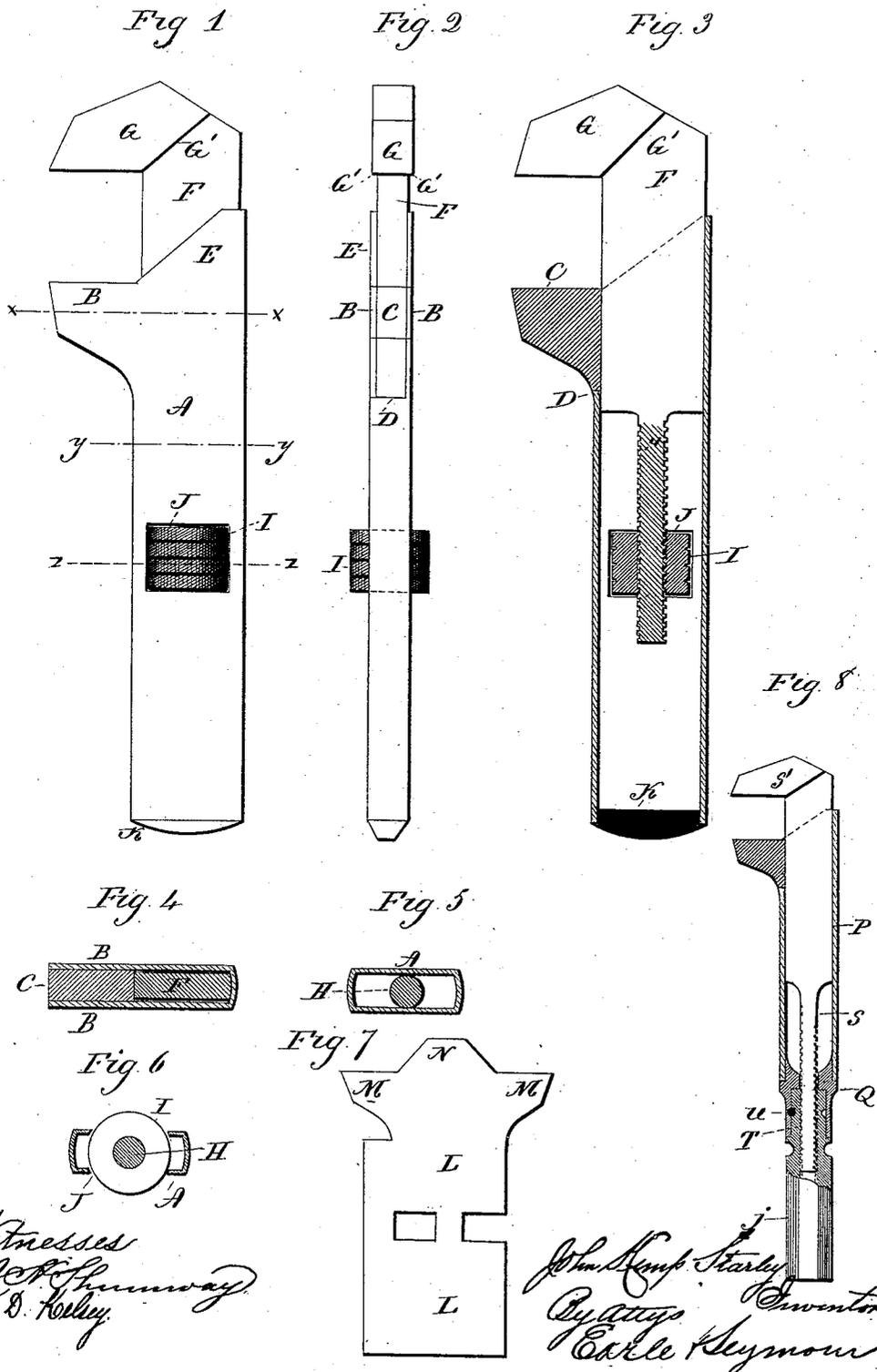


(No Model.)

J. K. STARLEY.
MONKEY WRENCH.

No. 444,402.

Patented Jan. 6, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN KEMP STARLEY, OF COVENTRY, ENGLAND, ASSIGNOR TO THE OVERMAN WHEEL COMPANY, OF CHICOPEE FALLS, MASSACHUSETTS.

MONKEY-WRENCH.

SPECIFICATION forming part of Letters Patent No. 444,402, dated January 6, 1891.

Application filed October 6, 1890. Serial No. 367,185. (No model.)

To all whom it may concern:

Be it known that I, JOHN KEMP STARLEY, of Coventry, in the county of Warwick, England, have invented new Improvements in Monkey-Wrenches; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of one form which a wrench constructed in accordance with my invention may assume; Fig. 2, a view thereof in front elevation; Fig. 3, a view thereof with the handle in longitudinal section; Fig. 4, a view in transverse section through the handle-piece and fixed jaw of the wrench on the line xx of Fig. 1; Fig. 5, a similar view of the handle-piece on the line yy of Fig. 1; Fig. 6, a similar view of the handle-piece on the line zz of Fig. 1; Fig. 7, a view of the blank from which the handle-piece is formed, and Fig. 8 is a view in longitudinal section of a modified form of my improved wrench.

My invention relates to an improvement in monkey-wrenches, the object being to produce at a low cost for manufacture a light, convenient, and durable wrench composed of few parts and re-enforced between its jaws, where the greatest strain occurs.

With these ends in view my invention consists in a wrench having a hollow sheet-metal handle-piece, in a re-enforce extending from the handle-piece in position to support and brace the shank of the movable wrench-jaw, and in certain other details of construction, as will be fully hereinafter described, and pointed out in the claims.

As herein shown, the hollow sheet-metal wrench-stock or handle-piece A is of flattened elongated form in cross-section, and provided at its inner end with two parallel projecting supports B B, between which is secured, and preferably by brazing, a hardened block C, forming a rigid jaw of the wrench, the lower end of the said block being supported and braced upon a seat D, formed by the edges of the metal from which the handle-piece is formed lying between the said supports. The

said handle-piece is also provided with a hollow re-enforce E open toward the said jaw, extending beyond the same in line with the length of the handle-piece and standing behind and bracing the shank F of the movable jaw G, the said shank being shaped to conform to the internal dimensions of the handle-piece and re-enforce and provided at its lower end with a screw H, which passes through a knurled adjusting-nut I, located in a transverse opening J, formed in the handle-piece midway the length thereof. For the purpose of giving clearance between the two wrench-jaws the forward edges of the re-enforce are formed on a slant, which rises as it leaves the jaws, the rear edges of the movable jaw being provided with inclined shoulders $s' s'$, conforming in inclination to the slanting edges of the re-enforce with which they engage when the jaws are brought together, so as to make the sides of the handle, jaws, and re-enforce flush with each other. The lower end of the handle is closed by a plug K, secured in place by brazing or otherwise.

One form of a blank such as may be used in making my improved handle-piece is shown by Fig. 7 of the drawings. It consists of a body portion L, which when folded will form the body of the handle-piece, two ears M M, which will form the jaw-supporting projections of the folded handle-piece, and an extension N, having beveled edges and forming the re-enforce of the handle-piece.

By forming the handle-piece from a piece of sheet metal instead of a solid casting or forging I am enabled to produce a very light wrench and at the same time one of great strength. The re-enforce receives by virtue of its position the heaviest of the strain imposed on the shank of the movable jaw and prevents the shank from bending, as often occurs in wrenches as now constructed.

My improved wrench, being composed of few parts, is easy to make and assemble and convenient in use.

The handle-piece P of the modified form of wrench shown by Fig. 8 of the drawings has brazed into its open outer end a plug Q, forming a bearing for the threaded shank S of the movable jaw S', and receiving in its

outer end the grooved neck T of a long hollow prismatic nut T', which is threaded to receive the said shank S and forms an extension of the handle-piece, the said nut being coupled
5 with the plug by means of a pin U, which enters the groove in its neck, whereby when the nut is turned it will retract or project the movable jaw.

I would have it therefore understood that
10 I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such variations therein as may fairly fall within the spirit and scope of my invention.

15 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A monkey-wrench having a hollow sheet-metal handle-piece provided with two projecting supports, and a hardened block located between and secured to the same and forming a rigid jaw, substantially as described.
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2. A monkey-wrench having a hollow sheet-metal handle-piece provided with a jaw and
25 with a re-enforce arranged to stand behind the shank of the movable jaw, substantially as described.

3. A monkey-wrench having a hollow sheet-metal handle-piece having two projecting supports and a hollow re-enforce extending beyond it and standing behind the shank of the movable jaw, a hardened block located between and secured to the said supports and forming a rigid jaw, a movable jaw having a screw and a shank, the latter passing through the re-enforce and entering the handle-piece, and an adjusting-nut located in a transverse opening in the handle-piece and receiving the said screw, substantially as described.
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4. A monkey-wrench having its handle-piece provided with a rigid jaw and a re-enforce extending beyond it and standing behind the shank of the movable jaw and having slanting edges, and a movable jaw having at its inner end slanting shoulders conformed in inclination to the inclination of the edges of the re-enforce, substantially as described.
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JOHN KEMP STARLEY.

Witnesses:

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Both of the U. S. Consulate.