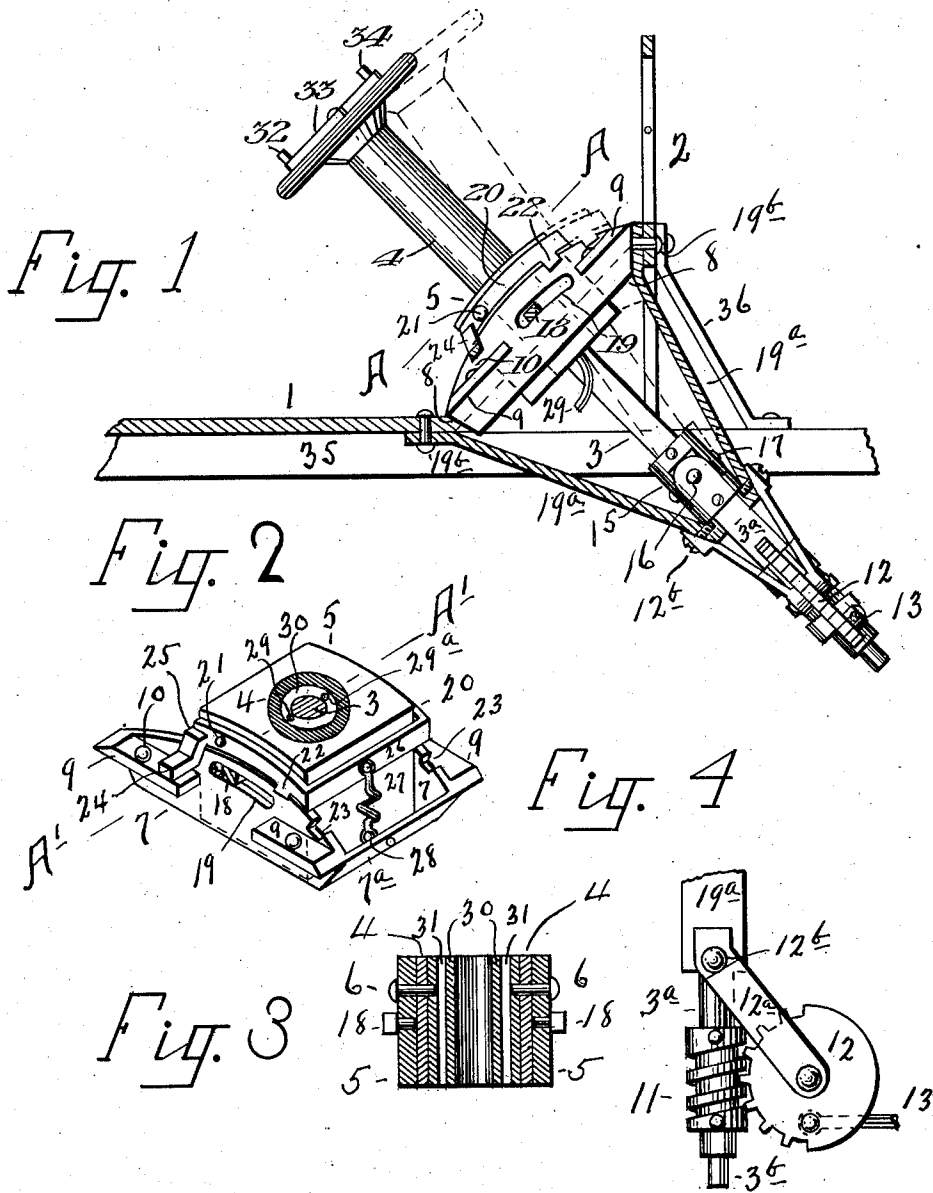


J. H. STULL.
UNIVERSAL JOINTED AUTOMOBILE STEERING ROD.
APPLICATION FILED OCT. 31, 1910.

1,025,215.

Patented May 7, 1912.



WITNESSES
Carl J. Heffner.
E. Loudenslager

INVENTOR
Jacob H. Stull
Frank J. Tuttle
Atty.

UNITED STATES PATENT OFFICE.

JACOB H. STULL, OF FREMONT, OHIO.

UNIVERSAL-JOINTED AUTOMOBILE STEERING-ROD.

1,025,215.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed October 31, 1910. Serial No. 589,852.

To all whom it may concern:

Be it known that I, JACOB H. STULL, citizen of the United States, residing at Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Universal-Jointed Automobile Steering-Rods, of which the following is a specification.

In the construction of automobiles, it is well known that there are many makes wherein for some reason it is impractical to tilt the steering rod, and that in consequence the hand wheel is made to so encroach upon the room of the driver, that while it is made to occupy a suitable position for his use when operating his machine it very much interferes with his comfort in getting out and into the carriage; and it is the general purpose and object of my invention to overcome this inconvenience, which I do in the manner hereinafter set forth.

A further object of my invention is to provide a suitable guide and stay for both the throttle and spark controlling rods, which being located intermediate of the ends thereof serves to reinforce them, and thereby permit the use of a lighter and more flexible rod; as well as to reinforce the steering rod.

Referring to the drawings: Figure 1 represents a side view of my device as seen in place with the body of the carriage cut in longitudinal section; Fig. 2 represents a perspective view of the same, the steering rod and its casing being cut in cross section on the line A A of Fig. 1; Fig. 3 represents a vertical cross section of Fig. 2 on the line A¹—A¹ of Fig. 2; Fig. 4 represents a detail view of parts shown in Fig. 1.

In a more detailed description of my invention it may be understood that 1 is the floor of the carriage body, 2 being its dash. Whether the steering rod 3 be of the solid type, made to operate within a casing 4 as I have shown, or be itself a hollow shaft, I provide the same with a suitable collar 5 which is preferably rectangular in form, and which in the present instance is secured to said casing by a pin 6 (Fig. 3); and the same is made to slide back and forth between guide walls 7, which preferably are suitably spaced apart. In the present construction they are shown as forming the side walls of

a box, the ends 7^a being integral with said walls, while the box is open, top and bottom. To accommodate said walls or wall plates, a suitable slot 8, not shown, is cut lengthwise of said floor, and to secure said plates thereto they are provided with suitable flanges 9, which by bolts 10 are secured in place. Said rod 3, for purposes hereafter explained, is divided into two members, and the lower one 3^a, as represented in Fig. 1, and shown in some detail in Fig. 4, carries a worm 11, which meshes with a suitable gear wheel 12 or segment thereof; and to which in turn is pivoted one end of a rod 13.

It is common knowledge, with those versed in the art, that there are many different methods of making operative connection, between the steering rod and the hinged studs upon which the forward wheels turn. In the drawings, for purpose of illustration I have selected one of the more common sorts, and in reference thereto it will be understood that the rod 13 is made to connect with other steering mechanism in the usual and ordinary way, and that the lower end of said member 3^a has its spindle 3^b suitably journaled; and further that since I make no claim therefor, I do not show such mechanism in more detail; it being understood that the mechanic is at liberty to use any means therefor which is at his command. In order that said rod may be tiltable, regardless of whether the same might otherwise be tilted or not, I provide a universal joint 15 with which I connect the two members of said rod; by which means said rod may be tilted while the forward wheels have different relative positions. Manifestly different styles or forms of such joints may be utilized for the purpose without departing from the spirit of my invention. In the drawings I have shown one of the most common kind, wherein the rod may be tilted about either of the pivots 16 or 17, the axis of which intersect each other at right angles. Since these joints are so familiar to those conversant with the art I do not show said joint in more detail. In order that said casing may be supported by the body, or frame work of the carriage I provide said collar with a stud 18 which I make to operate in a slot 19 of the plate 7. And in order to support said

rod 3, as well as to stay the same against yielding from alinement at its joints, except as the same is intentionally tilted, the member 3^a is made to pass through a staying bracket 19^a, upon which the lower member of said joint 15 is made to ride; and which is secured to the carriage body, and to the part 7^a, at its opposite ends, by means 19^b; and to this bracket the gear wheel 12 is shown as hung by the hanger 12^a which is secured thereto by means 12^b; but as already stated the manner of hanging forms no part of my invention. In order to lock said rod in position, either forward or back, I provide said collar with a suitable locking dog 20 which is pivoted thereto by a pivot 21, and near its forward end I provide it with a locking member 22, which is integral therewith and is made to engage a locking notch 23 cut in the upper edge of said wall plate 7.

For the purpose of illustration I have selected a carriage having its floor given some angle at the point where the feet of the driver usually rest; but whether the floor be of this type, or be level as many are, it should be understood that the upper edge of said wall plate is to be given an arc, with radii leading from the pivot 16 as a center. Said dog, for better security, is preferably made in pairs, one upon each side of the collar 5; and correspondingly made to lock with the plate 7 upon each side. For tripping purposes one of said dogs, or both if desired, is provided with a trip 24, which in the drawings is shown with an off set 25 to clear said plate, as the steering rod is moved back and forth; and for better and more prompt locking action of said dogs, I suitably join them at their forward ends by connecting means 26, to which I connect one end of a spiral tension spring 27, the opposite end of which is secured to said collar by means 28. And thus whether said rod be placed in either a forward or rear position the same is securely held in place.

Inasmuch as the use of a solid steering rod is more generally preferred, thus rendering it necessary to provide the same with a casing, within which the throttle and spark controlling rods are made to operate, as I have illustrated, and which are designated as 29 and 29^a respectively,—for the purpose of reinforcing the same, and thus permit the use of a lighter and more flexible rod, as well as to lend firmness to the steering rod, I interpose between said casing and rod, a short section of suitable tubing 30 which is permanently secured to said casing by means of said pin 6, as more particularly shown in Fig. 3; said pin being made to pass through said casing and enter the wall of said tube. And to accommodate said rods 29 and 29^a severally, I provide said

tubing with suitable cylindrical openings 31 which extend lengthwise of said tubing, and within which its appropriate rod is made to operate.

In Fig. 1, 32 represents a handle or knob to the usual throttle lever 33, and 34 is a knob to the lever which controls the spark; it being understood that said levers are respectively used to operate the rods 29 and 29^a. 35 is a stringer and 36 a dash brace.

This invention differs from others of like character in that it is adapted to be attached to any machine without any alteration below joint in steering rod, which is of much utility and a marked improvement over similar devices.

Having described my invention what I claim is:

1. In a device of the character described the combination of a universal jointed steering rod; a slotted carriage body; a tubular casing for said rod and within which the same is made to operate, together with a collar for said casing which is preferably of the rectangular form and carried thereby; suitable flanged guide plates for said slot between which said collar is made to operate, together with means by which said plates are held in place; suitable studs for the support of said collar, with which the same is provided, and a slot in said guide plates therefor, one for each such plate, and in which said studs are severally made to operate, together with a supporting and staying bracket for said rod near its joints whereby the same is supported to said carriage body, and held in place; a pair of tripable dogs, both of which are oppositely pivoted to said collar, and each of which is provided with a locking member, together with cooperating locking notches therefor with which said guide plates are provided, which are made to receive said locking members, and suitable connecting means between said dogs; together with an accelerating spring between said connecting means and a relatively immovable part, whereby said rod may be tilted and the same be held in any predetermined position.

2. In a device of the character described the combination of a tiltable tubular casing; a slotted frame work therefor; a collar for said casing, which is preferably of the rectangular form and carried thereby; suitable flanged guide plates for said slot, between which said collar is made to operate, together with means by which said plates are held in place; suitable studs, for the support of said collar with which the same is provided, and a slot in said guide plates therefor, one for each such plate and in which said studs are severally made to operate; a pair of tripable dogs both of which are oppositely pivoted to said collar,

and each of which is provided with a locking member, together with cooperating locking notches therefor, with which said guide plates are provided which are made to receive said locking members, and suitable connecting means between said dogs, together with an accelerating spring between said connecting means and a relatively immovable part, whereby when said casing is

tilted it may be held in any predetermined position.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB H. STULL.

Witnesses:

CARL J. HEFFNER,
FRANK J. TUTTLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."