Feb. 5, 1935. P. ROSTKOWSKI 1,990,418

SHOEMAKING STAND

Filed April 9, 1934 2 Sheets-Sheet 1

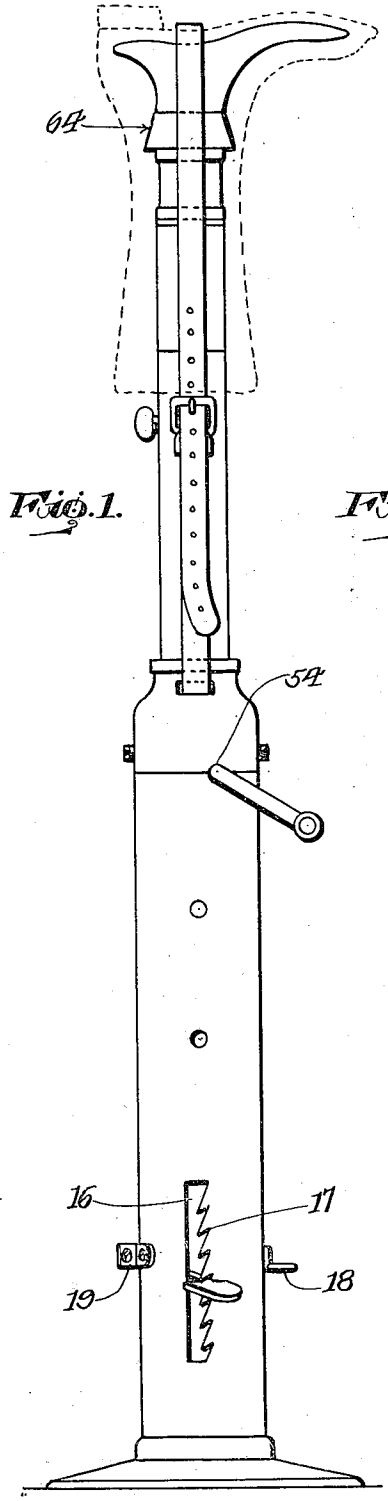


Fig. 1.

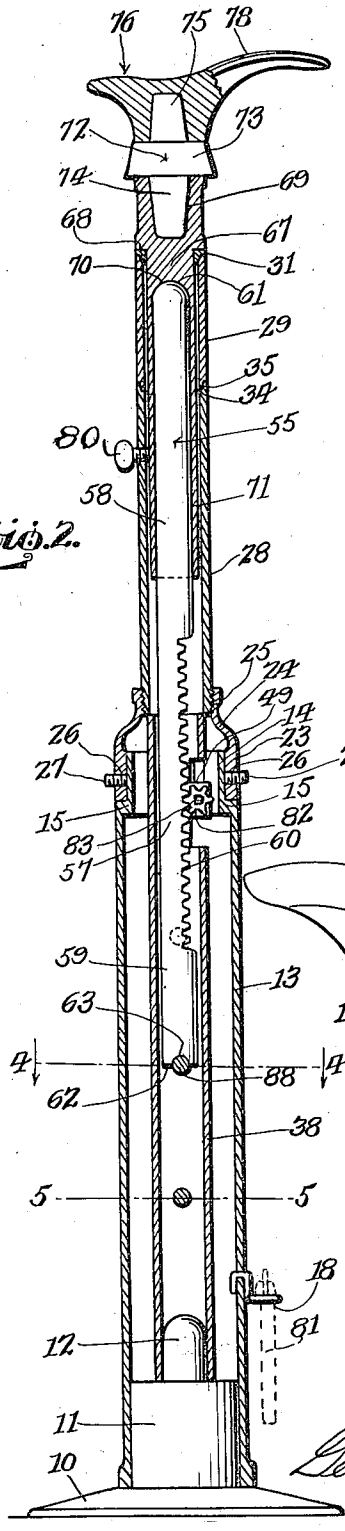


Fig. 2.

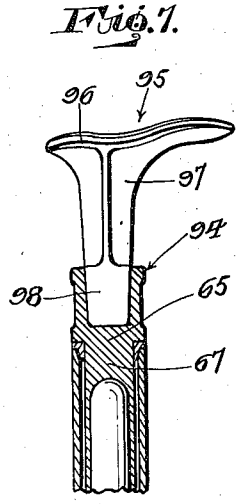


Fig. 7.

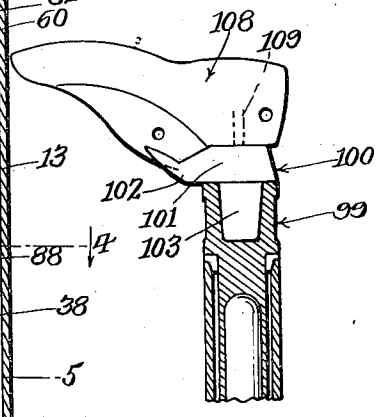


Fig. 8.

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SHOEMAKING STAND

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Fig. 3.

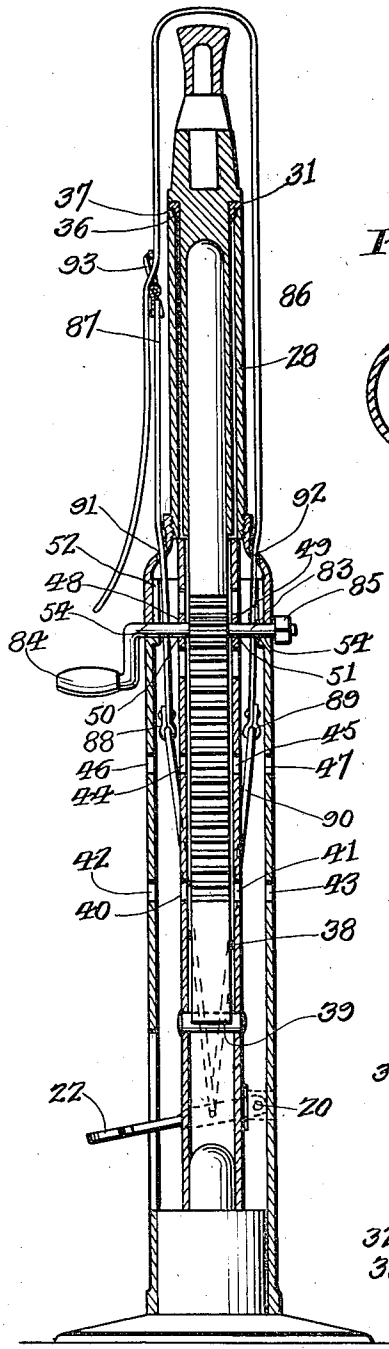


Fig. 4.

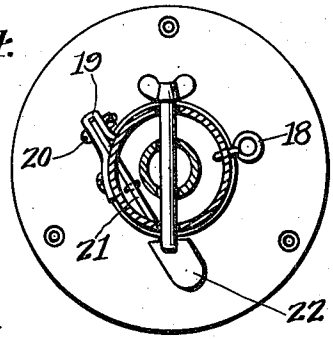


Fig. 5.

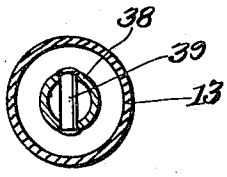
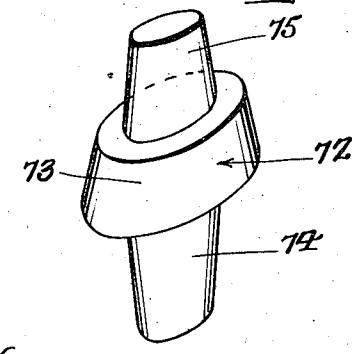


Fig. 6.



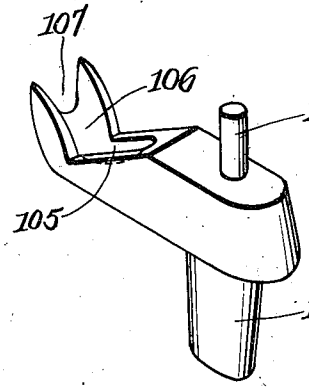


Fig. 9.

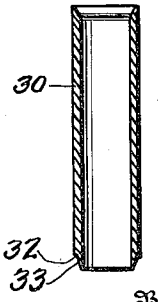


Fig. 10.

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Patented Feb. 5, 1935

1,990,418

UNITED STATES PATENT OFFICE

1,990,418

SHOEMAKING STAND

Paul Rostkowski, Sparrows Point, Md.

Application April 9, 1934, Serial No. 719,765

16 Claims. (Cl. 12—123)

This invention relates to a boot and shoe jack for use in connection with the making and repairing of boots and shoes, and the invention has for its object to provide, in a manner as hereinafter set forth a jack of the class referred to so constructed and arranged to facilitate a boot or shoe making or repair operation.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to constructed in a manner to prevent injury to the lining or to the leg of a boot when repairing the latter.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to having means for positioning the work to be acted upon in convenient reach of the operator.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to including a readily adjustable head structure to enable the positioning of the latter in the desired manner within a boot or shoe, without the necessity of removing the head structure from the body of the jack, and further with the jack provided with means for detachably securing the head structure in its adjusted position.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to including a vertically adjustable means for increasing or decreasing the height of the jack when occasion requires.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to including a lengthwise adjustable sectional element for detachably clamping the work to be acted upon on the head structure of the jack.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to including a vertically adjustable abutment element and means coacting with the bottom of such element for sustaining the latter in its adjusted and non-adjusted positions.

A further object of the invention is to provide, in a manner as hereinafter set forth, a jack of the class referred to including a vertically adjustable head structure formed with a tubular stem and a seating surface at the outer end of the stem, a vertically adjustable abutment element coacting with said surface for supporting the head structure and means for inclosing said stem and abutment and for supporting the head structure intermediate its ends outwardly with respect to the seating surface.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a jack of the class referred to which is comparatively simple in its construction, strong, durable, compact, thoroughly efficient in use for the purpose intended thereby, readily assembled, conveniently adjusted, readily repaired when occasion requires and comparatively inexpensive to set up.

To the above ends essentially, and to others which may hereinafter set forth, the invention consists of such parts, and such combination of parts which fall within the scope of the invention as claimed.

In the drawings:—

Figure 1 is an elevation of the jack,

Figure 2 is a vertical sectional view thereof.

Figure 3 is a vertical sectional view of the jack taken at right angles to Figure 2,

Figure 4 is a section on line 4—4 Figure 2,

Figure 5 is a section on line 5—5 Figure 2,

Figure 6 is a perspective view of one of the sections of the head structure shown in Figure 1,

Figure 7 is a fragmentary view in section showing a modified form of head structure,

Figure 8 is a view similar to Figure 7 illustrating another modified form of head structure,

Figure 9 is a perspective view of one of the sections of the head structure shown in Figure 8, and

Figure 10 is a detail in perspective.

Referring to Figures 1 to 6 of the drawings, the jack includes a circular base 10 having formed integral with its upper face a solid vertically disposed sustaining member 11 provided at its top with an axially arranged upstanding lug 12. The member 11 and lug 12 are of circular contour in cross section. The member 11 is disposed concentrically with respect to the base 10.

Mounted upon the base 10 is a vertically disposed sleeve 13 into the lower end of which extends the member. The latter maintains the sleeve 13 in an upstanding position. The upper portion 14 of sleeve 13 is reduced and inset to provide an annular shoulder 15 for a purpose to be referred to. The sleeve 13 in proximity to its lower end is formed on one side with a lengthwise extending rectangular slot 16 having one of its side edges formed with ratchet teeth 17. The bottom of slot 16 is spaced from the base 10. The sleeve 13 has extended from its lower portion a looped shaped bracket 18 for a purpose to be referred to. The sleeve 13 has also extended from

its lower portion a bracket 19 in which is provided as at 19 one end of a foot operated lever 20 which cooperate with the sectional work clamping element to be referred to. The lever 20 extends through an opening 21 (Figure 3) in sleeve 13, across the latter and through slot 16. The non-pivoted end of lever 20 has a foot tread 22. The lever 20 is diagonally disposed with respect to the axis of sleeve 13.

Seated upon the shoulder 15 is a coupling collar 23 having a reduced upper part 24 formed with internal threads 25. The collar 23 is provided with diametrically disposed openings 26 having the walls threaded. The collar 23 encompasses and extends above the part 14 of sleeve 13. Binding screws 27 extend through and threadedly engage with the walls of openings 26, as well as abut part 14 of sleeve 13.

Threadedly engaging with the reduced upper end of the collar 23 is the lower end of the main section 28 of a tubular support. The latter also includes a pair of tubular auxiliary sections 29, 30 and an annular bearing member 31. The sections 29, 30 are selectively mounted in superimposed relation with respect to the section 28. The latter is of greater length than the other sections of the support. The section 29 is of less length than section 30. The lower end of each auxiliary section is rabbeted on its outer face to form a shoulder 32 and a depending tapered part 33. The upper end of the section 28 is rabbeted on its inner face to provide a shoulder 34 and a flared part 35. The member 31 is in the form of a ring having a depending tapered annular flange 36 spaced adjacent to the edge of the ring to provide a shoulder 37. The member 31 is selectively mounted upon and extends into the upper end of a section 28, 29 or 30. The section 28 and member 31 coact to support the head structure, to be referred to when the vertically adjustable abutment element is in its normal or non-adjusted position, and in this connection see Figure 1. The sections 28, 29 and member 31 coact to support the head structure when the abutment element is in its first position of adjustment and in this connection attention is directed to Figures 1 and 2. The sections 28, 30 and member 31 coact to support the head structure when the abutment element is in its second position of adjustment and in this connection it will be stated that the section 30 would be substituted for section 29, and be arranged relative to section 28 and member 31 in the same manner as section 29 is shown in Figures 1 and 2. The head structure intermediate its ends seats upon the upper end of the tubular support and is revoluble relative to the latter.

A tubular combined guide and support element 38 is mounted on the top of member 11. The lug 12 extends upwardly into the lower portion of element 38. The latter is of a length to extend from member 11 to the bottom edge of section 28 of the tubular support. Fixedly secured to the element 38 and disposed diametrically thereof is a sustaining pin 39 for a purpose to be referred to. Positioned above and in spaced relation to the pin 39 is a pair of diametrically opposed openings 40, 41 formed in the element 38 and which align respectively with a pair of diametrically opposed openings 42, 43 formed in the sleeve 13. Positioned above and in spaced relation to the openings 40, 41 respectively is a pair of diametrically opposed openings 44, 45 formed in the element 38 and which align respectively with a pair of diametrically opposed openings 46, 47 formed in the sleeve 13. Positioned above and in spaced relation to the openings 44, 45, the element 39 is provided with a pair of spaced parallel lugs 48, 49 formed with aligning openings 50, 51 and which align respectively with a pair of diametrically opposed vertical slots 52, 53 formed in the part 14 of sleeve 13. The slots 52, 53 have their upper ends open. The purposes of the lower group of aligning openings 40, 41, 42 and 43; the upper group of aligning openings 44, 45, 46 and 47; and the aligning openings 50, 51 and slots 52, 53 will be hereinafter referred to. The collar 23 has clearances 54 which are associated with openings 50, 51 and slots 52, 53.

Arranged within element 38 and extending into the sectional tubular support is a vertically adjustable abutment element 55 for the head structure to be hereinafter referred to. The element 55 is in the form of an elongated solid bar 56 having an intermediate stretch 57 of semi-circular cross section, an upper stretch 58 and a lower stretch 59. The stretches 58, 59 are of circular cross section. The stretch 58 is of greater length than stretch 57 and the latter is of greater length than stretch 59. The stretch 56 is formed with a flat face which is toothed throughout to provide a rack, as at 60. The bottom edge portion of stretch 58 and top edge portion of stretch 59 extend beyond the rack 60 and constitutes stops for arresting the vertical movement in opposite directions of the stretch 57 by an adjusting device, to be referred to for the element 55. The top of stretch 58 is rounded, as at 61. The bottom of stretch 59 is squared, as at 62 and formed with a transverse groove 63.

The sectional head structure is generally indicated at 64 and includes a lower section in the form of a body part 65 having an oval shaped upper end and its remaining portion of circular cross section. The body part 65 has a reduced lower portion 67 to provide a peripheral shoulder or seat 68 intermediate its ends. The body part 65 in its upper portion is formed with a tapered socket 69 and at its lower end has a semicircular recess 70. The wall of the latter constitutes a bearing surface. Formed integral with and flush with the bottom of body part 65 is a depending tubular stem 71 of uniform inner diameter having the upper end of its inner face merging into the lower end of the wall of recess 70. The head structure 64 also includes an intermediate section 72 formed of a tapered oval shaped body part 73 of greater area than the top of body part 65 so as to project laterally from the latter. The section 72 has a tapered shank 74 depending from the bottom of body part 73 and disposed in the socket 69. Extending upwardly from the top of body part 73 is a tapered stem 75 which is slightly offset with respect to shank 74. The upper face of body part 73 slightly inclines downwardly horizontally from one end to the other. The head structure 64 also includes an outer section 76 in the form of a metallic last consisting of a head piece 77 in the form of a last, a short shank 78 depending thereof and a tapered socket 79 opening at the bottom of the shank. The socket 79 receives the stem 75. The bottom of the shank 78 is substantially of the same area as the top of body part 73. When the head structure 64 is arranged relatively to the sectional tubular support the shoullder 66 seats upon the bearing member 31, and the stem 71 depends into the section 28 of such support. The head structure 64 may be revolved relative to member 31 to arrange the head structure in the desired posi-

tion, and after the latter has been set, it is detachably maintained in such position by an adjustable clamping screw 80 which is carried by section 28 and is adjusted to bind against the stem 71.

The normal position of element 55 is with its lower end seated upon the pin 39. The normal position of the head structure 64 is with its shoulder 66 seated upon the bearing member 61. The latter is mounted upon the upper end of the section 28 of the sectional tubular support. The permanent position of the head structure relative to element 55 is that, the rounded upper end 61 of the latter forms an abutment for the head structure 64, due to the wall of recess 70 abutting such end. The head structure and element 55 have two adjustable positions with respect to the element 38, one is when the element 55 carrying the head structure is moved upwardly to have its bottom edge 62 align with the lower group of openings 40, 41, 42 and 43, and the other is when the element 55 carrying the head structure is moved upwardly to have its bottom edge 62 to align with the upper group of openings 44, 45, 46 and 47. Removably mounted in the bracket 18 is a retaining pin 81 for selective extension through the groups of openings. The pin 81 acts to selectively retain the element 55 in its positions when adjusted from normal. In Figure 2 the pin 81 is mounted in the lower group of openings for sustaining element 55 in its first position of adjustment. When element 55 is sustained in its second position of adjustment pin 81 is to extend through the openings of the upper group. There is associated with the element 55 a manually operated shifting device therefor to move such element to its adjusted positions. The said device consists of a rotatable pinion 82 meshing with the rack 60 and carried by a shaft 83. The latter is journaled in the openings 50, 51 formed in the lugs 48, 49 respectively. The shaft 83 extends through the slots 52, 53 and clearances 54, as well as extends from opposite sides of sleeve 13. The shaft 83 is provided at one end with a crank handle 84 and at its other end with a retaining nut 85. The slots 52, 53 permit of the removal of element 55 and its shifting device from element 38 when section 28 of the tubular support is disconnected from collar 23. The work clamping element includes a pair of straps 86, 87 the former being of greater length than the latter. The straps 86, 87 at their inner ends are anchored to the ends 88, 89 respectively of a connecting means 90 anchored to the lever 21. The straps 86, 87 extend into sleeve 13 through diametrically opposed slots 91, 92 respectively formed in the collar 23. The parts of the straps within the sleeve 13 and the said connecting means are arranged between element 38 and sleeve 13. The lever 21 is positioned between sleeve 13 and element 38. The strap 87 carries a buckle 93 at its outer end. The outer terminal portion of the strap 86 coacts with the buckle 93 for increasing and decreasing the length of the clamping element and for causing the latter to clamp against the work to maintain the latter stationary when being acted upon. The lever 21 and rack 17 cooperate to form a locking means for the work clamping element.

The modified form of head structure 94 shown in Figure 7 is the same as the head structure 64, with the exception that the intermediate section 72 is dispensed with, and that the upper or outer section 95 of head structure 94 is of a different form from that of the outer or upper section 76 of head structure 64. The section 95 comprises a head piece 96 in the form of a last and an elongated shank 97 depending from the head piece and having a tapered lower portion 98 for engagement in the socket 69. Otherwise than that as stated the construction of head structure 94 will be the same as head structure 64.

The modified form of head structure 99 shown in Figures 8 and 9 includes an inner or lower section corresponding to the inner section of head structure 64. The structure 99 includes an intermediate section 100 formed of a body part 101 of semi-oval contour, a V-shaped extension 102 extended from the non-round end of body part 101, a tapered shank 103 depending from body part 101 and an upstanding lug 104 on the upper face of body part 101. The lug 104 is eccentrically disposed with respect to shank 102. The upper face of the inner side portion of extension 102 is lengthwise grooved as at 105. The upper face of the other side of extension 102 is lengthwise grooved for a portion of its length, as at 106. The lower end of groove 105 merges into the lower end of groove 106. The outer part of the outer side of the extension 102 is bifurcated, as at 107. The structure 99 also includes an outer section 108 in the form of a built up last for the purpose of making a shoe. The section 108 is formed with a socket 109 for the reception of the lug 104. The section 108 seats upon and extends from the upper face of body part 101. The extension 102 receives and overlaps a part of the instep forming portion of the section 108.

The head structures 64 and 94 are used for repair work. The head structures 64 or 94, as well as the tubular sectional support associated therewith, are so set up as to provide the necessary clearance with respect to a boot, that when the latter is to be repaired and during the repair operation, the lining or leg portion of the boot will not be impaired in any manner, and in this connection attention is directed to the dotted line shown in Figure 1.

The sectional tubular support not only provides a means for supporting a head structure intermediate its ends, but further acts as an enclosing means for the tubular depending stem of the head structure and the abutment element for the latter. The head structures 64 and 94 enable the use of the standard types of metallic last employed in shoe repairing. As the head structures may be revolved, it does not require the removing of the metallic last forming the outer section of the structure to change the position of such section during repair work. As is well known after setting the metallic last in position in a support with respect to the work, and one desires to change it, it is necessary to knock the last from one of the supports and then arrange the last in the support in the desired manner.

The member 31 not only constitutes a bearing for the head structures, but also acts as a means to protect the upper end of that section of the tubular support with which it is associated.

What I claim is:—

1. In a jack for the purpose set forth, a revoluble head structure formed with a bearing surface and a depending tubular stem having the upper end of its inner face merging into said surface, a vertically adjustable toothed abutment element extending into said stem and permanently abutting said bearing surface, a guide for said element, means engaging with the teeth of said element for vertically moving the latter, a vertical supporting structure for said means and guide, means selectively engaging at spaced

points of said supporting structure and guide and coacting with the bottom of said element for selectively sustaining the latter in its adjusting positions, and means carried by said guide and coacting with the bottom of said element for sustaining the latter in its non-adjusted position.

2. In a jack for the purpose set forth, a revoluble head structure formed with a bearing surface and a depending tubular stem having the upper end of its inner face merging into said surface, a vertically adjustable toothed abutment element extending into said stem and permanently abutting said bearing surface, a guide for said element, means engaging with the teeth of said element for vertically moving the latter, a vertical supporting structure for said means and guide, means selectively engaging at spaced points of said supporting structure and guide and coacting with the bottom of said element for selectively sustaining the latter in its adjusting positions, and means carried by said guide and coacting with the bottom of said element for sustaining the latter in its non-adjusted position, said head structure being formed with a peripheral shoulder intermediate its ends, and tubular means extending upwardly from said supporting structure and including a bearing member upon which seats said shoulder.

3. In a jack for the purpose set forth, a revoluble head structure formed with a bearing surface and a depending tubular stem having the upper end of its inner face merging into said surface, a vertically adjustable toothed abutment element extending into said stem and permanently abutting said bearing surface, a guide for said element, means engaging with the teeth of said element for vertically moving the latter, a vertical supporting structure for said means and guide, means selectively engaging at spaced points of said supporting structure and guide and coacting with the bottom of said element for selectively sustaining the latter in its adjusting positions, and means carried by said guide and coacting with the bottom of said element for sustaining the latter in its non-adjusted position, said head structure being formed with a peripheral shoulder intermediate its ends, tubular means extending upwardly from said supporting structure and including a bearing member upon which seats said shoulder, and means carried by said tubular means and engaging with said stem for arresting the revolving of said head structure.

4. In a jack for the purpose set forth, a revoluble head structure formed with a bearing surface and a depending tubular stem having the upper end of its inner face merging into said surface, a vertically adjustable toothed abutment element extending into said stem and permanently abutting said bearing surface, a guide for said element, means engaging with the teeth of said element for vertically moving the latter, a vertical supporting structure for said means and guide means selectively engaging at spaced points of said supporting structure and guide and coacting with the bottom of said element for selectively sustaining the latter in its adjusting positions, and means carried by said guide and coacting with the bottom of said element for sustaining the latter in its non-adjusted position, said head structure being formed with a peripheral groove intermediate its ends, tubular means extending upwardly from said supporting structure and including a bearing member upon which seats said shoulder, said supporting structure being formed with spaced slots, a foot operated lever diagonally disposed with respect to the axis of said supporting structure, extending through the lower portion of the latter and having one end pivotally supported from the exterior of said supporting structure, a work clamping element extending through said slots and anchored to said lever, and said supporting structure having means coacting with said lever for locking the clamping element in working clamping position.

5. In a jack for the purpose set forth, a revoluble head structure formed intermediate its ends with a laterally disposed seating surface on its outer periphery and an internal bearing surface formed therein intermediate the ends thereof spaced from and below said seating surface, said head structure being formed with a tubular part of uniform inner diameter having the outer end of its inner face merging into said bearing surface.

6. In a jack for the purpose set forth, a revoluble head structure formed of an outer, an inner and an intermediate section arranged in superimposed relation, said intermediate section having oppositely disposed means seating in the other of said sections, said inner section being formed with a seating surface extended laterally from its outer periphery, an internal bearing surface arranged inwardly of and below said seating surface and an integral depending tubular stem of uniform inner diameter having the inner face at the outer end of the latter merging into said bearing surface.

7. In a jack for the purpose set forth, a revoluble head structure formed of an outer, an inner and an intermediate section arranged in superimposed relation, said intermediate section having oppositely disposed means seating in the other of said sections, said inner section being formed with a seating surface extended laterally from its outer periphery, an internal bearing surface arranged inwardly of and below said seating surface and an integral depending tubular stem of uniform inner diameter having the inner face at the outer end of the latter merging into said bearing surface, said seating surface being flat and said bearing surface being of semi-circular contour.

8. In a jack for the purpose set forth, an upstanding revoluble head structure formed with a flat seating surface extended laterally from its periphery and an inwardly arranged and semicircular bearing surface below said seating surface, a vertically adjustable abutment element bodily carrying said head structure and formed with a rounded upper end permanently engaging said bearing surface, an upstanding tubular means encompassing a portion of said head structure and said element and having its upper end in the form of a bearing member engaging said seating surface, elevating means for adjusting said element, and a supporting structure for said tubular means, for selectively sustaining said element in its adjusted position and for sustaining said element in non-adjusted position.

9. A jack of the construction as set forth in claim 8 having a part of the supporting structure in the form of a guide for said element.

10. A jack of the construction as set forth in claim 8 having a part of the supporting structure in the form of a guide for said element, said guide abutting the lower end of said upstanding tubular means.

11. In a jack for the purpose set forth, a revoluble head structure formed of an outer, an inner and an intermediate section arranged in super-

imposed relation, said intermediate section having oppositely disposed means seating in the other of said sections, said intermediate section having laterally extending means for receiving a part of and for overlapping other parts of said outer section, said inner section being formed with a seating surface extended laterally from its outer periphery, an internal bearing surface arranged inwardly of and below said seating surface and an internal depending stem having the upper end of its inner face merging into the outer end of said bearing surface.

12. In a jack for the purpose set forth, a revoluble head structure including an outer and an inner section, said inner section being formed with an outwardly opening socket, a laterally disposed seating surface extended from its outer periphery above its lower end, an internal bearing surface inwardly of and below said seating surface and an integral depending tubular stem having the upper end of its inner face merging into the rear end of said bearing surface, and said outer section formed of a body part having a depending stem, the lower portion of the latter being seated in said socket, and said body part being arranged in spaced relation with respect to the top of said inner section.

13. In a jack for the purpose set forth, a vertically disposed revoluble head structure formed intermediate its ends with a laterally disposed seating surface and an internal bearing surface formed therein intermediate the ends thereof below said seating surface, an abutment element extending into said head structure and abutting said bearing surface, and a tubular support encompassing said element and engaging said seating surface.

14. In a jack for the purpose set forth, a revoluble head structure formed intermediate its ends with a laterally disposed peripheral seating surface and a bearing surface arranged therein intermediate the ends thereof, said head structure being formed with a tubular part having one end encompassing said bearing surface, a vertically adjustable abutment element extending into said stem and having its outer end permanently abutting said bearing surface, and a lengthwise extendible tubular support encompassing said stem and element and having its outer end bearing against said seating surface, said structure being revoluble upon the outer end of said element and support.

15. In a jack for the purpose set forth, a vertically disposed revoluble head structure formed intermediate its ends on its outer periphery with a laterally disposed seating surface and an internal bearing surface formed therein below said seating surface, an abutment element extending into said head structure and abutting said bearing surface, and a tubular support encompassing said element and including an annular bearing member at the outer end of the support, said bearing surface seated upon said member.

16. In a jack for the purpose set forth, a vertically disposed revoluble head structure formed intermediate its ends on its outer periphery with a laterally disposed seating surface and an internal bearing surface formed therein below said seating surface, an abutment element extending into said head structure and abutting said bearing surface, and a tubular support encompassing said element and including an annular bearing member at the outer end of the support, said bearing surface seated upon said member, said member being of angle shape cross section to provide a vertical and a horizontal leg, the latter extending outwardly from the outer end of the vertical leg, said vertical leg being arranged within the support and said horizontal leg bearing against said bearing surface.

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