Sept. 18, 1945. C. G. HILTON 2,385,273

SHANK AND PATCHING CEMENT PRESS FOR FOOTWEAR

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Fig. 1

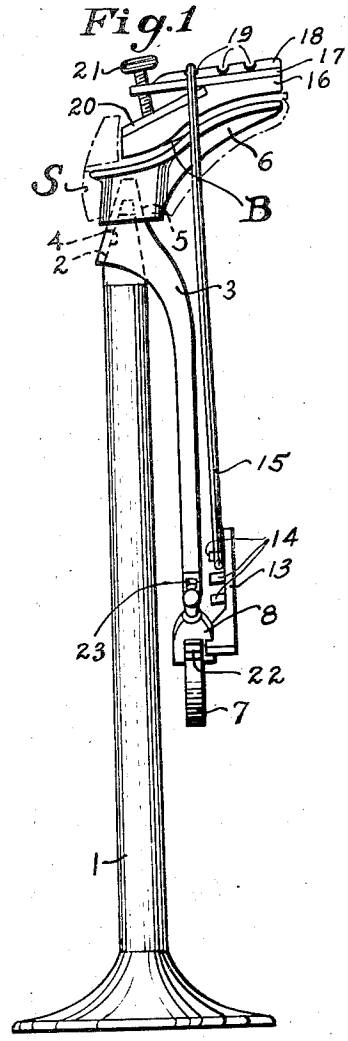


Fig. 2

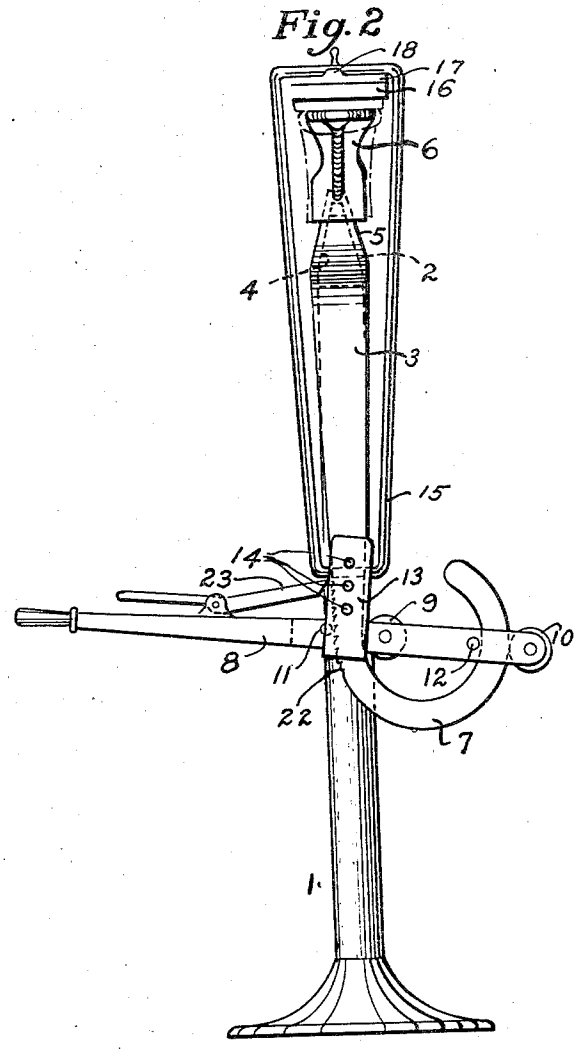
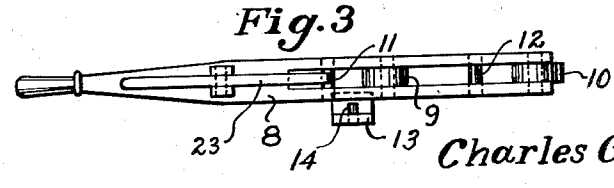


Fig. 3



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Fig. 4

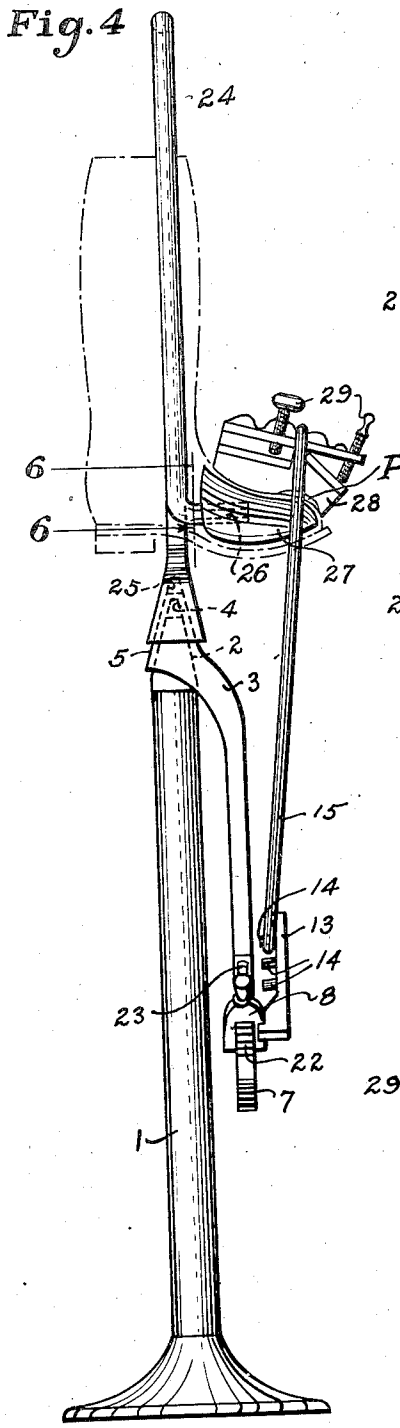


Fig. 6

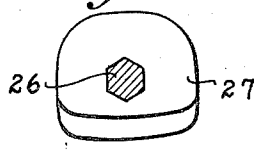


Fig. 7

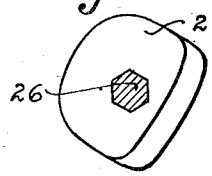


Fig. 8

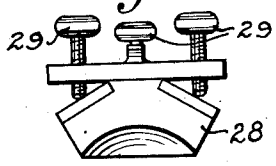


Fig. 5

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SHANK AND PATCHING CEMENT PRESS FOR FOOTWEAR

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20 Claims. (Cl. 12—33)

This invention relates to improvements in shank and patching cementing presses for footwear.

Heretofore presses for patching footwear were designed to accomplish one particular operation and were useless when doing other operations than that for which the press was designed. Furthermore, several operations, such as patching an upper or toe of a boot, or cementing the shank of a boot or lady's high-arch shoe, were practically impossible without damaging the boot or shoe.

While half soles can be applied with this invention, it is not designed primarily for half-soling operations, and is not to be confused with such presses. A most difficult operation is the cementing of the half sole to the "shank" of a cowboy boot or a high-arch lady's shoe without breaking down the arch or getting the shoe or boot out of the original "lasted" shape. With the present invention the shank of a cowboy boot or high-arch shoe can be pressed without losing any of its original shape. It can be used also for cementing toe tips on boots or shoes, as well as the shanks of half soles.

The present invention uses a conventional "last jack" and conventional shoe lasts; therefore, only the operating mechanism and accessories therefor are necessary to repair various shoes and boots. No additional space is required for special stands, thereby saving the cost of the stand and special lasts. One stand may be used for a number of presses, because, after the shank or patch is properly placed in the press and the pressure applied, the entire press unit may be lifted from the last jack and hung up or laid out of the way until the cement dries, thereby saving additional stands or jacks. By properly cementing the sole to the shank of a shoe or boot it is substantially as smooth as the original sole; this can be accomplished only by the correct pressure at the right points; this press is so designed to give this pressure. A shoe or boot that has an "invisible" half sole joint will not hang on edges such as a clutch pedal, in a saddle stirrup, on a foot scraper, etc., to cause accidents.

Any portion of an upper of a boot or boot leg can be patched with an attachment in connection with this invention, by shifting the boot about on the last which may vary in shape to suit the work being done.

The preferred embodiments of the invention are shown in the accompanying drawings, in which:

Fig. 1 is a side elevation of the invention as applied to a conventional jack;

Fig. 2 is a front elevation thereof, at right angles to Fig. 1;

Fig. 3 is a plan view of the lever, removed;

Fig. 4 is a side elevation of a modification of the invention for patching the uppers of boots and shoes;

Fig. 5 is a view taken at right angles to Fig. 4;

Fig. 6 is a detail cross section, taken on the line 6—6 of Fig. 4;

Fig. 7 is a view similar to Fig. 6 but with the last rotated through 60° for patching a side of a boot or shoe; and

Fig. 8 is a rear view of a pad used to hold the patches in place until the cement dries.

With more detailed reference to the drawings, the numeral 1 represents a conventional stand or jack such as is used by shoe-makers and repairmen. The top of the stand 1 is tapered at 2 to receive an arm 3, in this invention, which arm has a socket 4 on the lower side thereof, and a tapered top 5 on the upper side to receive a conventional last 6. The arm 3 projects downward from the top of the stand, and terminates in a curved hook 7. A bifurcated lever 8 embraces the hook 7, and has rollers 9 and 10 between the arms thereof to act as anti-friction bearings against the respective outer and inner sides of the hook 7 at spaced points. Pins 11 and 12 in opposing relation with the respective rollers 9 and 10 on opposite sides of the hook 7, hold the lever in guided relation at spaced points between a roller and pin respectively.

A bracket 13 is fixed to the lever 8 and projects upwardly therefrom. The bracket 13 has pins 14 projecting laterally from a side thereof to engage selectively a loop 15 which passes over a resilient pad 16.

The resilient pad 16 has an upper metallic facing 17 thereon with a longitudinal rib 18, notched at 19, for selective engagement with the loop 15 and to permit adjustment of the loop along the pad. The resilient pad 16 is secured to the metallic facing throughout a portion of the length of the facing, as by cementing or vulcanizing, while the end of the facing 17 projects in spaced relation from the pad. A secondary plate or metallic facing 20 extends partway of the length of the metallic facing 17 and is directly below the projecting end thereof. The adhesion of the resilient pad 16 to both of the facings forms a hingable structure. A screw 21 threaded through the facing 17 against the plate 20, provides for an adjustment of an end of the

pad 16 to conform to the approximate shape of the underside of the shoe or boot.

An edge of the hook 7 has ratchet teeth 22 to receive a pawl 23 pivotally mounted on the lever 8, to hold the lever 8 in a fixed relation to the hook 7, and also to hold a tension on loop 15 which applies the pressing action to pad 16.

Figs. 1 and 2 show the press in operative condition, with a shoe S on the last 6. A half-sole is shown applied to the shoe, and the press is applying pressure to the shank B of the shoe where the sole is beveled to a thin edge and coated with cement. Due to the quick drying qualities of the leather cement used in cementing the shanks of soles to shoes, screw presses are too slow and permit the cement to become too dry before pressure can be applied. With this invention, the pad 16 can be adjusted at 21 to conform to peculiarities of the shoe arch; then the loop 15 swung to one side and the cement applied. The pad 16 is then put in place quickly; the loop 15 engaged with a notch 19 and the lever 8 pushed downward where it is locked by the pawl 23 engaging a ratchet tooth 22, applying correct pressure to the loop 15 and the pad 16.

After this pressure is applied, the unit may be removed from the stand without lessening the pressure, and either hung up or laid aside until the cement has dried and set securely. This will enable the use of the stand or jack for other work or pressing actions.

The pins 14 provide for adjustability of the loop 15 with respect to the work. The rollers 9 and 10 serve to lessen friction as the pressure is applied by the lever 8. The bracket 13 is affixed to the lever 8 (Figs. 2 and 5) in such manner that, as the lever moves around the arcuate hook 7 counter-clockwise, the pins 11 and 12 will describe a movement to the left, and the combined movements thereof will apply substantially a straight-line movement to the loop 15 within the average working limits of the press. The straight line movement is desirable inasmuch as even pressure is applied thereby to the shank while it is being cemented.

The lasts used with this press are conventional or standard lasts such as are found at the average shoe repair shop; therefore, no special lasts are required to cement the shanks of boots or shoes.

The application of the invention shown in Figs. 4 to 8 inclusive is for use in patching toe caps, uppers of shoes or boots, and boot legs. The pressure applying mechanism is the same as described above, but instead of the conventional last 6, a lasting frame 24, of U-shape is used, one arm of which has a tapered recess 25 similar to that of the last 6 to fit on the top tapered portion 5 of the arm 3. The last-mentioned arm is offset at its lower end and projects upward, across and downward so that its other arm is approximately in axial alignment with the stand or jack 1, as shown in Fig. 5. The lower end of the last-mentioned arm is turned outward to form a stub 26, shown as of hexagonal shape, to receive a toe-shaped last 27 fitted thereon in an upright position. However, the last can be adjusted to six positions with this shape of stub, as may be seen in Figs. 6 and 7. The extended frame 24 permits a high top boot to be inserted in upright position, as shown in Figs. 4 and 5, and repairs made on the toe cap or upper, such as the patch P.

A pad 28 is used, similar to the pad 16, but has three adjusting screws 29 so as to conform both sides and the end of the resilient pad to fit the toe of a boot or shoe or any other portion being repaired. The toe last 27 when placed in position on the hexagonal stub 26 will occupy approximately the same level as the top of the last 6 when on the arm 3; therefore, one pressure mechanism can be interchangeable on either last. It will be readily appreciated that last 27 can be tilted from side to side as shown in Fig. 7, to patch any portion of the toe or upper of a shoe or boot.

In the operation of the device, the toe last 27 is placed on the hexagonal stub 26 of the frame 24, and the boot or shoe pulled on in upright position with the high inverted U-shaped member 24 permitting boots of any height to be accommodated. The patch P is applied to the particular portion that requires patching; loop 15 is swung over the pad 28, and the pressure applied by lever 8 substantially as hereinbefore described. While set screws are shown to adjust the plates of the pad 28, it will be understood that other means, such as wedges or the like, may be used if desired.

The recess 25 on the frame 24 is so constructed that the lasting frame 24 can be set at different lateral angles relative to the stand 1, thus turning the toe last 27 to different positions relative to said stand.

In the forms of the invention illustrated, the arm 3 and loop 15, are shown long enough to accommodate a boot, as well as a shoe, but it will be evident that for patching only shoes, these may be shortened to the desired extent, moving the adjusting means to a higher point relative to the last.

While reference is made herein to the application of a patch to a boot or shoe, it is intended that this should apply to any repair patch that is secured to the boot or shoe, whether on the upper, the tip, or the sole or half-sole. Moreover, the press may be used for cementing the various parts of a shoe together during the manufacture thereof, as well as for repair.

I claim:

1. In a cementing press for footwear, the combination of a base, an arm having one end mounted on the base, said arm having an upstanding seat on said mounted end portion thereof, last structure mounted on said seat of the arm and adapted to receive an article of footwear thereon for application of a patch thereto by cement, a pressure member adapted to apply pressure to said patch, and means connected with the opposite end portion of said arm for applying pressure to said pressure member.

2. In a cementing press for footwear, the combination of an upright stand, an arm mounted at one end on said stand, said mounted end of the arm having an upwardly tapered portion above the stand in positoin to receive a last thereon with an article of footwear on said last for application of a patch thereto by cement, a pressure member adapted to apply pressure to said patch, and means connected with the opposite end of the arm for applying pressure to said pressure member.

3. In a cementing press for footwear, the combination of a stand, an elongated arm having one end thereof mounted on said stand, means for mounting a last on said mounted end of the arm, said last being adapted to receive an article of footwear thereon for application of a shoe piece thereto by cement, a pressure device adapted to apply pressure to said shoe piece on the footwear, and means connected with the opposite end portion of said arm for applying pressure to said pressure device.

4. In a cementing press for footwear, the com-

bination of an upright stand, an elongated arm having one end thereof detachably mounted on said stand, said mounted end of the arm having a seat portion thereon over the stand, a last structure mounted on said seat portion of the arm and adapted to receive thereon an article of footwear for application of a shoe piece thereto by cement, a pressure member adapted to apply pressure to said shoe piece, and means connected directly with the opposite end portion of the arm for applying pressure to said pressure member.

5. In a cementing press for footwear, the combination of an upright stand, an elongated arm having one end thereof detachably mounted on said stand, said mounted end of the arm having a seat portion thereon over the stand, a last structure mounted on said seat portion and adapted to receive thereon an article of footwear for application of a shoe piece thereto by cement, a pressure member in position to apply pressure to said shoe piece, and means connected directly with the opposite end of the arm for applying pressure to the shoe piece and for maintaining pressure after removal of the arm and pressure member from the stand during the application of pressure thereby to the footwear.

6. In a cementing press for footwear, the combination of an upright stand, an arm mounted detachably at one end on said stand, said mounted end of the arm having an upwardly tapered portion above the stand, last structure mounted on said tapered portion of the arm and adapted to receive thereon an article of footwear for application of a patch thereto by cement, a pressure member adapted to apply pressure to said patch, and means connected with the opposite end of the arm for applying pressure to the pressure member.

7. In a cementing press for footwear, the combination of an upright stand, an arm mounted detachably at one end on said stand, said mounted end of the arm having an upwardly tapered portion above the stand, last structure mounted on said tapered portion of the arm and adapted to receive thereon an article of footwear for application of a patch thereto by cement, a pressure member adapted to apply pressure to said patch, and means connected with the opposite end of the arm for applying pressure to the pressure member, whereby the last structure may be removed from the stand while pressure is applied to the footwear.

8. In a cementing press for footwear, the combination of an upright stand having a tapered upper end, an arm mounted detachably at one end on said tapered upper end, said mounted end of the arm having an upwardly tapered portion above the stand, last structure mounted on said tapered portion of the arm and adapted to receive thereon an article of footwear for application of a patch thereto by cement, a pressure member adapted to apply pressure to said patch, a lever mounted on the opposite end portion of the arm for downward swinging movement relative thereto, and a link connecting said lever with the pressure member to apply pressure thereto.

9. In a cementing press for footwear, the combination of an upright stand having an upward projection thereon forming a male seat on the upper end thereof, a support having a recess in the lower side thereof detachably receiving said seat and mounting the support on the stand, said support having an upwardly projecting male seat thereon, a last structure having a recess in the under side thereof detachably mounting said last structure on the seat of the support.

10. In a cementing press for footwear, the combination of an upright stand having an upwardly tapered upper end, a support detachably mounted on said tapered upper end, said support having an upwardly tapered seat thereon, last structure detachably mounted on said upwardly tapered seat, said tapered upper end and tapered seat being the same size for interchangeable mounting of the last structure thereon.

11. In a cementing press for footwear, the combination of an upright stand having a tapered upper end, a support detachably mounted on said tapered upper end, said support having an upwardly tapered seat thereon, last structure detachably mounted on said upwardly tapered seat, said tapered upper end and tapered seat being the same size for interchangeable mounting of the last structure thereon, said last structure being adapted to receive an article of footwear for application of a patch thereto by cement, and means connected with the support for applying pressure to said patch.

12. In a cementing press for footwear, the combination of an upright stand, an arm mounted at one end on said stand and extending downwardly in close substantially parallel relation with the stand in position to receive a boot thereover, last structure carried by the stand, and means connected with the lower end portion of the arm for applying pressure to the boot.

13. In a cementing press for footwear, the combination of an upright stand, an arm mounted at one end on said stand and extending downwardly in close substantially parallel relation with the stand in position to receive a boot thereover, last structure carried by the stand, said arm having an arcuate lower end portion, a lever mounted on said arcuate lower end portion for swinging movement relative thereto, a pressure member to be applied to the boot, and means connecting said pressure member with the lever.

14. In a cementing press for footwear, the combination of a stand, an arm mounted on said stand and extending downwardly therefrom, last structure carried by the stand to receive an article of footwear for application of a patch thereto by cement, a pressure member adapted to be applied to said patch, said arm having an arcuate lower end portion, a lever mounted on said arcuate lower end portion for downward swinging movement, and means connecting said lever with the pressure member.

15. In a cementing press for footwear, the combination of a stand, an arm mounted on said stand and extending downwardly therefrom, last structure carried by the stand to receive an article of footwear for application of a patch thereto by cement, a pressure member adapted to be applied to said patch, said arm having an arcuate lower end portion, a bifurcated lever embracing opposite portions of said arcuate portion, roller means for guiding the lever on the arcuate portion, locking means for the lever, and means connecting said lever with the pressure member.

16. In a cementing press for footwear, the combination of a stand, an arm mounted on said stand and extending downwardly therefrom, last structure carried by the stand to receive an article of footwear for application of a patch thereto by cement, a pressure member adapted to be applied to said patch, said arm having an

arcuate lower end portion, a lever mounted on said arcuate lower end portion for downward swinging movement, a bracket connected with said lever and extending upwardly therefrom, a plurality of vertically spaced pins on the bracket, and a loop selectively connected with one of said pins and connected with the pressure member.

17. In a cementing press for footwear, the combination of a support adapted to receive last structure thereon, a pressure member adapted to be applied to the footwear on the last structure, a bearing plate fixed to the pressure member and having a plurality of notches spaced lengthwise thereof, an elongated loop having one end thereof selectively engaged with a notch of the plate, and means connected with the opposite end portion of the loop for applying pressure to the member.

18. In a cementing press for footwear, the combination of a support adapted to receive last structure thereon, a pressure member adapted to be applied to the footwear on the last structure, said pressure member extending transversely over the support being constructed of deformable material to conform to the contour of the footwear, a plate extending over the upper surface of the pressure member and secured to a portion of said pressure member, a second plate secured to another portion of said pressure member and extending transversely over the support in overlapping relation with the first-mentioned plate, and means connected with the second plate and bearing on the first-mentioned plate for deforming said pressure member.

19. In a cementing press for footwear, the combination of an upright stand, a last frame substantially of inverted U-shape one arm of which has an offset lower end portion mounted on the stand and the other arm thereof extending substantially in vertical alignment with the stand, and means for mounting a last member on the last-mentioned arm.

20. In a cementing press for footwear, the combination of an upright stand, a last frame substantially of inverted U-shape one arm of which has an offset lower end portion mounted on the stand and the other arm thereof extending substantially in vertical alignment with the stand, the last-mentioned arm having an out-turned lower end portion, said out-turned portion being polygonal in cross section, and a last member fitted over said out-turned portion and circumferentially adjustable thereon.

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