

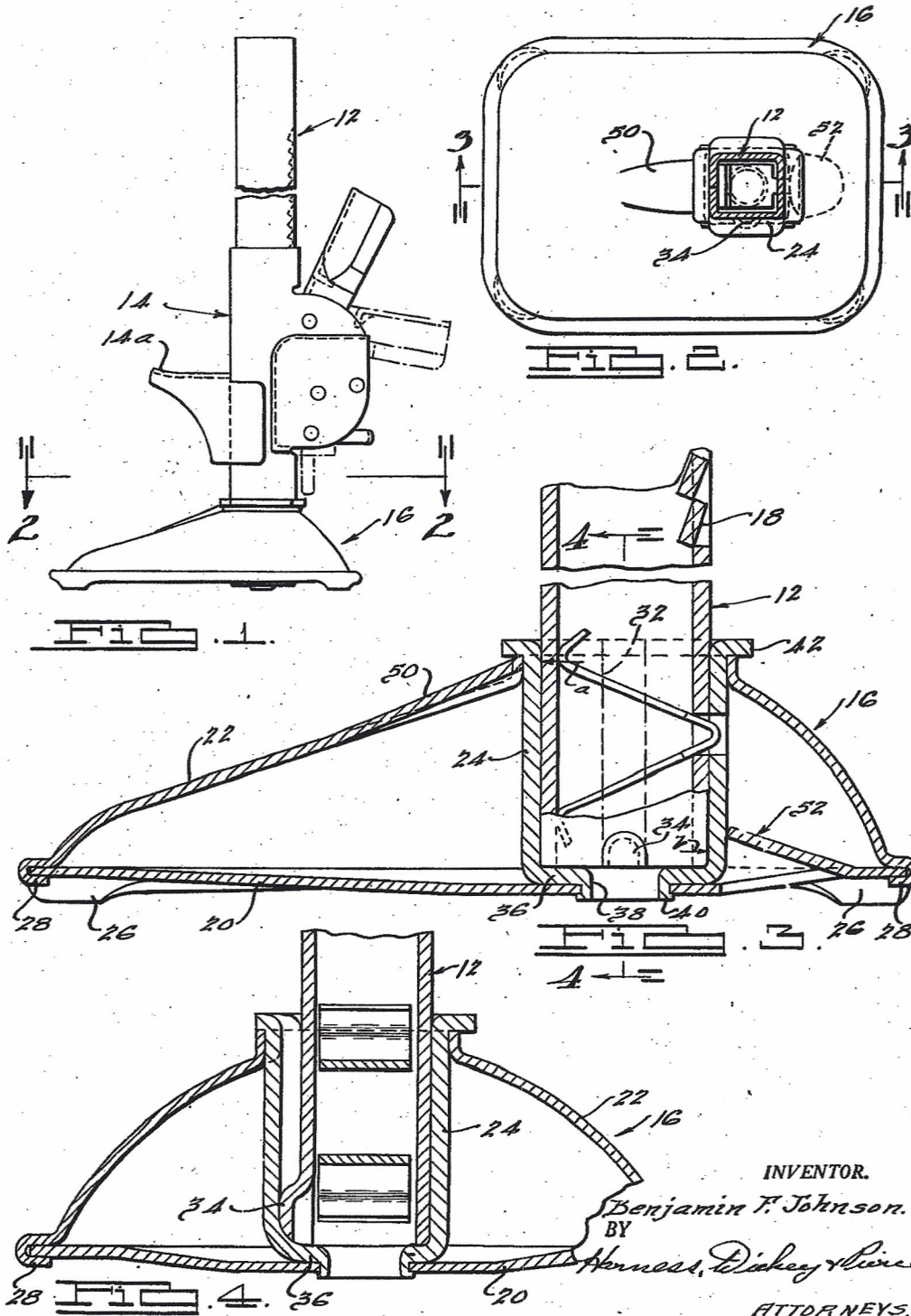
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BASE STRUCTURE FOR JACKS

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BASE STRUCTURE FOR JACKS

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The present invention relates to jack structures, and is particularly directed to the provision of an improved economically manufactured base structure well adapted for use in connection with jacks for automotive vehicles.

Principal objects of the present invention are to provide a base structure of the above indicated type which is simple in arrangement, economical of manufacture and assembly and which is rugged and durable; to provide such structure which is built up from a plurality of stampings and which embodies improved reinforcing means; and to provide such a structure wherein the reinforcing is accomplished by striking reinforcing elements from portions of the stampings which make up the body of the base structure.

With the above as well as other and more detailed objects in view which appear in the following description and in the appended claims, preferred but illustrative embodiments of the invention are shown in the accompanying drawing; throughout the several views of which corresponding reference characters are used to designate corresponding parts and in which:

Figure 1 is a view in side elevation of the improved structure;

Figure 2 is a view in horizontal section taken along the line 2-2 of Figure 1.

Figure 3 is a view in vertical section, taken along the line 3-3 of Figure 2 and:

Figure 4 is a view in vertical section, taken along the line 4-4 of Figure 3.

It will be appreciated from a complete understanding of the present invention that in a generic sense, the improvements thereof may be embodied in jack structures of various different constructions, and designed for various different applications. The illustrated construction is one which is particularly adapted for automotive use.

In the drawing, the illustrated jack structure, is of the ratchet type, known to the automotive trade as a bumper jack, and comprises a load supporting rack bar 12, a lifting head 14 which is adjustable therealong, and the present improved base structure 16, to which the rack bar 12 is releasably connected. Lifting head 14 may be of entirely conventional construction, and the bar 12 is illustrated as embodying the invention described and claimed in the copending application of Melvin G. Ward, Serial No. 573,933, filed January 22, 1945. Briefly stated, rack bar 12 is of tubular form, specifically rectangular, and is provided along one face with a series of sheared teeth 18 for cooperation with the usual ratchet

elements which are carried by the lifting head 14, the body whereof surrounds the bar 12.

In accordance with the present invention, the base 16 consists of only three elements, all whereof may be and preferably are, formed from initially flat stock, by usual drawing and piercing operations. More particularly, and as most clearly appears in Figures 3 and 4, the base 16 is composed of a base plate 20, of generally rectangular form, an upper plate 22, and a rack-bar receiving socket 24, adjacent its corners, the upper plate 22 is provided with downwardly projecting bosses 26, which function as short leg-like supports, so as to maintain the balance of the base structure in slightly elevated relation to a supporting surface.

The upper plate 22 is of generally downwardly presenting cup-like shape, and it is fixedly secured to the base plate 20 by a marginal flange 28, which may and preferably does extend entirely therearound, except in the regions of the feet 26 where it is shaped to provide the depending feet 26. As will be apparent, this flange 28 defines an inwardly presenting annular groove within the marginal edge of the base plate 20.

The rack bar receiving socket 24 is of generally rectangular shape, so that it freely but snugly receives the correspondingly shaped rack bar 12. One wall of socket 24 is provided with a groove 32, which receives a nib or boss 34 which projects radially outwardly from the corresponding face of the bar 12, immediately adjacent the lower end of the latter. With this arrangement, bar 12 will fit into socket 24 in only one rotative position, for a reason mentioned below.

The base 36 of socket 24 is provided with a flanged opening, the flange 38 whereof passes through a correspondingly shaped opening in the base plate 20, and is outwardly turned as indicated at 40 to secure the socket to the base plate. At its upper end, socket 24 is provided with an outwardly turned annular flange 42, which serves to positively secure the upper end of the socket in fixed position relative to the correspondingly shaped opening provided for the socket in the upper plate 22.

It will be noticed that the socket 24 and consequently the rack bar, though located on the center line of base 16, as viewed in Figure 4, is eccentric with respect to the center line on which Figure 3 is taken as a section. Moreover, the base 16 projects considerably further from the rack bar, on the side at which the load receiving lug 14a of the lifting head 14 is located. It will be understood that loads applied to the lug 14a tend

to rotate the rack bar 12 in a counterclockwise direction, about the base 16, as viewed in Figures 1 and 3. It is for this reason that it is preferred to attach the rack bar to the base in the just-mentioned off center relation.

A feature of the invention resides in the provision of a simplified means for reinforcing the base so as to enable it to better withstand the just-mentioned effect of the loads applied to the rack bar. More particularly, and as shown in the present arrangement, the reinforcement takes the form of a pair of ribs 50 and 52, which are struck from the body of the plate 22 and the base plate 20 respectively. Rib 50 projects upwardly and outwardly from the surface of the plate 22, and its end engages the socket 24 at the junction between the side wall and the flange 42 thereof. Rib 52 extends inwardly of the body of the base, and engages the face of the socket 24 which is opposite to the face engaged by the rib 50. It will be noticed that the rotative forces applied to the rack bar are in the directions indicated by the small arrows *a* and *b* in Figure 3, and that these forces are effectively resisted by the reinforced base structure.

Although only a single embodiment of the invention has been described in detail, it will be appreciated that various modifications in the form, number, and arrangement of the parts may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. In a base structure for a lifting mechanism or the like, a base member, an upper member defining a downwardly presenting cavity, said members being secured together so that said base member at least in part closes off said cavity, said upper member being apertured, and a supporting socket member passed through said aperture, said socket member being shaped to engage with the material surrounding said aperture, and being secured to the said base member to thereby interlock said socket member with said upper member and said base member.

2. The structure of claim 1, the socket member being adapted to receive a lifting member

which is loaded in such a way as to tend to cant the lifting member in the socket, and wherein at least certain of said base and upper members are provided with strut-like elements which act against said socket member to reinforce the structure against such canting forces.

3. A base structure for a lifting device or the like comprising a base member formed as a stamping, an upper member formed as a stamping and defining a downwardly presenting cavity, said members being secured together so that the base member at least partially closes off said cavity, a socket member having an elongated socket positioned in said cavity and secured to said members so that the socket extends lengthwise between the two members, at least certain of said base and upper members having strut-like reinforcing elements struck from the bodies thereof and engaging the side of said socket intermediate the ends thereof, for reinforcing the structure.

4. The structure of claim 3 wherein both said base and upper members are provided with said strut-like reinforcing elements, the element for said upper member engaging the socket at one side of the latter and the element for the base member engaging the socket at the other side of the latter.

5. A base structure for a jack comprising a stamped base member, an upper member formed as a stamping to define a downwardly presenting cavity and having an opening in the base of the cavity, said members being secured together so that the base member at least partially closes off the cavity, a socket element having an elongated socket therein, said element being secured in said cavity with its base connected to the base member and with its upper portion shaped to engage said upper member around said opening, said upper member having a reinforcing rib struck from the body thereof and engaging said socket at one side of the latter, and said base member having a reinforcing rib struck from the body thereof and engaging said socket member at the one side thereof.

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