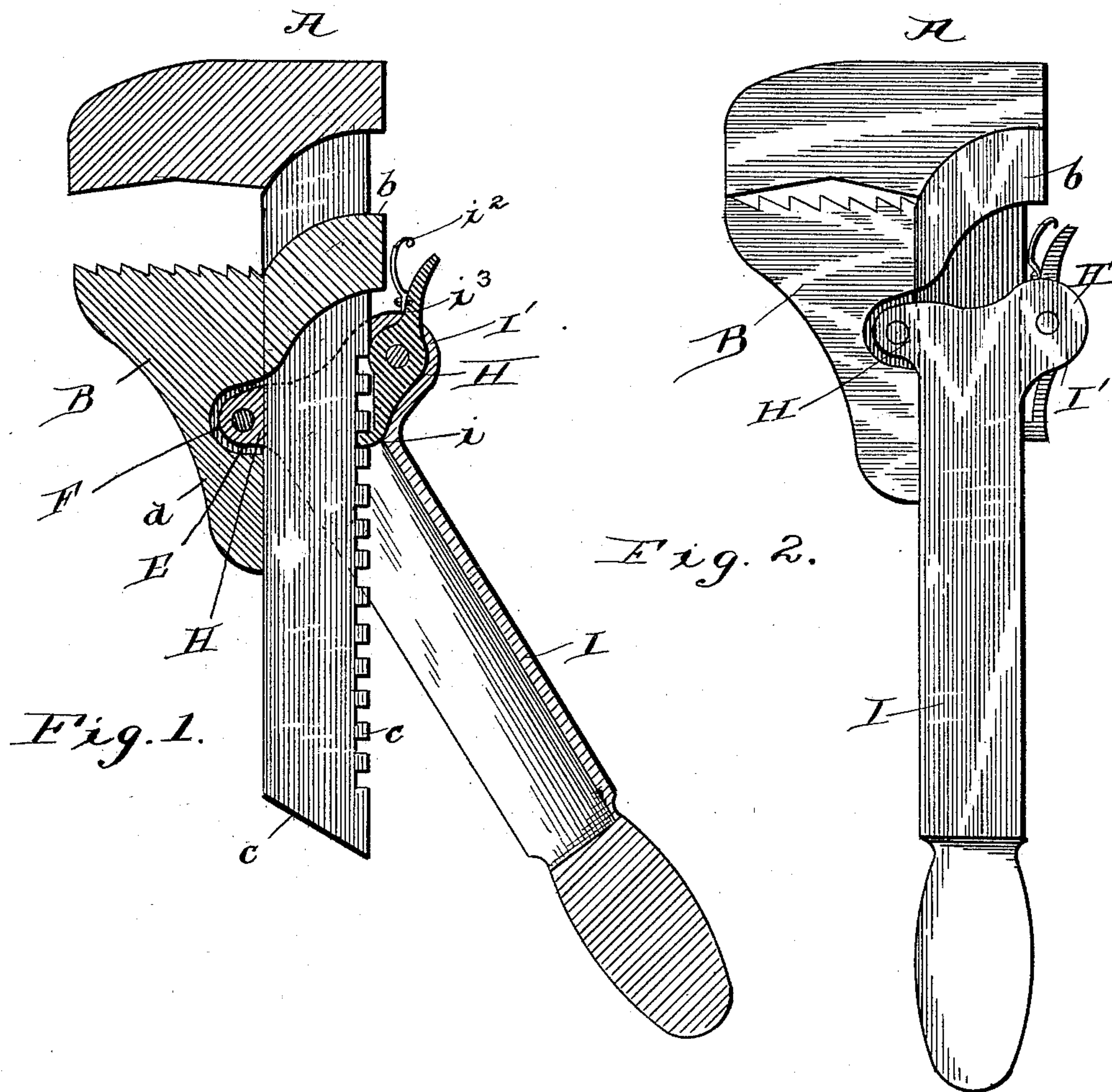


(No Model.)

I. C. GRAY.
WRENCH.

No. 422,767.

Patented Mar. 4, 1890.



WITNESSES:

WITNESSES:
 Will E. Amphibangh
 S. E. Bates

INVENTOR

INVENTOR
Isaac C. Gray
BY *Y^{rs} H. Bates.*

His ATTORNEY.

UNITED STATES PATENT OFFICE.

ISAAC C. GRAY, OF TIPPECANOETOWN, INDIANA, ASSIGNOR OF ONE-HALF TO JOHN W. FESLER, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 422,767, dated March 4, 1890.

Application filed December 11, 1889. Serial No. 333,330. (No model.)

To all whom it may concern:

Be it known that I, ISAAC C. GRAY, a citizen of the United States, residing at Tippecanoetown, in the county of Marshall and State of Indiana, have invented certain new and useful Improvements in Wrenches; and I do hereby 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.

My invention relates to that class of wrenches known as "sliding-jaw wrenches," and has for its object to dispense with an adjusting-screw which is ordinarily employed to adjust the jaws; and the invention consists in the novel construction and combination of parts, as will be hereinafter more particularly described, and specifically pointed out in the claim.

In the accompanying drawings, to which reference is had, and which fully illustrate my invention, Figure 1 is a side sectional elevation of my improved wrench, and Fig. 2 is a side elevation of the opposite side of the same.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A and B indicate, respectively, the front and rear parallel jaws, the former being stationarily secured to the upper end of a movable or sliding shank C and the latter movably secured to said movable or sliding shank which has a suitable number of notches *c* formed upon its rear edge, the movable jaw being secured to the shank by means of a forwardly-projecting integrally-constructed and curvilinear looped portion *b*, by which the shank is embraced. This forwardly-projecting arrangement of the loop *b* embracing the shank prevents the shank from springing directly over the center of pipes, &c., when pulling down upon the handle. The outer surface of the upper edge of the stationary jaw A, near its forward end, is slightly curved, and its inner or bighting surface is of an angular form, while that portion of said jaw embracing the upper end of the shank is of a corresponding degree of curvature upon its rear under edge or surface to the curve in the loop *b*, so that,

when the jaws are in their normal position, the loop *b* rests snugly therein, the apex of the angle in the stationary jaw being in alignment with the initial point of the curve upon the outer or upper surface or edge of the jaw A. The upper and larger horizontal inner working edge or surface of the movable jaw B is suitably serrated, and the lower portion of said jaw with its curvilinear edges terminates in a narrow or neck portion, as at *d*. Seated within a U-shaped opening or slot E, formed by means of the inner curvilinear lower edge or surface in the narrow or neck portion *d* of the jaw B, and pivotally secured to said jaw, is the smaller one of two curvilinear lugs H H', which is constructed integrally with and constitutes the upper end of a longitudinally-recessed or hollow handle I, which recess serves to house or inclose the notched portion of the shank C. By such housing of the shank within the recessed handle it divides the bearings of the handle portion I in such manner as to give more power to the wrench. Within the recess in the opposite and larger lug H' is centrally pivoted a dog I', the body of which only is inclosed in said lug, the projecting oppositely-curvilinear ends *i i'*, which form a part of said body, serving to adjust the shank, the curved end *i* fitting snugly within the notches in the shank, and the end *i'* carrying a curvilinear spring *i*² upon its forward edge, which is detachably secured by means of a screw *i*³ at its lower end to the end *i'* of the dog I', the function of this spring being to operate in connection with the recessed handle and dog, the spring holding the end *i* of the dog down in the notches of the shank, as clearly shown in Fig. 1 of the drawings.

By my construction of wrench it will be observed that it is handier and more quickly and easily adjusted by the use of a plurality of notches upon the rear part of the wrench-shank and the dog pivoted in the lug in the handle, which makes the wrench more durable and stronger and all liability of the shank or wrench being strained is obviated. The notches are so arranged upon the rear edge of the shank as to enable the operator to set or adjust the shank or wrench every one-fourth of an inch and by raising the handle

it can be adjusted an eighth of an inch. By simply pulling down on the handle when the wrench is placed on iron or piping the jaws of the wrench close more tightly to the iron or pipe, hence preventing the wrench from slipping or turning on a round body. The wrench-shank passing inside of the recessed handle divides the bearings of the handle portion, which gives more power to the wrench, and the looped portion of the lower jaw of the wrench, which has a forward pitch, prevents the shank of the wrench from springing directly over the center of pipes or other round iron bodies when pulling down on the handle, the pressure of the handle when pulling is directly against the center of the pipe or iron, while the front jaw secured to the wrench-shank is pulling simultaneously with the handle to the same center, which is all done by one movement of the handle. When it is desired to loosen the wrench when done turning the iron, simply elevate the handle.

It is obvious that the dog and teeth may be placed upon the opposite side of the handle and toothed shank from that on which they are shown.

From the foregoing description, taken in

connection with the accompanying drawings, the operation of my wrench will be obvious, and further description of the same herein is deemed unnecessary.

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

A pipe and nut wrench having a longitudinally-grooved handle, offsets on either side at the outer end thereof, a spring-actuated dog or pawl pivoted between the lower pair of said offsets, a serrated jaw-piece pivoted between the upper pair of the offsets, a sliding toothed bar or shank having a jaw thereon and located in said longitudinal groove, and an integral collar or yoke piece depending from the pivoted jaw and embracing the sliding bar, said pawl being adapted to engage the teeth on the sliding bar in the adjustment of the two jaws in relation to each other, as and for the purpose herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC C. GRAY.

Witnesses:

EDWARD STEVENSON,
JOHN D. THOMAS.