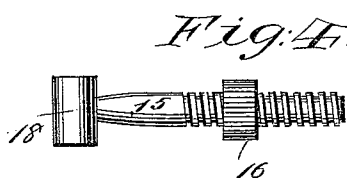
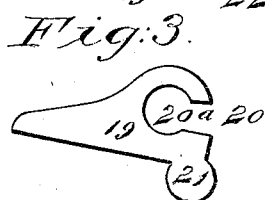
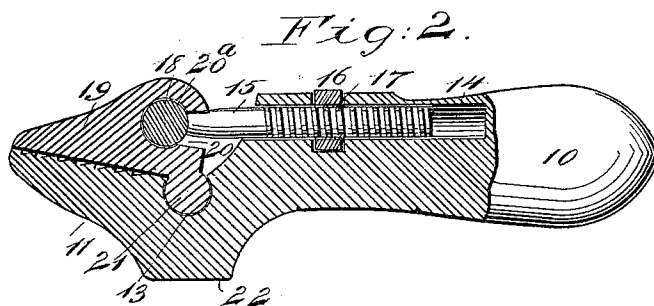
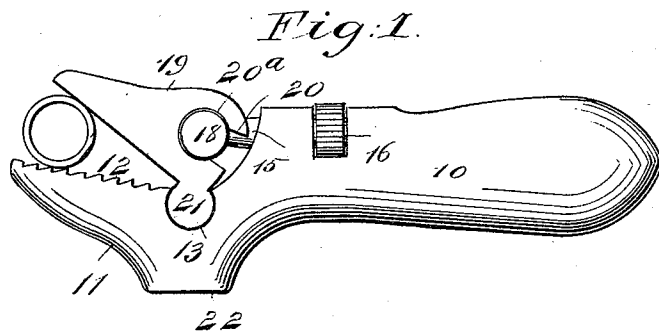


(No Model.)

H. KREBS.
WRENCH.

No. 520,689.

Patented May 29, 1894.



WITNESSES:

E. M. M. Lay
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INVENTOR

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BY

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UNITED STATES PATENT OFFICE.

HERRMANN KREBS, OF SAN PEDRO, CALIFORNIA, ASSIGNOR TO HIMSELF
AND NICHOLAS BOSE, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 520,689, dated May 29, 1894.

Application filed March 8, 1894. Serial No. 502,848. (No model.)

To all whom it may concern:

Be it known that I, HERRMANN KREBS, of San Pedro, in the county of Los Angeles and State of California, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wrenches, especially to an improvement in that class of wrenches known as alligator wrenches and especially adapted as a pipe wrench.

The object of this invention is to provide a wrench of the above description which will comprise but few parts, said parts being simply and durably constructed and so combined that they may be operated in a convenient and expeditious manner.

Another feature of the invention is to so construct the wrench that binding screws and springs will not be employed in its composition.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the wrench. Fig. 2 is a partial side elevation and partial longitudinal section. Fig. 3 is a detail side elevation of the removable jaw removed from the body of the wrench; and Fig. 4 is a detail view of the adjusting screw and nut whereby it is manipulated.

In carrying out the invention the body of the wrench comprises a handle 10 and a fixed jaw 11, located at one end of the handle and at one side thereof, the jaw being of the alligator pattern and provided with teeth 12 upon its inner face; and at the inner end of the base of the jaw a segmental or cylindrical transverse cavity 13, is formed, and the outer end of the handle is curved or rendered concaved, meeting the inner wall of the opening or recess 13. The handle at what may be termed its front side, or the side opposite that at which the fixed jaw is located, is provided with a longitudinal bore or channel 14, in which the threaded portion of an adjust-

ing screw 15, is entered and held to revolve, the said adjusting screw being manipulated through the medium of a nut 16, introduced into the channel 14 through an opening 17 made in the front side of the handle, preferably near its outer end. The adjusting screw 15, extends a predetermined distance beyond the outer concaved end of the handle and is made to terminate in a head 18, located transversely thereon and extending beyond opposite sides, the heads being of cylindrical character. The pivoted jaw 19 of the wrench corresponds in character to that of the fixed jaw, and the said pivoted jaw is provided with a straight recess 20 in its lower or inner edge, at or near the center, which meets a circular opening 20^a, produced in the body of the jaw, extending through from side to side. At the junction of the inner side of the pivoted jaw with its inner end, a cylindrical or circular extension 21 is produced, and the parts are assembled by causing the head of the adjusting screw to enter the circular opening 20 in the pivoted jaw, and entering the circular extension 21 into the segmental cavity 13 of the fixed jaw, the extension of the pivoted jaw constituting its fulcrum; and the pivoted jaw is moved to and from the fixed jaw by the manipulation of the screw 15. The fixed jaw is provided with a hammer-head projection 22 upon its outer face, capable of use in driving nails, or for any purpose to which a hammer head may be applied.

A wrench of the above description is without springs or pivot screws or pins in its composition, and is not only simple, strong and durable, but it is exceedingly economic as well.

Instead of constructing the wrench with the abutting faces of the closed jaws at an angle to the longitudinal axis of the handle, as shown in the drawings, the said surfaces may be in alignment, or parallel with said axial line.

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

1. A wrench, the same consisting of a body shaped as a handle and a fixed jaw forming a portion of the handle, the handle being provided with a longitudinal channel and a transverse opening leading therein, a second jaw

provided with an extension fitted to turn in
a recess in the fixed jaw, whereby the second
jaw is fulcrumed, the second jaw being like-
wise provided with a recess in its bottom
5 meeting an opening in its body, an adjusting
screw held to revolve in the channel of the
body, said adjusting screw being provided
with a head entering the opening in the body
of the pivoted jaw, and an adjusting nut
10 whereby the screw is manipulated, as and for
the purpose set forth.

2. In a wrench, the combination, with the
body, having an alligator jaw formed at one
end, said jaw being provided with a circular
15 recess in its inner surface near its base, the
body being provided with a channel longi-
tudinally therein, and an opening leading into

the channel, of a pivoted jaw likewise of the
alligator pattern, having a cylindrical offset
at its base entering the circular cavity in the 20
fixed jaw, the pivoted jaw being further pro-
vided with a recess in its bottom surface and
a circular opening meeting the same, and an
adjusting screw provided with a circular head
located in the circular opening of the pivoted 25
jaw, a portion of the said screw being located
in the body channel, and a nut located in the
opening leading into the channel, whereby
the screw is manipulated, as and for the pur-
pose specified.

HERRMANN KREBS.

Witnesses:

LOUIS ENTNER,
CHARLES MATSON.