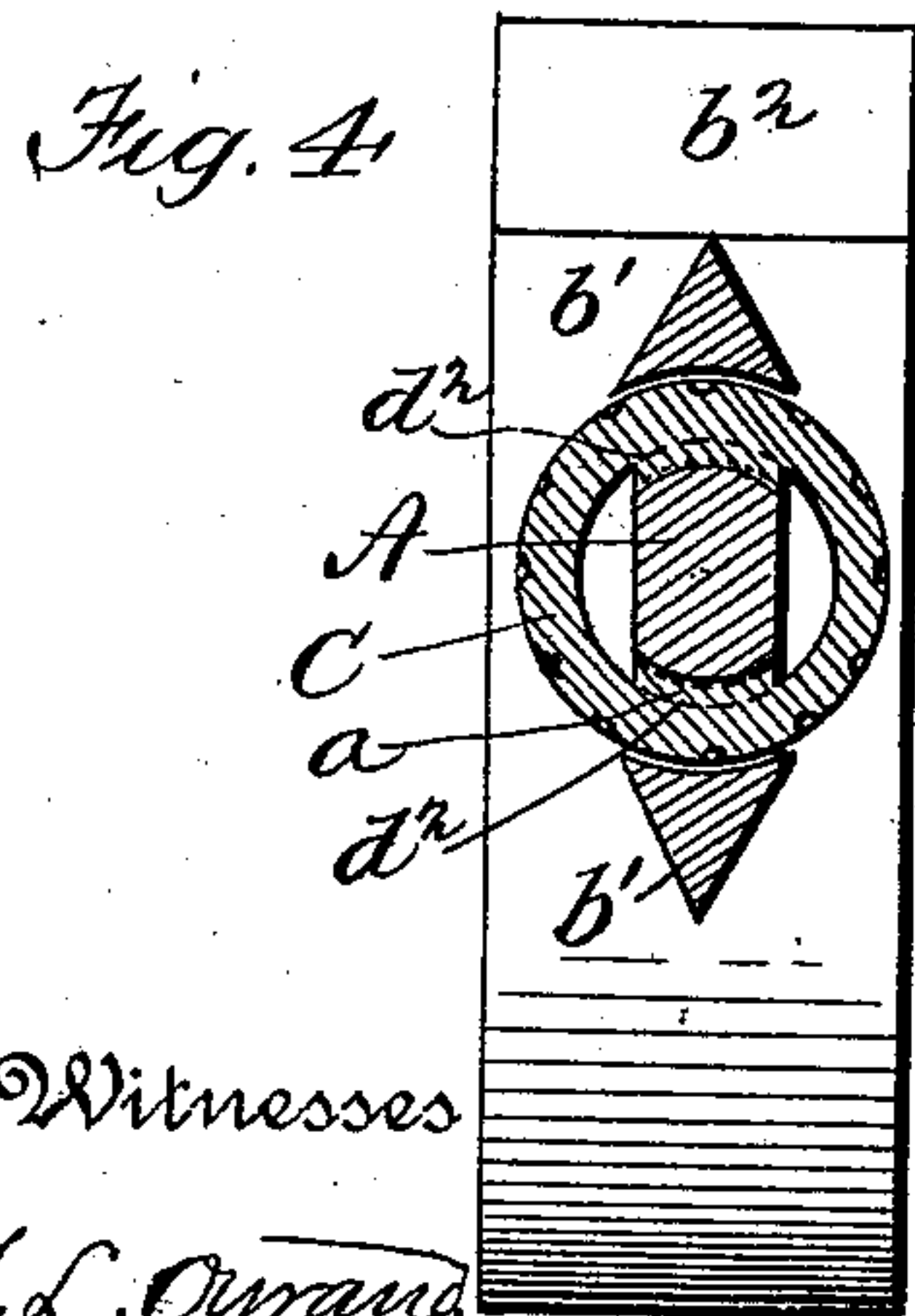
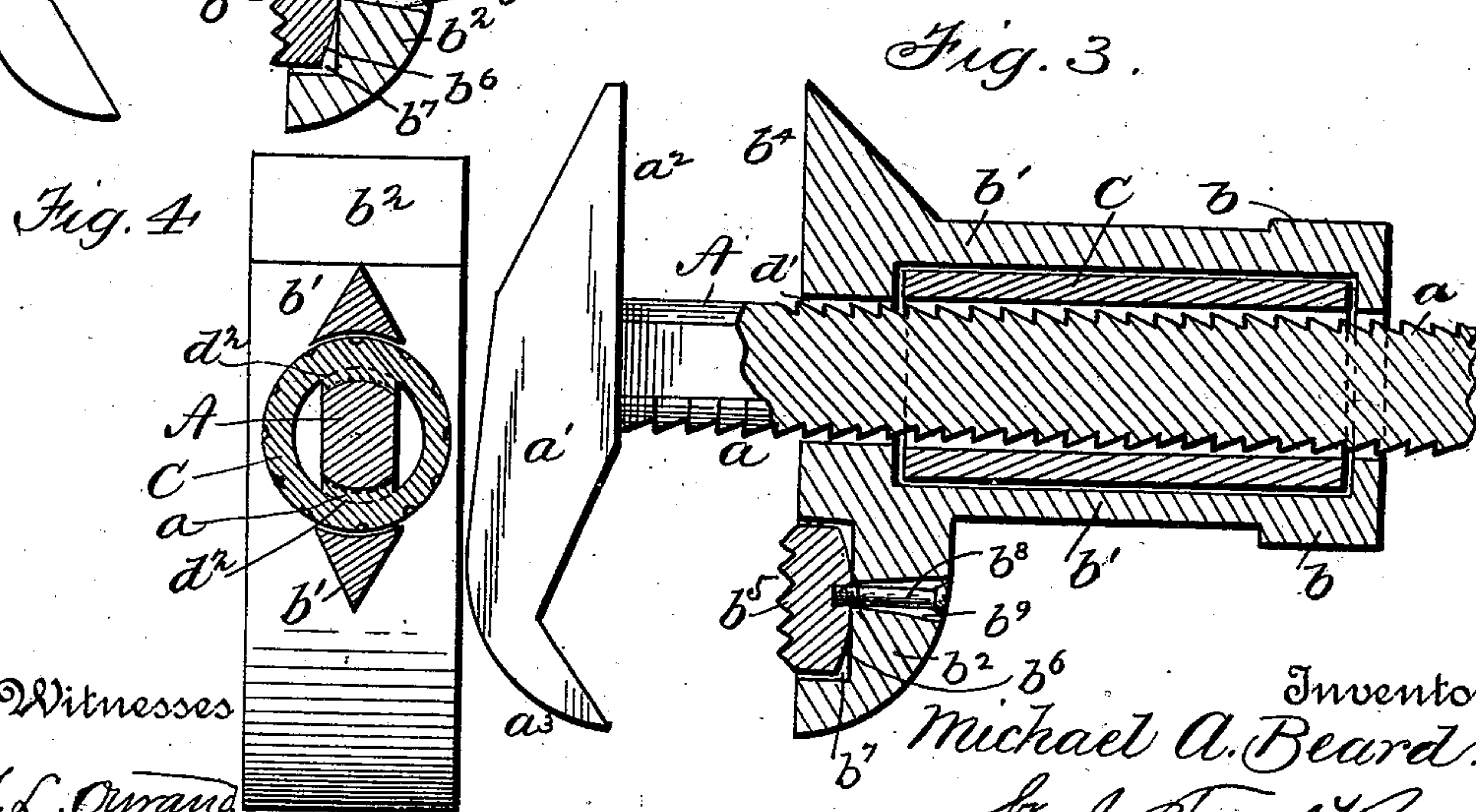
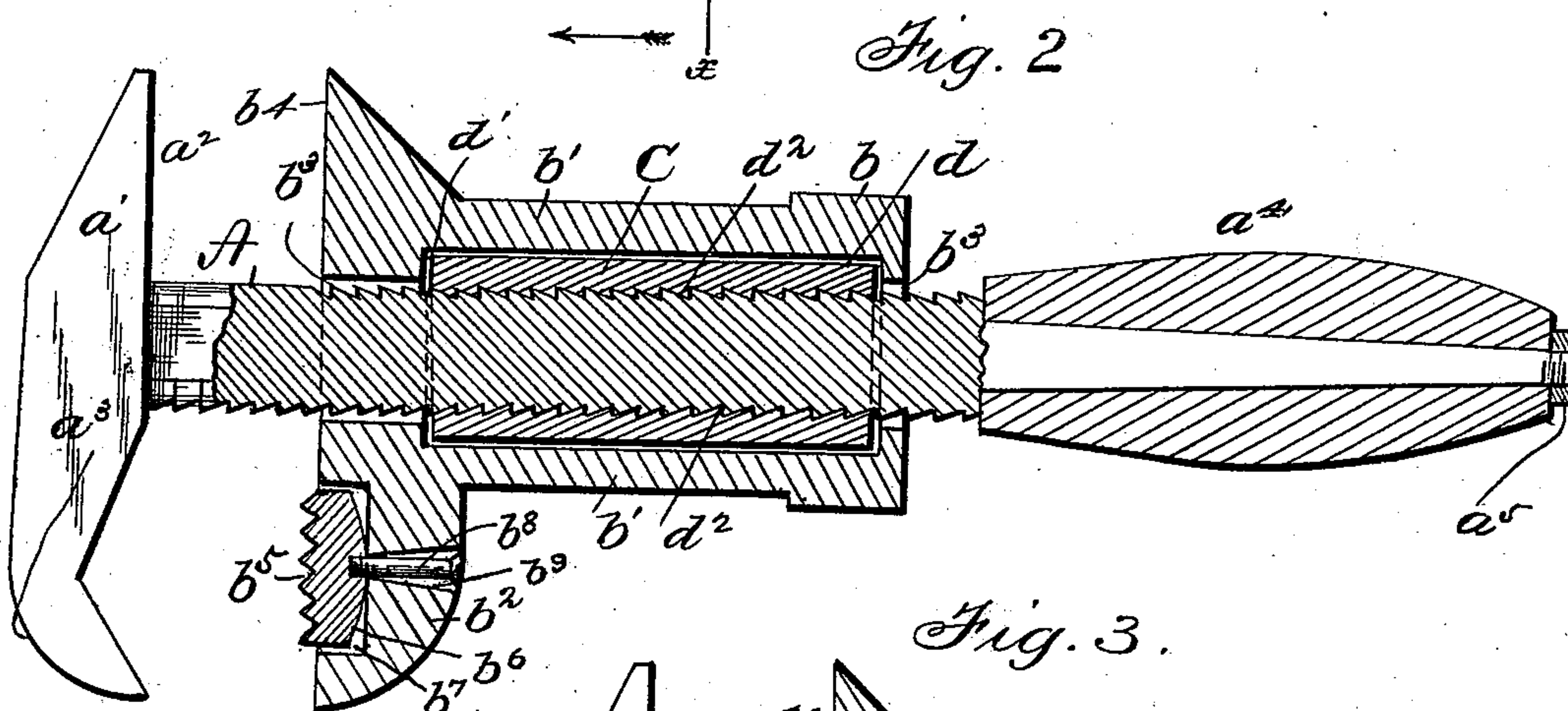
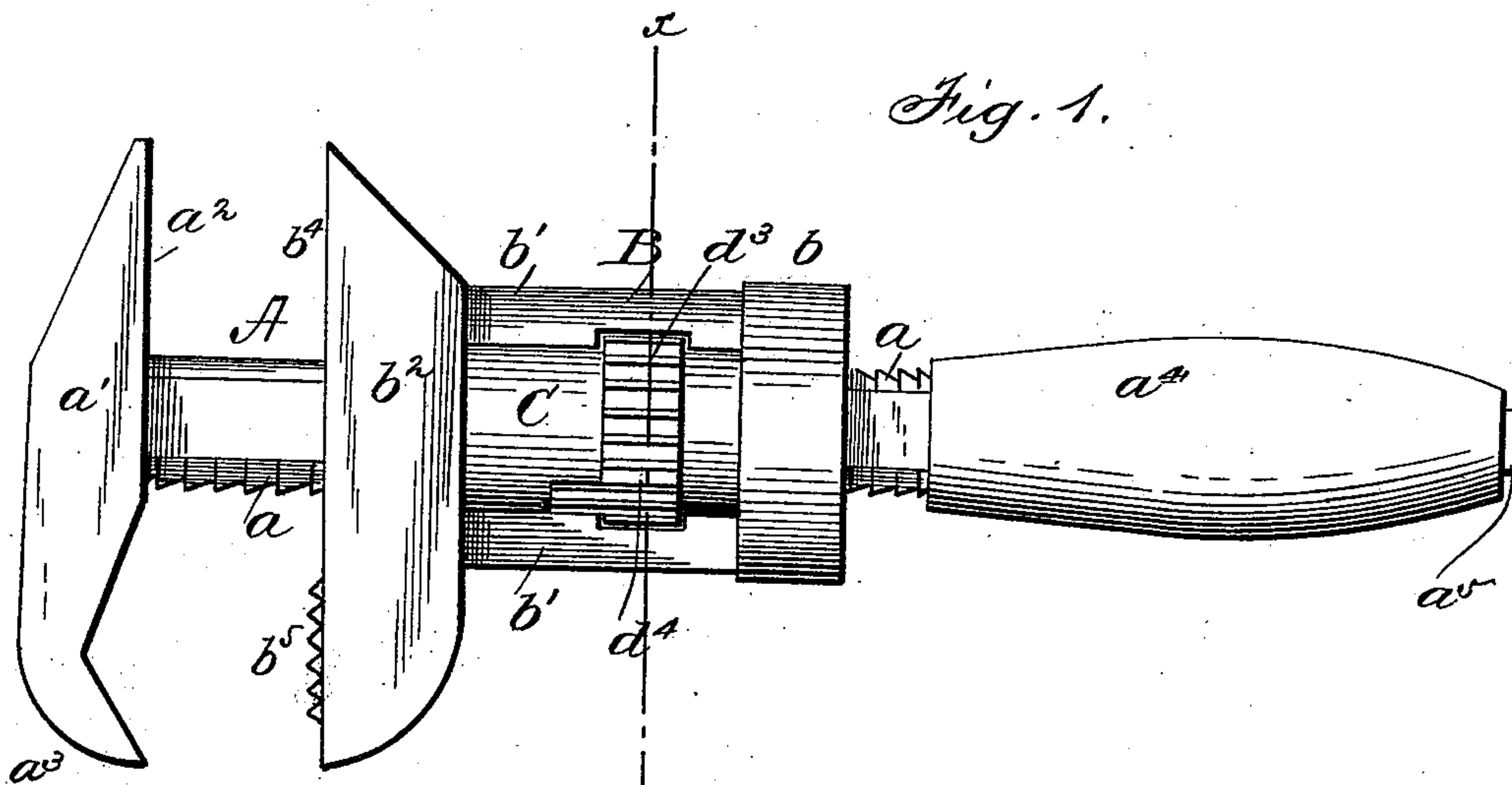


(No Model.)

M. A. BEARD.
WRENCH.

No. 550,092.

Patented Nov. 19, 1895.



Witnesses

J. L. O'Rand
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Inventor

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by J. Fred. Reilly,
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UNITED STATES PATENT OFFICE.

MICHAEL ALEXANDER BEARD, OF PINE BLUFF, ARKANSAS, ASSIGNOR OF
ONE-HALF TO ISAAC JACOB VICK, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 550,092, dated November 19, 1895.

Application filed August 12, 1895. Serial No. 559,043. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL ALEXANDER BEARD, a citizen of the United States, residing at Pine Bluff, in the county of Jefferson and State of Arkansas, 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention contemplates certain new and useful improvements in wrenches.

The object of the invention is to produce a new and improved combined nut and pipe wrench of the sliding-jaw type which shall be simple in construction, efficient in operation, and which may be readily and quickly adjusted to any desired position.

The invention comprises the novel features of construction and the detailed combination and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation. Fig. 2 is a longitudinal sectional view showing the sleeve in engagement with the shank. Fig. 3 is a similar view showing the parts disengaged. Fig. 4 is a cross-sectional view on the line $x x$, Fig. 1.

Referring to the drawings, A designates a shank, which is of approximately elliptical form in cross-section and provided with teeth a on its edges. At the upper end of this shank is formed a rigid jaw or head a' , having a flat portion a^2 , adapted to engage a nut, and a curved portion a^3 , which is adapted to engage a pipe or other similar article. The lower end of shank A is passed through a handle a^4 , which latter is secured thereon by means of a suitable nut a^5 working upon a reduced threaded portion of said shank.

B is a frame consisting of a lower collar b and two braces or uprights b' , to the upper ends of which the lower sliding jaw b^2 of the wrench is secured; or it may be formed integral therewith. The jaw b^2 and collar b are each provided with suitable holes or openings

b^3 for the reception of shank A, said holes corresponding in shape to said shank. The jaw b^2 is provided with a flat portion b^4 , corresponding to the portion a^2 of head or jaw a' . A toothed block b^5 , having a curved base b^6 , is adapted to rock in a recess b^7 of the jaw b^2 , the same being held therein by a screw b^8 , passed through a conical hole or opening b^9 , leading from the bottom of said recess. The object of curving the bottom of block b^5 is to enable the same to have a pivotal or rocking movement, whereby the toothed portion of said block will more readily engage and firmly hold the pipe or other article. In order to avoid interference of the securing-screw in this movement, the hole b^9 is made conical, so as to allow of the necessary play or movement of said screw with said block.

C is a cylindrical sleeve carried by frame B and adapted to surround the shank A. This sleeve rests at its lower end in a recessed portion d of the collar b and at its upper end in a similar recessed portion d' of jaw b^2 , and is free to turn in said recessed portions, the uprights b' serving as additional guides therefor. On the interior surface of sleeve C are formed two toothed segments d^2 , which are opposite each other and adapted to engage the teeth of shank A when it is desired to hold the lower jaw in rigid relation to the upper jaw or head a' . On the exterior of sleeve C are formed grooves or corrugations d^3 , whereby the operator may firmly grasp the sleeve when it is desired to turn the same, such movement being limited by stops d^4 , which are adapted to engage the uprights b' . When it is desired to adjust the wrench, the sleeve C is turned so that the toothed segments d^2 are out of engagement with the teeth a , whereupon the frame B may be adjusted to suit the operator. When the proper adjustment has been secured, it is only necessary to turn the sleeve so that the toothed segments thereof will again engage the teeth a in order to hold the frame B rigid in the required position.

From what has been said it will be seen that I have produced a wrench that is simple in construction and efficient in operation and possessing advantages which will be recognized by those skilled in the art to which it appertains.

I claim as my invention—

1. The herein-described wrench, comprising
a toothed shank, a rigid jaw formed there-
with, a sliding jaw moving in said shank and
5 having a recess therein, a toothed block hav-
ing a curved base and adapted to rock in said
recess, and having a downwardly extended
securing member and a sleeve connected to
said sliding jaw and provided with toothed
10 segments on its interior surface adapted to
be thrown into and out of engagement with
the teeth of said shank, substantially as set
forth.

2. The herein-described wrench, comprising
15 a toothed shank, a rigid jaw formed there-
with, a sliding jaw moving in said shank and
having a recess therein, a toothed block hav-
ing a curved base and adapted to rock in said
recess, a securing screw therefor projected
20 through a conical hole or opening leading
from the bottom of said recess, and a sleeve
connected to said sliding jaw and provided
with toothed segments on its interior surface
adapted to be thrown into and out of engage-
25 ment with the teeth of said shank, substan-
tially as set forth.

3. The herein-described wrench, comprising
a toothed shank, a rigid jaw formed there-
with, a sliding frame adapted to move on said
shank, said frame comprising a lower collar, 30
an upper jaw or member provided with a re-
cess having a hole or opening communicating
therewith, and uprights or braces connecting
said collar and said jaw or member, a toothed
block resting in said recess and adapted to 35
rock therein, a locking member secured to
said block and extended through said hole or
opening, a sleeve revolvably mounted between
said collar and said jaw or member and pro-
vided with toothed segments on its interior 40
surface adapted to be thrown into and out of
engagement with the teeth of said shank by
the turning of said sleeve and stops for lim-
iting the movement of said sleeve, substan-
tially as set forth. 45

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

MICHAEL ALEXANDER BEARD.

Witnesses:

J. H. PILKINGTON,
I. REINBERGER.