

W. F. HUGHES.
WRENCH.
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991,994.

Patented May 9, 1911.

Fig. 1.

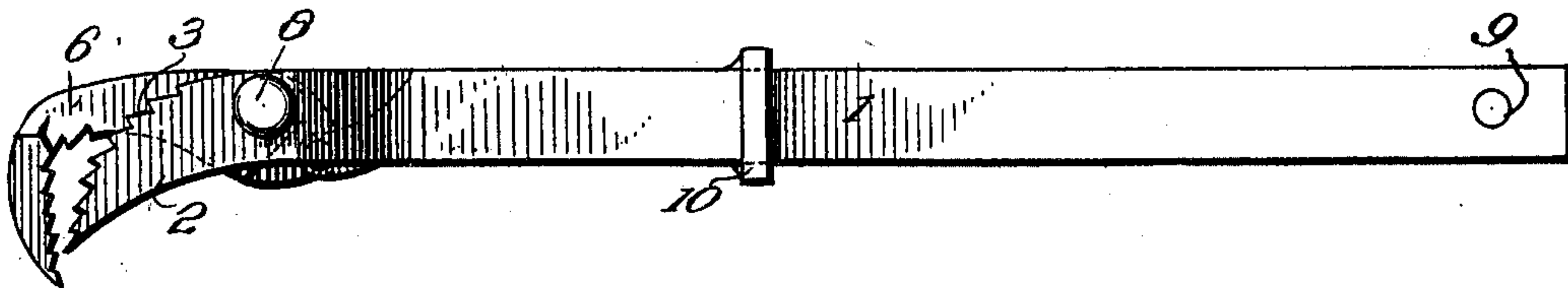


Fig. 2.

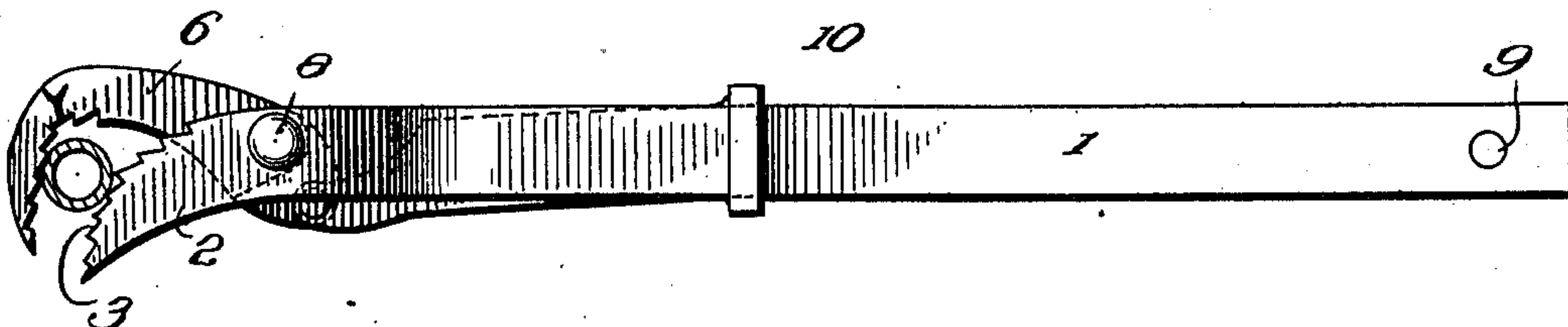


Fig. 3.

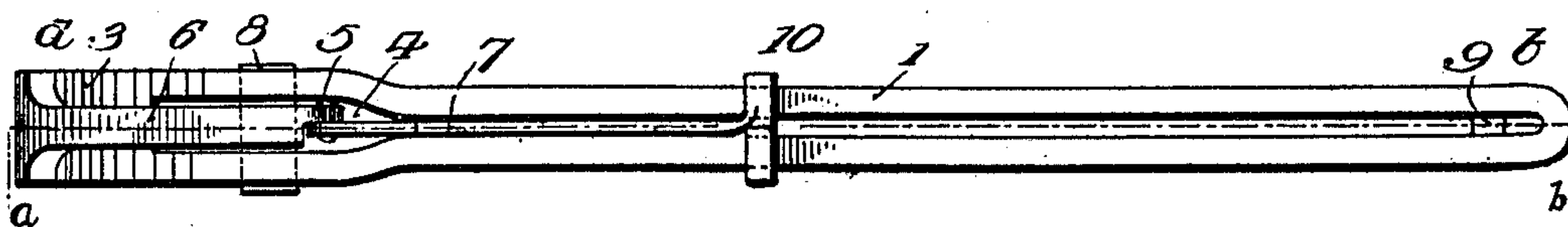
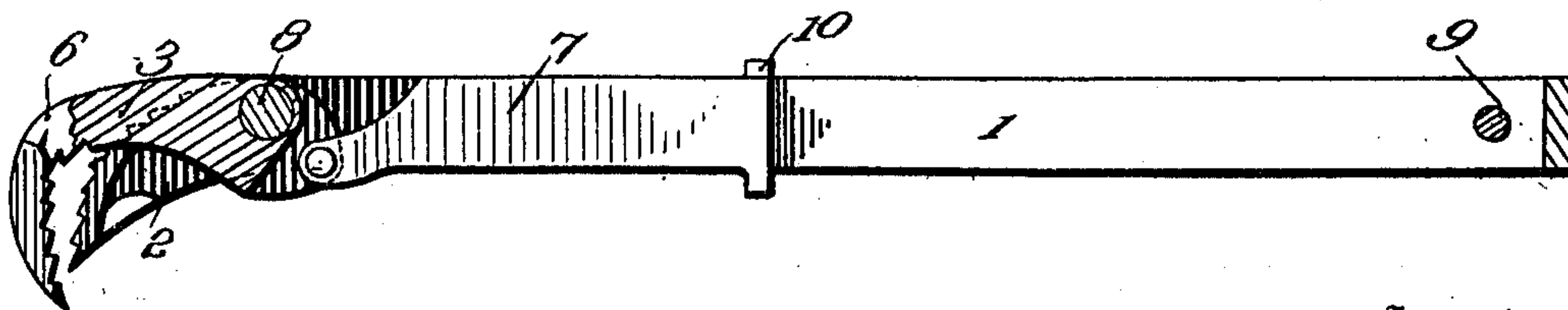


Fig. 4.



Witnesses
F. B. Patson
M. C. Mattingly

Inventor
W. F. Hughes.

By Greley & McIntire

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM F. HUGHES, OF MURPHYSBORO, ILLINOIS.

WRENCH.

991,994.

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To all whom it may concern:

Be it known that I, WILLIAM F. HUGHES, a citizen of the United States, residing at Murphysboro, in the county of Jackson and State of Illinois, 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 certain new and useful improvements in wrenches of that type known as "pipe wrenches" and has for its object the production of a wrench having great strength, compact and simple in form, and economic of construction.

With these ends in view, my invention consists in the details of construction and arrangement hereinafter more fully set forth.

In order that those skilled in the art to which my invention appertains may know how to make and use my improved wrench and to fully appreciate its advantages, I will proceed to describe the same, referring by numerals to the accompanying drawing, in which—

Figure 1 is a side elevation with the jaws in closed position. Fig. 2 is a similar view with the jaws separated and embracing a section of pipe. Fig. 3 is a rear or back view of the wrench with the jaws in the relation shown in Fig. 1, and Fig. 4 is a longitudinal section on the line *a-b* of Fig. 3.

Similar reference numerals indicate like parts in the several figures of the drawing.

1 is the main body or handle of the wrench, which consists of a single piece of sheet steel, bent to form a jaw 2, provided with the usual serrations 3 and providing an opening 4, for the reception of the extension 5 of the vibratory jaw 6 and the stem or pitman 7, by means of which the vibratory jaw is operated as will be presently described.

The lower extremities of the handle or body 1 are returned toward one another, as clearly shown in Fig. 3, in order to provide the space for the reception of the stem or pitman, which at its upper end is pivotally connected with the lower extremity of the vibratory jaw 6, which latter is secured in operative position by a

transverse pin or axis 8, the extremities of which are expanded in any suitable manner to hold the two parallel portions of the handle in fixed relation with one another, which condition is supplemented by a rivet 9, adjacent to the lower extremities of the handle.

10 is a loop or sleeve to which the lower extremity of the stem or pitman 7 may be secured, or as shown, may constitute the lower extremity of said pitman or stem bent into form to constitute the loop or sleeve as an integral part of the stem or pitman.

From the construction shown and described, it will be seen that the main body or handle being composed of a single piece of sheet steel bent into parallelism and with the upper terminal of the serrated jaw integral with the two parts constituting the body or handle, renders said jaw exceedingly strong in proportion to the size and weight of the wrench, which is of course variable according to the purposes for which the wrench may be designed. The jaw portion of the body or handle and the second or vibratory jaw may obviously be hardened or tempered to suit the purposes for which the wrench is designed.

In the use of my improved wrench, it will be readily understood that when the two jaws have been properly adjusted to a pipe, nut or bolt by the movement of the loop or sleeve 10 upon the handle, the vibratory movement of the handle portion of the wrench will tend to increase the bite of the jaws within their embrace.

As shown and described, the preferred construction consists, exclusive of the three connecting transverse rivets and fulcrums, of but three pieces, viz—the body or handle portion, the vibratory jaw and the stem or pitman, by which the latter is operated, and consequently, while the wrench as a whole is very simple in construction and operation, it is exceedingly economic as to production.

Having described the construction and operation of my improved wrench, what I claim as new and desire to secure by Letters Patent is—

A wrench such as described consisting of one strip of metal bent upon itself and suitably spaced to form a handle, the free

ends bent outwardly to form a housing and
terminating in curved jaws; a vibrating
jaw pivoted within the housing and a pit-
man of substantially the same thickness and
5 depth as the opening formed in the handle,
so as to fit snugly in the same, the forward
end pivoted to the vibrating jaw, the other
end formed outwardly and around the en-

tire handle to provide a sliding ring integral
with the pitman. 10

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

WILLIAM F. HUGHES.

Witnesses:

Jos. E. WILL,

WALTER WOOTHEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
