

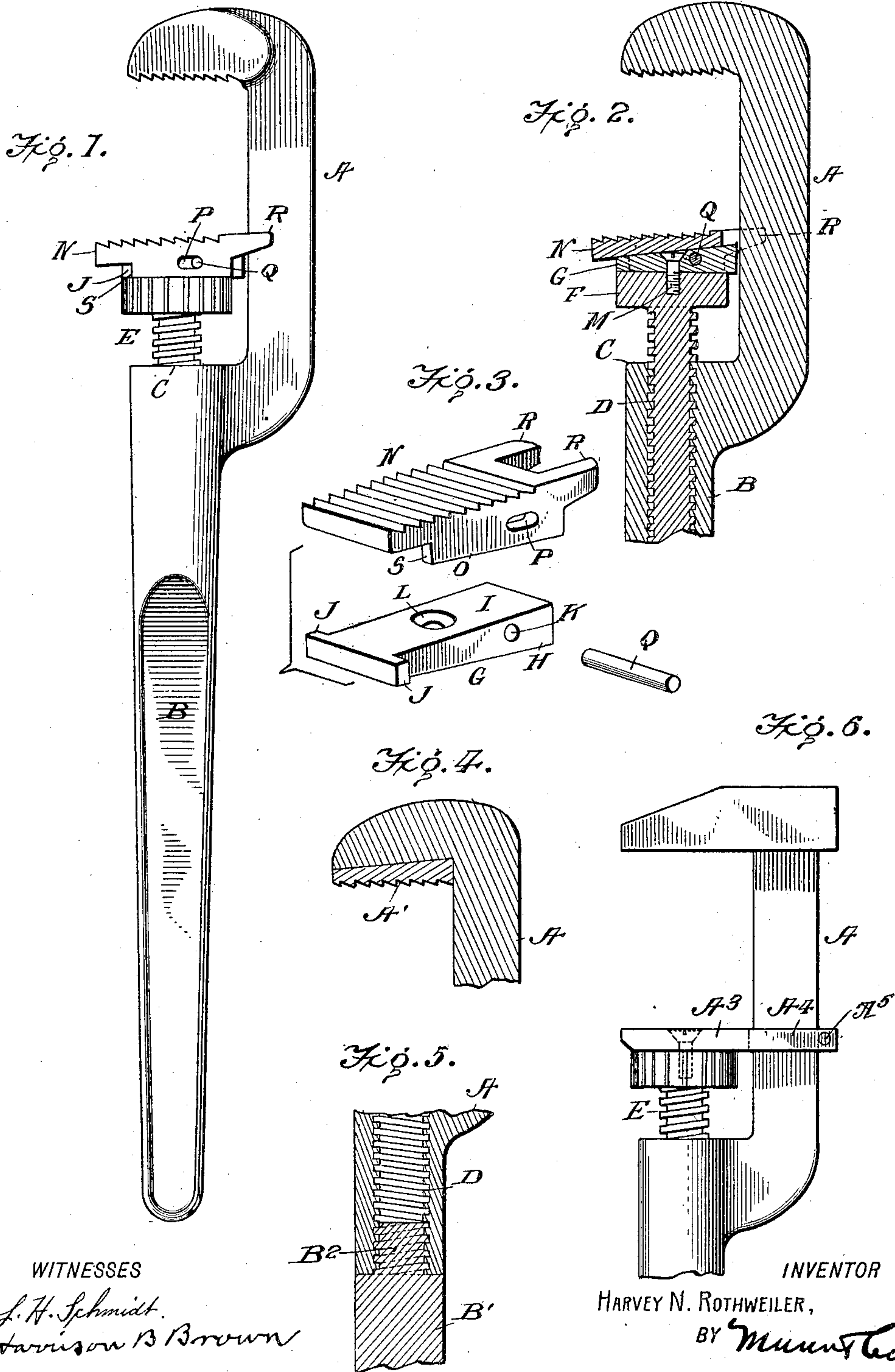
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PATENTED MAY 12, 1908.

H. N. ROTHWEILER.

WRENCH.

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UNITED STATES PATENT OFFICE.

HARVEY NELSON ROTHWEILER, OF SEATTLE, WASHINGTON.

WRENCH.

No. 887,697.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARVEY NELSON ROTHWEILER, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented an Improved Wrench, of which the following is a specification.

This invention relates, more particularly, to pipe wrenches, and has for its object, the provision of a tool of this character, which shall not only be novel in its general makeup, but improved over similar wrenches as they have heretofore been constructed, and at the same time, render the parts adapted not only to be cheaply constructed, but with the wearing parts interchangeable, whereby a worn part may readily be replaced.

The invention consists of the special construction and arrangement of parts shown by the accompanying drawing and hereafter fully described, the novel features being pointed out in the claims.

In the drawing—Figure 1 is a view showing my improved wrench in side elevation. Fig. 2 is a longitudinal sectional view, with the handle portion broken away. Fig. 3 illustrates in perspective, detached parts of the inner jaw of my wrench. Fig. 4 is a sectional broken away view of the outer jaw, the same being shown provided with a separate wearing face. Fig. 5 is a broken away sectional view of a modified form of the wrench handle, and, Fig. 6, is a view of a further modified form of my wrench.

In the practice of my invention, in its preferred form, I construct the outer jaw A and the handle B of the wrench, in one piece, forming same of malleable metal, or casting it, as may be desired. It will be noticed that the outer jaw portion A, is in the form of an outward extension, leaving a shoulder C, at that end of the handle. In further constructing my wrench I provide its handle portion with an inner longitudinal screw-threaded opening D, see Figs. 2 and 5, adapted to receive a screw-threaded stem E. The outer end of the stem E, is provided with a head F, providing support on its upper, or face side, for a plate G, having a flat under side H, and an inclined upper side I. The plate G is constructed with projections J, J, at one end, and with a transverse opening K therethrough near its other end, as shown by Figs. 2 and 3. The plate G is further characterized by being provided with a centrally located vertical opening L therethrough,

adapted to loosely receive a headed screw M, tapped into the face of the stem-head F, as shown by Fig. 2. The stem-head F and plate G, with an adjustable face-plate N, form the inner jaw of my wrench, with same adapted for adjustment, as will be understood.

The face or wearing plate N, is constructed with side depending flanges O, on opposite sides thereof, leaving a space therebetween, adapted to receive the plate G, and said flanges O, have elongated transverse openings P, adapted to receive projecting ends of a pin Q, with the latter arranged in the transverse opening K, through the inclined plate G.

Upon reference to the perspective view of the face plate N, illustrated in Fig. 3 it will be noticed that at one end, the flanges or longitudinal sides of the plate are extended, providing arms R, adapted to receive the shank-portion of the outer jaw A, and it will be further noticed that the other end of the face plate is cut away providing it with shoulders S, adapted for engagement with the projections J, J, on the inclined plate G. The outer jaw A may be provided with a detachable face A', see Fig. 4, provided with engaging teeth, as shown, or the engaging teeth may be integral with the jaw, as common.

In constructing my wrench, the hand portion B', may be made detachable, by means of screw-threaded joint B², as shown by Fig. 5. It will be noticed that my improved wrench has both jaws provided with teeth, common with pipe wrenches, but obviously it may readily be converted into a nut wrench, by removing the inclined plate G, and the face plate N, and substituting therefor a flat faced plate A³, having two spaced arm projections A⁴, one only of which is shown in Fig. 6, adapted to straddle the shank of the jaw A, and with the ends of the arms A⁴, connected by a securing pin A⁵, as will be understood.

In the use of my wrench for coupling or uncoupling pipe-joints, it is apparent that when the inner, or movable jaw is adjusted, clamping the pipe between it and the outer jaw, upon application of proper pressure to the wrench handle the face or gripping plate N will be caused to slide up the incline, provided by the plate G, and thereby operate to effectually grip the pipe and hold it against turning between the wrench-jaws, the teeth on the jaws materially aiding the actions,

through obvious biting engagement, common to wrenches of this general character.

What I claim is:

1. A wrench comprising a handle, a movable jaw and a fixed jaw, the fixed jaw being on a lateral bend of one end of the handle, a stem on the movable jaw, the stem being provided with screw-thread adjustment into the body-portion of the handle, a head on the stem, a plate on the stem-head, the plate being constructed with an outer inclined bearing face, and a gripping plate secured to aforesaid plate, adapted to slide thereon, effecting wedging action.

2. The combination with a wrench comprising movable and fixed jaws, of a stem provided with screw-thread adjustment, a wedge-shaped plate on said stem, the wedge-shaped plate being pivotally secured to the other end of the stem, a sliding gripping plate

on the aforesaid plate, and means whereby to limit sliding movement of the gripping plate.

3. The combination with a wrench comprising movable and fixed jaws, and a screw whereby to adjust the movable jaw, of a plate pivoted to and carried by said screw, the plate being constructed with an outer inclined bearing side, a slidable gripping plate on the inclined side of aforesaid plate, lugs on the inclined plate, the lugs being adapted to limit movement of the gripping plate, and a pin with projecting ends, on the inclined plate, the projecting ends of the pin being extended into elongated openings in said gripping plate.

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Witnesses:

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