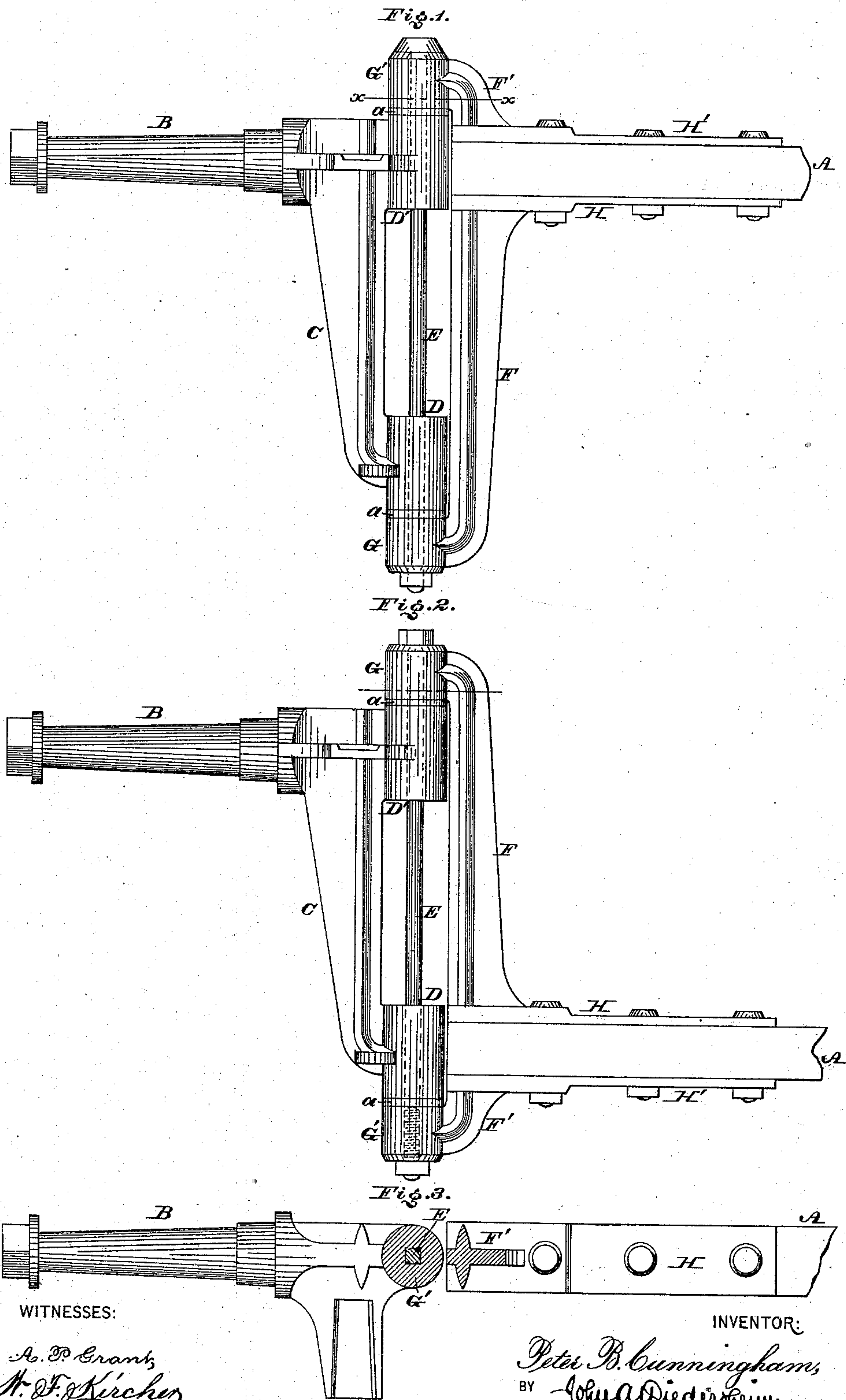


(No Model.)

P. B. CUNNINGHAM.  
TURNING GEAR FOR VEHICLES.

No. 252,434.

Patented Jan. 17, 1882.





# UNITED STATES PATENT OFFICE.

PETER B. CUNNINGHAM, OF ALLENTOWN, PENNSYLVANIA.

## TURNING-GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 252,434, dated January 17, 1882.

Application filed June 21, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, PETER B. CUNNINGHAM, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and useful Improvement in Turning-Gear for Vehicles, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of the turning-gear embodying my invention. Fig. 2 is a similar view, some of the parts being reversed. Fig. 3 is a horizontal section in line *xx*, Fig. 1.

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

My invention consists in constructing the turning portions of the axle each of a journal, laterally or inwardly extending bosses, and a perpendicular web which projects outwardly from the bosses and is connected to the journal.

It also consists in constructing the stationary portions of the axle each of upper and lower parts separate from each other, each part being formed of a boss, an inwardly-projecting web, and an inwardly-projecting iron or flange, the ends of the stationary axle being bolted to the irons or flanges of said upper and lower parts of the stationary portions. By these constructions the journals are firmly connected and sustained, spreading of the gear is avoided, and the parts of the stationary portion are applicable and removable independently of each other, being independent of the stationary axle, and the entire gear is strong, durable, serviceable, and inexpensive.

It also consists in rendering the stationary portion of the gear reversible, whereby it is adapted for both high and low-down springs and bodies of vehicles.

Referring to the drawings, A represents the stationary portion of the axle of a coach or vehicle, and B the turning portion or journal thereof, which latter is formed of suitable metal, with which is cast or wrought a perpendicular web, C, at whose ends are inwardly-projecting bosses D D', having vertical openings for the passage of the axial bolt E.

F represents a metallic web extending perpendicularly and having at its lower end an outwardly-projecting boss, G, which is formed with an opening for the passage of the axial bolt E, and having at its upper end a flange

or iron, H, which is bolted or otherwise firmly connected to the under side of the stationary portion of the axle, which may be wood or metal. To the upper side of said portion A is bolted or otherwise firmly connected a flange or iron, H', with which is formed a web, F', the latter carrying an outwardly-projecting boss, G', through which the bolt is E passed, it now being noticed that the parts A B of the gear are connected by said bolt E, and the webs are parallel.

It will be seen that the bosses D D' are within the bosses G G', or in the same right line, so that the bolt E passes directly through the several bosses.

It will also be seen that each pair of bosses bear against and support each other, and are braced by the perpendicular webs while being retained in position by the axial bolt, so that there is great strength in the joint of the gear in its perpendicular direction, and this serves to prevent any lateral motion or give of the gear, whereby breakage or fracture of the gear under ordinary circumstances is prevented. Furthermore, by my construction I concentrate or center the parts of the joint of the gear and avoid spreading of the same, and the bolt extends from end to end of the gear, whereby the gear possesses great strength and is enabled to endure the severe wear and strain to which it is subjected.

Interposed between adjacent bosses is a washer, *a*, of rawhide or other suitable material, which serves to ease the wear of the bosses on each other and prevent rattling of the gear. When the parts are worn the nut of the bolt is tightened, so that the gear may always be kept firmly together, and when said bolt is worn it may be removed and a larger one substituted therefor.

By removing the bolt the stationary part of the axle and connected parts of the gear may be reversed and reapplied, as in Fig. 2, thus adapting the gear for low-down springs and bodies. For this purpose the web F' is made shorter than the web F.

The gear is provided with suitable lugs attached to the journal-webs out of center for the connection of the turning-bars of the gear, whereby said bars have a greater range of motion and power.

Having thus described my invention, what



I claim as new, and desire to secure by Letters Patent, is—

1. The turning portion of the axle, consisting of the journal and bosses, and a perpendicular web, C, which connects the journal and bosses and projects outwardly from the bosses, substantially as and for the purpose set forth.

2. The stationary portion of the axle, consisting of two separate parts, each formed of a boss, an inwardly-projecting web, and an inwardly-projecting iron, one part being above and the other below the stationary axle, and both irons bolted or otherwise secured thereto, substantially as and for the purpose set forth.

3. The stationary portion of the axle, provided with gear which is reversibly connected

to the gear of the turning portion, whereby the gear is adapted both for high and low-down springs and bodies of vehicles, as stated.

4. The turning portion consisting of the journal, perpendicular web, and bosses, in combination with the two-part stationary portion consisting of the bosses, perpendicular web, and horizontal irons or flanges, the two webs projecting from the respective bosses on opposite sides of the axial bolt C, substantially as and for the purpose set forth.

PETER B. CUNNINGHAM.

Witnesses:

JOHN A. WIEDERSHEIM,  
A. P. GRANT.