

No. 719,562.

PATENTED FEB. 3, 1903.

A. P. BRUSH.
STEERING GEAR FOR AUTOMOBILES.

APPLICATION FILED NOV. 21, 1902.

NO MODEL.

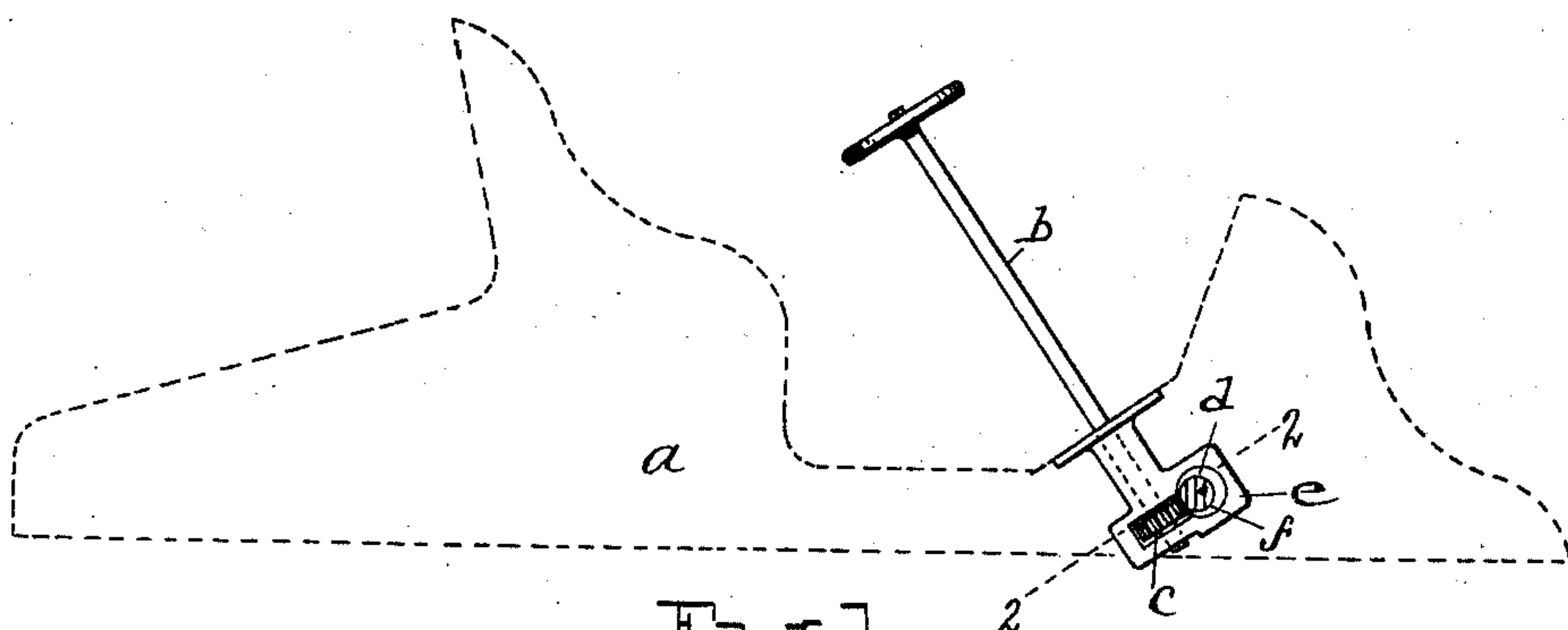


Fig. 1.

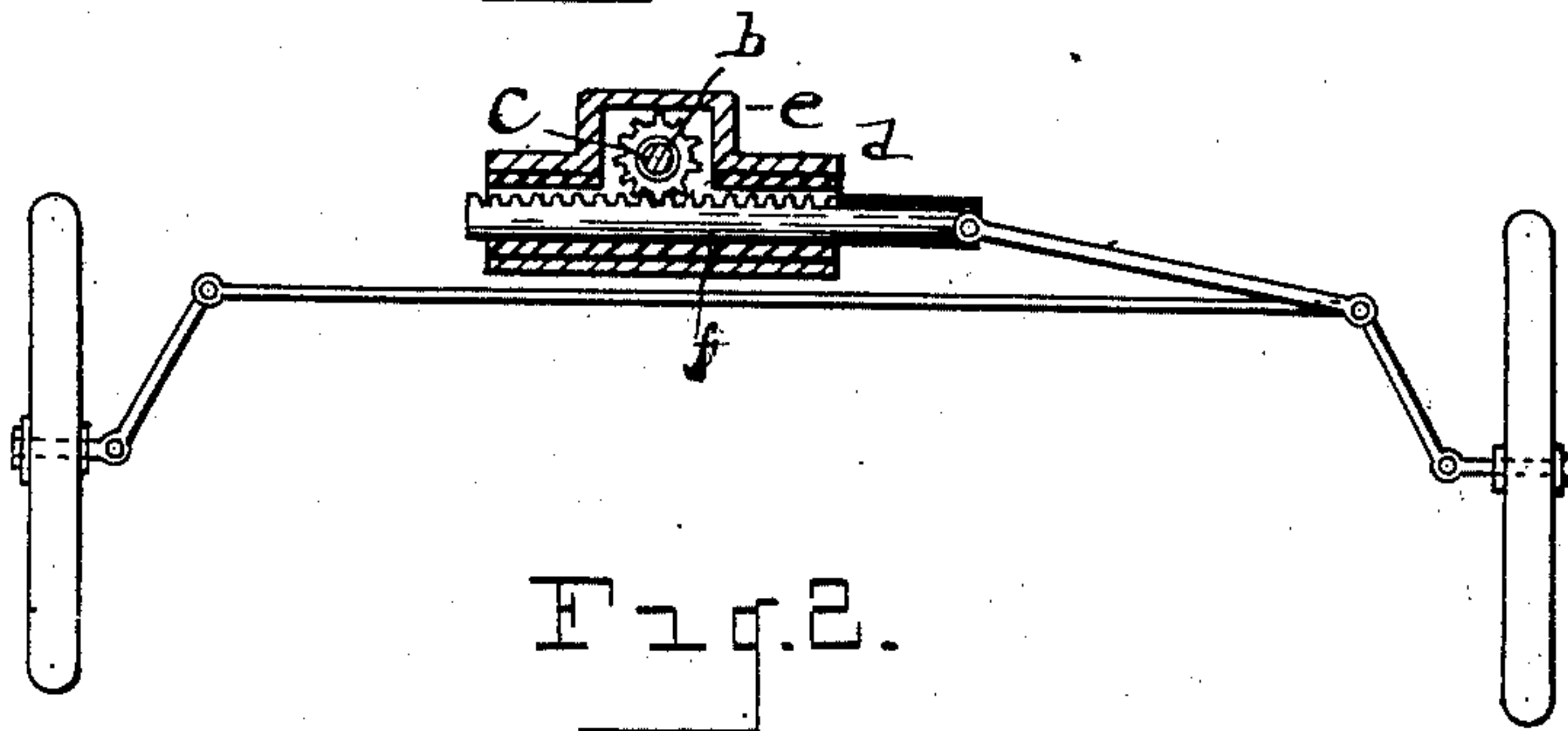


Fig. 2.

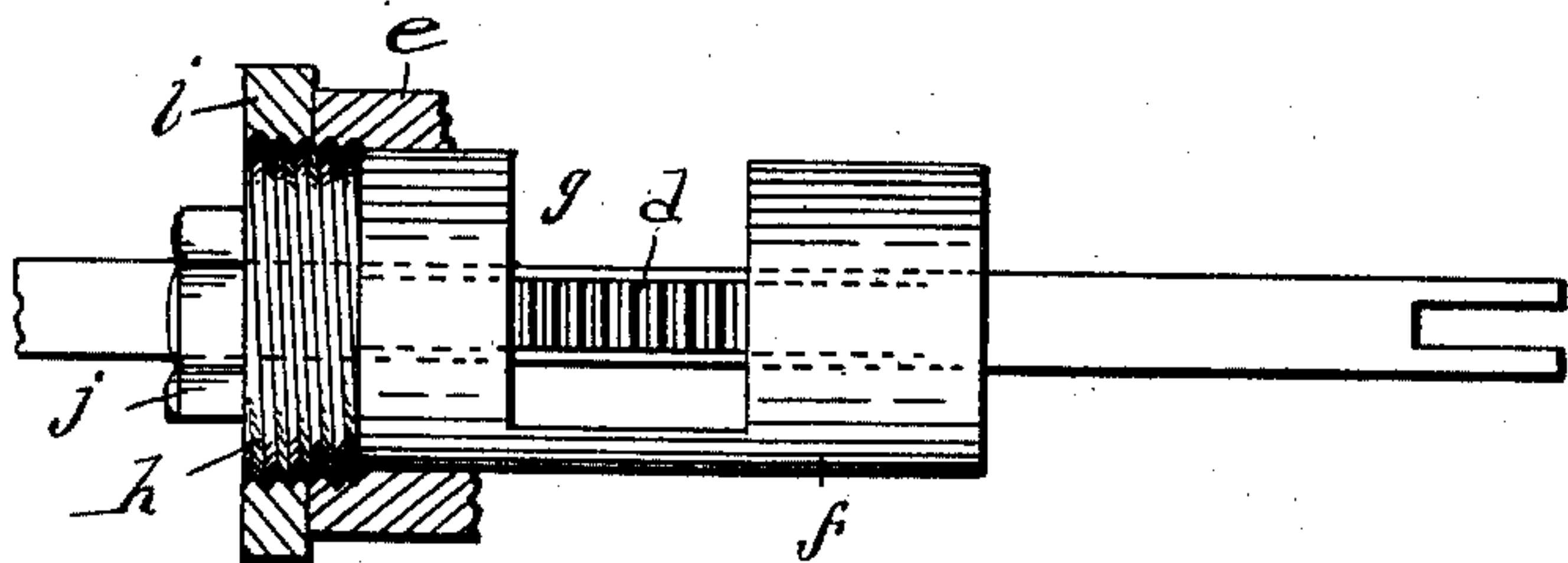


Fig. 3.

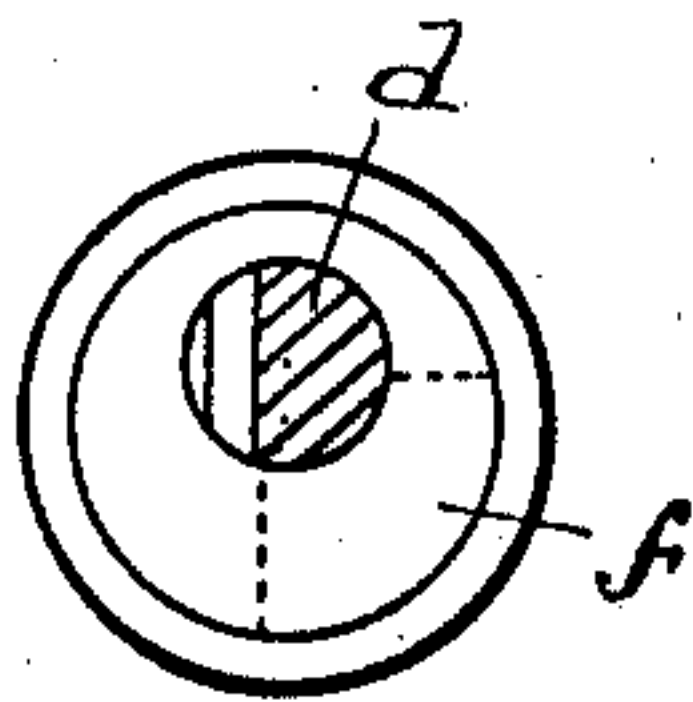


Fig. 4.

WITNESSES.

O. B. Barziger.
W. M. Struble

INVENTOR.

Alanson P. Brush
By Newell S. Wright

his Attorney

UNITED STATES PATENT OFFICE.

ALANSON P. BRUSH, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO CADILLAC AUTOMOBILE COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

STEERING-GEAR FOR AUTOMOBILES.

SPECIFICATION forming part of Letters Patent No. 719,562, dated February 3, 1903.

Application filed November 21, 1902. Serial No. 132,220. (No model.)

To all whom it may concern:

Be it known that I, ALANSON P. BRUSH, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Steering-Gear for Automobiles, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object a novel steering-gear, the same being more particularly adapted for use with automobiles, the aim of my invention being more especially to provide a simple and convenient adjustment of parts to prevent any backlash in the steering-gear.

My invention consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation, showing the body of an automobile, a portion thereof being broken away. Fig. 2 is a view in section on the line 2 2, Fig. 1. Fig. 3 is a detail view of the rack-bar and the eccentric bushing. Fig. 4 is a view in section through the rack-bar, showing the bushing in elevation.

I carry out my invention as follows:

In the drawings, *a* represents the body of an automobile, and *b* the steering-shaft, said shaft provided at its lower end with a pinion, (indicated at *c*.) With said pinion meshes a rack-bar, (indicated at *d*,) the rack-bar being made out of a round rod and connected up with other features of the automobile in the customary manner. To prevent any backlash between the pinion and the rack-bar is more specifically the purpose of this invention, which I secure by providing a frame *e*, in which is fitted an eccentric bushing *f*, through which the rack-bar reciprocates.

Said bushing is cut away intermediate its ends, as indicated at *g*, to allow its being turned about through a limited arc without interfering with the pinion. The bushing is provided with an enlarged threaded end or head, (indicated at *h*,) engaged with the frame *e* and upon which is engaged a lock-nut *i*. The bushing may be provided with a hexagonal or other suitable extremity *j*, by which it may readily be turned within the frame. It will readily be apparent that if any backlash occurs between the pinion and the rack-bar it can readily be overcome and prevented by simply turning the said eccentric bushing within the frame as required, so as to tighten the position of the rack-bar relative to said pinion.

What I claim as my invention is—

1. In a steering-gear the combination with a steering-pinion of a rack-bar meshing with said pinion, a frame in which the rack-bar reciprocates, and an eccentric bushing in said frame about the rack-bar, said bushing cut away intermediate its extremities and having a limited rotation about the rack-bar to adjust the rack-bar against the pinion.

2. In a steering-gear the combination of a steering-rod, a pinion upon the end of the rod, a rack-bar formed of a round rod toothed on one side thereof, a frame through which the rack-bar reciprocates, and an eccentric bushing in said frame about the rack-bar, said bushing cut away intermediate its extremities adjacent to said pinion and having a limited rotation to adjust the rack-bar against the teeth of the pinion.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALANSON P. BRUSH.

Witnesses:

N. S. WRIGHT,
M. M. STRUBLE.