

D. N. CURTIS.

WRENCH.

APPLICATION FILED OCT. 19, 1909.

996,462.

Patented June 27, 1911.

Fig. 1.

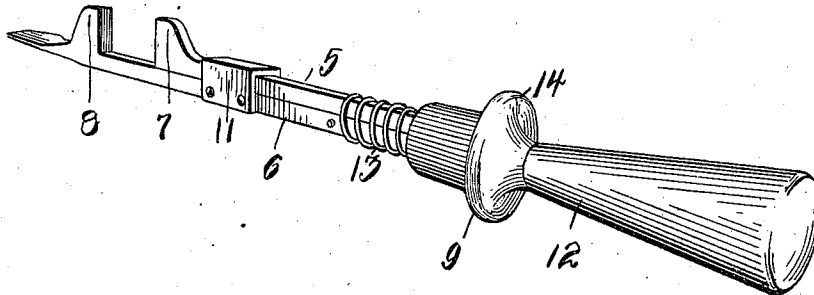


Fig. 2.

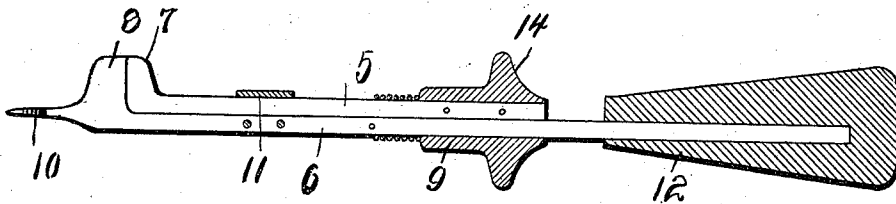
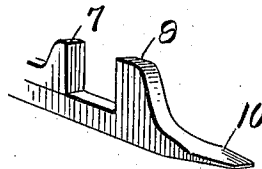


Fig. 3.



Witnesses:

Gerald H. H. H.

John A. Donegan.

Inventor

David N. Curtis.

By

[Signature]

Attorney

UNITED STATES PATENT OFFICE.

DAVID N. CURTIS, OF MAPLE CITY, KANSAS.

WRENCH.

996,462.

Specification of Letters Patent. Patented June 27, 1911.

Application filed October 19, 1909. Serial No. 523,459.

To all whom it may concern:

Be it known that I, DAVID N. CURTIS, a citizen of the United States, residing at Maple City, in the county of Cowley, State of Kansas, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in wrenches and particularly of that type employed by jewelers and instrument makers. One of the objects of the invention is the provision of a wrench having a smooth shank and a rigid jaw thereon, a jaw movable on the smooth shank against the rigid jaw and a member fixed to the movable jaw whereby the said movable jaw can be held against the rigid jaw by the pressure of a hand.

With the above and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a perspective view of the device, showing the jaws separated. Fig. 2 is a longitudinal sectional view of the same, showing the jaws closed. Fig. 3 is a fragmentary perspective view of one end of the device showing the formation of the jaws and screw driver.

Similar numerals of reference are employed to designate corresponding parts throughout.

The device consists essentially in a pair of gripping members, the said gripping members including shank portions 5 and 6 and jaw portions 7 and 8. The jaw 7 constitutes what will subsequently be termed the inner jaw and extends laterally from one end of the shank 5, while the opposite end of the said shank is fixedly secured in an opening in what will subsequently be termed

the runner 9. The outer jaw member 8 is formed adjacent one end of its shank 6 and extends parallel with and in a plane with the inner jaw member 7. That portion of the gripping member in advance of the jaw member 8 is flattened and is substantially wedge shape in contour as shown at 10, and constitutes a screw driver, it being understood that the sharpened edge of the flattened portion 10 will be of a size to nicely fit within the transverse recess in the head of a screw so that when the device is turned, the screw may be inserted into place. The shank 6 is considerably longer than the shank 5 so that said shank 5 can be moved on the shank 6 and the shank 6 is provided with a collar 11 located intermediate of its ends for holding the shank 5 in slidable position thereagainst. The collar 11 may be formed integral or otherwise secured to the shank 6 and is spaced from one side of the latter, the space being sufficient to receive the shank 5 of the opposite gripping member. As before stated the runner 9 is provided with an opening in which the inner end of the shank 5 is secured and it might here be stated that the size of this opening is considerably greater than the shank 5 and slidingly fitted in that part of the opening not occupied by the shank 5. The inner end portion of the shank 6 extends completely through the runner 9 and is fixedly secured in a handle grip 12. The runner 9 at the end adjacent the handle grip 12 corresponds in size to the adjacent end of the handle so that movement of the parts in one direction is prevented when the adjacent ends of the handle and runner bear one upon the other. The runner is considerably less in length than the handle 12 and its length is also considerably less than the distance between the end of the handle 12 and collar 11, so that when the ends of the runner and handle bear one upon the other a considerable space will exist between the opposite end of the runner and collar 11.

Arranged in the space between the collar and adjacent end of the runner is a helical compression spring 13. This spring encircles the shanks 5 and 6 and has one terminal bearing on the adjacent end of the runner and its opposite terminal anchored in an opening formed in the shank 6 of the outer gripping member at a point intermediate the adjacent end of the runner and collar 11.

With this construction it is obvious that the action of the spring 13 will maintain the jaws 7 and 8 in spaced relation and when the handle 12 is gripped by the hand of the operator and outward pressure is exerted on the runner 9 by the thumb and forefinger of the operator the said jaws will move to closed position against the action of the spring 13 and when the runner is released the jaws will move away from each other as shown in Figs. 1 and 3. In order that a firm pressure may be exerted on the runner 9, the said runner is provided adjacent that end bearing on the handle 12 with a peripheral flange 14, which forms a bearing surface for the thumb and forefinger of the operator.

The improved tool is especially designed for use by clock and watch repair or instrument makers and other workers handling small nuts and screws, and the tool will be found particularly useful in removing nuts held in place on screws which are socketed to receive a screw for holding the nuts against rotation. In such forms of lock nuts the screw driver may be employed for removing the lock screw and then the jaws 7 and 8 can be employed for removing the nut after the screw has been removed. In this way a single tool is made to perform related pieces of work.

In manipulating the improved wrench or tool the finger of the operator can be placed between the rear terminal of the runner 9 and the forward terminal of the handle 12 so as to hold the runner against rearward movement on the shank 6. By the arrangement of the movable and rigid jaw shanks the wrench may be employed for minutely graduated nuts, in a way that would be impossible if a rack adjustment was provided. The particular arrangement shown and described also permits of the quick adjustment of the movable jaw 7 by the simple pressure of the finger upon the runner 9.

From the foregoing it can be seen that I have provided a device which is comparatively simple in structure and comparatively inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

What is claimed as new, is:—

1. In a tool of the class described, a gripping member comprising a shank portion terminating at one end in a lateral jaw and provided at its opposite end with a runner, a second gripping member arranged parallel with the first-named gripping member, said second gripping member having a shank portion provided with a jaw arranged in advance of the first-named jaw, the opposite end of said second-named shank portion extending through said runner and terminating in a handle and means for yieldingly holding said jaw members in spaced relation.

2. In a tool of the class described, a pair of gripping members yieldingly held for relative longitudinal movement, a runner encircling both of said members and fixedly secured to one of the same and a handle fixedly secured to the other gripping member having one end yieldingly held in contact with one end of the runner.

3. In a tool of the class described, a gripping member provided adjacent one end with a jaw and at its opposite end with a handle, a runner slidably fitted on said gripping member, a second gripping member provided at one end with a jaw and having its opposite end fixedly secured to the runner and means for yieldingly holding the said jaws in spaced relation.

4. In a wrench tool, a handle, a shank fitted to the handle and provided with smooth surfaces and terminating in a rigid jaw, a strap mounted on said shank intermediate of its ends and forming a guide, a shank slidably secured against the first shank by said strap and formed with a jaw adapted to engage the rigid jaw, the second shank being formed with smooth surfaces, a runner mounted on the rear end of the second shank and slidable on the first shank, and a spring secured at one end to the first shank and at the other end bearing against the runner to hold the jaws normally apart.

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

DAVID N. CURTIS.

Witnesses:

GEO. E. RINEHART,
K. M. HOLCOMB.