PATENT SPECIFICATION

Application Date : May 2, 1928. No. 12,890/28. **311,083**

Complete Left : Jan. 19, 1929.

Complete Accepted : May 9, 1929.

PROVISIONAL SPECIFICATION.

Axles for Motor Vehicles.

We, THE ALVIS CAR & ENGINEERING COMPANY LIMITED, a British Company, and GEORGE THOMAS SMITH-CLARKE, a British Subject, both of Holyhead Road, Coventry, Warwickshire, do hereby declare the nature of this invention to be as follows:—

This invention relates to axles for motor vehicles, of the kind comprising upper and lower parallel beams, the ends of which carry bearings adapted to support sliding stems carrying the road wheels.

The object of the invention is to provide a construction which will combine strength, lightness and simplicity, and economy in manufacture.

According to this invention, the two beams are formed as similar stampings bowed or arched at the centre, and at the end of each is formed means, such as an eye adapted to have fixed in it a tubular housing, for guiding the sliding stem.

Thus the distance between the centres of the beams can be considerable to accommodate gearing or the like between them, without excessive spacing of the ends of the beams. Also the beams can be stamped with attachment brackets.

In carrying out the invention, each beam may be a stamping of H or other angle section with a bow or arch at the centre. Thus, when mounted one above the other, the ends may be relatively close, whilst there is a much wider space at the centre to accommodate the wheel-driving mechanism or other parts.

At the ends of each beam an eye is formed, the internal sides and end surfaces of which can be accurately machined so that those in one beam register with those in the other.

In each eye is fixed a tubular housing provided at one end with a shoulder or outward radial flange to abut one end of the eye. A collar or nut screwthreaded on the outside of the housing abuts the other end of the eye and secures the housing which is prolonged beyond the fixing nut.

The sliding stem attached to the road wheel axle and serving also for the wheel pivot if the wheel is a steerable one, carries an enlarged part which slidably engages the interior of the housing. Above this enlarged part and around the stem is mounted the coil suspension spring so that it bears on the shoulder formed by the enlarged part, and at its other end engages a shoulder in the housing which may be formed by inward flanging of the end thereof. If the stem forms the pivot of a steerable wheel, it projects beyond the housing for attachment to the steering mechanism.

Each beam may be formed, during the stamping, with brackets suitable for the attachment of driving mechanism or other parts, or for attachment of the beams to the frame of the vehicle.

It will be seen that the invention enables axles of the above mentioned kind to be produced economically, whilst at the same time providing for accuracy and easy assembly.

Dated this First day of May, 1928.

ERIC W. WALFORD,
Fellow of the Chartered Institute of Patent Agents,
19, Hertford Street, Coventry,
Agent for the Applicants.

COMPLETE SPECIFICATION.

Axles for Motor Vehicles.

We, THE ALVIS CAR & ENGINEERING COMPANY LIMITED, a British Company, and GEORGE THOMAS SMITH-CLARKE, a British Subject, both of Holyhead Road, Coventry, Warwickshire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to axles for motor vehicles, of the kind comprising

Price 1/-

upper and lower parallel beams, the ends of which carry bearings adapted to support sliding stems carrying the road wheels.

The object of the invention is to provide a construction which will combine strength, lightness and simplicity, with economy in manufacture.

According to this invention, the two beams are constituted by similar stampings each bowed or arched at the centre, and provided at each end with means, such as an eye, adapted to have fixed in it a tubular housing, for guiding the sliding stem.

Thus the distance between the centres of the beams can be considerable to accommodate gearing or the like between them, without excessive spacing of the ends of the beams. Also the beams can be stamped with attachment brackets.

The accompanying drawing is a front elevation, partly in section, of a front axle of a front-driven motor vehicle. This shows two beams 2 and 3 each bowed at 4 and provided at the end with an eye.

Each beam may be a stamping of H or other angle section with a bow or arch at the centre. Thus, when mounted one above the other, in the manner shown, the ends are relatively close, whilst there is a much wider space at the centre to accommodate the wheel-driving mechanism or other parts.

The eyes 5 at each end are aligned and in each is fixed a tubular housing 6 provided at one end with a shoulder 7 or outward radial flange to abut one end of the eye. A collar or nut 8 screw-threaded on the outside of the housing 6 abuts the other end of the eye and secures the housing which is prolonged beyond the fixing nut 8.

Each two-part sliding stem 9 attached to the axle of the road wheel 10, and serving also for the wheel pivot if the wheel is a steerable one, is guided in inwardly projecting shoulders 11 on the housings 6 and, as a further guiding means, the axle carries tubular guides 12 which slide inside the housings. Coil springs such as 13 or 14 abut against a part on the axle and the inwardly projecting shoulders. If the stem 9 forms the pivot of a steerable wheel (as in the case illustrated), it projects beyond the housing for connection with the steering mechanism. For example, a steering arm 15 is shown as being attached to the lower end of each stem. These arms would be coupled to the steering gear.

Each beam may be formed, during the stamping, with brackets (not shown) suitable for the attachment of driving mechanism or other parts, and/or with brackets 16 for attachment of the beams to the frame 17 of the vehicle.

It will be seen that the invention enables axles of the above mentioned kind to be produced economically whilst at the same time providing for accuracy and easy assembly.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An axle of the kind referred to, comprising two beams constituted by similar stampings each bowed or arched at the centre and provided at each end with means, such as an eye, adapted to have fixed in it a tubular housing, substantially as and for the purpose described.

2. An axle as claimed in Claim 1, in which each housing is formed with a shoulder such as 7 and carries a nut adapted to engage opposite sides of an eye on the beam, substantially as and for the purpose described.

3. The complete axle for a motor vehicle substantially as described or illustrated in the accompanying drawing.

Dated this 18th day of January, 1929.

ERIC W. WALFORD,
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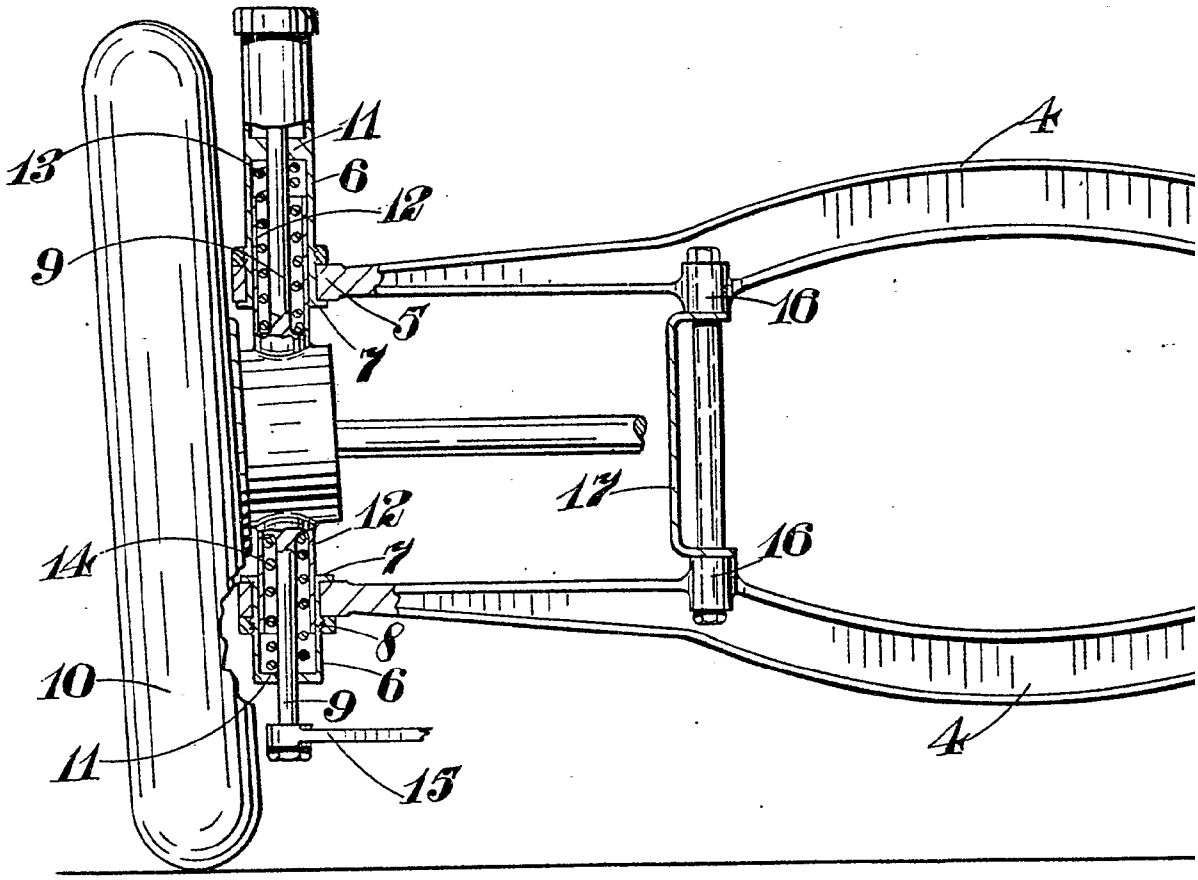
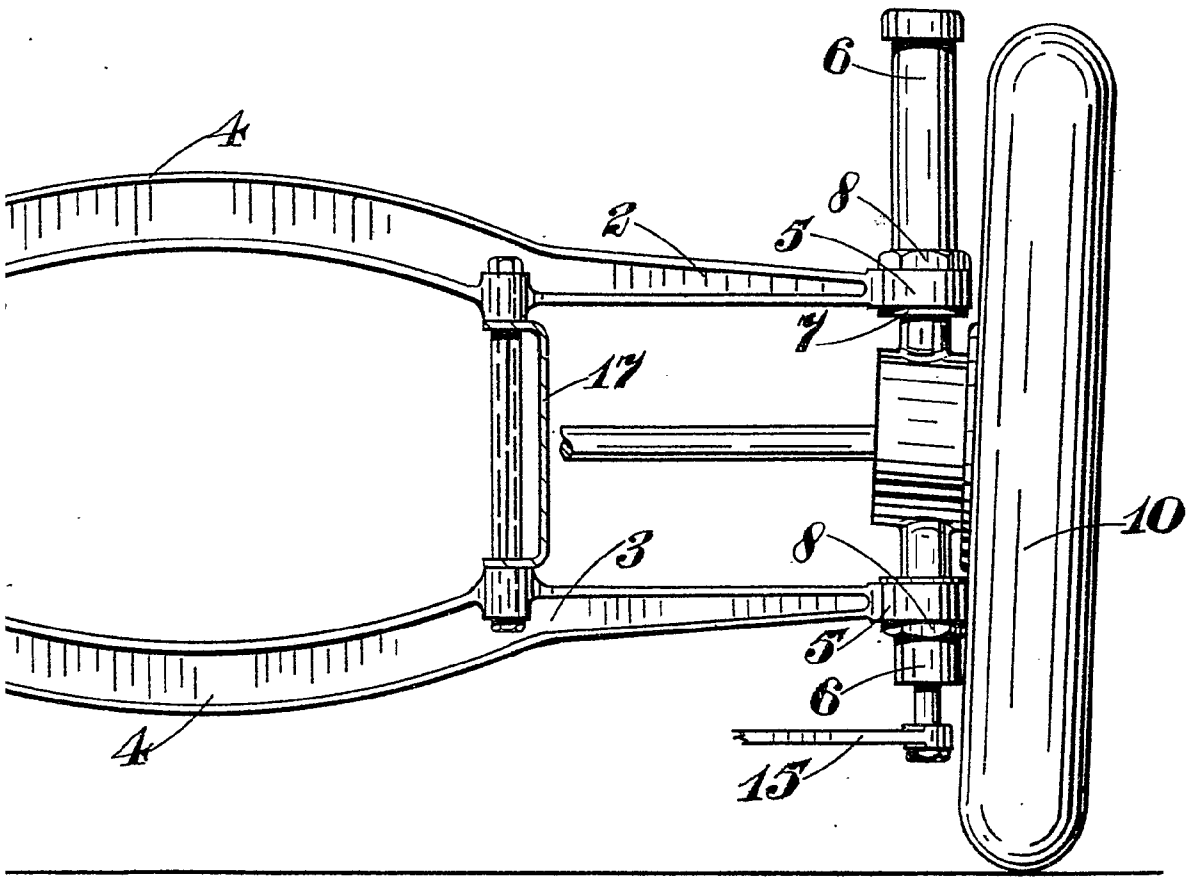
Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1929





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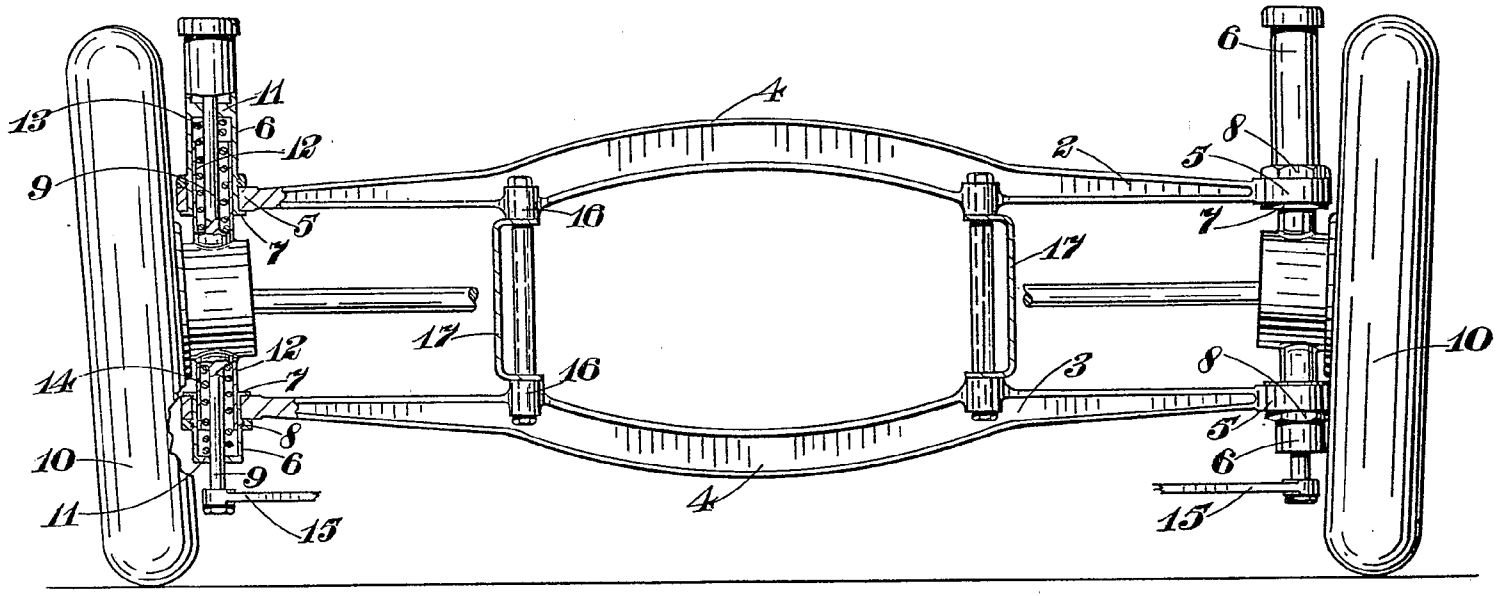
[This Drawing is a full-size reproduction of the Original.]



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