No. 762,351. PATENTED JUNE 14, 1904.

A. M. SANDERS.

WRENCH.

APPLICATION FILED FEB. 17, 1904.

NO MODEL.

Fig. 1.

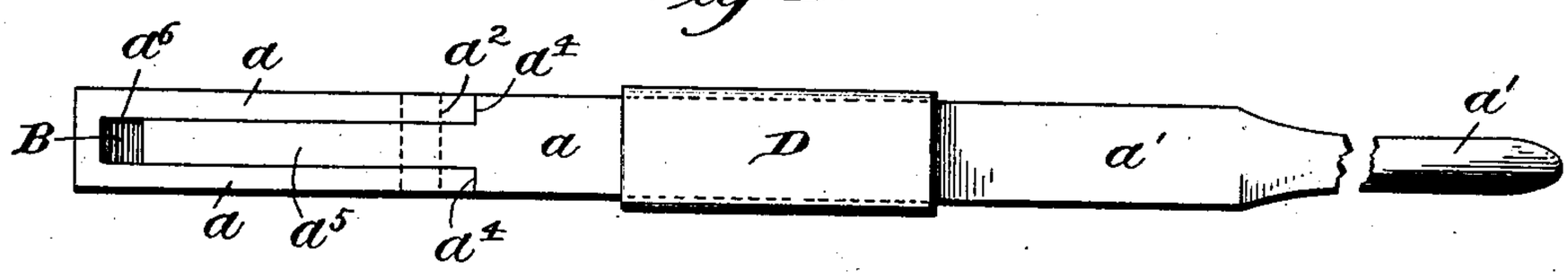


Fig. 2.

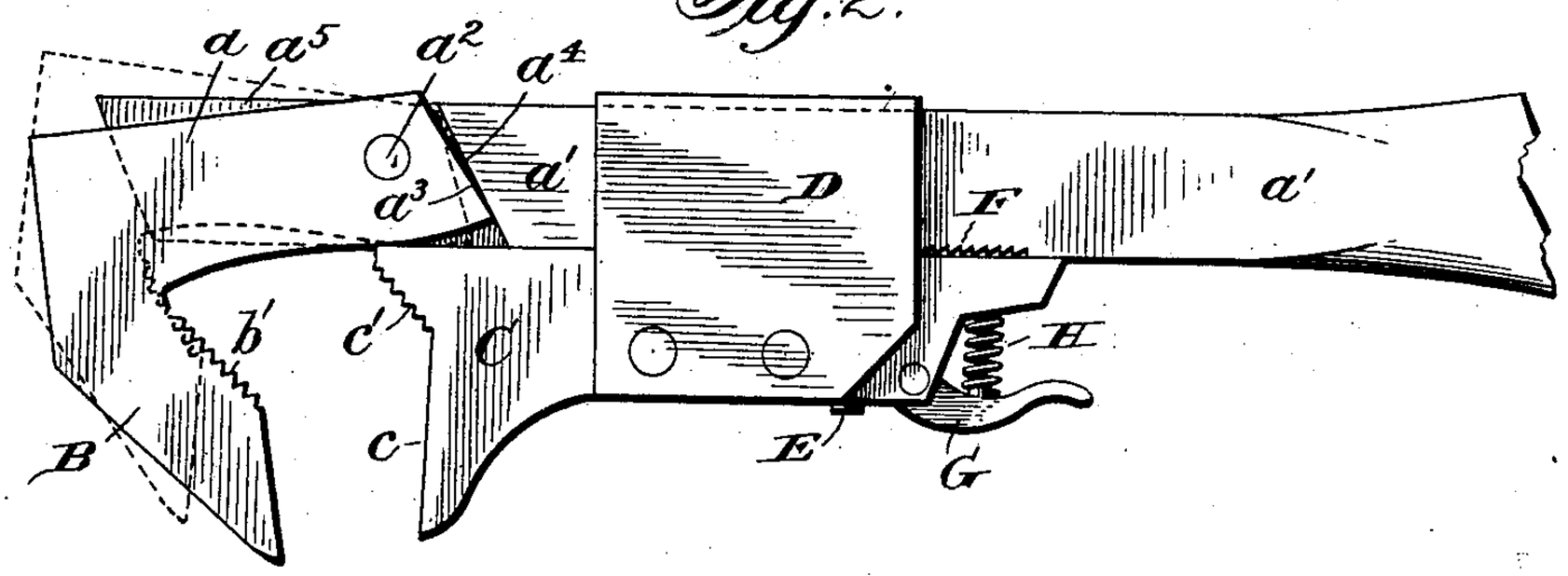
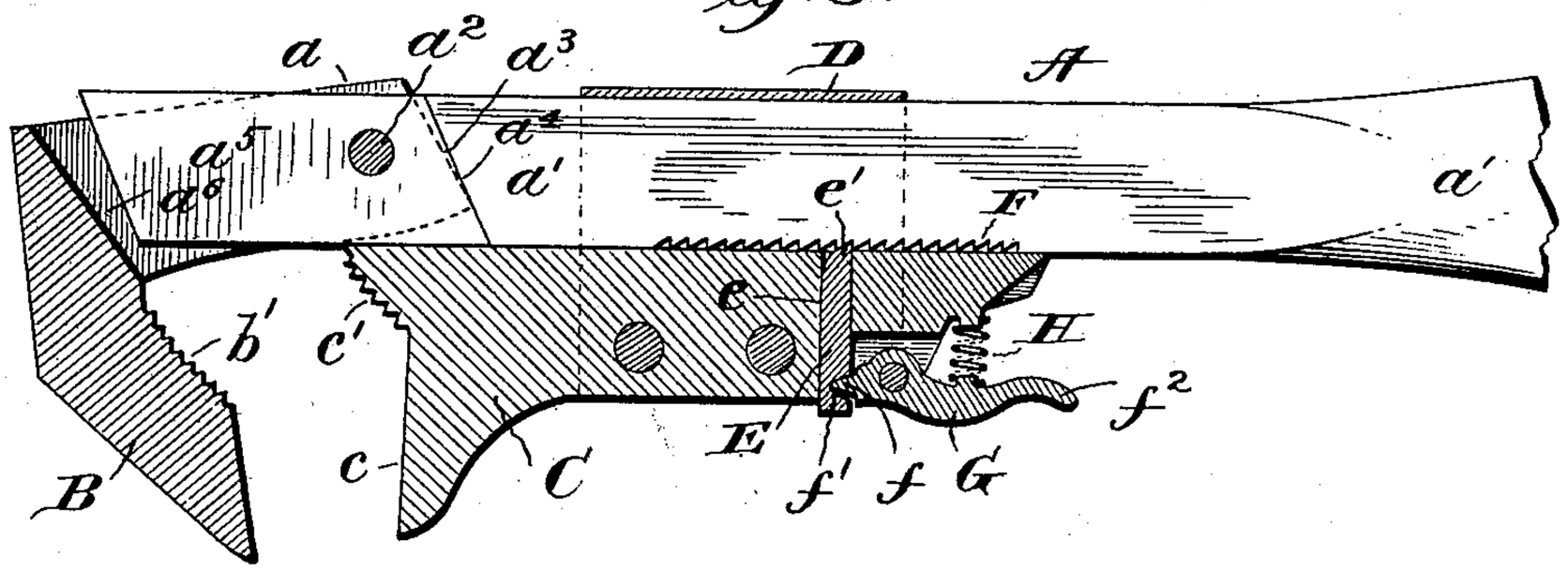


Fig. 3.



Witnesses
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No. 762,351. Patented June 14, 1904.

UNITED STATES PATENT OFFICE.

ALFRED M. SANDERS, OF MORRISTOWN, TENNESSEE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 762,351, dated June 14, 1904.

Application filed February 17, 1904. Serial No. 193,970. (No model.)

To all whom it may concern:

Be it known that I, ALFRED M. SANDERS, a citizen of the United States, residing at Morristown, in the county of Hamblen and State of Tennessee, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in wrenches, and has for its primary object the provision of a device of this character provided with coöperating jaws and adjusting means therefor, said jaws possessing structural characteristics rendering the same susceptible of use in connection with the manipulation of either nuts or piping.

With the foregoing object in view a convenient embodiment of the invention comprises a shank, a jaw at the outer end thereof having an inner biting-face, one portion of which extends at substantially right angles to the shank and the other portion of which is serrated and inclines upwardly and inwardly, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the fixed jaw.

The novel details in the construction and arrangement of the several parts of the device will be apparent from the detailed description hereinafter when read in connection with the accompanying drawings, forming part hereof, and wherein the aforesaid embodiment is illustrated.

In the drawings, Figure 1 is a back view of the wrench. Fig. 2 is an elevation of the jaws and the immediately associated parts, and Fig. 3 is a sectional view of Fig. 2.

Referring more specifically to the drawings, wherein like reference characters refer to corresponding parts in the several views, A designates the shank of the wrench, which is preferably of two parts *a a'*, the latter constituting the usual operating-handle. The adjoining edges of the two parts of the shank, it being noted that the portion *a* is relatively short, are pivoted together, as at a^2, near the outer end of the implement, whereby the outer end *a*, with the fixed jaw B carried thereby and which will presently be more particularly defined, may have a limited swinging movement. This swinging movement is limited by the beveled edges a^3 of the part *a* and the beveled shoulders or abutments a^4 on the part *a'*, the last-mentioned part being reduced at its outer end, as at a^5, to loosely engage the seat a^6 in the part *a*. The extent of pivotal movement is circumscribed to the extent of play between the beveled edges a^3 and shoulders a^4 afforded by the slight difference in degree of their angularity. (Clearly shown in Fig. 2.) The jaw B, heretofore referred to, is integral with or fixedly secured to the part *a* of the shank at its extreme end and has an inner biting-face, the outer portion of which extends at substantially right angles to the shank and the inner portion *b'* of which is serrated and inclines upwardly and inwardly to the shank.

C is an adjustable slidable coöperating jaw mounted upon the part *a'* of the shank and movable therealong, as is obvious. The inner biting-face of the jaw C is formed complementary to the biting-face of the fixed jaw, that portion thereof extending at substantially right angles to the shank being represented at *c* and the serrated upwardly and inwardly inclined portion thereof at *c'*.

Although any adjusting means for the movable jaw found expedient may be employed, I preferably utilize the following means: D is a bracket, preferably of strap metal, the ends of which are secured to the sides of said jaw and the intermediate portion of which loosely surrounds the shank of the tool. E is a slidable pin working through an aperture *e* in the jaw C and provided with a tooth *e'*, arranged to engage in one of the series of teeth F along the inner face of the shank A, according to the adjustment of the movable jaw. G is a pivoted lever provided at one end with a projection *f*, engaging a recess *f'* in the head of the pin, and at its opposite end having a finger-piece f^2, whereby the pin may be manipulated, a spring H being interposed between the free end of said lever and the inner wall of the jaw, whereby the pin is normally forced into locking engagement with the teeth of the shank.

It is to be understood that slight changes

may be made in the structure herein described without departing from the nature and spirit of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a wrench of the character described, a two-part shank pivotally connected together at a point adjacent to the clamping end of the wrench, a jaw at the outer end of the shank having an inner biting-face the outer portion of which extends at substantially right angles to the shank and the inner portion of which is serrated and inclines upwardly and inwardly to the shank, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the first-mentioned jaw.

2. In a wrench of the character described, a shank, a jaw at the outer end of the shank having an inner biting-face one portion of which extends at substantially right angles to the shank and the other portion of which is serrated and inclines upwardly and inwardly to the shank, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the first-mentioned jaw.

3. In a wrench of the character described, a two-part shank pivotally connected together at a point adjacent to the clamping end of the wrench, a jaw at the outer end of the shank having an inner biting-face one portion of which extends at substantially right angles to the shank and another portion of which is serrated and inclines upwardly and inwardly, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the first-mentioned jaw.

4. In a wrench of the character described, a shank, a jaw at the outer end of the shank having an inner biting-face the outer portion of which extends at substantially right angles to the shank and the inner portion of which is serrated and inclines upwardly and inwardly, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the first-mentioned jaw.

5. In a wrench of the character described, a shank, a jaw at the outer end of the shank having an inner biting-face the outer portion of which extends at substantially right angles to the shank and another portion of which is serrated and inclined, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the first-mentioned jaw.

6. In a wrench of the character described, a shank, a jaw pivotally supported at the outer end of the shank having an inner biting-face the outer portion of which extends at substantially right angles to the shank and another portion of which is serrated and inclined, and an adjustable slidable coöperating jaw mounted upon the shank and having an inner biting-face formed complementary to the biting-face of the first-mentioned jaw.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED M. SANDERS.

Witnesses:
JOHN A. RHEA,
NANNIE HOLSTAN.