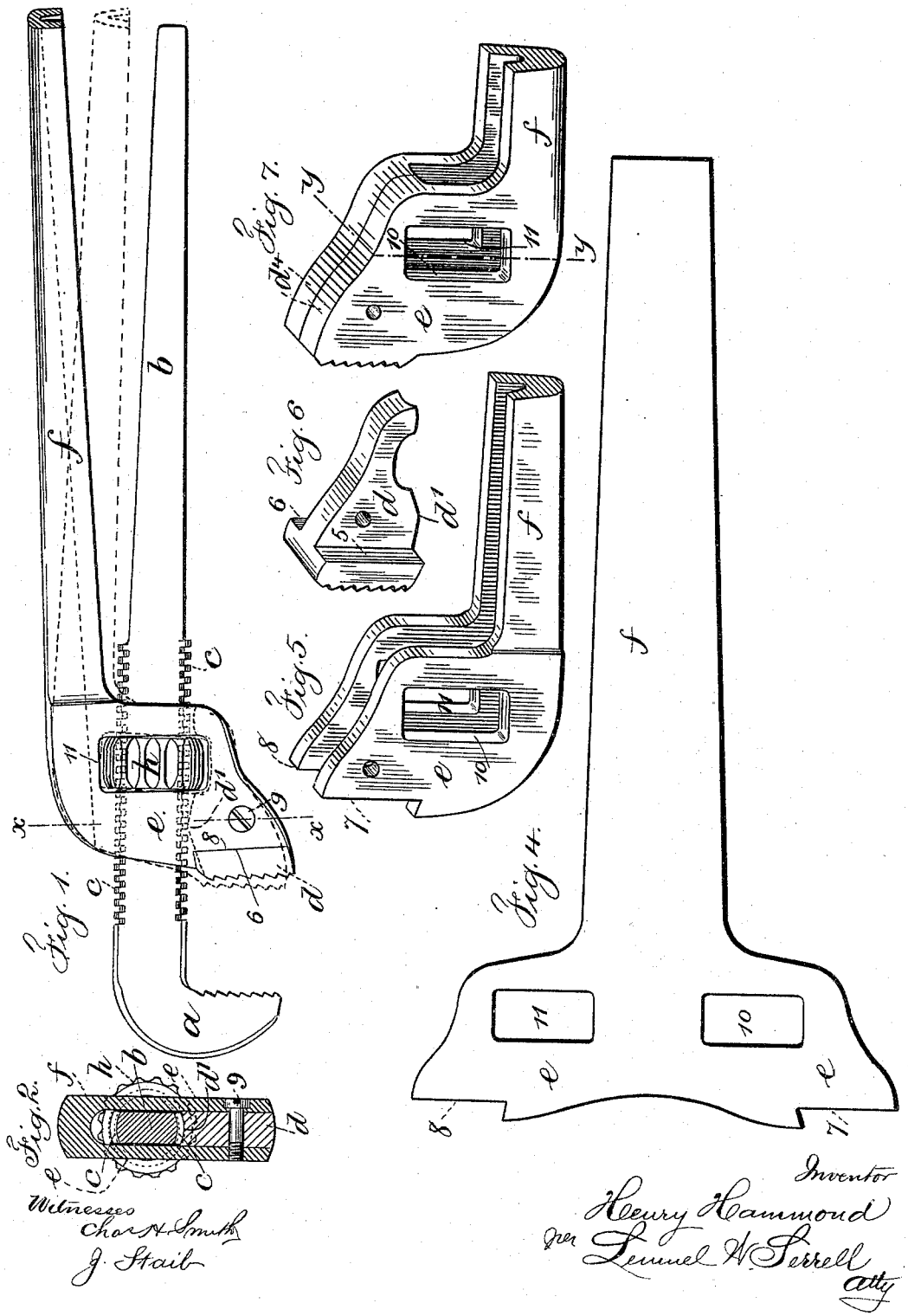
(No Model.)

2 Sheets—Sheet 1.

H. HAMMOND.

PIPE TONGS AND WRENCH.

No. 492,199. Patented Feb. 21, 1893.



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.)

2 Sheets—Sheet 2.

H. HAMMOND.

PIPE TONGS AND WRENCH.

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Fig. 11.

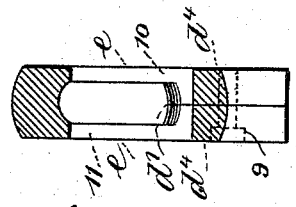


Fig. 10.

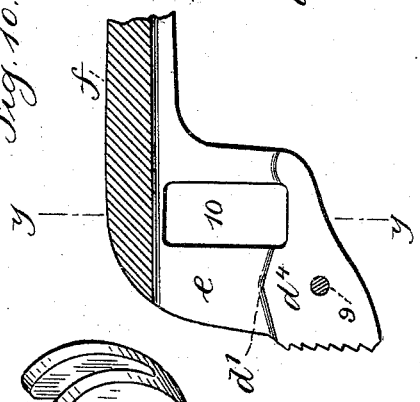


Fig. 3.

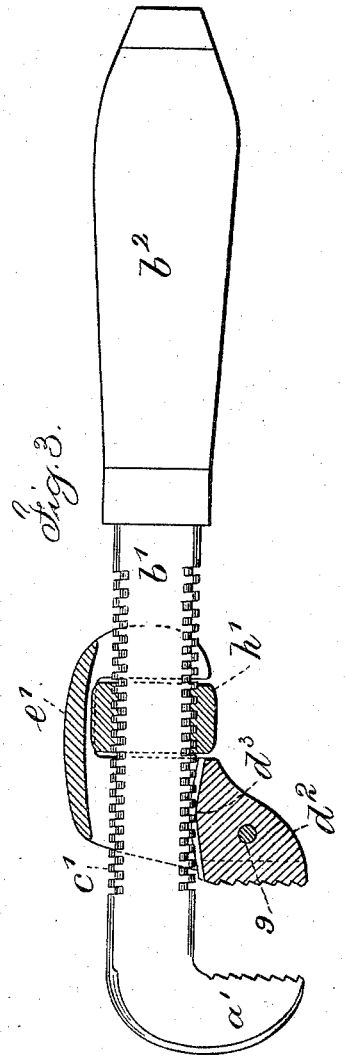


Fig. 9.

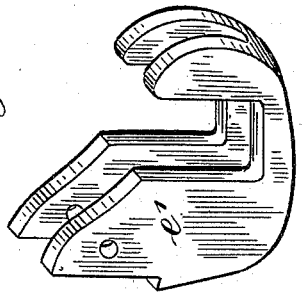
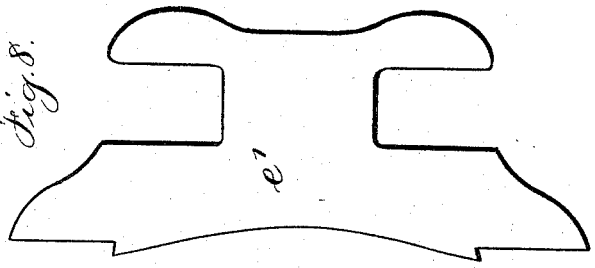


Fig. 8.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY HAMMOND, OF BALSTON, NEW YORK.

PIPE TONGS AND WRENCH.

SPECIFICATION forming part of Letters Patent No. 492,199, dated February 21, 1893.

Application filed August 29, 1892. Serial No. 444,365. (No model.)

To all whom it may concern:

Be it known that I, HENRY HAMMOND, a citizen of the United States, formerly of New Haven, in the State of Connecticut, but now residing at Balston Spa, in the county of Saratoga and State of New York, have invented a new and useful Improvement in Pipe Tongs and Wrenches, of which the following is a specification.

My invention relates to a convenient mechanic's tool capable of use both as a pipe tongs and wrench and which is preferably drop forged and in part cupped up to shape. In my improvement the adjustable nut acts to bring the respective jaws against the article to be operated upon, and there is a looseness of the parts around this adjustable nut so as to permit the handles to be moved nearer to or farther from each other, and the inner edge of the jaw plate is curved so as to permit a rocking motion. This allows the adjustable nut to be operated in bringing the jaws against the article to be operated upon, and thereafter bringing the handles together to effectually nip the article between the jaws and prevent the possibility of slipping. The teeth of the jaws by this construction recede from the pipe or other article between them as the handles are separated, and locking of the jaws on the pipe or other article is prevented.

The details of construction are hereinafter more particularly described.

In the drawings Figure 1 represents by an elevation my improved pipe tongs and wrench. Fig. 2 is a cross section at *x x*. Fig. 3 illustrates a modification, and Figs. 4, 5, 6, 7, 8, 9, and 10 illustrate details hereinafter more particularly described. Fig. 11. is a section on the line *y. y* of Figs. 7. and 10.

The stationary jaw is represented at *a* and the same is provided with a handle *b*, and the handle adjacent to the stationary jaw is provided with threads on opposite edges, which threads at *c* are segments of a circle.

The movable jaw is represented at *d*, and the same is formed with or connected to the yoke frame *e* through which the handle *b* passes, said yoke frame being formed with the handle *f*, and I provide an adjustable nut *h* within a mortise in the yoke frame *e* to rotate and move along the threaded portion *c* in bringing the movable jaw *d* nearer to or farther from the stationary jaw *a*. This adjustable nut *h* serves the double purpose of moving along the jaw *d* and as a pivot upon which the said jaw rocks, and it will be noticed from the drawings Fig. 1 that there is a looseness of the parts around this nut *h*, or in other words, the width of the mortise is greater than the width or depth of the nut, and the inner edge of the movable jaw at *d* is curved, as shown at *d'* adjacent to the screw threads *c*.

In the position shown in Fig. 1 in full lines the movable jaw *d* is adapted to be brought up to a pipe or other article to be gripped by the jaws, after which the hand grips the handles *b f* and by compression brings them together so that the handle *f* occupies the position shown in dotted lines, in which case the yoke frame *e* rocks on the curved edge *d'* and shifts its bearing on the nut *h* and moves forward the jaw *d* to effectually grip and to a certain extent bed the teeth of the jaws *a d* into the pipe or article to be operated upon, and thus to prevent any slipping or yielding of the parts. When the wrench is removed from the pipe or other article and the handles are opened, it will be noticed that the teeth of the movable jaw recede from the pipe or other article as the handles are separated, and locking on the pipe or other article is prevented.

The stationary jaw *a* and handle *b* are preferably drop forged in one piece, and the yoke frame *e* and handle *f* are also preferably drop forged in one piece in a flat condition and are afterward cupped or bent up to shape.

Fig. 4 illustrates the yoke frame *e* with its mortises 10, 11, and the handle *f* as laid out flat, and Fig. 5 is a perspective view illustrating the same parts as cupped or bent up to shape.

The movable jaw *d* is shown in Figs. 1 and 6 as a separate drop forged piece adapted to be placed between and its shoulders 5, 6 to come against the surfaces 7 8 of the yoke frame, and in which case a screw pin 9 is employed in securing the jaw *d* between and within the yoke frame. This movable jaw *d* may however be made part of the yoke frame and drop forged at once with it, as shown in Figs. 7, 10 and 11, there being upon each side of

the yoke frame half of the jaw, so that when the parts are bent or cupped up to shape the edge faces of the jaw are brought parallel, and a screw pin similar to that shown at 9 is employed to hold the parts in this case together.

In the modification shown in Fig. 3, the stationary jaw a' is provided with a stem portion b' with screw threads at c' and a handle at b^2 of ordinary construction, an adjustable nut h' being adapted to move along over the screw threads c'. In this modification the yoke frame e' is drop forged in a single piece and is shown as laid out flat in Fig. 8 and as bent or cupped up to shape in Fig. 9.

The jaw proper d^2 is formed similarly to that already described for Figs. 1, 4 and 5, and is held in place by a screw pin and provided with a curved inner edge d^3 adjacent to the screw threads c', or the yoke frame e' as shown in Figs. 10 and 11 may be made with half jaws upon each side, which when cupped up together and held with a screw pin are similar in all respects to the construction having the removable jaw. This form of construction and the manner of making the pipe tongs or wrench is simple and efficient, and permits the use of the best materials in the best manner and embodies a minimum of parts, permitting the operation of the handles for a final grip upon the pipe or other article to be operated upon and for the receding of the jaws by the opening of the handles so that the pipe or other article gripped is at once free from the jaws and locking thereon is prevented.

I claim as my invention—

1. The combination with the projecting stationary jaw and its handle bar having segmental screw threads, of a nut around such screw threads, a yoke frame passing around the handle bar and having openings to loosely receive the nut and a jaw upon the yoke frame and at one side of the handle bar, such yoke frame and jaw being adjustable toward and from the stationary jaw by the nut and on which nut the yoke frame and jaw rock substantially as specified.

2. In a pipe tongs and wrench the combination with a stationary jaw and handle having segment screw threads, of a rocking handle formed in one piece with a yoke frame through which passes the stationary handle, and a movable jaw piece fitted within and against the edges of the yoke frame, and a pin for holding the parts together, and an adjustable nut h, substantially as set forth.

3. The combination with the stationary jaw, its handle having segmental screw threads upon its opposite edges and a nut around the screw threads, of a yoke frame having openings to receive the nut and a jaw having an inner curved face rocking against the handle of the stationary jaw, substantially as specified.

4. The combination with the stationary jaw and handle having segment screw threads and a nut around the screw threads, of a yoke frame having openings to receive the nut and provided with notched faces 7 and 8, the jaw d. within the yoke frame and having shoulders 5. 6. resting upon the faces 7. 8. and the pin 9. through the yoke frame and jaw, substantially as set forth.

Signed by me this 23d day of August, 1892.

HENRY HAMMOND.

Witnesses:
GEO. T. PINCKNEY,
HAROLD SERRELL.