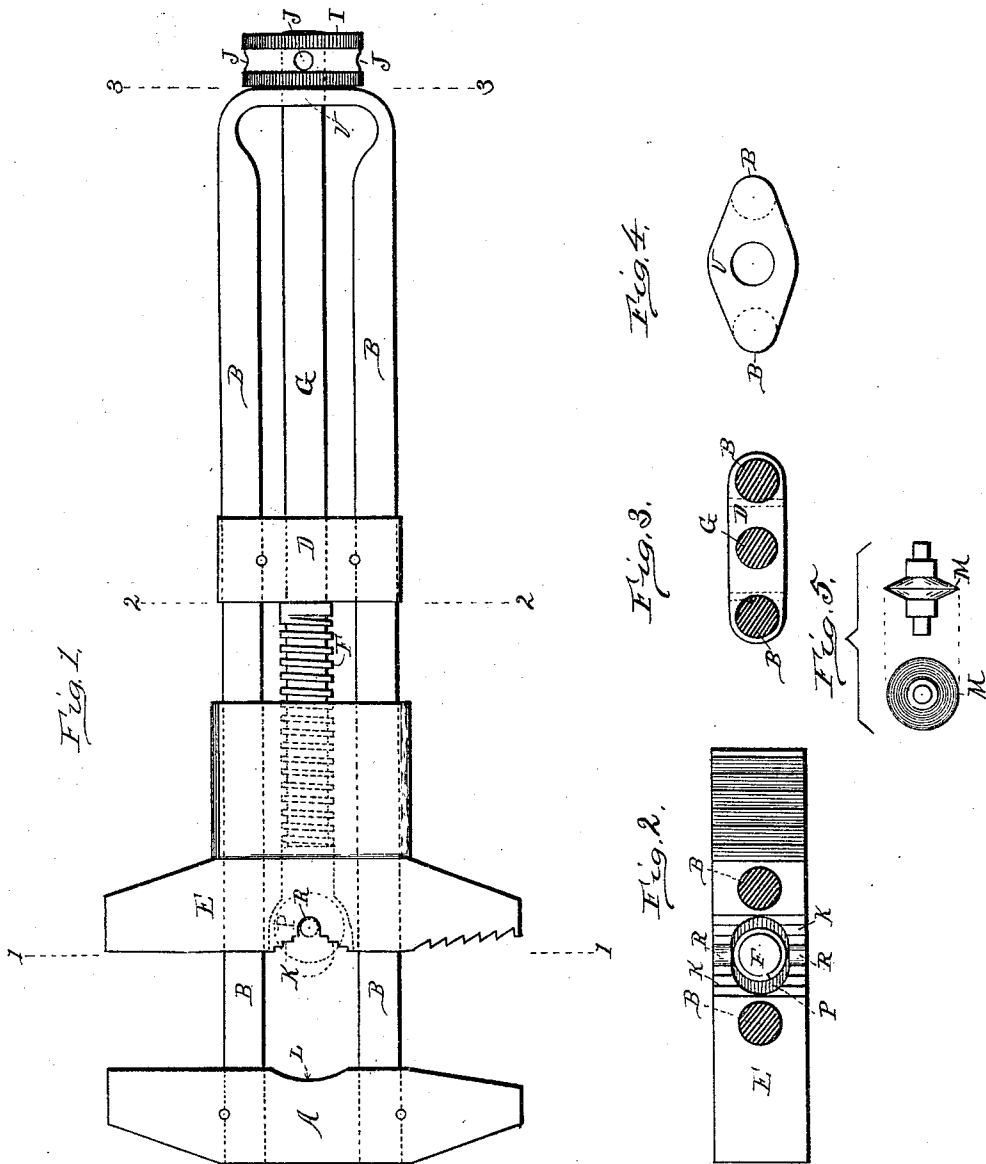


(No Model.)

H. A. POST.
COMBINATION WRENCH.

No. 517,393.

Patented Mar. 27, 1894.



Witnesses,
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UNITED STATES PATENT OFFICE.

HOWARD A. POST, OF WICHITA, KANSAS, ASSIGNOR OF ONE-HALF TO FRANK W. WRIGHT, OF SAME PLACE.

COMBINATION-WRENCH.

SPECIFICATION forming part of Letters Patent No. 517,393, dated March 27, 1894.

Application filed November 9, 1893. Serial No. 490,412. (No model.) Patented in England February 17, 1893, No. 3,552.

To all whom it may concern:

Be it known that I, HOWARD A. POST, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Combination-Wrenches, (for which I have obtained a patent in Great Britain, No. 3,552, bearing date February 17, 1893,) of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1, is a side view of the wrench; Fig. 2, a cross-section of the same on line 1—1 looking handleward; Fig. 3, a similar view on line 2—2; Fig. 4, a similar view looking from line 3—3 toward the wrench jaws, and Fig. 5, are views representing a wheel-pipe-cutter for use in conjunction with the wrench.

This invention relates to certain improvements in wrenches, and consists in the novel structure of a combination wrench, for use as a nut wrench, as a pipe wrench, as a vise and grip wrench, and as a pipe cutter, which improvements are fully set forth and explained in the following specification and pointed out in the claims.

Referring to the drawings B, B are parallel bars; being formed of a single bar, centrally flattened and bent at such flattened portion. A is a jaw fixed on the end of said bars. E is a second jawsleeved on said bars, adjacent and facing jaw A. D is a yoke fixed on said bars adjacent their central portion, and serve, in conjunction with jaw A, to hold said bars a given distance apart. That portion of bars B. B. opposite yoke D from jaw E forms the handle portion of the wrench.

F is a screw turned into a correspondingly threaded hole of the body of jaw E, between and parallel with bars B. B. for the purpose of adjusting said jaw, and as a means of supporting said screw, it is made with a reduced shank G which is placed through a hole of yoke D and through a central hole of the flattened end portion of bars B. B. and has fixed on its projecting end, adjacent said flattened portion V, a knurled hand piece I, which is grasped and turned to operate the screw F,

and which hand piece is made with radial sockets J into which a lever may be placed to turn the screw F when it is desired to grasp an object very firmly by the jaws. Jaw A is made with a cross-hollow L between bars B. B., as shown, and jaw E is made with a similar, but toothed, cross-hollow K, facing hollow L. The jaw E is further made with a recess P in its face between bars B. B., and at the junction of hollow K, and with a journal bearing R in the bottom of hollow K each side of recess P; which recess is for the placing therein of a pipe cutting wheel, such as is shown at M Fig. 5, resting the journals of said cutting wheel, respectively, in said bearings R, as represented in Fig. 1, by dotted lines. Jaws A and E are made to extend each way from bars B. B., and at one end thereof they are made square, or parallel faced, and adapted to turn nuts and square and flat-sided objects, while the opposite ends or faces of said jaws diverge from each other, from bar B outward, and one of said jaws is made with cross-teeth on its face, as shown, thus adapting that side of the jaws for gripping and turning pipes. By reason of the hollows L. and K. of the jaws, small pipes may be placed between the jaws and between bars B. B. and gripped in said hollows. Also by placing small pipes between said jaws, in like manner, and by placing the pipe-cutting wheel M in its seat of jaw E, said cutter may be brought, by operating screw F, to come against the pipe, when by turning the wrench about the pipe, the wheel-cutter will be operated to cut into the pipe circumferentially and thus sever the pipe at that place.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is as follows:

1. The wrench described consisting of the combination of the fixed jaw, the two parallel bars placed to form ways upon which a sliding jaw may slide, and continuing beyond said ways and forming a handle portion, the keeper placed on and connecting said bars adjacent their handle portion, the sliding jaw sleeved on said bars between said keeper and the fixed jaw, and provided with a screw-threaded hole between and parallel with said

bars, the adjusting screw turned into said sliding jaw, and terminating within said jaw, and provided with the shank extending through a hole of said keeper, parallel between the handle portion of said bars and extending through a hole of the bent connecting portion of said bars, and the knurled and recessed hand piece fixed on the extending end portion of said shank, substantially as set forth.

2. The wrench described consisting of the combination of the fixed jaw provided with one square face and with one diverging, or beveled, face, and with a cross-hollow between said faces, the two parallel bars fixed in said jaw, the keeper arranged connecting said bars, the handle formed by the continuation of said bars, the sliding jaw placed on said bars, and made with a screw-threaded hole through a portion of its body parallel with said bars; said hole terminating at the face of said jaw in a recess; and provided with the toothed cross-hollow and the cross cutter-wheel bearing between said bars and adjacent said recess, and with one square face and one toothed diverging, or beveled face, the adjust-

ing screw turned into and terminating within the screw threaded hole of said sliding jaw, and provided with the shank extending to the handle end, and the knurled and recessed hand piece fixed on the end portion of said shank, substantially as and for the purpose set forth.

3. In the wrench described the combination of the fixed jaw provided with the cross-hollow, the bars fixed in said jaw, one at each side of said hollow, the sliding jaw placed upon said bars and made with a recess in the face thereof between said bars, and provided with the toothed cross hollow, and with the cross cutter-wheel bearing in the side walls of said recess, wherein said cross teeth are adapted to grip a pipe placed between said bars, and wherein said cross bearing is adapted to support a cutter-wheel for cutting off pipes placed between said bars, substantially as specified.

HOWARD A. POST.

Witnesses:

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