

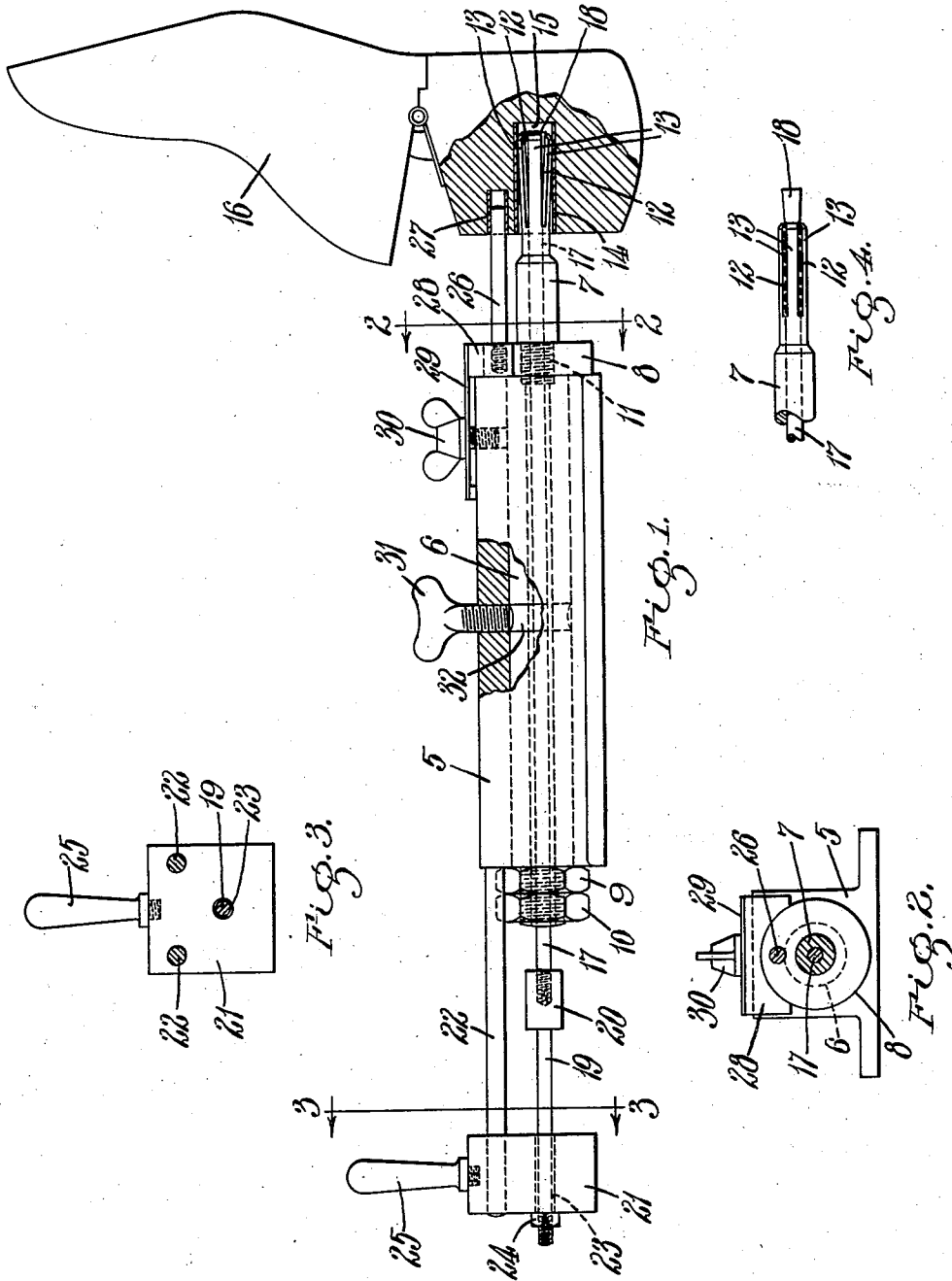
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LAST JACK

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LAST JACK

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9 Claims. (Cl. 12—123)

This invention relates to improvements in last jacks and has for its main object to provide a jack for a last which can be easily and quickly actuated by the operator into the various positions that may be necessary in order that a shoe positioned thereon may be subjected to certain operations during the course of its construction. The device is particularly adapted to support a last and shoe while the latter is receiving a cleaning operation by operatives who may not necessarily be skilled mechanics.

Another object of the invention is to provide a device of the character mentioned wherein the last gripping mechanism is actuated both to grip and release the last by sharp quick blows from a sliding hammer adapted to be propelled in opposite directions manually by the operative.

Still another object of the invention is to provide a simple and effective tension device for retarding the movements of the rotatable last gripping member and thereby holding the latter in its various positions.

The invention consists in a last jack or support for a last as set forth in the following specification and particularly as pointed out in the claims thereof.

Referring to the drawing:

Fig. 1 is a side elevation partly in section of a last jack embodying my invention, a portion of a last mounted upon said jack being broken away in a manner to clearly disclose the last gripping instrumentalities in their gripping position.

Fig. 2 is a transverse sectional elevation taken on line 2—2 of Fig. 1 looking in the direction of the arrows on said line.

Fig. 3 is a transverse sectional elevation taken on line 3—3 of Fig. 1 looking in the direction of the arrows on said line.

Fig. 4 is a detail side elevation of the last gripping instrumentalities in their ungripped position.

Like numerals refer to like parts throughout the several views of the drawing.

In the drawing, 5 is a bracket constituting a support in which a sleeve 6 constituting a holder for a gripping member 7 is rotatably mounted. The sleeve 6 has a cylindrical flanged portion 8 constituting a brake drum formed integral therewith at one end thereof which abuts against an end of the bracket 5, while at its opposite end a nut 9 and lock nut 10 mounted upon a shouldered portion of said sleeve act to hold the sleeve in position upon said bracket and prevent longitudinal movement relatively thereto. The gripping member 7 is detachably secured to the sleeve 6 at 11, and the outer end portion of said gripping member is slotted at 12 to provide a plurality of resilient gripping portions 13 which are adapted to be expanded or sprung outwardly into fric-

tional engagement with a sleeve 14 mounted within a hole 15 provided in a last 16 for which the device of this invention constitutes a support.

The gripping portions 13 of the gripping member 7 are forced into and out of contact with the sleeve 14 of the last 16 by means of an actuating rod 17 which extends through the member 7 and holder 6 therefor upon the axial line of said members. At its forward end the actuating rod 17 has a frusto-conical portion 18 embodied therein and when said rod is moved toward the left, Figs. 1 and 4, within the gripping member 7 and holder 6, the portion 18 of said rod will force the gripping portions 13 outwardly into holding engagement with the sleeve 14 and cause the latter to be tightly gripped by said portions 13. At its rear end the rod 17 is provided with a detachable extension 19 having an abutment 20 formed thereon adapted to be engaged by the forward movement of a block 21 constituting a hammer which is slidably mounted upon a pair of horizontal rods 22 which are in turn mounted upon the bracket 5 and project rearwardly therefrom. The extension 19 for the rod 17 projects loosely through a hole 23 provided in the hammer 21 and at its rear end has a nut 24 adjustably mounted thereon with which said hammer contacts during its rearward movement upon the extension 19. The hammer 21 is provided with a handle 25 and is propelled forwardly and rearwardly manually by the operator into contact with the abutment 20 and nut 24 with sufficient force to move the actuating rod 17 lengthwise within the holder 6 and gripping member 7, thereby causing the last to be released or gripped by the gripping portions 13 as may be desired.

The last 16 is prevented from rotating loosely upon the gripping member 7 by means of a pin 26 which projects forwardly from the flange 8 into a sleeve 27 provided in said last.

The rotative action of the sleeve 6 and parts carried thereby is retarded in a manner to frictionally hold the last 16 in any desired position by means of a brake shoe 28 which is attached to a stiff spring 29 mounted upon the top of the bracket 5 and said shoe frictionally engages the periphery of the flange 8 which functions as a brake drum. The pressure of the shoe 28 upon the flange 8 is varied as may be desired by means of a thumb screw 30.

If for any reason it is desired to hold the sleeve 6 and parts mounted thereon in a permanent position upon the bracket 5 a thumb screw 31 is provided, said screw contacting with an annular groove 32 provided upon the periphery of said sleeve.

The general operation of the device hereinbefore described is as follows: A last 16 which may have a shoe or portion of a shoe mounted thereon

is placed upon the last gripping member 7 and pushed rearwardly thereon until the positioning pin 26 projects a substantial distance into the sleeve 27 located within said last. During this operation the actuating rod 17 is located in a forward position within the sleeve 6 and gripping member 7, and the tapered portion 18 of said rod is disengaged from the gripping portions 13 of said gripping member 7 and said gripping portions are located in their contracted position. The handle 25 of the hammer 21 is then grasped and said hammer is pushed rearwardly upon its supporting rods 22 into engagement with the nut 24 carried by the extension 19 of the actuating rod 17, and the latter is impelled rearwardly by the blow transmitted by the hammer to said nut and the tapered portion 18 of the actuating rod is forced axially between the gripping portions 13 of the gripping member 7 thereby causing said gripping portions to expand or spread outwardly in unison and tightly grip the interior of the sleeve 14 which forms a part of the last. If one blow of the hammer 21 is not sufficient to cause the last 16 to be tightly gripped by the gripping portions 13, the operation of striking the nut 24 by said hammer may be repeated as may be necessary.

After the last 16 has been firmly secured to the gripping member 7, the last may be rotated in unison with said member 7 and sleeve 6 into any position that may be desired against the friction created by the engagement of the brake shoe 28 with the brake drum 8. If it is desired that the last shall be permanently located at a certain position, the thumb screw 31 is set tightly against the sleeve 6 in the annular groove 32.

The last 16 is released from the gripping member 7 by a blow or blows of the hammer 21 upon the abutment 20, whereby the actuating rod is forced forwardly and the gripping portions 13 of the member 7 are released from engagement with the sleeve 14 of said last.

The gripping member 7 is detachably secured to the sleeve 6 and may be interchanged with other gripping members adapted to fit larger or smaller holes provided in different types of lasts.

I claim:

1. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon and having a plurality of resilient gripping portions embodied therein, a wedge movable axially between said gripping portions and adapted to spring the latter outwardly into frictional engagement with a last mounted thereon, and friction means to retard the rotative movement of said last gripping member.

2. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon, actuating means within said gripping member adapted to expand the latter into gripping engagement with a last mounted thereon, and means to impart a blow to said actuating means to force the latter into and out of operative engagement with said last gripping member.

3. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon, axially disposed actuating means within said gripping member adapted to expand the latter into gripping engagement with a last mounted thereon, and means to impart a blow to said actuating means to force the latter into and out of operative engagement with said last gripping member.

4. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon, actuating means within said gripping member adapted to expand the latter into gripping engagement with a last mounted thereon, means to impel said actuating means into and out of operative engagement with said last gripping member, and means to retard the rotative movement of the last gripping member.

5. A last jack having, in combination, a support, an expandible and contractible last gripping member mounted thereon, actuating means within said gripping member adapted to expand the latter into gripping engagement with a last mounted thereon, and a reciprocatory hammer adapted to impel said actuating means into and out of operative engagement with said last gripping member.

6. A last jack having, in combination, a stationary support, an expandible and contractible last gripping member rotatably mounted thereon, an actuating rod extending axially through said gripping member and having a tapered portion embodied therein adapted to expand the gripping member into gripping engagement with a last mounted thereon, and a reciprocatory hammer to impel said rod in opposite directions and thereby force the tapered portion thereof into and out of operative engagement with said last gripping member.

7. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon, an actuating rod extending axially through said gripping member and having a tapered portion embodied therein adapted to expand the gripping member into gripping engagement with a last mounted thereon, and a reciprocatory hammer slidably mounted upon said support and adapted to impel said rod in opposite directions and thereby force the tapered portion thereof into and out of operative engagement with said last gripping member.

8. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon, an actuating rod extending axially through said gripping member and having a tapered portion embodied therein adapted to expand the gripping member into gripping engagement with a last mounted thereon, a reciprocatory hammer slidably mounted upon said support and adapted to impel said rod in opposite directions and thereby force the tapered portion thereof into and out of operative engagement with said last gripping member, and frictional means to retard the rotative movement of the last gripping member.

9. A last jack having, in combination, a support, an expandible and contractible last gripping member rotatably mounted thereon and having a brake drum embodied therein, an actuating rod extending axially through said gripping member and having a tapered portion embodied therein adapted to expand the gripping member into gripping engagement with a last mounted thereon, a reciprocatory hammer slidably mounted upon said support and adapted to impel said rod in opposite directions and thereby force the tapered portion thereof into and out of expanding engagement with said last gripping member, and a brake shoe frictionally contacting with said drum.

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