

VEHICLE-GEARING.

SPECIFICATION forming part of Letters Patent No. 428,835, dated May 27, 1890.

Application filed September 10, 1889. Serial No. 323,570. (No model.)

To all whom it may concern:

Be it known that I, PARIS ERB, of Newport, in the county of Perry and State of Pennsylvania, have invented a new and useful Improvement in Vehicle-Gearings, of which the following is a specification.

My invention is an improvement in carriages and wagons, particularly in the fifth-wheel construction thereof, and especially in the particular construction employed for effecting the journaling of the lower fifth-wheel section horizontally upon the axle.

The invention has for further objects other improvements; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a top plan view of my improvement. Fig. 2 is a front view of the same, partly in section. Fig. 3 is a vertical transverse section on the line 3 3, Fig. 1.

In effecting the journaling of the lower fifth-wheel section on the axle it is desirable—in fact it may be said to be in a measure essential to the practical working of the device—that the journal or gudgeon portions and their bearings be so arranged as to be protected from the ingress of mud and the like. It is also desirable to so arrange such parts that they may be kept oiled without the oiling-hole being likely to be filled and clogged by mud, and, further, to support the fifth-wheel section so that its journals will be within its circle, thus reducing the leverage thereon, which would result from an arrangement of the journals outside the circle, and consequently farther apart than when arranged within the circle. It is also of importance to provide the journals or gudgeons so that in case of breakage thereof they can be easily replaced at a small cost. I effect these objects by the construction shown in the accompanying drawings, and which I will now describe in detail.

The fifth-wheel comprises the upper section or wheel proper A and the lower section or circle B, the latter being journaled horizontally to the axle C, so that it may tilt with respect to such part C. In carrying out this

feature of my invention I provide clips D, encircling the axle and journal the circle or lower section B to such clips. To this end I provide the clips with pivot-studs or journals *d*, which enter sockets *b* in the section B, and complete the journaling of such parts in a simple convenient manner.

It will be understood that by forming the sockets in the fifth-wheel section and the studs on the clips I effect the journaling of the fifth-wheel within the circumference thereof, so that the opposite gudgeons may be arranged close together. I also effect an arrangement of the journals and bearings, which can be lubricated through an oil-opening which leads from the upper surface of the lower fifth-wheel section and is covered by the upper section, so that mud, dirt, and the like cannot get thereto, and the clips having the laterally-projected gudgeons or journals form articles of manufacture which can be cheaply made and furnished at slight cost to the carriage-owner, so that in case of breakage at any time of one of the clips or the journal thereon another clip can be quickly applied without the assistance of any skilled labor.

The provision of the journals on the clips and the bearings in the fifth-wheel section render it convenient to use journals of sufficient length to insure an even pressure of the fifth-wheel thereon, and to prevent any twisting or tilting of the clips upon the axle.

I provide the circle B centrally with a circular opening E for the king-bolt F, such opening E being countersunk or enlarged at its lower end to receive the head *f* of the bolt F. Now it will be seen that by the journaling of the fifth-wheel and extending the king-bolt up from the bottom the said axle may be tilted with respect to the fifth-wheel to permit the application or removal of the king-bolt without necessitating the removal of the fifth-wheel. The king-bolt, as stated, is journaled in the lower section or circle B; but it should be understood that it is not journaled in the upper section or wheel proper, but is keyed to such section, this being preferably accomplished by fitting a non-circular portion *g* of shaft F in a non-circular opening G of

the section A. By this construction the bolt does not turn in its bearings in the vehicle-body or parts attached thereto, so that there will be no turning of the bolt to loosen its
5 tap or securing nut.

The shafts or thills II, or their equivalent—such, for instance, as a pole or tongue—are secured rigidly to the axle, so that the elevation or lowering of the shafts will effect a
10 turning of the axle, the center of motion being the pivotal point or journal of the lower section or circle of the fifth-wheel.

The perch-iron I is formed with the top section A at the rear side of same, and is
15 dropped, as shown, and properly bolted to the forward end of the perch. Now it will be seen that the axle swings in pivots under the fifth-wheel, so that the latter is relieved of twisting strains resulting from any unevenness or
20 roughness in the road, and so that the horse may be relieved of the upward strain or tendency of the shafts in descending a hill, and also to relieve the horse of the weight of the shafts on a level or uphill. It will be seen
25 that in descending a grade the weight of the vehicle will push forward and will operate to tilt the axle back, so that the effort of the horse to hold back the vehicle will prevent the shafts from rising. On a level or uphill
30 it will be seen that the draft exerted to pull the vehicle will so turn the axle as to hold the shafts up.

Having thus described my invention, what I claim as new is—

1. The combination of the axle and the 35 fifth-wheel having its lower section journaled horizontally in a line parallel with the axle, and the journals or gudgeons and the bearings therefor being arranged within the circle or circumference of the fifth-wheel, sub- 40 stantially as set forth.

2. The herein-described improvement in vehicle-gearing, consisting of the fifth-wheel having its lower section provided with sockets or bearings, and the clips having the 45 pivot-studs or gudgeons adapted to fit in said sockets or bearings, substantially as set forth.

3. The combination, substantially as hereinbefore described, of the axle, the fifth-wheel having its lower section provided in its 50 opposite sides with sockets or bearings arranged in line with each other and in a line parallel to the axle, and the clips fixed on the axle and having pivot-studs fitting within the sockets or bearings of the fifth-wheel, sub- 55 stantially as set forth.

4. The combination of the circle or lower fifth-wheel section, the upper fifth-wheel section, and the king-bolt extended up from the lower section through the upper section, the 60 said king-bolt being journaled to the lower section and keyed to the upper section, substantially as set forth.

PARIS ERB.

Witnesses:

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