June 24, 1924. 1,498,638

C. B. PERIOLAT

PRESS

Filed Sept. 8, 1922

Fig. 1.

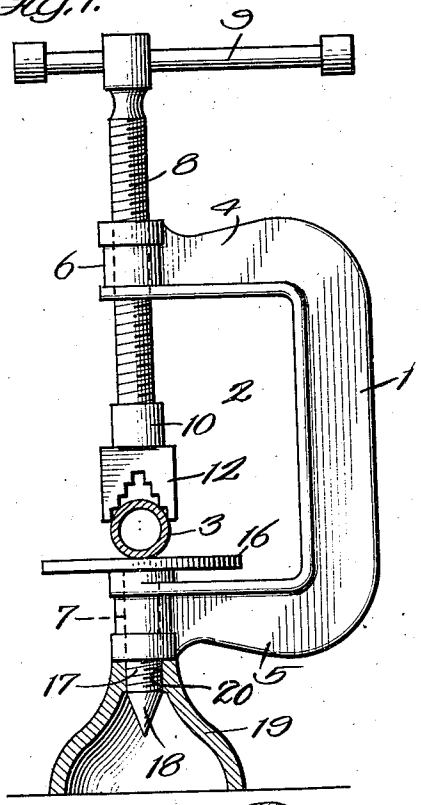



Fig. 2.

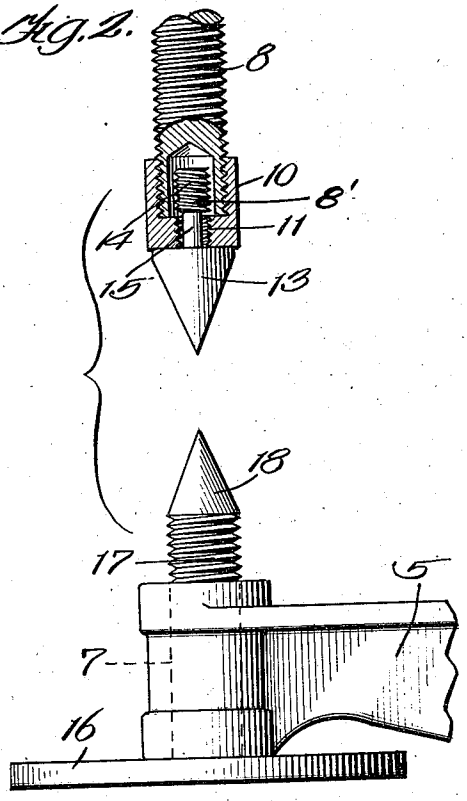



Fig. 3.

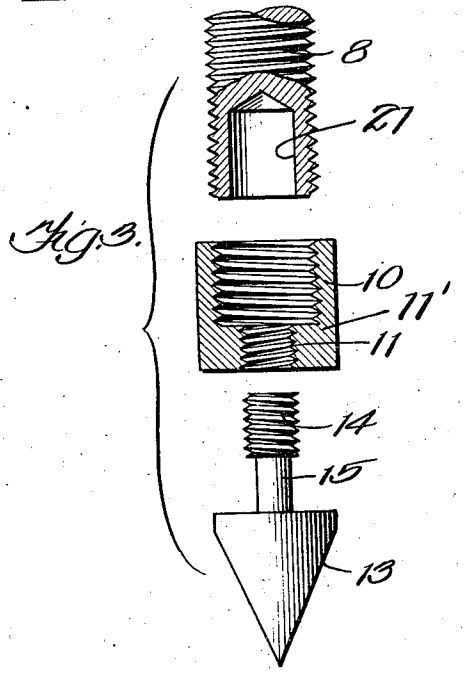



Fig. 4.

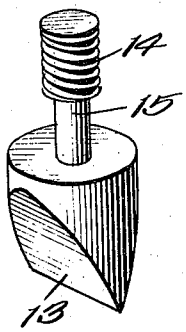
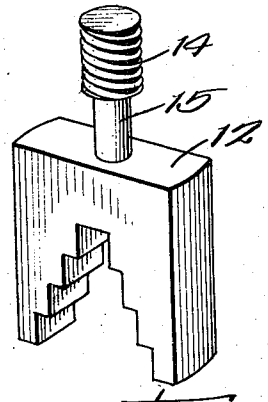



Fig. 5.




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Atty

Patented June 24, 1924. 1,498,638

# UNITED STATES PATENT OFFICE.

CHARLES B. PERIOLAT, OF CHICAGO, ILLINOIS.

## PRESS.

Application filed September 8, 1922. Serial No. 586,965.

*To all whom it may concern:*

Be it known that I, CHARLES B. PERIOLAT, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Presses, of which the following is a full, clear, concise, and exact description.

My invention relates to combination tools and has a number of objects and advantages in view. The tool of my invention is similar to a C clamp and has some of its parts interchangeable and relocatable in order to adapt it to various purposes and uses.

One important feature of the invention relates to the provision of a member which in one position provides a work support and in a reversed position forms a leaf spring spreader according to the use to which the device is to be put.

Another feature relates to the provision of a demountable base upon which the clamp frame may be supported when it is desired to keep it in an upright position. A swivel joint is provided also in one of the pressure exerting members, which is arranged to permit the free swivelling of one of the work contacting members upon the pressure screw and provide a maximum work receiving capacity for the clamp.

I will explain my invention more fully by reference to the accompanying drawing, in which Fig. 1 is a side view of a tool partially in section as the tool is assembled for one use; Fig. 2 is a fragmentary view similar to Figure 1, and showing another assembly for another use; Fig. 3 is a detail view illustrating a portion of the mechanism of Fig. 2 with its parts in separated relation; Fig. 4 is a perspective view of one of the parts appearing in Fig. 3; and Fig. 5 is a perspective view of one of the parts appearing in Fig. 1.

Like parts are indicated by similar characters of reference throughout the different figures.

As illustrated my invention includes a frame 1 of U-form provided with a throat space 2 in which the work, such as the pipe illustrated at 3, may be inserted to be clamped in the tool. The horizontal arms 4 and 5 of the frame are provided with opposed aligned openings 6 and 7 adjacent to their free ends. The pressure exerting member of the tool includes a threaded shaft 8 through the upper end of which the lever 9 is freely passed, this lever being employed to turn the shaft.

Preferably, for reducing manufacturing costs the screw shaft 8 is of uniform diameter and is externally screw threaded from end to end and I provide simple means for securely and interchangeably mounting variously formed members upon the inner end of the shaft 8 for operating upon the work, such for instance as the pipe vise jaw 12 or the spring leaf spreader 13. For this purpose I provide an internally threaded sleeve or cap 10 which fits upon the lower end of the shaft. The sleeve 10 is closed at its inner end by a wall 11′ which is adapted, when the sleeve is secured upon the shaft to contact with the inner end of the shaft and it is provided with a central opening 11 of relatively small diameter which is in axial alignment with the shaft 8 and is internally threaded for a purpose to be explained later.

The interchangeable work engaging members may be of any suitable form such as the pipe vise jaw 12 shown in Figs. 1 and 5 or the spring spreader 13 shown in the remaining figures. Each of the members 12, 13 is formed with a shank 15 adapted to be received in the small central opening 11 of the cap 10. For the purpose of removably mounting these various members I enlarge the free ends of the stems 15, as shown at 14 and I externally thread them for screwing through the openings 11, and I provide the inner end of the shaft 8 with an opening 8′ for receiving this shank. The shank 15 with its enlarged threaded end constitute one member of a swivel joint, the other member of such joint being the sleeve 10 and the inner end of the shaft 8, the threaded opening 11 receiving the small diameter inner part of the shank 15 when the threaded end 14 is screwed through the threaded opening 11 and beyond the same into the opening 8′ in the end of the shaft 8. When the enlarged end 14 is above the bottom 11′ of the sleeve 10 the work engaging member is swivelly mounted on the inner end of the shaft 8. While other relative formations may be employed to swivelly mount the work engaging member on the inner end of the shaft 8 I prefer the form described for the following reasons. The thrust of the operating pressure is transmitted directly from the working head

through the transverse wall 11′ to the screw 8 and no screw threads have to sustain such pressure except in openings in the ends of the arms of the frame, which threaded openings can be made relatively long. Furthermore, the provision of the opening 8′ at the inner end of the screw shaft for receiving the inner end of the shank 15 reduces to a minimum the space necessary for mounting the work engaging member and enlarges the capacity of the tool as regards the admission of work between the work engaging parts.

For co-operation with work engaging members such as the pipe vise jaw 12 I provide a flat table 16 secured on a threaded spindle 17 adapted to be screwed into the threaded opening 7 in the arm 5. I make the spindle 17 long enough so that it projects through the threaded opening 7 and for supporting the tool in upright position, as shown in Figure 1, I provide a base member 19 having a threaded opening 20 for receiving the free end of the spindle 17, as shown in Figure 1. It will be understood that if desired the plate 16 or other form of work engaging member which may be employed upon the inner end of the spindle 17 can be readily rotated to position it as desired.

I make the free end 18 of the spindle 17 with a sharply coned point so that by reversing this member in the threaded opening 7 I can provide a wedging member opposed to the spreader 13. When the parts are in this reversed relation it will be seen that the plate 16 is removed from between the arms of the frame and is out of the way as regards the use of the device for spreading leaf springs. The male threading upon the screw shaft 8 is reversed to the male threading upon the enlarged end 14, the first threading being desirably right handed and the second left handed so that the enlarged end 14 will not screw out when the shaft 8 is backed off to release a spring which has been spread.

I have illustrated only some of the uses to which my improved combination tool may be put, it being obvious that there are many other uses to which it may be adapted.

While I have herein shown and particularly described some embodiments of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention, but having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

1. In a combination tool of the kind described, a C-shaped frame provided with aligned threaded openings in the ends of its arms, screw-threaded members for mounting in said openings, means on the inner end of one of said members adapted to swivelly and interchangeably receive work engaging elements of different forms.

2. In a combination tool of the kind described, a C-shaped frame, one of the arms having a screw-threaded opening in its end aligned with the opposite end of the frame, a screw-threaded pressure member mounted in said opening, means on the inner end of said member adapted to swivelly and interchangeably receive work engaging elements of different forms.

3. In a combination tool of the kind described, a C-shaped frame having aligned screw-threaded openings in the ends of its arms, screw-threaded members for mounting in said openings, means on the inner end of one of said members adapted to swivelly and interchangeably mount work engaging elements of different forms, and the other member having different forms of work engaging ends and being reversible in its opening for presenting either of its ends to the opposite member.

4. In a device of the kind described, a screw threaded pressure shaft, means for swivelly mounting a work engaging element on the inner end of said shaft comprising a cap secured on the inner end of the screw, a transverse wall closing the outer end of the cap and adapted to contact with the inner end of the screw, the inner end of the shaft provided with a central opening, the closing wall of the cap provided with a smaller diameter central opening and threaded reversely to the threading of the screw, a work engaging element having a shank for insertion through the opening in the cap and into the opening in the end of the shaft, said shank fitting loosely in the hole in the cap, the free end of the shank enlarged and threaded to be screwed through the hole in the cap and to retain the work engaging element on the shaft.

5. In a device of the kind described, a screw threaded pressure member, a socket for holding work engaging elements on the inner end of the pressure member, work ingaging elements having different forms of work engaging surfaces, the inner end of the pressure member provided with an opening closed at its outer end by a wall of said socket having a smaller diameter opening and threaded reversely to the threading of the pressure member, and said elements each provided with a shank for insertion into said socket, said shanks having enlarged ends screw threaded to pass through the opening in the closing wall and formed within said outer end for fitting loosely in said smaller diameter opening, as and for the purpose specified.

6. In a device of the kind described, having a frame, opposed screw threaded openings for receiving threaded work engaging

members, one of said members being reversible and provided on one end with an enlarged surface to be presented to the work, and having a wedge shaped other end, and a supporting base adapted to be mounted on said wedge shaped end when it is desired to set the device in vertical position.

7. In a device of the kind described, having a frame, opposed screw threaded openings for receiving threaded work engaging members, one of said members having an enlarged surface on one end for presentation to the work, and a removable base for holding the work upright, said base having a threaded opening in its top for receiving the opposite end of said member.

8. In a device of the kind dscribed, a pressure member, a socket for holding work engaging elements on the inner end of the pressure member, work engaging elements having different forms of work engaging surfaces, the inner end of the pressure member provided with an opening closed at its outer end by a wall of said socket having a smaller diameter screw threaded opening, and said elements each provided with a shank for insertion into said socket, said shanks having enlarged ends screw threaded to pass through the opening in the closing wall and formed within said outer end for fitting loosely in said small diameter opening, as and for the purpose specified.

9. In a device of the kind described, a frame having opposed portions, a pressure member operably mounted on one portion and movable from and toward the other portion, the inner end of the pressure member formed for swivelly and interchangeably retaining work engaging members having different forms of work engaging surfaces, and said frame having another opening for holding a work engaging member.

10. In a combination tool of the kind described, a pressure member, a socket for holding work engaging members on the inner end of the pressure member, said work engaging members, each having a shank provided with an enlarged head, and said socket having a small opening formed for admitting said enlarged head and an enlarged inner part for containing same.

In witness whereof, I hereunto subscribe my name this 29th day of August A. D., 1922.

CHARLES B. PERIOLAT.