(No Model.)

H. HAEDICKE.

MONKEY WRENCH.

No. 449,796. Patented Apr. 7, 1891.

Fig. 1

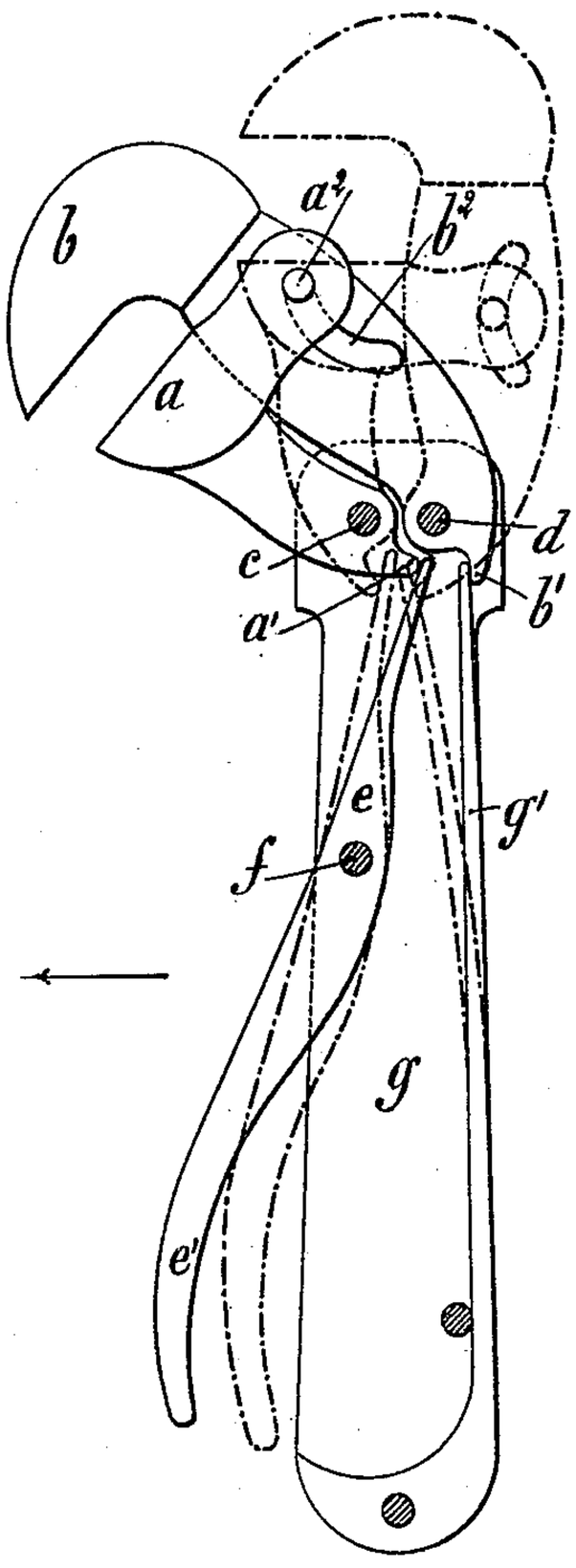
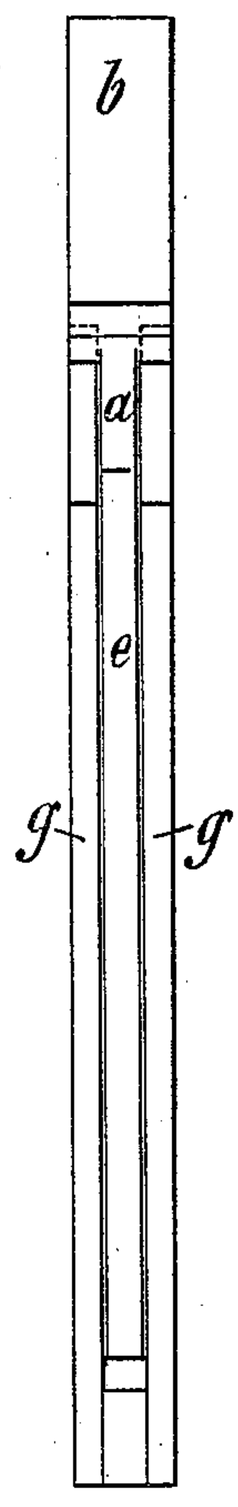


Fig. 2



Witnesses;
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UNITED STATES PATENT OFFICE.

HERMANN HAEDICKE, OF REMSCHEID, GERMANY, ASSIGNOR TO CHARLES LEWIS HEERMANN DE HUNDERTMARK, OF PARIS, FRANCE.

MONKEY-WRENCH.

SPECIFICATION forming part of Letters Patent No. 449,796, dated April 7, 1891.

Application filed June 22, 1889. Serial No. 315,262. (No model.)

To all whom it may concern:

Be it known that I, HERMANN HAEDICKE, a subject of the German Emperor, and a resident of Remscheid, in the German Empire, have invented a new and useful Improvement in Monkey-Wrenches, of which the following is a specification, reference being had to the accompanying drawings.

In monkey-wrenches embodying my improvement the jaws are opened by the action of a lever articulated upon the handle of the wrench and operated by a simple pressure of the hand which holds the wrench for operating it, and they are closed automatically by the action of a spring, which holds them near together. It therefore results that the wrench adapts itself automatically with an absolute exactness to all screws or nuts, whatever may be their size, provided that this size is comprised between the minimum and maximum of the separation of the jaws.

The accompanying drawings represent an example of wrench embodying my invention.

Figure 1 is a side view with the cap-plate, which constitutes one side of the hollow handle, removed; and Fig. 2 is a front view at right angles to Fig. 1.

Similar letters of reference designate corresponding parts in both the figures.

In the first example, with which the screw or nut is seized sidewise, the jaws *a* and *b* are bent and pivoted, respectively, upon the pins *c* and *d*, which are secured in the sides of the hollow handle. The lower jaw *a* is furnished beyond or below its pivot with a tail *a'*, upon which acts a lever *e*, pivoted on a pin *f* to the handle *g* of the wrench and working between the two plates or cheeks which constitute this handle. The lever *e* is terminated by an end piece *e'*, which it is easy to manipulate while holding the wrench by the handle. When by closing the hand this hand-piece *e'* is caused to approach the handle *g*, bringing it, for example, to the position represented in dotted lines upon the drawings, the lower jaw *a* oscillates about its pivot *c* and straightens itself while pushing back the upper jaw *b*. The latter contains a curved groove or slot b^2, which is engaged by a pin a^2, secured in a fork, which forms a rearward continuation of the lower jaw, and it is this pin a^2 which acts upon the upper jaw *b* and causes it to oscillate about its pivot *d*. The form of the groove or slot b^2 is calculated in such manner that the active surfaces of the two jaws remain always parallel with each other. During this movement the two jaws, not having the same axis, separate themselves from each other, and the greater the pressure applied to the lever *e* the more the opening of the jaws increases, which permits the taking hold of larger and larger screw threads or nuts to the limit of capability of the wrench. The spring *g'*, secured at one end to the handle *g*, presses with its other end upon the tail *b'* of the upper jaw *b* and pushes it constantly toward the lower jaw *a*. Consequently as soon as the nut or screw-head is let go of and no pressure is applied by the hand to the lever *e'* this spring brings the two jaws to their primitive position, (shown in bold outline in Fig. 1,) and during this movement the jaws approach, returning to their minimum separation.

To screw up the bolt or nut with this wrench, force is applied to the handle *g* in the direction indicated by the arrow in Fig. 1, and it is easy to see that the greater this force the tighter the bolt-head or nut will be grasped between the two jaws, and there is no fear of the wrench becoming loose. To unscrew, the wrench is turned upside down and the pressure again applied in the direction of the arrow.

What I claim as my invention, and desire to obtain by Letters Patent, is—

The combination, in a monkey-wrench, of a handle and two jaws *a* and *b*, pivoted to the handle and engaging with each other by a tongue or pin and a groove or slot, a lever *e e'*, applied between the handle and one of said jaws, to be grasped by the hand for opening the jaws, and a spring *g'* for closing the jaws, substantially as and for the purpose herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HERMANN HAEDICKE.

Witnesses:

ALCIDE FABE,

HENRY CHIESSE.