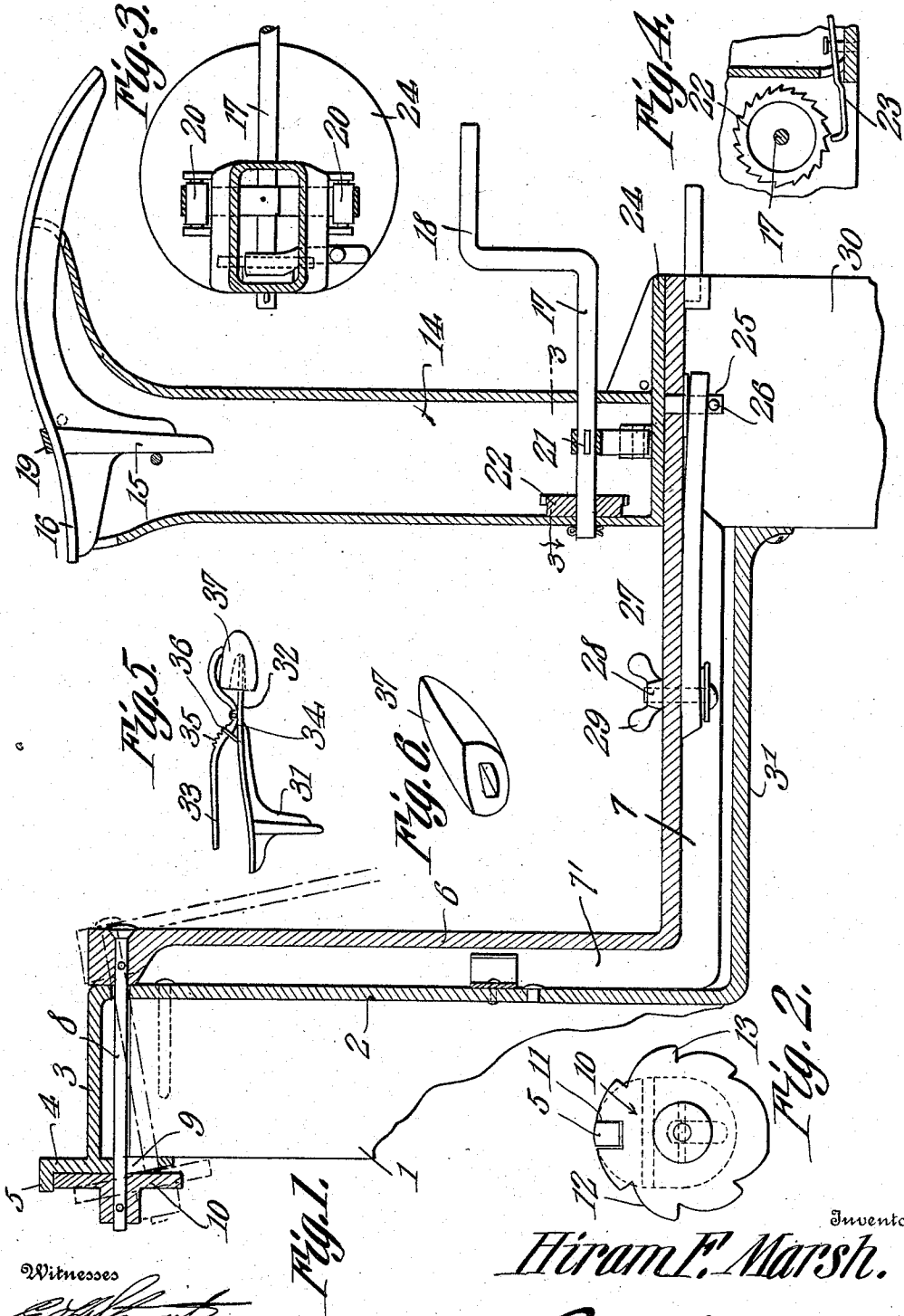


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SHOEMAKER'S REPAIR JACK.
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SHOEMAKER'S REPAIR-JACK.

933,192.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HIRAM F. MARSH, a citizen of the United States, residing at Gouverneur, in the county of St. Lawrence and State of New York, have invented a new and useful Shoemaker's Repair-Jack, of which the following is a specification.

This invention relates to improvements in shoemaker's jacks, and has for one of its objects the provision of a standard on which the jack stand is rotatable in a vertical plane.

Another object is the provision of a last post rotatable on the stand in a plane transverse the plane of movement of the latter.

A further object is the provision of a means whereby the stand may be secured in any position on either side of the vertical.

A still further object is the provision of a tensioning means between the jack stand and last post.

With the above and other objects in view, as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming a part of this specification:—Figure 1 is a longitudinal sectional view of the device. Fig. 2 is a detail end view of the adjusting disk. Fig. 3 is a transverse sectional view on the line 3—3, Fig. 1 disclosing the strap tightening means. Fig. 4 is a side elevation of the means for maintaining the strap in tightening position. Fig. 5 is a detail side elevation of an improved form of patching last and means for fitting the same within a shoe. Fig. 6 is a detail perspective of the patching last.

Similar numerals of reference are employed to designate corresponding parts throughout.

In carrying out the invention, I arrange on one side and at the upper end of a suitable standard what will subsequently be termed a supporting arm. A substantially right angular jack stand has one end journaled on a spindle extending through the said supporting arm. The connected arm of

the jack stand is normally parallel with the standard, while the opposite arm projects outwardly and at right angles to the standard and supports adjacent one end a last post. The latter is rotatably mounted on the jack stand and adjacent its point of connection with the latter is provided with a shaft or spindle. The latter is journaled in the last post and at one end is provided with a crank arm by means of which it may be turned. Keyed to that portion of the shaft disposed within the post is a ratchet wheel, the teeth of which are adapted to engage with a suitable pawl. The usual workholding strap which extends over the sole of the last and down sides of the post in devices of this kind, has its terminals secured in a transverse seat formed in that portion of the shaft disposed within the post, so that when the shaft is turned, the strap will be tightened around the work and so held by bringing the pawl into engagement with the ratchet teeth. As before stated, the post is rotatably mounted on the stand, and the friction between the bearing surfaces of the two is increased or diminished by a suitable tensioning device.

The standard 1 may be of wood or other suitable material and of convenient height and forms a support for the supporting arm. The latter is preferably of a single piece of metal and substantially right angular in shape having a relatively long side secured to one face of the standard 1 in such position that the shorter side 3' extends to and is secured to a short standard of less height than the standard 1. The long side terminates in a right angular offset 3 disposed a slight distance above the end of the long standard 1, whereby a space is formed on the end of the latter and the offset. The terminal of the latter projects a trifle beyond the vertical plane of the standard and terminates in a circular head 4 perpendicular to the side 3. The head 4 is provided on its outer face with a projecting stud 5 disposed at the highest point on the said head.

The jack stand in the present instance is shown to consist of a single piece of metal bent to the shape of a right angle provided with the arms 6 and 7, each of which is provided on its outer face with a longitudinal channel extending throughout the length of each arm, the sides of the channel being indicated by the numeral 7'. The terminal of

the arm 6 is provided with a spindle 8, one end of which is rigidly secured to the arm within the channel. The spindle projects at right angles to the arm and is journaled in the side 2 of the supporting arm at a point communicating with the space formed by the upper end of the standard and offset 3. The opposite end of the spindle extends through a vertically disposed elongated opening 9 formed in the circular head 4 beneath the offset 3 and in alinement with the stud 5. Keyed to the outer end of the spindle projecting beyond the circular head 4 is a toothed wheel 10. The latter is centrally provided with a recess or socket 11 extending inward from its edge, and of a size to receive the stud 5 of the circular head 4. Formed on the edge of the disk and on one side of the socket are ratchet teeth 12 extending substantially midway around the wheel; the opposite side of the disk is similarly provided with ratchet teeth 13 similar to the teeth 12 but extending in the opposite direction. Thus it will be seen when the jack stand is tilted upwardly and outwardly, as shown by dotted lines in Fig. 1, the toothed wheel 10 will be moved from engagement with the stud 5. In this position the jack stand may be rotated to or from the operator, and when the position desired has been reached, it is moved inward against the face of the standard, as shown by full lines in Fig. 1. This downward or inward movement will bring one of the teeth on either side of the wheel 10 into engagement with the stud 5, whereby the stand will be held in adjusted position.

An oblong hollow last post 14 is disposed adjacent the outer end of the horizontal arm 7 of the jack stand. The last post may be of any well known shape, and at its upper end is provided with a suitable socket into which fits a tang 15 of an ordinary last 16. Journaled in the last post 14 and adjacent its lower end is a shaft 17, one end of which projects beyond the face of the last post and terminates in a crank handle 18. A work holding strap 19 is shown to embrace the last post and last in the usual manner, that is the intermediate portion of the strap is disposed on the sole of the last and the body of the strap extends downwardly and over the opposite sides of the post. Journaled in the opposite sides of the latter beneath the shaft 17 are a pair of rollers 20. The terminals of the strap are carried beneath these rollers into the last post and secured in a transverse slot 21 in the shaft 17. Thus it will be seen by turning the crank arm 18, the strap will be wound on the shaft 17 and made taut over the sole of the last 16. In order that the strap may be held in this tightened position and the shaft prevented from rotating in a direction to unwind the strap, the following mechanism is em-

ployed:—A ratchet wheel 22 is keyed to the shaft within the post 14, and pivoted to the inner face of the latter beneath the ratchet wheel is a dog 23. The latter is so positioned that its engaging end is normally out of engagement with the ratchet teeth. The outer end of the dog projects beyond the outer face of the last post and in position to be readily pressed downward by the finger of the operator. This downward movement of the outer end of the dog will bring the engaging end upward and into engagement with the ratchet teeth, whereby the shaft will be prevented from rotating in a direction to unwind the tightened strap 19.

The lower end of the last post 14 terminates in an enlarged circular base 24 which bears upon a similar formation on the outer end portion of the horizontal arm 7 of the jack stand. Projecting downward from the center of the base 24 is a pintle 25 which enters a suitable opening formed in the enlarged end of the horizontal arm 7. The lower end of the pintle extends for a considerable distance into the groove of the horizontal arm 7, and is provided with a transverse opening 26 into which is fitted a cotter pin to prevent the last post from falling when adjusted to one of its angular positions, as before described.

From the foregoing it can be seen that the last post may be rotated on the horizontal arm 7 in a plane transverse the plane of movement of the jack stand. In order to prevent too free rotation of the last post, the following device is employed:—Disposed within the groove of the horizontal arm 7 is a tension bar 27. This member is slightly bowed or curved and is provided adjacent one end with an opening to receive the pintle 25. The opposite end of the tension bar 27 is provided with a similar opening through which extends the shank of a threaded bolt 28. The latter extends through an opening formed in the horizontal arm 7 and projects above the face of the latter. A suitable winged nut 29 is threaded on to the bolt 28. Thus it will be seen when the head of the bolt is tightened against one face of the tensioning bar 27, the latter, owing to its bowed shape, will bear upon the cotter pin in the pintle 25, whereby the friction between the bearing surfaces of the horizontal arm and base 24 will be increased. When desired a suitable standard 30 extending upward from the floor may be so placed that the enlarged end of the horizontal arm 7 may rest upon its upper end when the jack stand is in the position shown in Fig. 1.

By referring now to Fig. 5, it will be seen that I have provided a last having an attachment by means of which patches and the like may be applied to the upper of a shoe. The last 31 employed with this construction is considerably less in length than the ordi-

nary type and is provided with an outwardly projecting bar 32.

A lever 33 is shown having a portion adjacent one end curved forwardly and upwardly and its other portion curved rearwardly and upwardly and pivoted as at 34 upon the last 31. On the inner face of that side of the lever 34 adjacent the toe of the last is formed a serrated surface 35 and encircling this side of the lever is a bail 36 the ends of which enter the opposite ends of a transverse opening formed in the bar 32. Thus it will be seen by turning the link downward and out of engagement with the serrations, that portion of the lever overlying the surface of the last may be moved adjacent or away from the latter, and when it has been moved to the desired position, the link is turned upward to engage one of the serrations, whereby further upward movement of the lever is prevented.

As before stated, this construction is intended for use with a patching last. The latter, as shown in Fig. 6 is of a size to snugly fit within the toe of the shoe, and is provided on its large end with an inwardly extending socket to receive that end of the lever overlying the last 31. The socket is of a size sufficient to permit the patching last 37 to be moved laterally relative to the lever, thus enabling it to be properly adjusted beneath that portion of the shoe to be patched.

The operation of this construction can be readily understood when it is remembered that the shoe is fitted over the parts when in position, as shown in Fig. 5, thus enabling the operator to shift the patching last 37 to the desired position and tighten the same by means of the link 36, as before described.

From the foregoing it will be seen that I have provided a device which is simple in structure, comparatively inexpensive to manufacture, and in which the parts are so positioned that the operator may turn and adjust the device to the most desirable positions for operation. The fact that the jack stand rotates in a vertical plane will maintain the shoe to be operated upon, the same height above the floor, and the structure of the last post, whereby it may be turned in a direction transverse the plane of movement of the jack stand, enables the operator to bring the shoe into any desired position without a similar change on his part.

What is claimed is:—

1. In a shoemaker's jack, the combination with a standard; of a supporting arm carried thereby having on one end a head provided with a stud, a jack stand journaled on said supporting arm and provided with means cooperating with said stud to hold the jack stand in any position on either side of the vertical.

2. In a shoemaker's jack, the combination with a standard; of a supporting arm car-

ried thereby provided with a head having on one end a stud, a jack stand journaled on said supporting arm having on one end a toothed wheel cooperating with said stud to hold said jack stand in any position on either side of the vertical.

3. In a shoemaker's jack, the combination with a standard; of a jack stand carried thereby, a last post rotatably mounted on said jack stand, and a bowed bar having one end connected with the last post and its opposite end with the jack stand and serving to increase and diminish the friction between the former and the latter.

4. In a device of the class described, the combination with a standard, of a supporting arm carried thereby and provided with a stud, a jack stand journaled upon the supporting arm for swinging adjustment with respect thereto and transversely thereof, a toothed wheel carried by the jack stand and engageable with the stud whereby to hold the stand in adjusted position with respect to the standard, the said stand being movable forwardly away from said standard whereby to disengage the wheel from said stud.

5. In a device of the class described, the combination with a standard, of a supporting arm carried thereby and provided with a stud, a jack stand mounted upon the supporting arm for lateral swinging adjustment with respect thereto, a toothed wheel carried by the standard and engageable with the said stud, the jack stand being adapted to be swung forward away from said standard whereby to disengage said toothed wheel from said stud.

6. In a device of the class described, the combination with a standard, of a supporting arm carried thereby and having a stud, a jack stand, a spindle connecting the stand with the supporting arm for lateral swinging adjustment upon the spindle as an axis, a toothed wheel carried by the spindle and engageable with the stud of the arm, the said jack stand being adapted to be swung forwardly away from said supporting arm whereby to disengage said toothed wheel from said stud.

7. In a device of the class described, the combination with a standard, of a supporting arm carried thereby provided with a stud, a spindle supporting the stand upon the arm for lateral swinging adjustment with respect thereto, the said spindle projecting through a slot formed in a portion of the said arm, and a toothed wheel carried by the spindle and engageable with the stud, the spindle being adapted for oscillation upon forward swinging movement of the stand with respect to the arm whereby to disengage the toothed wheel from the stud.

8. In a device of the class described, a jack stand, a last post disposed upon the stand,

the said post being provided with a base
having a depending stud engaging through
the stand, a curved spring bar connected at
one end with the stud and extending beneath
5 the stand, and means passing through the
stand and through the other end of the bar
whereby the bar may be rocked upon the
under side of the stand whereby to exert
downward pull upon the stud and cause the

base of the last post to bear against the up- 10
per face of the stand.

In testimony that I claim the foregoing as
my own, I have hereto affixed my signature
in the presence of two witnesses.

HIRAM F. MARSH.

Witnesses:

B. FRANK HULL,
NORRIS E. MARSH.