

(Model.)

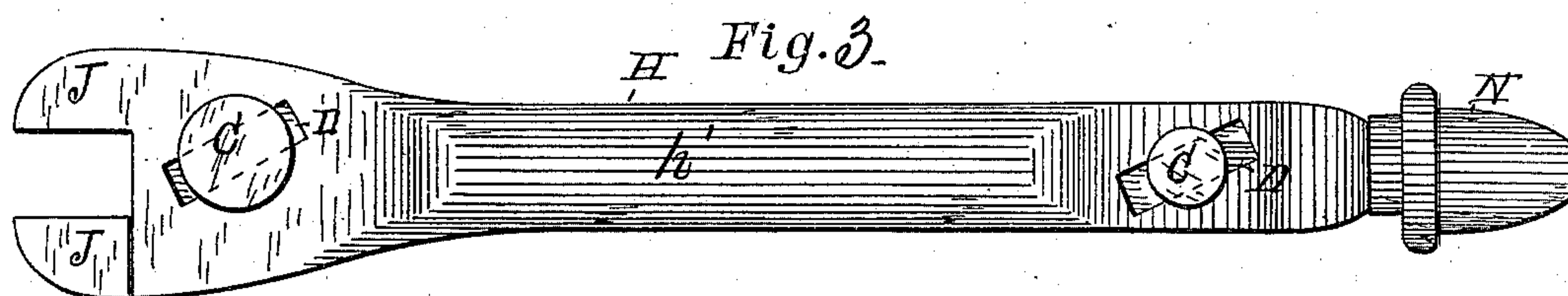
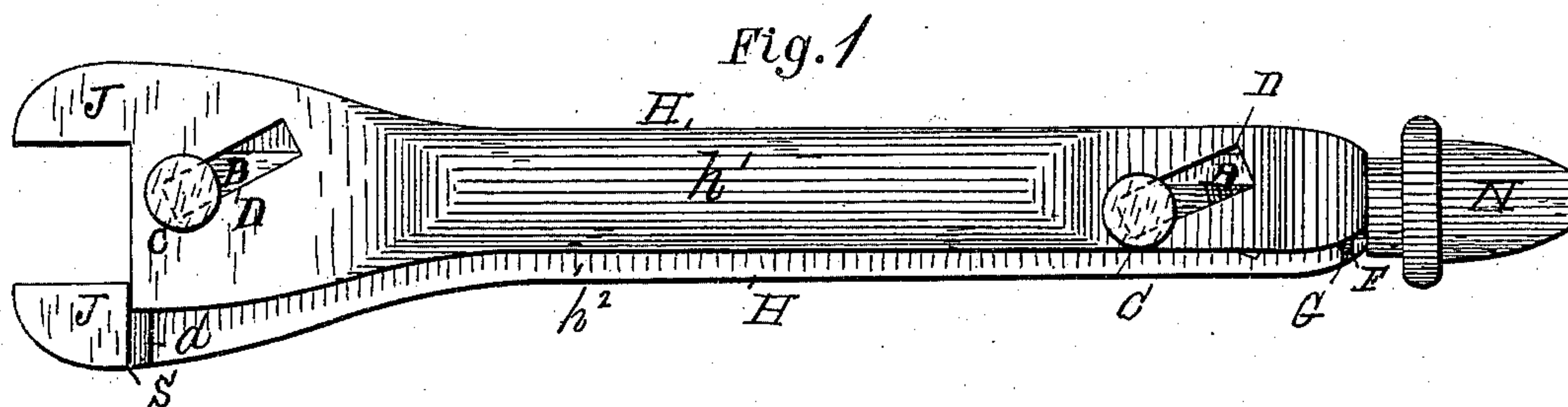
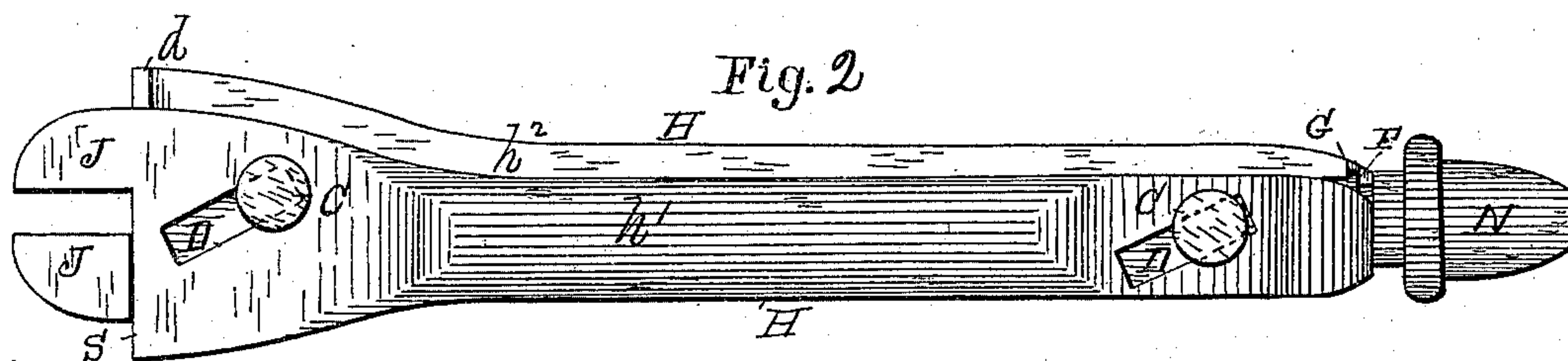
2 Sheets—Sheet 1.

J. GIBBONS

WRENCH.

No. 311,892.

Patented Feb. 10, 1885.



Witnesses:

Stanley H. Holden.

Charles S. Brintnall

Inventor:

John Gibbons

By W. E. Hagan, his atty

(Model.)

2 Sheets—Sheet 2.

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Fig. 4

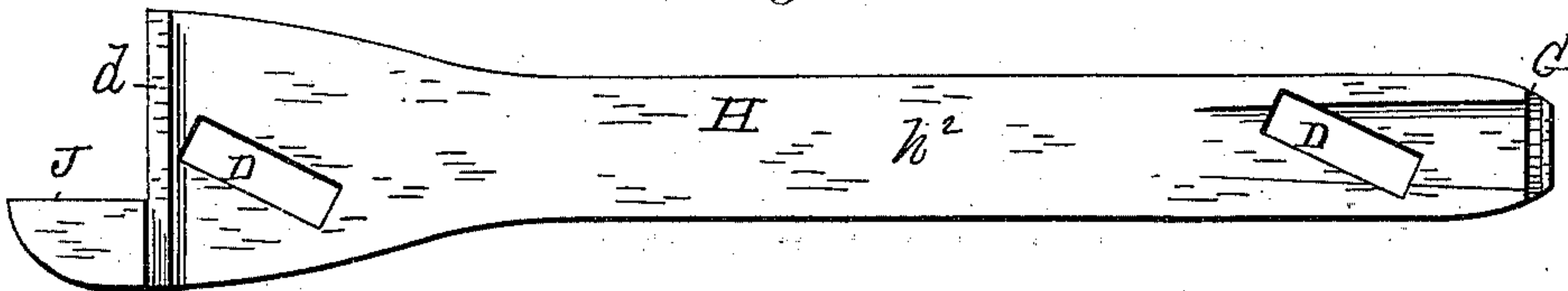


Fig. 6



Fig. 5

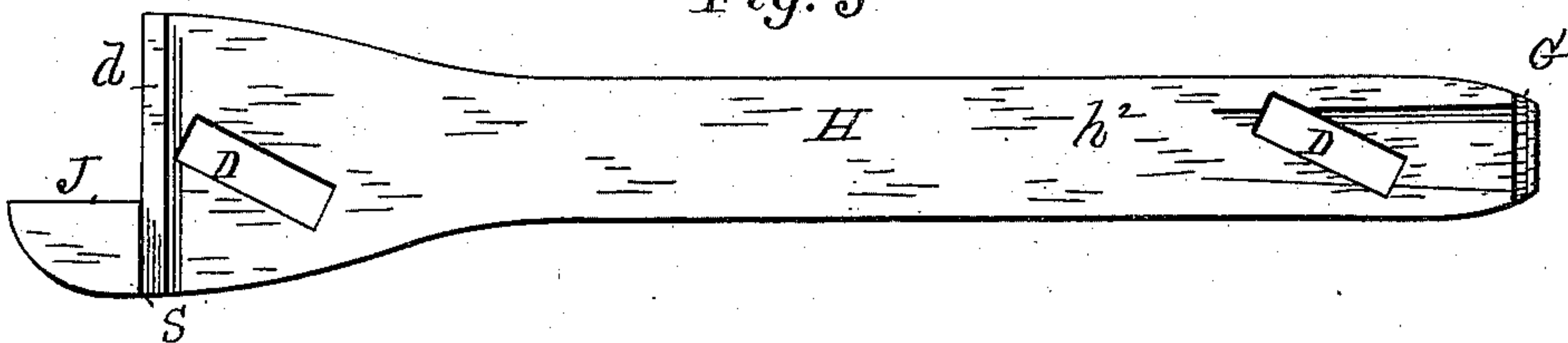


Fig. 7

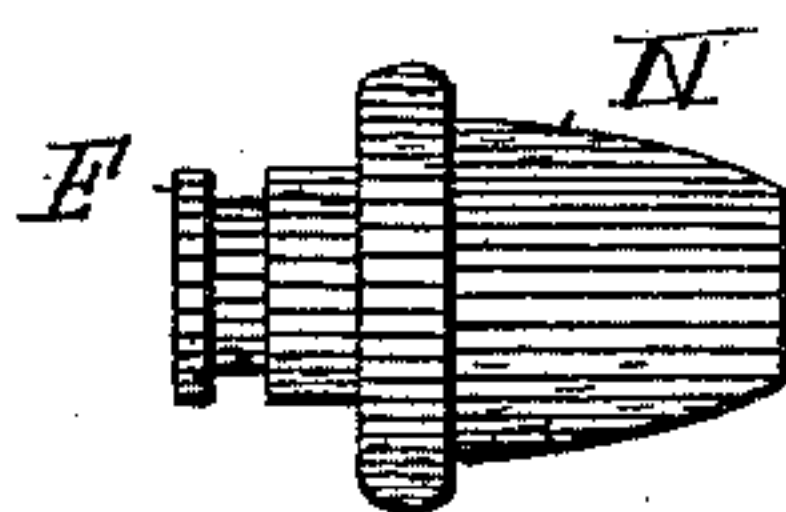
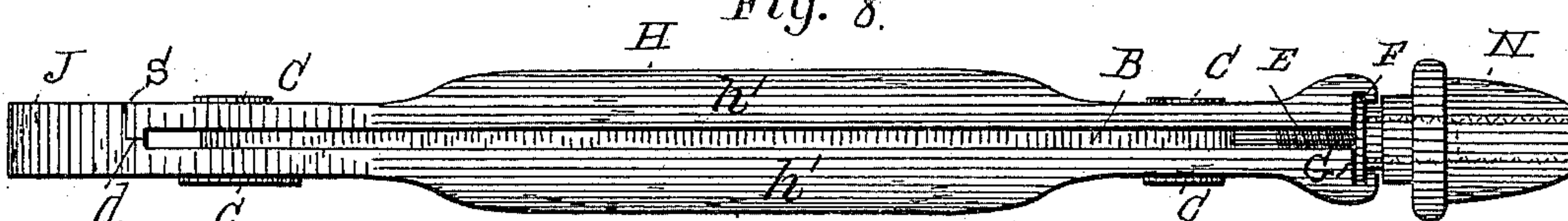


Fig. 8



Witnesses:

Inventor:

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# UNITED STATES PATENT OFFICE.

JOHN GIBBONS, OF WEST TROY, NEW YORK, ASSIGNOR TO THE MENEELY  
HARDWARE COMPANY, OF SAME PLACE.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 311,892, dated February 10, 1885.

Application filed March 29, 1884. (Model.)

*To all whom it may concern:*

Be it known that I, JOHN GIBBONS, of the village of West Troy, county of Albany, State of New York, have invented a new and useful  
5 Improvement in Hand-Wrenches, of which the following is a specification.

My invention relates to certain improvements in hand-wrenches, which improvements have for their object to better adapt this class  
10 of devices for use where there is but little room for their insertion and adjustment, and to so construct them that their jaws will open and close on a line parallel to the handle to which power is applied to operate them.

15 Accompanying this specification and forming a part of it there are two plates of drawings containing eight figures illustrating my invention, with the same designation of parts by letter-reference used in all of them.

20 Of these illustrations, Figure 1 shows my improved wrench with the jaws opened wide. Fig. 2 illustrates it with the grip-area of the jaws reduced, both Figs. 1 and 2 representing the same side of the device as turned toward  
25 the sight; and Fig. 3 shows the side of the wrench that is opposite to that shown at Figs. 1 and 2. Fig. 4 shows one of the two bars which exteriorly form the handle, and on the end of each of which are also formed one of the  
30 jaws of the wrench; and Fig. 5 shows the other one of the two outer bars turned over and down, with its inner face turned toward the sight. Fig. 6 shows the center bar as separated from the other parts. Fig. 7 represents the nut by  
35 which the other two exterior bars are operated to open and close the jaws formed at their ends. Fig. 8 represents a side view of the wrench, with the parts connected.

40 The several parts of the wrench are designated by letter-reference, and their function is described as follows: The wrench is formed of two exterior bars, H H, and an interior bar, B. The exterior bars, H, are rounded outwardly on their central portions to fit them  
45 for grasping, as indicated at  $h'$ , and are constructed on their inner surfaces, where in contact with the bar B, with the flat surfaces  $h^2$ . At one of the adjacent ends of each bar H there is formed the jaw J, at which end the  
50 bar is made thicker than the body part, and made to have the abrupt shoulder S on the

inner face of the thicker part, so that the thinner parts of these bars can lap past one another, with the abrupt shoulders of the thicker parts in sliding contact as the jaws move toward or  
55 from each other to open or close. The central bar, B, is placed between the bars H H, and it is constructed so that it can be moved longitudinally back and forth between said bars H by means of the nut N, which is threaded  
60 onto its end E, said nut being formed with an encircling flange, F, which, when the nut is turned, moves in the grooves G, which are interiorly and oppositely made in one end of each  
65 of the bars H.

On the bar B, upon its flat sides, near to its ends, are constructed the pins P, of which there are two upon each side of the bar, and in each of the bars H, where adjacent to so  
70 as to receive said pins, are constructed the slots D D, of which there are two in each of said bars H. These slots are arranged to be parallel to each other, and to be obliquely placed with reference to the sides of the bars  
75 in which they are formed, and the two slots in each bar are arranged to be obliquely opposite to those of the other bar. These pins are rigidly secured to the bar B, and are each made with a cap, C, that subtends or overlaps  
80 the edge of the slot in which the pin on which the said cap is placed moves. The ends of each of the bars H H, near the jaws and inside of the abrupt shoulders S, are made to have the raised slideways  $d d$ , on which said  
85 bars H bear when being moved outwardly and inwardly at their jaw ends.

Thus made and connected the wrench is operated in the following manner: The nut N being turned on its threaded connection with the center bar, B, at E, its rim or flange F,  
90 being within the groove G of the bars H, moves the center bar back or forth as the nut is turned in opposite directions. When the center bar is thus moved, its pins P, within the slots D of the bars H, engage with the sides of said  
95 slots to move outwardly or inwardly the said bars, so as to open or close the jaws J J.

A wrench thus made can be used and its jaws inserted and adjusted to work where there is but little room, and its jaws will open and  
100 close on a line parallel to the handle by which it is operated.

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

5 In a wrench, the combination of the bars H, made with the jaws J, slots D, and grooves G, the bar B, made with the pins P and caps C, and the nut N, threaded to said bar B, and constructed with the rim or flange F, as shown and described.

Signed at Troy, New York, this 14th day of 10  
March, 1884, and in the presence of two witnesses whose names are hereto written.

JOHN GIBBONS.

Witnesses:

STANLEY M. HOLDEN,  
CHARLES S. BRINTNALL.