(No Model.)

# J. N. STEPHENS & S. PRUDHOMME.

## WRENCH.

No. 589,228. Patented Aug. 31, 1897.

Fig. 1.

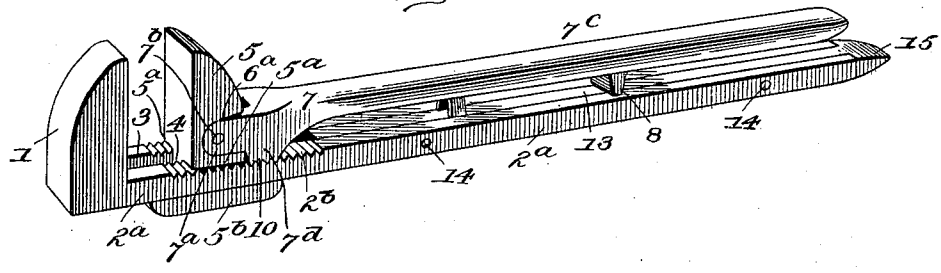



Fig. 2.

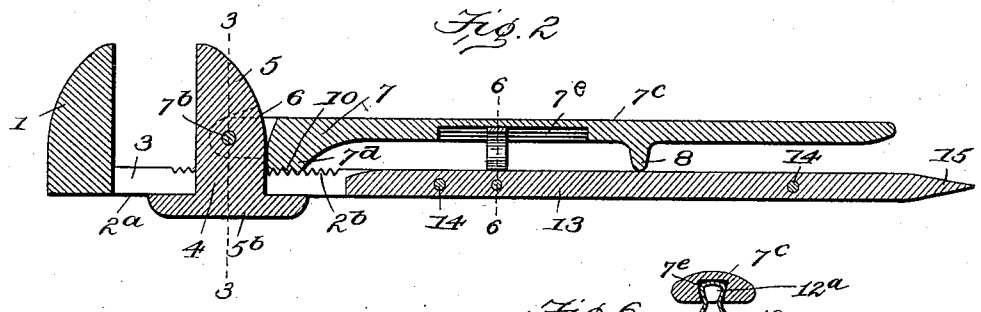



Fig. 6.

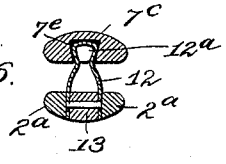



Fig. 3.

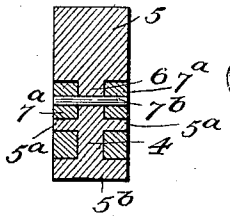



Fig. 4.

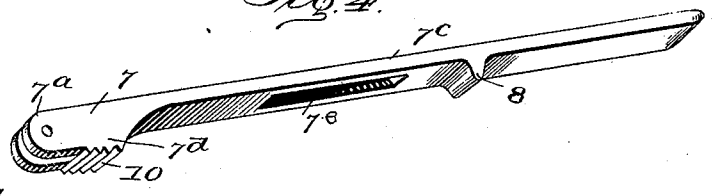
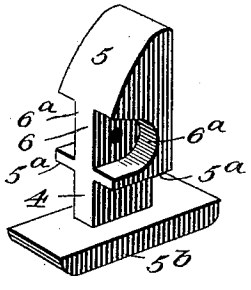



Fig. 5.




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# UNITED STATES PATENT OFFICE.

JOHN N. STEPHENS AND SAMUEL PRUDHOMME, OF CRYSTAL FALLS, MICHIGAN.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 589,228, dated August 31, 1897.

Application filed December 17, 1896. Serial No. 616,100. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN N. STEPHENS and SAMUEL PRUDHOMME, residing at Crystal Falls, in the county of Iron and State of Michigan, have invented a new and Improved Wrench, of which the following is a specification.

Our invention relates to improvements in that class of wrenches having a sliding jaw; and it primarily has for its object to provide a wrench of this character of a simple and economical construction which can be easily manipulated and which will effectively serve for its intended purposes.

With other objects in view, which will hereinafter be referred to, our invention consists in the peculiar combination and novel arrangement of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our improved wrench. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a transverse section taken on the line 3 3 of Fig. 2. Fig. 4 is a detail view of the detachable lever. Fig. 5 is a similar view of the detachable sliding jaw, and Fig. 6 is a cross-section on the line 6 6 of Fig. 2.

In the drawings, in which like numerals indicate like parts in all the figures, 1 indicates the fixed jaw, which has a shank $2^a$. This shank has a vertical shank 3, extending its entire length, in which the pendent shank 4 of the sliding jaw 5 is held to slide and which is guided and held from vertical movement by the shoulders $5^a$, which engage the upper face of the shank $2^a$, and the cross-head $5^b$, which engages the under face of such shank, as clearly shown in Fig. 3.

The sliding jaw 5 has a centrally-apertured ear 6 on its rear face and recesses $6^a$ at each side of such ear to accommodate the bifurcated ends $7^a$ of the combined slide and lock lever 7, which is secured to the jaw 5 by the pivot-bolt $7^b$, and has its handle $7^c$ extended the length of the shank $2^a$, such handle $7^c$ being held from closing down on the shank $2^a$ by a rest 8, which rest also has another function, the purpose of which will presently appear. At a suitable point from the fixed jaw the shank 2 has a series of transverse lock-teeth $2^b$ with which lock-teeth 10 on a pendent member $7^d$ of the lever 7 are adapted to engage, as clearly shown in Fig. 2, in which figure the lever is shown in a depressed or locked position.

In practice the shank of the sliding jaw is moved into the slot of the shank $2^a$ from the rear end thereof, after which the rear portion of such slot is closed by a steel plate 13 of the same thickness as the shank 2, which plate is held in place by the rivets 14, the rear end, however, being projected to form a screw-driver 15, as clearly shown.

The lever 7 is normally held in a locked engagement with the shanks $2^a$ by means of a substantially U-shaped spring 12, which has a head portion $12^a$ projected laterally and has its shank ends fixedly connected to the shank-handle $2^a$. The upper or head portion of the spring engages an elongated recess $7^e$, which is made countersunk or with outwardly-converging inclined side edges, so as to grip the head of the spring when the handle $2^a$ and lever 7 are closed together, thereby holding the jaws from moving out of position unawares to the person using the wrench when laying it down and picking it up again. It is obvious that the elongation of the recess $7^e$ will admit of the ready longitudinal adjustment of the jaw and lever 7.

In operation the sliding jaw is moved toward the fixed jaw the required distance, after which the lever-handle is closed toward the shank $2^a$, so its teeth will engage the teeth $2^b$, whereby to hold the jaws to a locked position.

By providing the handle $7^c$ with a rest 8 it will be impossible to close such handle down so tight as to compress or break the spring 12.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the advantages of our invention will readily appear. The same comprises practically but three parts, easily adjusted and combined to produce a very strong and effective wrench. The sliding jaw can be quickly set in position by manipulating the lever and when set can be securely held to its gripping position by pressing on the said lever

and engaging the spring-catch with the longitudinal recess.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A wrench, comprising a shank, a fixed jaw at one end thereof, a sliding jaw mounted on the shank, a locking-lever pivoted to the sliding jaw and provided with a longitudinal recess having outwardly-converging side walls, and a substantially U-shaped spring mounted on the shank and engaging said recess, substantially as described.

2. A wrench comprising a shank, a fixed jaw at one end thereof, a sliding jaw mounted on the shank, a locking-lever pivoted to the sliding jaw provided with a recess having outwardly-converging side walls, a spring held on the shank, having a head portion adapted to engage with the said recess of the locking-lever, said locking-lever having a projecting rest 8, adapted to engage the shank and limit the closing movement of the lever, substantially as shown and for the purposes described.

3. A wrench, comprising a longitudinally-slotted shank, a fixed jaw at one end of the shank, a sliding jaw mounted in the slot of the shank, a plate secured in the slot of the shank and retaining the sliding jaw therein, and a locking-lever pivoted to the sliding jaw, interlocking with the shank and provided with the rest 8 engaging the shank and limiting the closing of the locking-lever, substantially as described.

4. The combination with the fixed jaw, having a slotted shank, and the sliding jaw having a shank held to slide in the slotted shank, and having lateral shoulders and a cross-head to engage the upper and lower faces, respectively, of such fixed shank, said fixed shank having transverse lock-notches, of the lever 7 pivotally connected at its front end to the sliding jaw, and having at such end lock-teeth to engage the notches of the fixed shank, said lever having a pendent rest member 8 and means for holding the lever normally in a locked engagement with the fixed shank, as specified.

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