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J. H. BISHOP ET AL

2,368,192

ATTACHMENT FOR JACKS

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FIG. 1

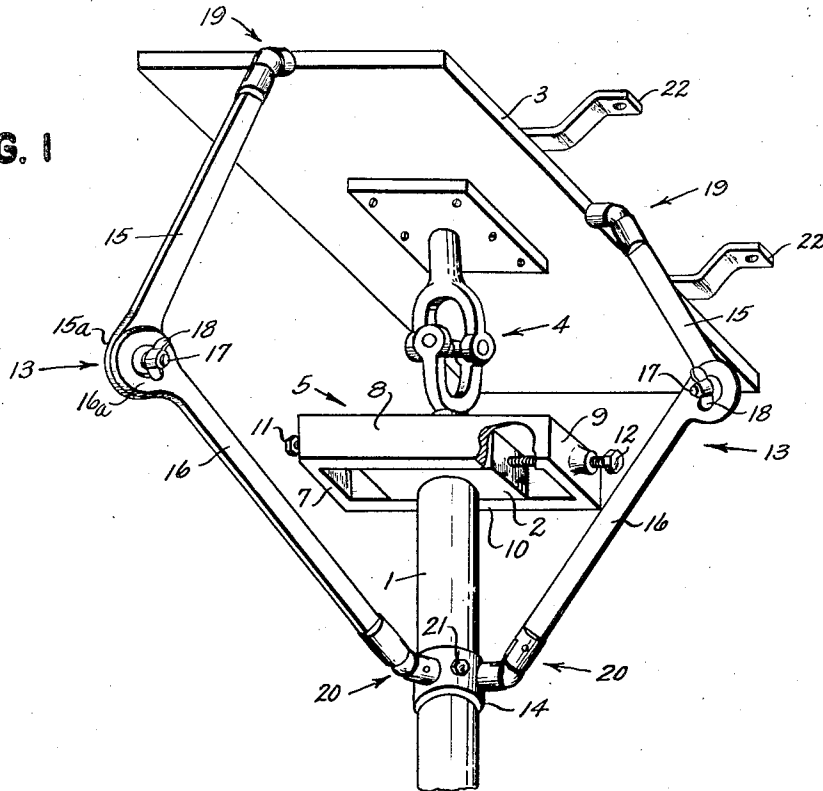
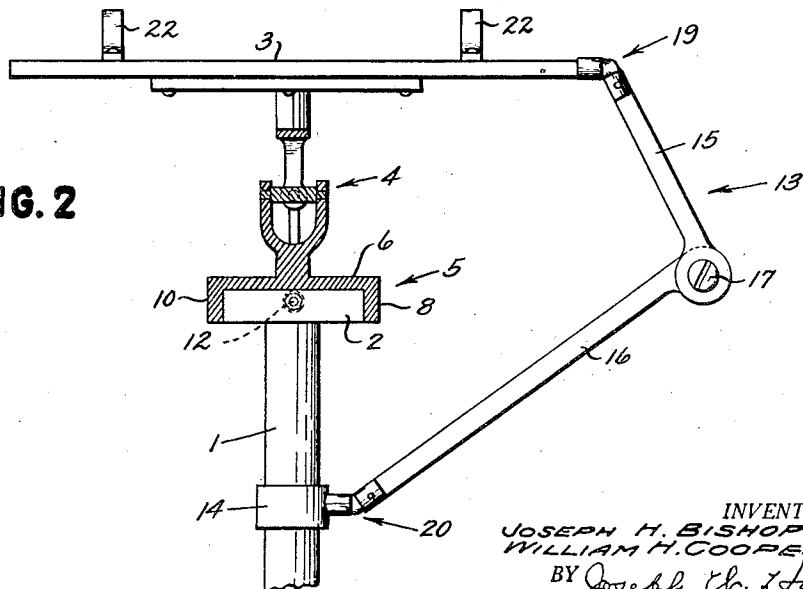


FIG. 2



INVENTOR.
JOSEPH H. BISHOP
WILLIAM H. COOPER
BY *Joseph Ch. Hagell*
Clode Looney
ATTORNEYS

UNITED STATES PATENT OFFICE

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ATTACHMENT FOR JACKS

Joseph H. Bishop and William H. Cooper,
Dayton, Ohio

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6 Claims. (Cl. 254-133)

(Granted under the act of March 3, 1883, as
amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to us of any royalty thereon.

This invention relates to an attachment for jacks, and the principal object is to provide such an attachment adapted particularly for hoisting an aviation supercharger into place for mounting the same on an aviation engine.

The construction of the invention comprises a tiltable platform and supporting means for securing the same universally to the extensible part of a jack whereby the platform may be supported upon the jack and tilted in different planes. The securing means comprises means for detachably securing the supporting means to the extensible part of the jack. Means are provided for rigidly maintaining the tiltable platform in any desired position of tilt, said means comprising a plurality of struts universally connected with the platform at spaced points thereon and common means universally connected with the ends of said struts remote from the platform. The said common means is adapted for association with the extensible part of a jack for movement relative thereto and means are associated with said common means for detachably securing the same in different fixed positions relative to said extensible part of the jack.

Each of the struts comprises a plurality of arms having pivotal connection with one another. Locking means are provided which are operable to lock the arms against pivotal movement when the same have been properly adjusted to support the platform at the desired angle of tilt.

The details of the invention will be apparent from the following description taken in conjunction with the accompanying drawing, in which:

Fig. 1 is a perspective view of the attachment of the invention showing the same secured to the extensible part of a jack.

Fig. 2 is a side elevation of the structure shown in Fig. 1, certain parts thereof being shown in section.

Now referring to the drawing for a detailed description of the invention, the ram or extensible part of a lifting jack is represented by the numeral 1, the same being provided at the upper end thereof with a detachable jack pad comprising the rectangular block 2 which ordinarily engages the part which is to be lifted by the jack. Upon the extensible part 1 of the jack there is adapted to be mounted an attachment comprising a tiltable platform or table 3, which is universally connected by means of a standard type

of universal joint 4 to a supporting means 5. The supporting means 5 comprises a frame including a top 6 which rests upon the jack pad 2 of the jack ram 1, said supporting means 5 also including side portions 7, 8, 9 and 10 extending downwardly from the top portion 6, whereby when the top portion 6 rests upon the block member 2, the latter is received within the enclosure provided by the side members 7 to 10. Preferably, the side members 8 and 10 closely fit the respective opposite sides of the block 2, as illustrated in Fig. 2, while the side members or flanges 7 and 9 are spaced from opposite sides of the block member 2. Clamping bolts 11 and 12 are threaded through the side flanges 7 and 9 respectively, and the inner ends of said clamping bolts are adapted to engage the respective adjacent sides of the block member 2 for securing the supporting means 5 in place upon the extensible part of the jack.

The attachment also includes a plurality of struts generally designated by the numeral 13 which are universally connected with the platform or table 3 at spaced points thereon. Preferably the struts 13 are universally connected with adjacent sides or with one side and the adjacent end, respectively, of the table 3, as shown in Fig. 1. Each of the struts 13 has its end remote from the table universally connected with a common means 14 which is adapted for association with the ram or extensible part of the jack for sliding movement relative thereto. Each of the struts 13 comprises an upper arm 15 and a lower arm 16, which are pivotally connected together by means of bolts 17, upon which are provided wing nuts 18 which, when tightened upon the bolts 17, serve to lock the arms 15 and 16 against relative pivotal movement for maintaining the platform or table 3 at the desired angle of tilt to which it has been adjusted.

The upper end of each arm 15 is universally connected to the platform or table 3 by means of a standard type of ball and socket universal joint 19, and the lower end of each of the lower arms 16 is universally connected by means of a similar ball and socket universal joint 20 to the common connecting means 14 for the struts 13. This common connecting means 14 comprises a collar which is slidably received on the jack ram 1 for sliding movement relative thereto. The collar 14 is provided with an adjusting bolt 21 threadingly associated therewith, the inner end of which bolt 21 is adapted to engage the jack ram 1 for adjustment of the collar 14 in different

fixed positions relative to the jack ram 1 when the bolt 21 is tightened.

Table or platform 3 may be provided with suitable straps 22 for attaching the supercharger thereto. The arms 15 and 16 may be formed with enlarged, somewhat circular portions 15a and 16a, respectively, the abutting faces of which are preferably roughened or serrated so that when the same are clamped together by the tightening up of the wing nut 18, the arms 15 and 16 will be more positively held against pivotal movement relative to one another.

In the use of the invention, the attachment may be secured to the jack ram by sliding the collar 14 into position thereon and clamping the same in a desired position by tightening the bolt 21. The supporting means 5 rests upon the removable jack pad or block 2 and the supporting means 5 is clamped to the member 2 by tightening the bolts 11 and 12. The nuts 18 having been loosened, the table or platform 3 may be tilted to any desired position and then the wing nuts 18 are tightened to prevent relative pivotal movement of the arms 15 and 16 of each strut so as to rigidly maintain the platform 3 at the desired angle of tilt to which it has been adjusted. In adjusting the table or platform 3 to the desired angle of tilt, it may be desirable to loosen the nut 21 and slide the collar 14 along the jack ram 1 and then tighten the nut 21 to maintain the collar 14 in a desired fixed position with respect to the jack ram 1.

Thus it will be apparent that the invention provides a very rigid construction of jack attachment, including a tiltable table or platform capable of supporting the relatively heavy supercharger upon a lifting jack, said attachment providing means for rigidly maintaining the table or platform in any desired position of tilt whereby to very greatly facilitate the operation of lifting the supercharger into place for mounting the same upon an aviation engine.

Having thus described our invention, we claim:

1. In an attachment for jacks, in combination,

a tiltable platform, a supporting means therefor, a universal connection between said platform and said supporting means, a plurality of struts universally connected with said platform at spaced points thereon, and common means universally connected with the ends of said struts remote from said platform, said struts each comprising a plurality of arms having pivotal connection with one another.

2. An attachment as claimed in claim 1, and locking means operable to lock the arms of each strut against relative pivotal movement.

3. In an attachment for a jack having an extensible part, the combination of a tiltable platform, supporting means therefor, a universal connection between said platform and said supporting means, means for securing the supporting means to the extensible part of a jack, a plurality of struts universally connected to said platform at spaced points thereon, and common means universally connected with the ends of said struts remote from said platform, said struts each comprising a plurality of arms having pivotal connection with one another, the last means being adapted for association with the extensible part of a jack for movement relative thereto.

4. An attachment as claimed in claim 3, and means associated with the last means for detachably securing said last means in different fixed positions relative to the extensible part of a jack.

5. An attachment as claimed in claim 3 wherein the securing means comprises clamping means for detachably securing said supporting means to the extensible part of a jack.

6. An attachment as claimed in claim 3 wherein the securing means comprises clamping means for detachably securing said supporting means to the extensible part of a jack, and means associated with said common means for detachably securing said common means in different fixed positions relative to the extensible part of a jack.

JOSEPH H. BISHOP.
WILLIAM H. COOPER.