

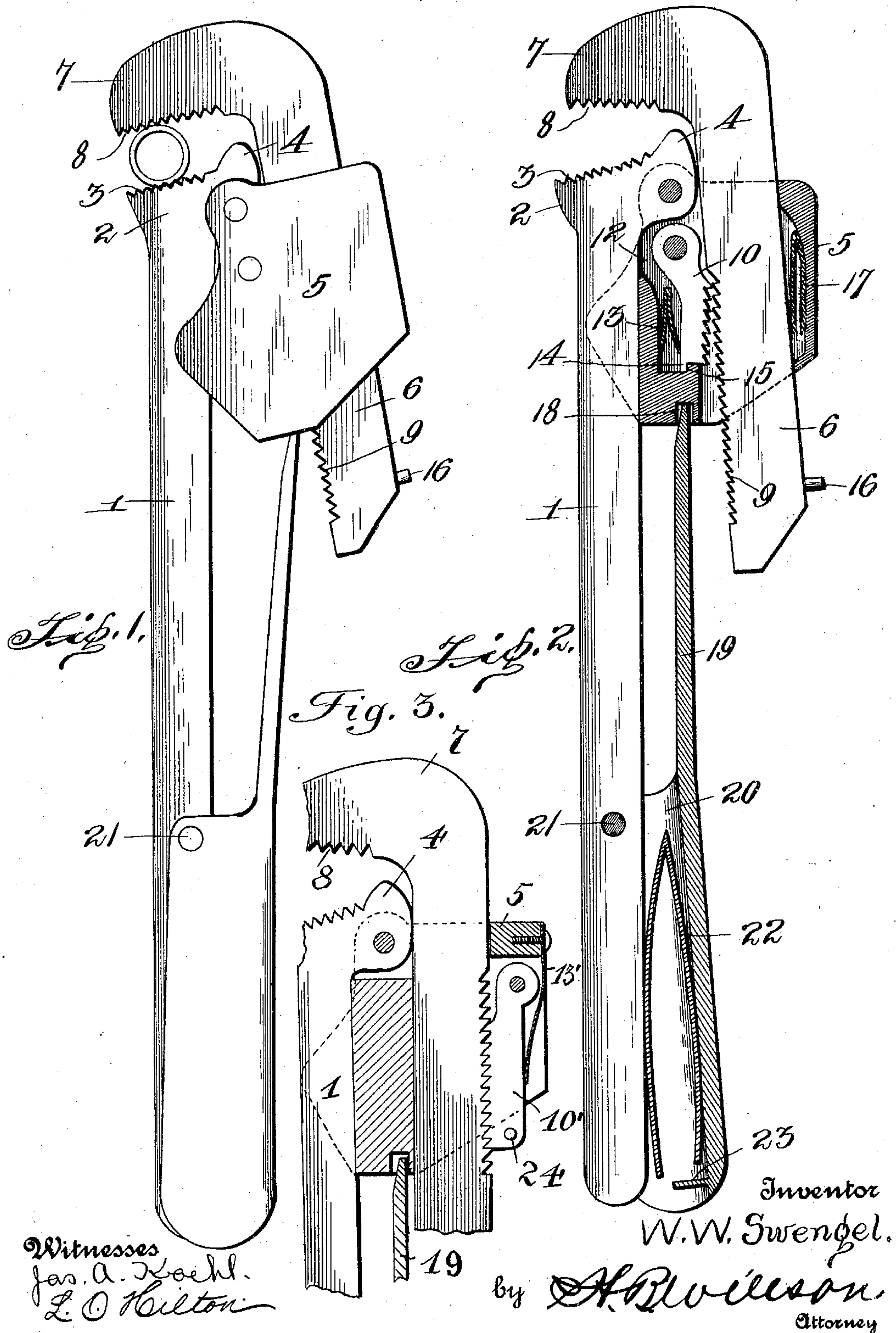
No. 793,551.

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W. W. SWENGEL.

PIPE WRENCH.

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Witnesses
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UNITED STATES PATENT OFFICE.

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PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 793,551, dated June 27, 1905.

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To all whom it may concern:

Be it known that I, WILLIAM W. SWENGEL, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Wrenches; and I do 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 pipe-wrenches.

The object of the invention is to provide a pipe-wrench which may be quickly applied and fitted to a pipe and which will be simple, strong and durable in construction, reliable and efficient in operation, the jaws of which may be automatically disengaged from the pipe when the grip on the handle is relaxed.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the improved wrench, showing the parts in engagement with a pipe. Fig. 2 is a vertical sectional view of the same, showing the parts in their normal or disengaged position; and Fig. 3 is a detail sectional view of a portion of the wrench, showing a modified construction of the same.

Referring more particularly to the drawings, 1 denotes a handle, on the outer end of which is formed a stationary jaw 2, having a toothed working face 3 and a laterally-projecting offset or lug 4. To the lug 4 is pivoted a hollow guide-casing 5, on which is adapted to slide a shank 6 of an adjustable jaw 7, on which is formed a toothed working face 8. On the inner side of the shank 6 is formed a series of ratchet-teeth 9, with which are adapted to be engaged the toothed face of a dog or pawl 10. The pawl or dog 10 is pivotally mounted between the side plate of the guide-casing 5 in a suitable recess 12, formed

in said casing to receive the same. Between the wall of the recess 12 and the adjacent edge of the dog 10 is arranged a spring 13, by which said dog is forced outwardly, the outward movement of said dog being limited by means of a lug or finger 14, formed on the end of the same. Said lug is adapted to engage a stop-shoulder 15, formed in the recess 12 of the casing.

The shank 6 of the adjustable jaw is provided near its inner end with a laterally-projecting pin 16, whereby the outward movement of the same is limited. A spring 17 is disposed between the outer edge of said shank and the adjacent wall of the casing, thereby normally forcing said shank inwardly into engagement with the teeth of the pawl or dog 10.

In the inner or handle end of the casing is formed a recess 18, with which is adapted to be engaged the outer end of a lever 19, on the opposite end of which is formed laterally-projecting parallel plates 20, between which the handle 1 is disposed. Through the upper inner corners of the plates 20 and through the handle 1 is passed a pivot-bolt or rivet 21, by means of which the lever 19 is pivotally connected to said handle. Between the plates 20 and bearing upon the opposing sides of the handle 1 and the lever 19 is arranged a V-shaped spring 22. The tension of said spring is normally exerted to force the inner end of the lever 19 away from the handle 1, the opposite end of the lever being thereby forced toward the handle 1, which movement will move the casing and the adjustable jaw carried thereby to a position of release, as shown in Fig. 2 of the drawings. The inner end of the lever 19 is provided between the plates 20 with an inwardly-projecting lug 23, which is adapted to engage the adjacent end of the handle 1, thereby limiting the inward movement of the lever when the same is forced toward said handle.

In using the wrench the outer end or jaw of the shank 6 is forced toward the handle 1, thereby disengaging the ratchet-teeth there-

on from the teeth on the dog 10, after which said adjustable jaw and shank may be drawn outwardly through the casing 5. The adjustable jaw of the wrench is now engaged with the pipe to be turned, the adjustable jaw and shank being pushed inwardly until the teeth of the jaw 7 engage said pipe. The handle and the inner end of the lever 19 are now grasped and said end of the lever forced into engagement with the end of the handle, which movement will throw the outer end of the lever away from the handle, thus moving the casing 5 and the adjustable jaw carried thereby to the position shown in Fig. 1, in which position the jaw on the movable shank is moved around on the pipe, thus insuring a firm grip upon the same. Said grip is maintained as long as the inner end of the lever 19 and the handle 1 are held in engagement; but it will be automatically disengaged upon the releasing of said end of the lever.

In Fig. 3 of the drawings is shown a modified arrangement of the wrench. In this instance ratchet-teeth are formed on the outer edge of the adjustable jaw 7, and between the same and the outer edge of the casing 5 is arranged a locking-dog 10', on the projecting end of which is fixed a pin or lug 24, by which the same may be disengaged from the teeth on the shank of the adjustable jaw 7. A spring 13' is mounted on the casing, whereby said pawl is normally held in engagement with the teeth on the shank of the adjustable jaw.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention in the

best form known to me at the present time, what I claim is—

1. In a wrench of the character described, the combination with a handle having formed on one end a stationary jaw, a guide-casing pivotally connected to said jaw, an adjustable jaw having a shank slidably mounted in said casing, ratchet-teeth formed on said shank, a pivotally-mounted spring-projecting pawl or dog arranged in said casing to engage said ratchet-teeth, thereby holding said jaw in its adjusted positions, and a spring-retracted lever pivotally connected to said handle whereby the former may be gripped with said handle, and connected to said casing thereby causing the same to rock said casing and move said adjustable jaw into a working position, substantially as described.

2. In a wrench of the character described, the combination with a handle having formed on one end a stationary jaw, a guide-casing pivotally connected to said jaw, an adjustable jaw having a shank slidably mounted in said casing, ratchet-teeth formed on said shank, a pivotally-mounted spring-projected pawl or dog arranged in said casing to engage said ratchet-teeth, thereby holding said jaw in its adjusted positions, a spring-retracted lever pivotally connected to said handle and connected to said casing, whereby said lever may be gripped with said handle, thereby causing the end of the lever to rock said casing and move said adjustable jaw into working position, and a stop arranged on said lever to limit the inward movement of the same and said adjustable jaw, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM W. SWENGEL.

Witnesses:

WILLIAM KINZEY,
JOSEPH KINZEY.