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PATENTED JUNE 5, 1906.

J. SPYKER.
AUTOMOBILE.
APPLICATION FILED OCT. 16, 1905.

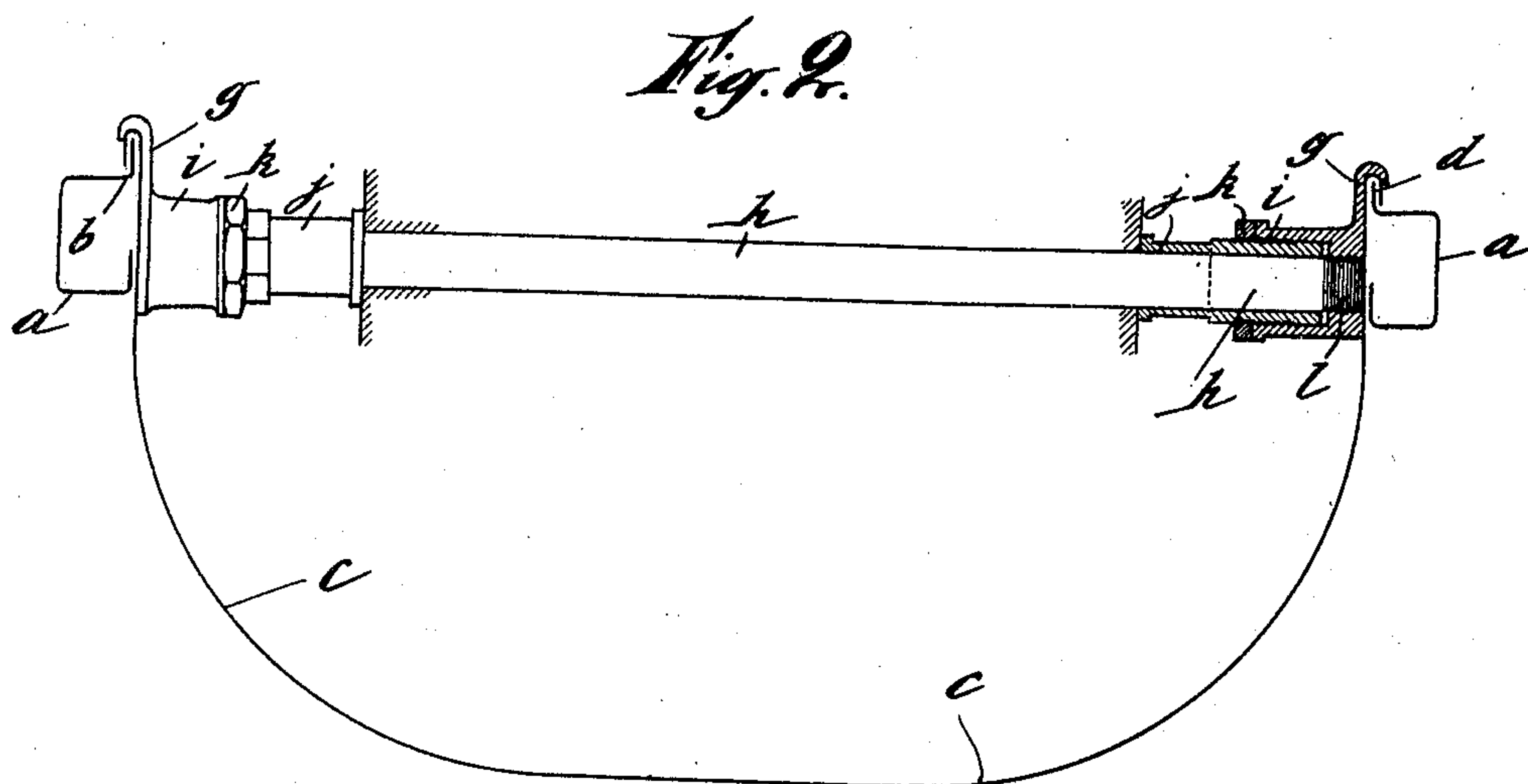
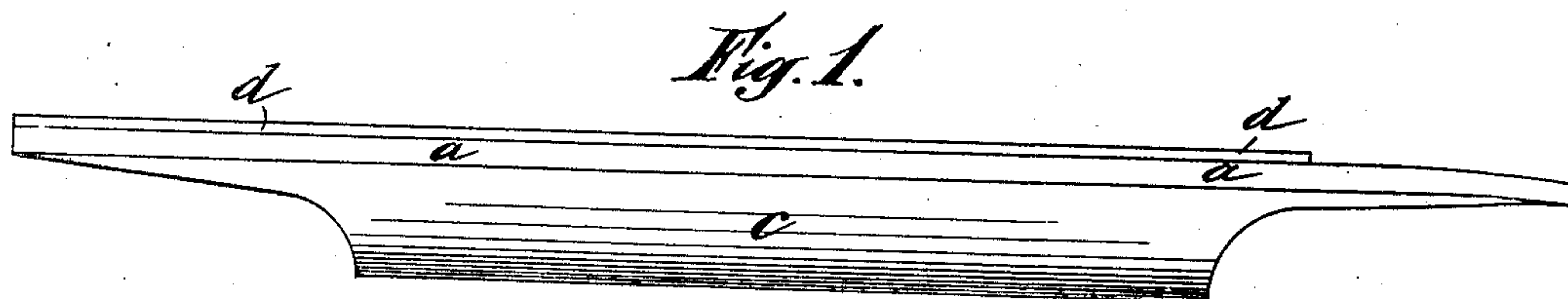
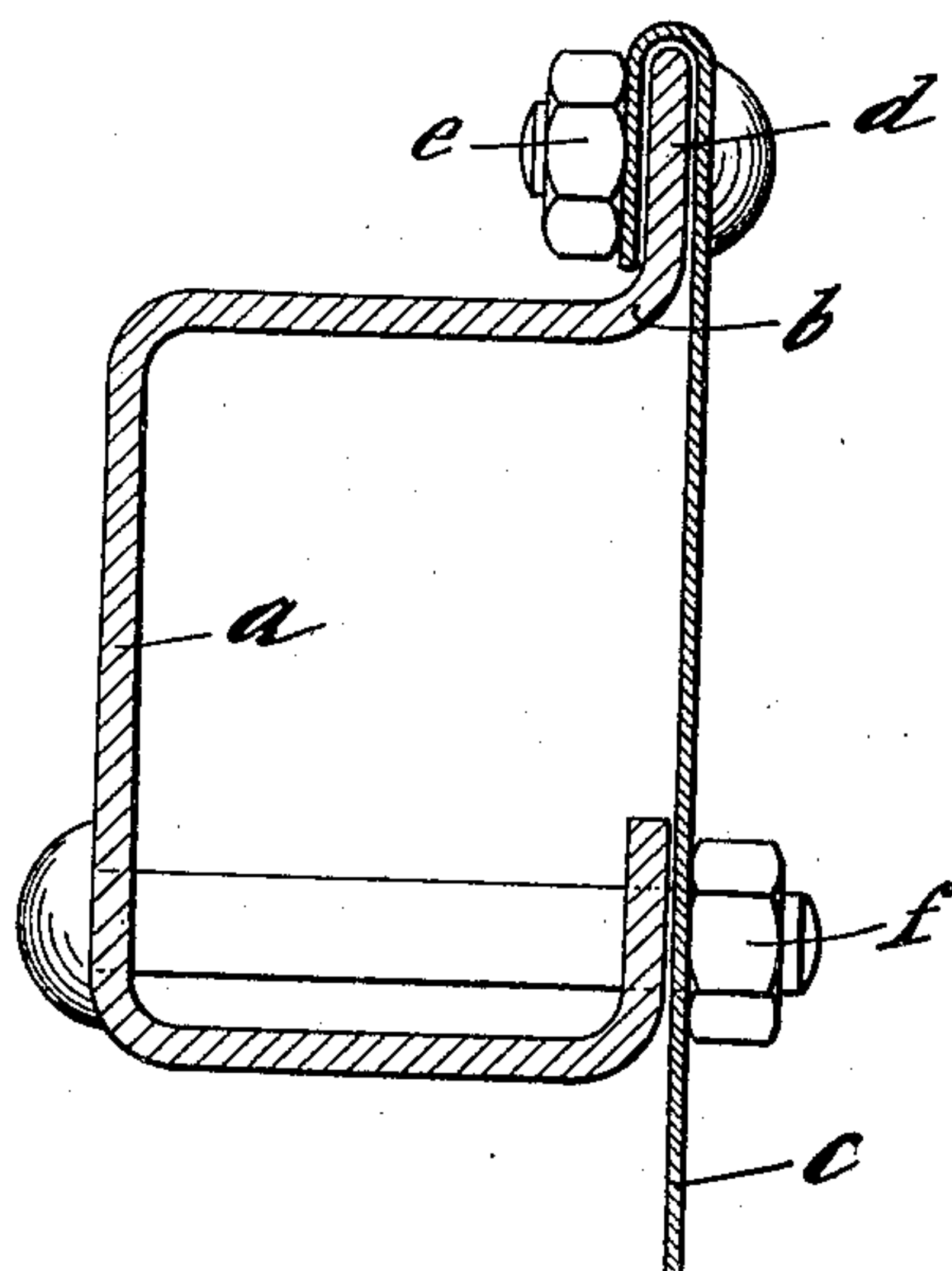


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JACOBUS SPYKER, OF TROMPENBURG, NETHERLANDS.

AUTOMOBILE.

No. 822,784.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JACOBUS SPYKER, a subject of the Queen of the Netherlands, residing at Trompenburg, near Amsterdam, Netherlands, have invented new and useful Improved Construction of Chassis for Automobiles and the Like, of which the following is a specification.

This invention relates to an improved construction of chassis for automobiles and the like.

The chassis made according to this invention is of cradle formation. It is composed of two hollow plate-steel longitudinal frames adapted to receive a thin semicircular steel cradle, which forms the connecting means between the two frames and reinforces them.

The cradle and the frames form a structure which, while being extremely stiff, can, however, be bent in a certain measure and adapts itself to the inequalities of the road, and on becoming straight again thus absorbs a large amount of the shocks and maintains the chassis in an exact form.

The cradle, formed of thin steel, is smooth at the front, as well as the back, which presents the advantage of raising less dust on the road than the known chassis-screens of unequal forms and with projecting parts. The cradle at the same time incloses all the mechanisms of the automobile and protects them from the dust similar to known forms of dust-protectors.

The present arrangement of chassis permits of the provision of detachable cross-bars or tie-beams, forming adjustable supports for the motor, the change-speed gear, the driving-clutch, and the other motion-transmitting mechanism and the correction of the deformation of the chassis due to collision or other accident to the vehicle. They permit of the exact regulation and, if necessary, the readjustment of the position of the motor, &c., so as to insure a perfect transmission exempt from binding or excess of friction.

The drawings hereunto annexed show a chassis made according to my invention.

Figure 1 is a view in elevation of the chassis. Fig. 2 is a transverse section taken at the position of arrangement of an adjustable cross-bar. Fig. 3 is a transverse section, on a larger scale, of a part of the chassis, showing in detail the attachment between the beam and the sheet-steel cradle.

The beams *a* are hollow or scooped out, so

as to present along their length an upright flange from the upper part *b*, onto which is hooked the sheet-steel cradle *c*, with the sides *d* bent accordingly, Fig. 3. The two bent portions are fixed to the flange *b* by means of bolts *e*, Fig. 3, placed at intervals of twenty-five centimeters. In order to complete the connection between the cradle and the beams, the lower parts of the latter are traversed by a second range of screw-bolts *f*, Fig. 3. The chassis thus constructed can be closed at the two extremities by plates fixed in any appropriate manner.

The arrangement is extremely firm, the sheet-steel cradle forming, nevertheless, a flexible tie-beam, permitting the chassis to adapt itself to the inequalities of the road.

The cross-bars form detachable and adjustable supports for the motor and transmitting mechanism, each being composed of a steel tube *h*, Fig. 2, terminating at its ends with screws *l*, engaging in sockets *i*, carried by claws *g*, hung on the beams, Fig. 2, and attached thereto in any convenient manner. Two sockets *j*, having lock-nuts *k* supported against the external shoulders of the tubes *h*, are also screwed to the interior of the sockets *i* and serve to regulate the position of the tubes *h* with reference to the longitudinal central axle of the chassis and serve to place the motor and other mechanical elements supported by the cross-bars in the exact reciprocal position, permitting a perfect transmission.

When, for example, following a collision of the chassis or other accident the beams (which are deformed less easily than the beams of known chassis) give way or are bent and the transmitting mechanism is deranged, the reciprocal positions of the said elements can be either provisionally readjusted *en route* to enable the journey to be continued, or they may be refixed in a definite position. It is sufficient to loosen the lock-nuts *k* of the cross-bars *h*, screw them the desired amount either to the right or left, adjust the sockets *j*, and tighten up the lock-nuts.

The special combination of the attaching-claw *g* of the adjustable socket *i* with the form of the beam (claw-hooked on the side of the beam) presents the advantage of always maintaining the cross-bar in the same horizontal position when the attaching-bolt is disengaged, while it suffices to overcome the difficulties in the ordinary system of support,

owing to the lengthening of the bolts, by which the motor drops at the side where the lengthening is produced.

The arrangement of the adjustable and detachable cross-bars facilitates the mounting of the motor, as well as the adjustment and repair-work on the mechanism situated under the motor.

For the mounting the cross-bars are pushed into the arms of the motor. The latter is placed with the supports on the chassis, where its position can be adjusted at will, while in the old-fashioned chassis it is necessary to put holes in the chassis and carry the frame of the motor, or a frame has to be cast with very long and troublesome arms, and holes are put in the beams, work which is very difficult and costly and rarely exact, which has, further, the inconvenience of weakening the chassis at the point of application of the motor. In the present system the attaching-claws, on the contrary, strengthen the flanges of the beams at the point of fixture of the motor.

For the adjustment of and the work under the motor it is sufficient to raise two cross-bars and leave the third, on which the motor can be allowed to pivot.

The drawings annexed represent, by way of example, an arrangement according to which the cradle is hooked onto the flanges of the beams in such a way that the latter are outside the cradle. The same result can be effected without departing from the principle of the present invention by forming the cradle and the beams in one piece and bending over the longitudinal sides of the cradle in any desired manner.

Having now described my invention, I declare that what I claim, and desire to secure by Letters Patent, is—

1. In an automobile in combination, a chassis formed as a cradle by a semicircular

sheet, with hollow sheet beams provided with cradle-securing flanges arranged longitudinally along the said cradle and removably connected to the same.

2. In an automobile in combination a chassis formed as a cradle in a semicircular sheet with the longitudinal beams supporting the cradle by means of the bent-over sides of the latter, the said cradle being removably secured to said beams.

3. In an automobile in combination a chassis formed by hollow longitudinal sheet-beams with longitudinal flanges, a semicircular sheet-cradle fixed thereon having sides bent over so as to be attached to the said hollow sheet-beams.

4. In an automobile in combination a chassis of a semicircular form underneath the motor, and cross tube-bars with means for adjustment of their length and position serving as supports for the motor and the motor-transmitting mechanism.

5. In an automobile, in combination a chassis of a semicircular form with cross-bars adjustable as to length and position connected thereto, claws upon their extremities in the form of hooks engaging with the flanges of the main beams.

6. In an automobile in combination a chassis of a semicircular form with tube cross-bars adjustable as to length and position, threads upon the said tube cross-bars, sockets fitting thereon and lock-nuts carried by the said sockets so that the said tubes are adjustable to the said chassis.

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

JACOBUS SPYKER.

Witnesses:

GERUT ABRAHAM VON HUNTELN,
AUGUST SIEGFRIED DOCEN.