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 Wales.  
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*Specification*  
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### Class 59.1.

*Drawing attached.*

## COMPLETE SPECIFICATION.

### "Improvements in car and truck lifting jacks."

We, JOPLIN BROTHERS PTY. LIMITED, a Company duly incorporated under the Companies Act of the State of New South Wales, carrying on business as Manufacturing Engineers, at 18 Wentworth Street, Eastwood, near Sydney, New South Wales, Australia, hereby declare this invention and the manner in which it is to be performed to be fully described and ascertained in and by the following statement:—

It is not practicable in effecting tyre replacements or tyre repairs on the roadside to insert and operate a lifting jack under the axles of cars or trucks without serious difficulty or inconvenience, more particularly in the case of cars fitted with bodies of current conventional design. Resort is, therefore, had to pole type screw jacks which engage under the bumper bars; those jacks, however, impose heavy stresses on the bumper bar fixing bolts and they are liable to tilt when in raised position, and are

consequently risky in use by incautious users. The object of the present invention is to provide a car or truck lifting jack which can be operated with convenience and safety and cleanliness in roadside conditions. 5

The jack, which is the subject of the present invention, engages under the wheel rim on the outside thereof above the axle cap; it is provided with an offset head which is formed as a seating whereon the wheel rim, 10 or other portion of the vehicle to be lifted, rests without liability to slip. The jack is preferably of the hydraulic type, but it may be a screw jack or a rack jack. Its foot is constructed to permit it to roll without 15 slipping and sufficiently to accommodate transverse movement of the vehicle during lifting or lowering without influencing the jack head seating to slip from the wheel rim. 20

The offset head permits the body of the jack to set approximately upright and to

clear the jack body from the wheel hub, and its seating is preferably shod with rubber to avoid damaging the wheel to which the jack is applied.

5 In the accompanying drawings.—

Fig. 1 is a side elevation of a hydraulic jack incorporating the invention, and showing the application thereof to the outside of a wheel;

10 Fig. 2 is a side elevation of a jack head and a jack foot of modified construction, and in chain line indicates the application of this form of the invention to a screw jack;

15 Fig. 3 is a perspective detail on an enlarged scale of the foot shown in Fig. 2;

Fig. 4 is a section taken on line 4—4 in Fig. 3;

20 Fig. 5 is a side elevation of a stand intended for use as a complementary adjunct to the jack proper;

Fig. 6 is a perspective view of the head shown in Fig. 2;

25 Fig. 7 is a perspective view of the head shown in Fig. 1;

30 Fig. 8 is a perspective view of a modified form of jack head which is adapted for use with wheels having a peripheral ridge or beading thereon, or which is adapted to fit between wheel spokes or through slots or orifices in the wheel adjacent the rim thereof; and

35 Fig. 9 is a perspective detail on an enlarged scale, showing the form of foot depicted in Fig. 1, as applied to a jack having a post of solid rod form.

Referring to Figs. 1 and 7, the jack stem 10 has the head 11 fixed thereon. This head is offset outwardly and downwardly from 40 the stem and terminates in a seating consisting of an arcuate cross bar 12, cushioned by sleeves 13 of rubber or the like. The jack post 14 (which, in this instance, is the hydraulic cylinder) terminates in a roll- 45 able foot consisting of a sole plate 15 having a shoe plate 16 fixed thereto or integral therewith. The underface of sole plate 16 is arcuate or spherical and is furnished with grip teeth 17.

50 Referring to Figs. 2, 3 and 4, the stem 18 carries a head 19 which is offset outwardly only. The jack post 20 terminates in a rollable foot consisting of a tubular

flared end 21 on the post, a spherical mound 22 on a base plate 23, a keeper plate consisting of two mating portions 24, which are secured to base plate 23 by rivets or the like as indicated at 25. The underface of 5 the base plate 23 is preferably equipped with washers or pads 26 made of rubber or other non-slipping material, or, alternatively, the underface of said plate or a sole plate fixed thereto is roughened, toothed 10 or checkered to inhibit slippage.

In Fig. 6 a head 27, similar to that numbered 19 in Fig. 2, is shown applied to a stem 28 similar to that numbered 10 15 in Fig. 1.

In Fig. 8, the head 29 on stem 30 is laterally and, if desired, downwardly offset and is furnished with a seating consisting of a transverse groove at the end thereof, which is adapted to accommodate a ridge or bead- 20 ing on a wheel, or between spokes of or within orifices in the wheel.

Fig. 9 illustrates a foot 32, wherein a sole plate and a shoe plate, as those respectively numbered 15 and 16 in Fig. 1, are formed as 25 a single integer, which is applied to a post 33 similar to that numbered 20 in Fig. 3.

In operation, the jack is set up on the outer side of the wheel with its head seating engaged under the rim directly above the 30 axle cap, the stem is then raised hydraulically or mechanically as the case may be. The height adjustable stand 34 (Fig. 5) is then pushed into position by its removable extension rod 35; this done, the jack stem 35 is lowered and the jack removed. After the replacement or repair has been completed, the jack is replaced and re-operated to raise the load off the stand, which is then removed. Finally, the jack is lowered down, 40 leaving the car or truck again resting on the wheel which has been attended to. The stand 34 may, of course, be replaced by a wooden block or other article having the required height and strength. 45

Having now fully described and ascertained our said invention and the manner in which it is to be performed, we declare that what we claim is:—

1. A jack consisting of a stem and a post, 50 means to move said stem relative to said post, an offset head on said stem, a seating on said head and a rollable foot on said post.

2. A jack according to Claim 1, wherein the offset head extends downwardly from the jack stem.

3. A jack according to Claim 1 or Claim 5 2 wherein the offset head has a wheel seating consisting of a cross bar having cushioning sleeves thereon.

4. A jack according to Claim 1 or Claim 10 2, wherein the offset head has a seating consisting of a transverse groove at the end thereof.

5. A jack according to Claim 1, in which the rollable foot consists of a sole plate and a shoe plate having an arcuate profile.

15 6. A jack according to Claim 1, in which the rollable foot consists of a tubular flared end on the post, a base plate having a spherical mound thereon and a keeper plate fixed to said base plate.

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7. A jack consisting of a stem and a post, means to move said stem relative to said post, an offset head on said stem, a wheel seating on said head and a rollable foot as illustrated in Fig. 1 or Figs. 2, 3 and 4 5 or Fig. 9 of the accompanying drawings.

8. A jack consisting of a stem and a post, means to move said stem relative to said post, a rollable foot on said post and an offset head as illustrated in Fig. 1 or Fig. 10 2 or Fig. 7 of the accompanying drawings.

Dated this 15th day of April, A.D. 1940.

JOPLIN BROTHERS PTY. LIMITED,

By its Patent Attorneys,

SPRUSON & FERGUSON.

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Witness—M. Murray.

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