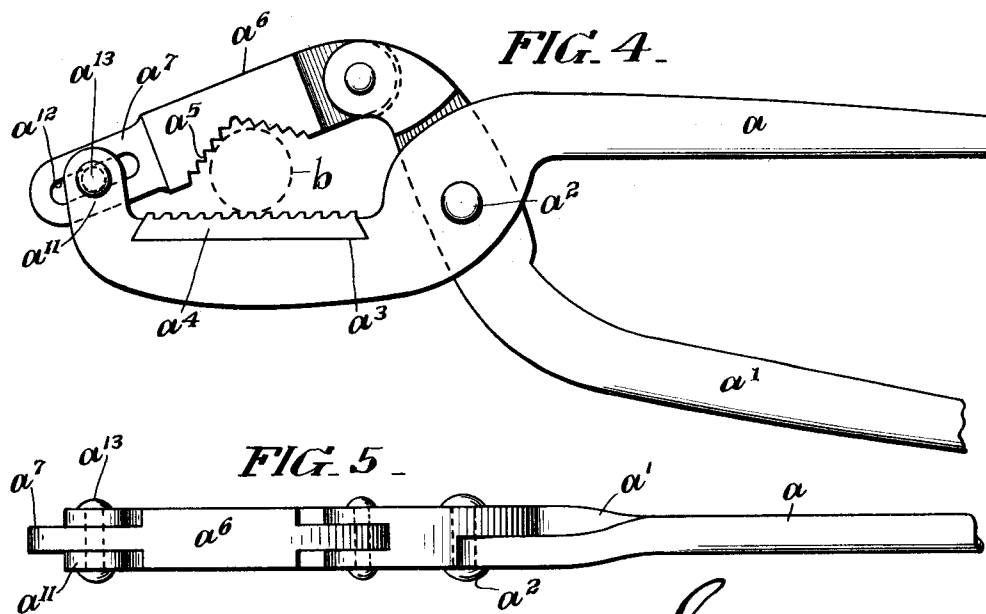
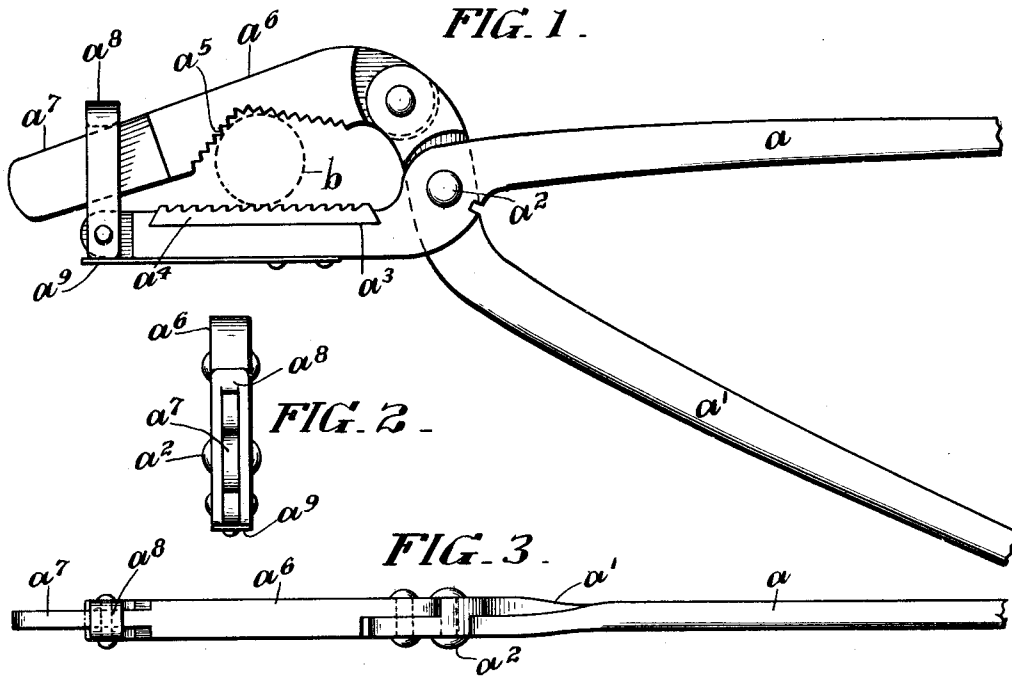


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WRENCH.

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To all whom it may concern:

Be it known that I, JOHN M. KINDT, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention has relation to a wrench adapted for use in connection with piping and horse shoe calking, to secure or remove the same by simple reversal of the handling position thereof; and in such connection it relates particularly to the structural arrangement of the members of such a wrench, for the defined purposes among other uses for the same.

The nature and characteristic features of my present invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1, is a side elevational view of a reversible wrench or pipe-fitting tongs, embodying in one form main features of my invention. Fig. 2, is a front end elevational view of Fig. 1. Fig. 3, is a top or plan view of the wrench. Fig. 4, is a side elevational view of a reversible type of wrench particularly adapted for securing and removing horse shoe calks, in which view is shown a slightly modified arrangement of the parts of the wrench for said purpose, as compared with the type of wrench of Figs. 1-3; and Fig. 5, is a top or plan view of the wrench of Fig. 4.

Referring to the drawings, the wrench of Figs. 1-3, comprises two members a and a^1 , pivoted at a^2 , to each other. The member a , beyond where it is in pivotal connection with the member a^1 , is straight and is provided with a recess a^3 . In this recess is introduced a ratcheted surface insert a^4 , and this insert forms a biting surface for an article brought in contact therewith and the V-shaped ratcheted surface a^5 , provided in the part a^6 , of the opposite member a^1 . The said part a^6 , is preferably formed curved and is provided at the forward extremity with a tongue a^7 . The member a , at its forward extremity is provided with a loop-extension a^8 . A flat edge spring a^9 , is secured to the member a , and bears against the said loop-extension a^8 , to enable the same to bear more or less firmly in its slidable

engagement with the tongue a^7 , of the member a^1 , during operations of the wrench on a section of pipe d , as clearly shown in Fig. 1. The loop-extension a^8 , is so arranged as to be readily manually shifted over the tongue a^7 , as required, either into operative or inoperative relation therewith.

In Fig. 4, the wrench is the same in structural arrangement as above described, save that the loop-extension a^8 , of the member a^1 , in Fig. 1, is dispensed with in this figure, and the outer end is turned up at a^{11} , and is provided with a pivot-pin a^{13} , arranged to slidably travel in an oblong slot a^{12} , formed in the tongue a^7 , of the member a^1 , to thereby especially adapt the said tool for use in blacksmithing, of readily securing or removing the calks of horse shoes. The said tool as so arranged is adapted to be used either right or left for the two defined manual manipulations of the same, as will be clearly understood from Fig. 4.

In the form of the wrench of Figs. 1-3, for pipe-fitters' purposes it will be understood owing to the difference in diameters of piping, it is necessary that the forward ends of the two members of the wrench should be so arranged as that quickly and freely the same may be caused to embrace by a manual manipulation, the piping b , to secure desired leverage as well as cleavage of the two members of the wrench against the piping, and that the loop-extension a^8 , must be arranged to be readily and quickly slipped into engagement with the tongue a^7 , of the member a , of the tool, to slide therewith, while in Figs. 4 and 5, the tool for securing and removing the calks of horse shoes, the variance in size of the same is generally only within the limits of the shiftings of the two members of the tool in pivotal sliding engagement with each other to have biting contact at b^1 , with the calk of a horse shoe, as shown in dotted outline in Fig. 4, for securing the same or by reversing the tool, removing the calk from the shoe.

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A wrench, comprising pivoted members, one consisting of a single-piece having a straight ratcheted surface and the other consisting of two pivoted members having a V-shaped ratcheted surface and means in terminal portions of both of said members,

whereby they are in slidable engagement with each other, substantially as and for the purposes described.

2. A wrench, comprising pivoted members, one consisting of a single-piece having a straight ratcheted surface and a pivoted loop-extension and the other consisting of two pivoted members having in one a V-shaped ratcheted surface and a tongue arranged to slidably engage said loop-extend-

sion, substantially as and for the purposes described.

In witness whereof, I have hereunto set my signature in the presence of the two subscribing witnesses hereto.

JOHN M. KINDT.

Witnesses:

THOMAS M. SMITH,
HELEN F. MILLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."