

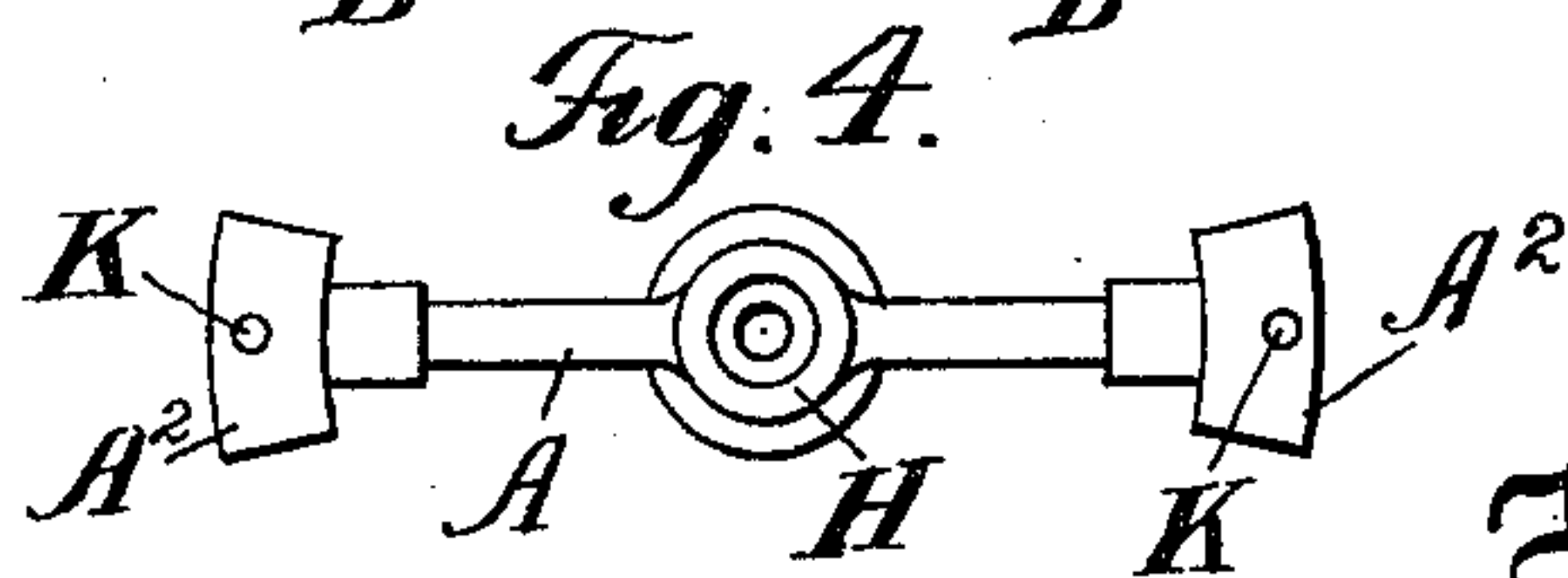
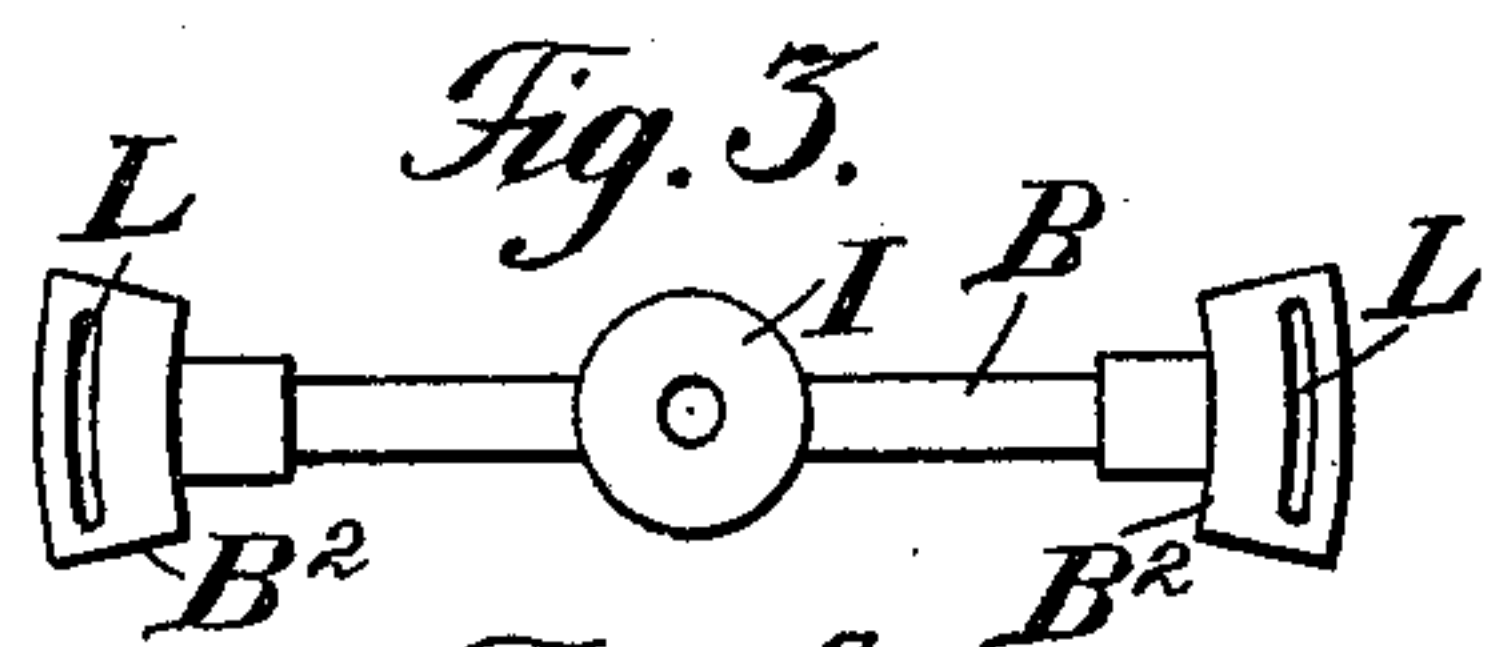
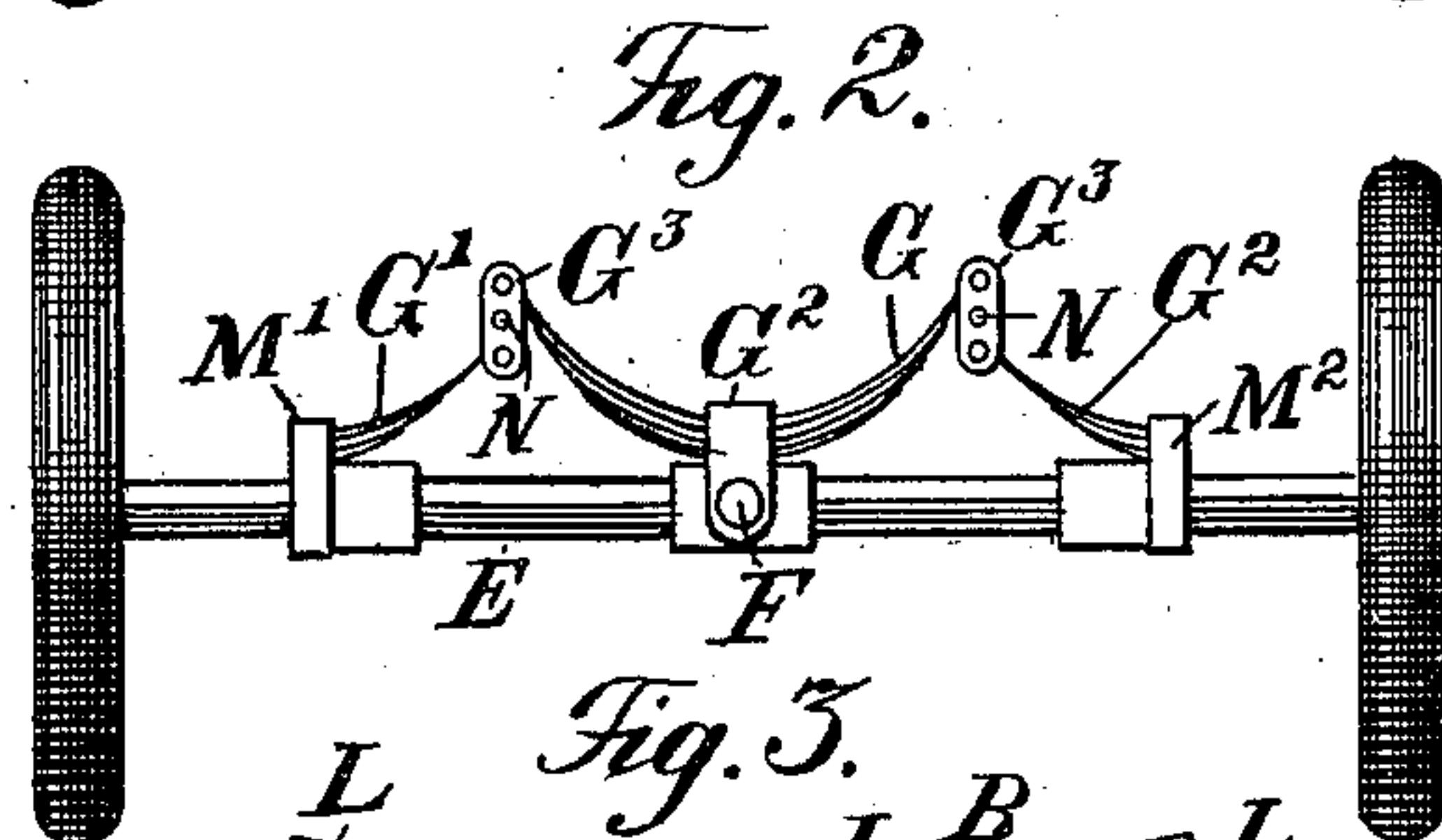
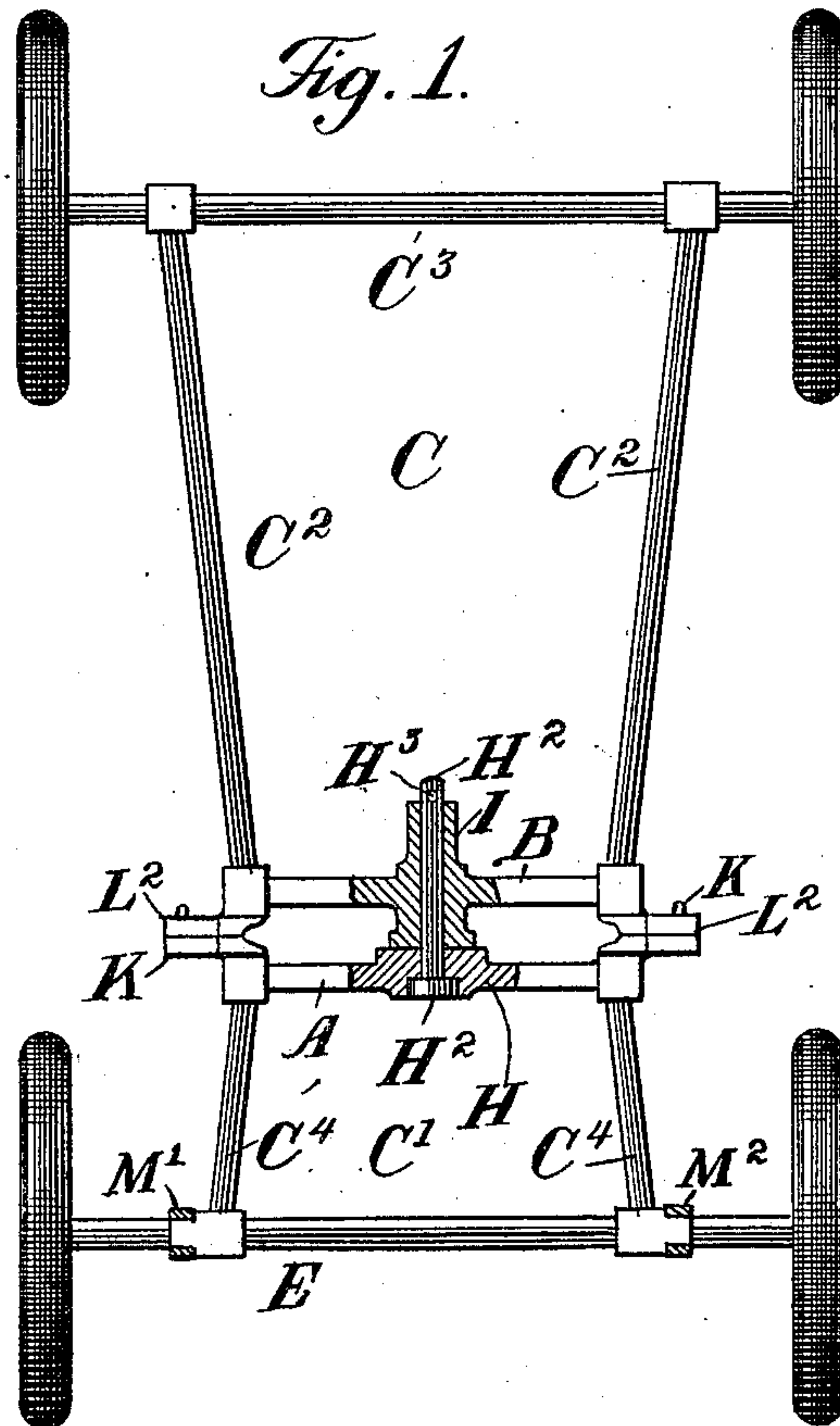
No. 684,793.

Patented Oct. 22, 1901.

F. S. COLES.
MOTOR VEHICLE.

(Application filed Jan. 2, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDERICK SANDERCOMB COLES, OF BALHAM, ENGLAND.

MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 684,793, dated October 22, 1901.

Application filed January 2, 1901. Serial No. 41,768. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SANDERCOMB COLES, a subject of the Queen of Great Britain, residing at Balham, in the county of Surrey, England, have invented certain new and useful Improvements in Motor-Vehicles, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to motor-vehicles, and particularly to the underframe or running-gear thereof; and the object of the invention is to reduce the strain on the said underframe or running-gear of vehicles of this class by allowing the wheels to freely follow any unevenness of the roads over which the vehicle may pass, thereby producing less vibration and strain and doing away to a large extent with the danger of overturning the vehicle, a further object being to reduce the vibration of the top frame or body of the vehicle, also to reduce the friction and consequent wear of the motor-gearing and other parts; and with this and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is a plan view of the underframe or running-gear of a motor-vehicle constructed according to my invention; Fig. 2, an elevation of one of the axles and showing the parts connected therewith; Fig. 3, an elevation of a pivot-bar forming part of the underframe or running-gear, and Fig. 4 an elevation of another pivot-bar forming part of said underframe or running-gear.

My improved underframe or running-gear for motor-vehicles is composed of two parts C and C'. The part C consists of side bars C², connected at one end with one of the axles C³ and at the opposite end by a pivot-bar B, while the other part C' consists of side bars C⁴, connected at one end with the other axle E and at the opposite end by another pivot-bar A. The pivot-bar A is provided cen-

trally with a pivot-bearing H, containing a pivot-pin H², which works in a boss I, formed on the bar B, which forms a part of the frame C, and the pivot-pin H² is provided with a key-pin H³, which prevents any end movement between the parts H and I, or, in other words, prevents the separation of these parts; but a nut or any other suitable device may be substituted for the key-pin H³. At each end of the bar B is a cross-head B², in which is formed a segmental slot L, which ranges vertically with reference to the underframe or running-gear, and the bar A is provided at each end with a corresponding cross-head A², each of which is provided with a pin K, and the pins K pass through the slots L in the cross-heads B² and may be secured by means of a key-pin or nut or in any desired manner. The pins K may consist of bolts or may be formed integrally with the cross-heads A², or any suitable construction may be substituted, the object being to permit the cross-heads B² and A² to slide freely one upon the other. By means of this construction it will be seen that the separate parts C and C' of the underframe or running-gear are free to turn about the center pivot, while being at the same time firmly connected, thus providing means whereby the axles and wheels of the underframe or running-gear are at liberty to accommodate themselves to any unevenness or irregularity in the surface of the road over which the vehicle may pass.

A spring G is attached to the axle E, centrally thereof, by means of a yoke-shaped clip G² and a bolt or pin F, and the ends of the spring G are connected to links G³, which are suspended therefrom and with which in practice the upper part or body of the vehicle is connected by means of bars or pins or other suitable devices passing through holes N in said links, said bars, pins, or other devices not being shown, and the other ends of the links G³ are connected with supplemental springs G' and G², which springs are secured at M' and M² to axle E.

It will be understood that although I have described and illustrated the method of construction which I consider preferable I may vary the details of this construction without departing from the spirit of my invention or sacrificing its advantages. For example, one

portion of the underframe or running-gear might merely consist of one of the axles into which the frame and axle constituting the other portion would be directly pivoted, or
5 the central pivoted and slotted plates on the bars A and B might consist of registered plates to allow of a turning movement with or without bolts or their equivalent devices, but secured so as to prevent end or lateral
10 movement, and the central pivot-plates may or may not have a hole through their centers where the pivot-pin H is shown in the drawings, and I do not limit myself to the use of this underframe for two pairs of wheels only,
15 as herein shown, but may use it in connection with vehicles requiring any number of wheels in their construction.

Having fully described my invention, what I claim as new, and desire to secure by Letters
20 Patent, is—

1. In a motor-vehicle, an underframe or running-gear, consisting of two parts connected so as to allow the axles to turn in a vertical plane independently of each other,

one of said axles being provided with a central spring pivotally connected therewith, and adapted to support the body of the vehicle from the ends thereof and reinforcing-springs connected with the axle and with the ends of said first-named spring, substantially as
30 shown and described.

2. A vehicle, one of the axles of which is provided with a central spring pivotally connected therewith and the ends of which extend upwardly and are adapted to support
35 the body of a vehicle, and reinforcing-springs connected with the axle and with the ends of said first-named spring, substantially as shown and described.

In testimony that I claim the foregoing as
40 my invention I have signed my name, in presence of the subscribing witnesses, this 19th day of December, 1900.

FREDERICK SANDERCOMB COLES.

Witnesses:

HERBERT SANDERCOMB COLES,
CHARLOTTE HELEN COLES.