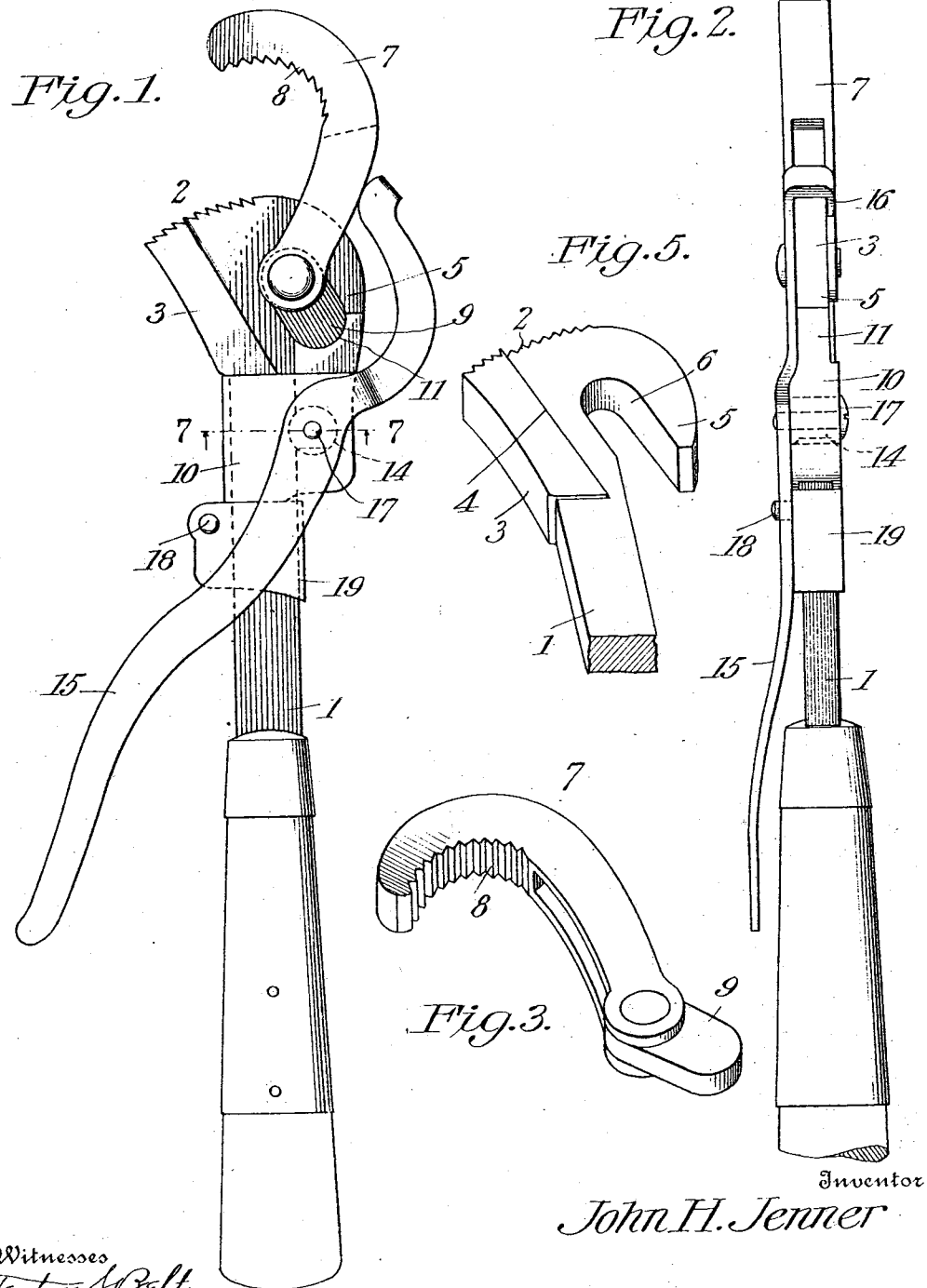


1,055,916.

Patented Mar. 11, 1913.
2 SHEETS—SHEET 1.



Witnesses
Anton St. Belt
S. M. McCall

Inventor
John H. Jenner

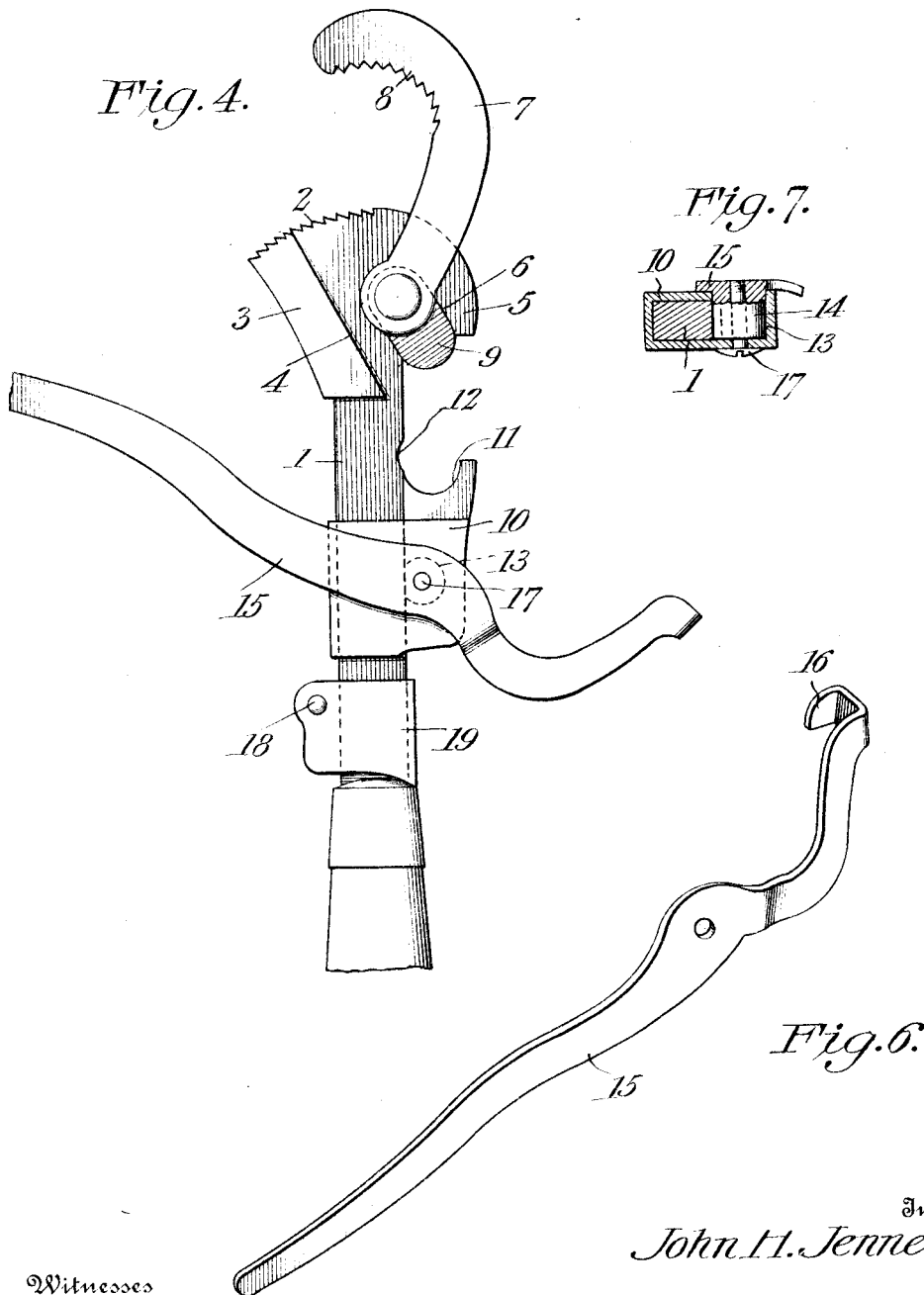
By *A. B. Wilson & Co.*
Attorneys

J. H. JENNER.
WRENCH.
APPLICATION FILED JUNE 3, 1912.

1,055,916.

Patented Mar. 11, 1913.

2 SHEETS—SHEET 2.



Witnesses
Anton S. Bell
S. M. McCall

Inventor
John H. Jenner

By *A. B. Wilson*
 Attorney

UNITED STATES PATENT OFFICE.

JOHN HENRY JENNER, OF LEAVENWORTH, INDIANA.

WRENCH.

1,055,916.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed June 3, 1912. Serial No. 701,269.

To all whom it may concern:

Be it known that I, JOHN H. JENNER, a citizen of the United States, residing at Leavenworth, in the county of Crawford and State of Indiana, have invented certain new and useful Improvements in Wrenches; and I do 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.

This invention relates to improvements in wrenches, and more particularly to pipe wrenches.

One object of the invention is to provide a simple and easily operated wrench of this class having a swinging jaw and a rigid jaw, the swinging jaw being removable and equipped with a reversible fulcrum block to adapt it to be readily and quickly adjusted to fit pipes of different sizes.

Another object of this invention is to provide a quick acting wrench of this character, by the use of which a great economy in labor and time is effected.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 represents a perspective view of a wrench constructed in accordance with this invention, and with the jaws in open position; Fig. 2 is a rear edge view thereof; Fig. 3 is a detail perspective view of the pivoted jaw and its detached cam block; Fig. 4 is a side elevation of a portion of the wrench showing the parts in position ready to remove the pivoted jaw; Fig. 5 is a detail perspective view of the rigid jaw and a portion of the stock to which it is fixed; Fig. 6 is a detail perspective view of the jaw locking lever; Fig. 7 is a transverse vertical section on the line 7-7 of Fig. 1.

In the embodiment illustrated, a stock 1 is shown composed of steel, iron or other suitable material and having a handle at one end and a rigid jaw 2 at the other end. This rigid jaw 2 is formed on a head 3 arranged at an oblique angle to the stock 1, and having shoulders 4 formed longitudinally on its opposite faces, whereby said head is provided with a thickened portion and with a reduced portion which has a hook 5 on its rear end, the space between the inner face

of said hook and the outer face of said head forming a recess parallel with said shoulders and which is designed to receive a fulcrum block on the pivoted jaw to be described. The free end of this head 3 is serrated to form the rigid jaw of the wrench, and this serrated face may be of any desired shape, either straight, concave or convex as desired.

In the rear edge of the stock 1, at a point adjacent the head 3, is a recess 6 which extends transversely across the rear of said stock and is arc-shaped or segmental in cross section, for a purpose to be described.

The pivoted jaw 7 is shown in hook-shaped form, having serrations 8 on its inner face for coöperation with the serrations on the fixed jaw. The shank of this jaw 7 is bifurcated, and an oblong cam 9 is pivotally mounted at one end between the bifurcated portions of the jaw. This cam 9 corresponds in shape to the shape of the recess 6 formed in the head 3, and is adapted to fit therein for connecting the pivoted jaw to said head. It will be observed that by pivoting one end of this cam to the pivoted jaw, a short and a long end are thereby provided, and when it is designed to adapt the wrench for use on small pipes the long end is inserted in the recess 6 of the head 3, whereby the coöperating faces of the two jaws are brought into closer relation than when the short end is inserted in said recess, it being obvious that the insertion of the short end in the recess will dispose the free end of the shank nearer to the rear face of the fixed jaw, and, consequently, will position the coöperating face of the pivoted jaw farther from said fixed jaw.

A removable member for holding the pivoted jaw in operative position is here shown in the form of a casing 10 slidably mounted on the stock 1, and having a recessed bearing or lug 11, the recess 12 therein being rounded to fit the ends of the cam 9, and when the casing is locked in operative position by means to be described, holds said cam securely within the recess 6 and thereby connects the pivoted jaw with the head 3.

The portion of the casing which carries the lug 11 projects beyond the rear edge of the stock 1 and has a round opening 13 extending transversely therethrough, one side of which overlaps the portion of the casing which fits over the stock 1, and which, when said casing is in its extreme

forward position, brings said recess 13 into register with the recess 12 in the rear edge of the stock, thereby forming a circular aperture into which is adapted to be inserted a hollow internally screw threaded stud 14 on a locking lever 15, now to be described. This stud 14 has one flat outer face to permit the casing 10 to be disengaged from the stock 1 and to slide freely thereon when so released, which occurs when the stud is turned to bring the flat face thereof into engagement with the flat face of the rear edge of the stock, as is shown clearly in Fig. 4. When the rounded face of said stud engages the recess 12 of the stock, the casing is locked to the stock and thereby securely holds the pivoted jaw in operative position.

The locking lever 15, which is equipped with the stud 14, has one end curved to conform to the curvature of the head 3, and the terminal thereof is provided with a laterally extending hook-shaped member 16 which is adapted to span said head and engage the rear edges of the bifurcated portions of the shank of the pivoted jaw to lock said jaw in gripping or closed position, said lever being held in this position by means to be described. A large-headed screw 17 is adapted to screw into the hollow stud of the lever 15 from the side of the casing opposite that to which the lever is applied, and reliably connects the lever and casing 10.

The rear or handle end of this lever 15 conforms somewhat to the form of the wrench, and is offset laterally at a point about midway its length to adapt it to be sprung over a lateral projection 18 on a lever locking member 19 slidably mounted on the stock at the rear of the casing 10. This member 19 is shown in the form of a sleeve with an extension projecting beyond the inner edge of the stock 1, and in which extension said projection 18 is mounted, it being here shown in the form of a stud adapted to engage the inner edge of the lever 15 and prevent its opening beyond a predetermined point when said locking member is arranged between the casing 10 and said lever handle. When it is desired to remove the pivoted jaw and reverse the fulcrum block thereof in the recess 6, the locking member 19 is slipped rearwardly on the stock 1 to its extreme rearward limit, which brings the pin 18 thereon in position opposite the offset handle of said lever portion, thereby permitting said handle to be moved over said stud and the lever opened into the position shown in Fig. 4. This lever may be then turned to release the stud 14 from the recess 12 in the stock 1 and permit the casing to be slipped rearwardly to disengage the recessed lug 11 from the block 9. The block may be then readily

slipped out of the recess 6 and reversed and the parts again brought into operative position by sliding the casing 10 forwardly on the stock and turning the lever into closed position, and then moving the locking elements forwardly.

The inner edges of the bifurcated portion of the pivoted jaw are adapted to engage the shoulders 4 at the front end of the head 3 and thereby limit the forward movement of the pivoted jaw, its rearward movement being limited by the hook 16 of the locking lever 15, as heretofore described.

In the operation of this improved wrench, the parts being in the position shown in Fig. 1 and the handle of the wrench gripped in the right hand of the operator, the free end of the handle of the lever 15 is moved away from said wrench handle to permit the pivoted jaw to swing rearwardly into open position to provide for the gripping of a pipe between said pivoted jaw and the rigid jaw. After the pipe has been gripped by the jaws the lever handle is moved inwardly and gripped by the right hand of the operator together with the handle of the wrench, thereby securely locking the jaws in gripped relation. The front edge of this lever 15 is curved downwardly between the handle and the fulcrum thereof, said curved portion limiting the extent of movement of the jaw engaging portion of said lever when the locking member 19 is disposed on the stock in advance of said curved portion of the lever, it having been heretofore described that the lever may be entirely released to open to its full extent when the locking element is moved beyond a predetermined point.

I claim as my invention:

1. A wrench having a fixed and a movable jaw, said movable jaw being removable and provided with reversible means pivoted thereon for varying the size of the space between it and the fixed jaw.
2. A wrench comprising a stock having a fixed jaw at one end, and a movable jaw pivotally mounted in relation to said fixed jaw and having a reversible member pivoted thereto for varying the size of the space between said jaws when in operative position.
3. A wrench comprising a stock having a fixed jaw at one end, a movable jaw pivotally mounted in relation to said fixed jaw and having a reversible member pivoted thereto for varying the size of the space between said jaws when in operative position, and means under the control of the operator for limiting the outward movement of said movable jaw.
4. A wrench comprising a stock having a head at one end provided with a fixed jaw and with a recess at the rear of said jaw, a movable jaw having a block pivotally mounted thereon and adapted to fit within

said recess, and movable means for locking said block in said recess.

5 A wrench comprising a stock having a head at one end provided with a fixed jaw and with a recess at the rear of said jaw, a
movable jaw having a block pivotally
10 mounted thereon and adapted to fit within said recess, movable means for locking said block in said recess, a lever fulcrumed on
said movable means and having a hook-
shaped end for engaging said movable jaw
for limiting its outward movement and for
locking said jaw in closed position, and a
lever locking element slidably mounted on
15 said stock.

6. A wrench comprising a stock having an obliquely disposed head at one end thereof, a fixed jaw at the free end of said head, a recess formed in said head at the
20 rear of said jaw, a pivoted jaw having a bifurcated shank, an oblong block pivotally mounted at one end in said bifurcated shank and adapted to fit in said recess, and lever controlled means for locking said block in
25 said recess.

7. A wrench comprising a stock having an obliquely disposed head at one end thereof, a fixed jaw at the free end of said head, a recess formed in said head at the
30 rear of said jaw, a pivoted jaw having a bifurcated shank, an oblong block pivotally mounted at one end in said bifurcated shank and adapted to fit in said recess, a casing slidably mounted on said stock having a
35 recessed lug for engaging the outer end of said block for holding it in operative position, and means for locking said casing in position on said stock to cause said lug to engage said block.

40 8. A wrench comprising a stock having an obliquely disposed head at one end thereof, a fixed jaw at the free end of said head, a recess formed in said head at the rear of said jaw, a pivoted jaw having a
45 bifurcated shank, an oblong block pivotally mounted at one end in said bifurcated shank and adapted to fit in said recess, a casing slidably mounted on said stock having a recessed lug for engaging the outer end of
50 said block for holding it in operative position, said casing having an aperture extending transversely therethrough and overlapping said stock at one side, a recess in the rear edge of said stock adjacent said head,
55 and a rotatable member mounted in said casing and adapted to engage the recess in said stock for locking said casing to the stock in operative position to cause the lug thereof to engage said block.

60 9. A wrench comprising a stock having an obliquely disposed head at one end

thereof, a fixed jaw at the free end of said head, a recess formed in said head at the rear of said jaw, a pivoted jaw having a bifurcated shank, an oblong block pivotally
65 mounted at one end in said bifurcated shank and adapted to fit in said recess, a casing slidably mounted on said stock having a recessed lug for engaging the outer end of said block for holding it in operative posi-
70 tion, said casing having an aperture extending transversely therethrough and overlapping said stock at one side, a recess in the rear edge of said stock adjacent said head, and a rotatable member mounted in
75 said casing and adapted to engage the recess in said stock for locking said casing to the stock in operative position to cause the lug thereof to engage said block, said rotatable member having one flat face to permit it to
80 slide on the edge of the stock when disengaged from the recess therein.

10. A wrench comprising a stock having an obliquely disposed head at one end thereof, a fixed jaw at the free end of said
85 head, a recess formed in said head at the rear of said jaw, a pivoted jaw having a bifurcated shank, an oblong block pivotally mounted at one end in said bifurcated shank and adapted to fit in said recess, a casing
90 slidably mounted on said stock having a recessed lug for engaging the outer end of said block for holding it in operative position, said casing having an aperture extending transversely therethrough and overlap-
95 ping said stock at one side, a recess in the rear edge of said stock adjacent said head, a rotatable member mounted in said casing and adapted to engage the recess in said stock for locking said casing to the stock
100 in operative position to cause the lug thereof to engage said block, said rotatable member having one flat face to permit it to slide on the edge of the stock when disengaged from the recess therein, and a lever fixed to said
105 rotatable casing locking member and having means for locking the movable jaw in closed position and for limiting its outward movement.

11. A wrench comprising a stock having
110 a head at one end provided with a fixed jaw and with a recess, a movable jaw having a block pivotally mounted thereon and adapted to fit within said recess, and means for locking said block in said recess. 115

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN HENRY JENNER.

Witnesses:

LUTHER PETERS,

HATTIE ELLSWORTH.