

(No Model.)

2 Sheets—Sheet 1.

C. H. SAMPSON & P. J. WRIGHT.
MACHINE FOR DRESSING VALVES.

No. 435,904.

Patented Sept. 2, 1890.

Fig. 1.

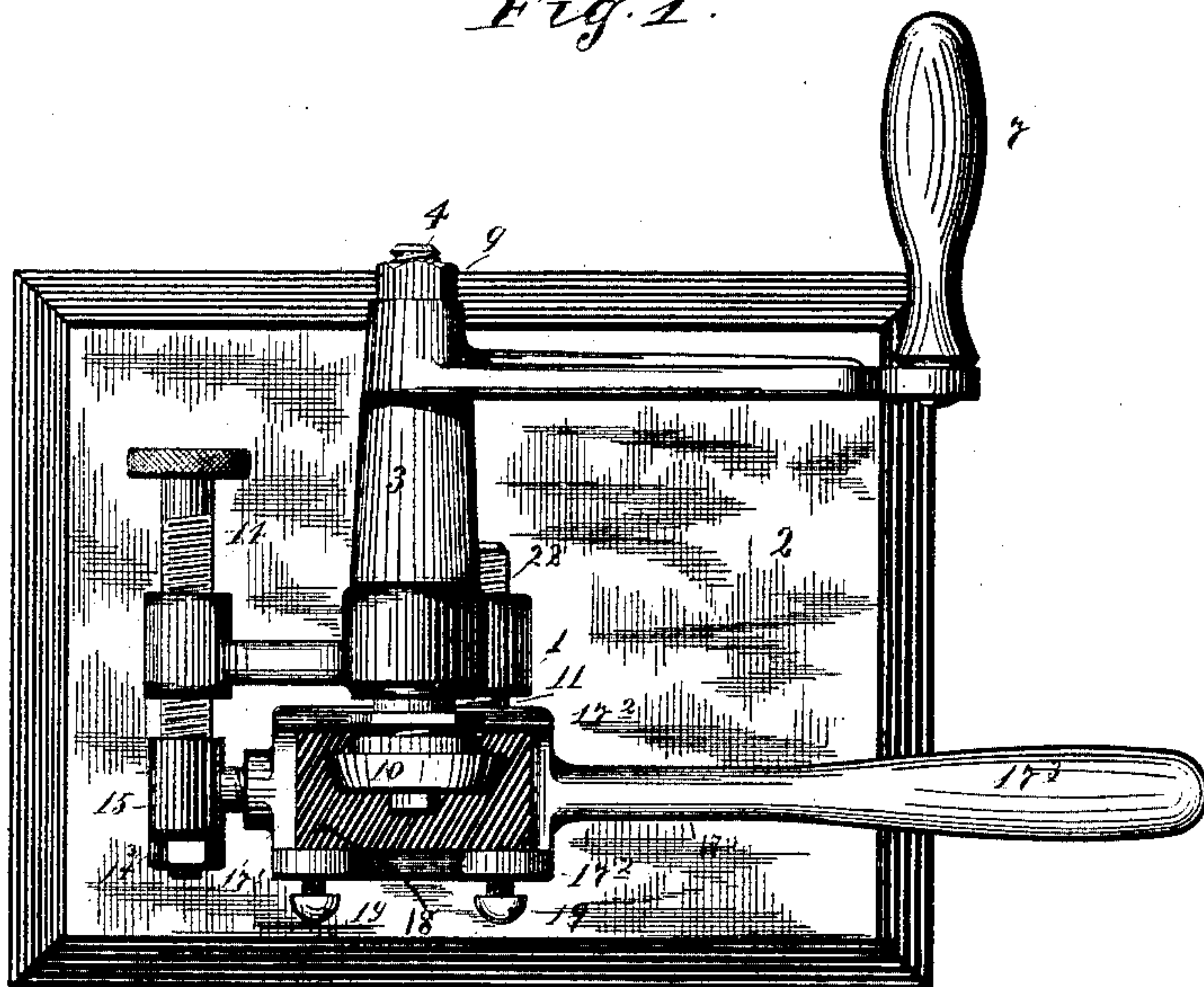
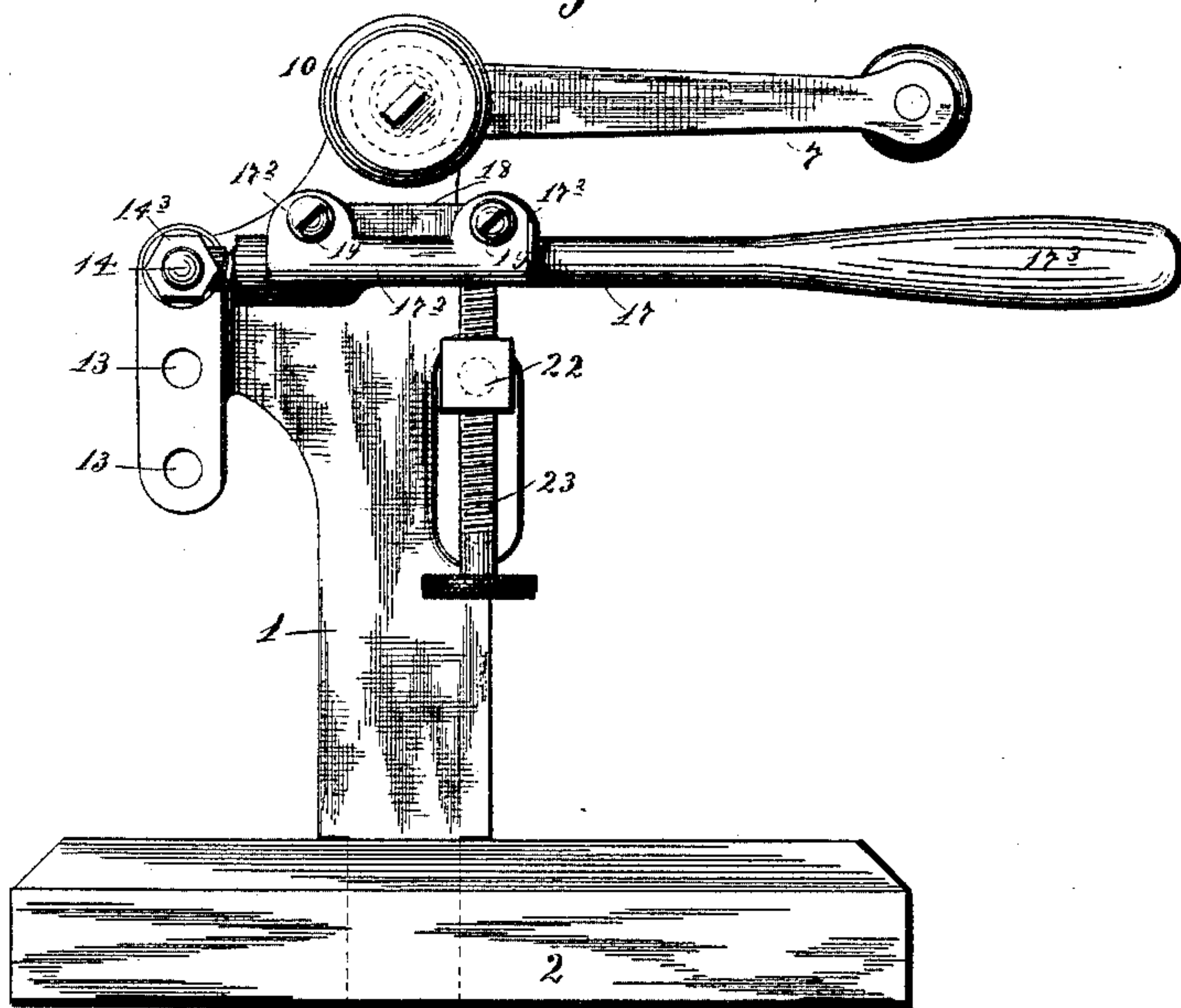


Fig. 2.



Witnesses.
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Fig. 3.

Fig. 4.

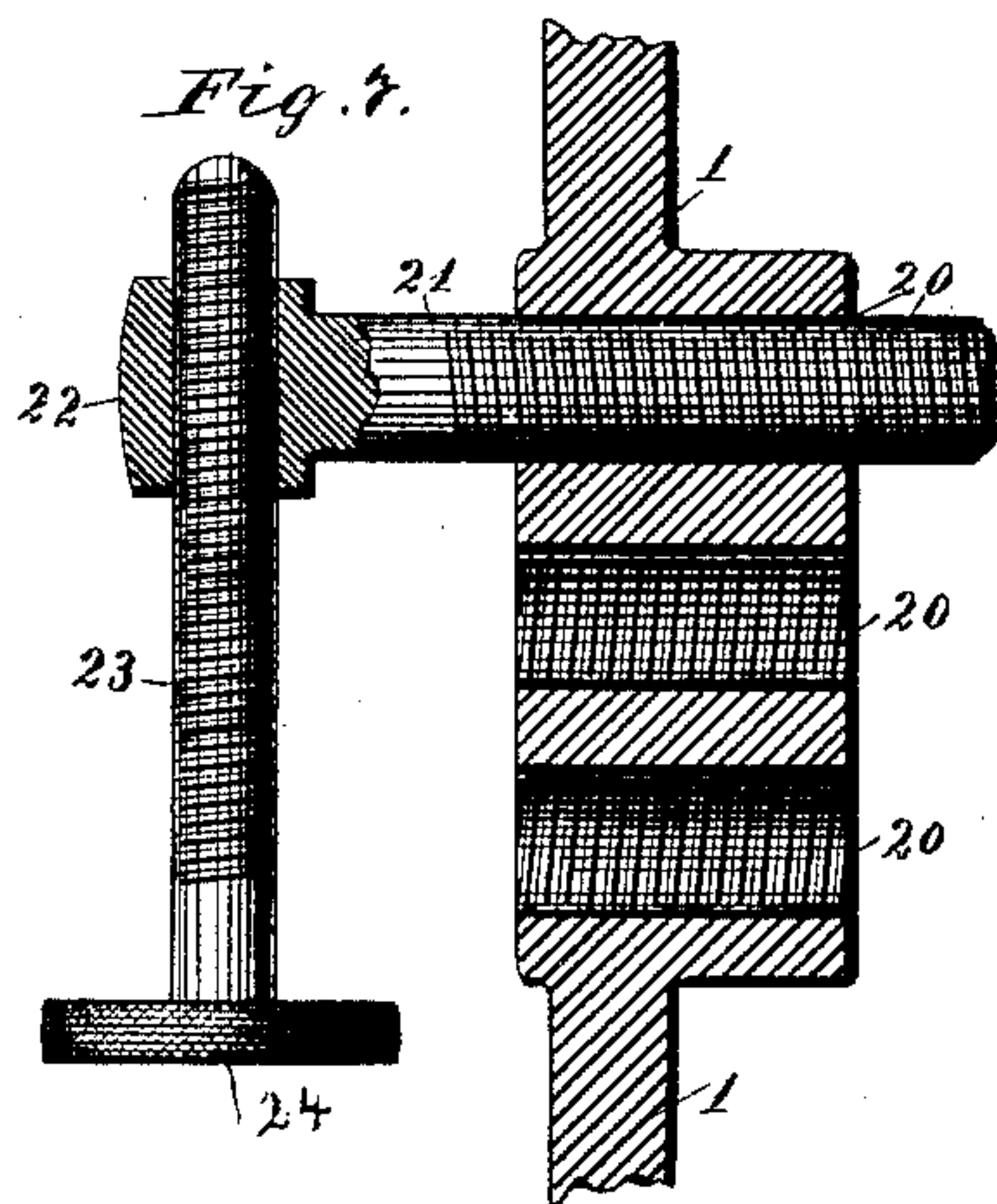
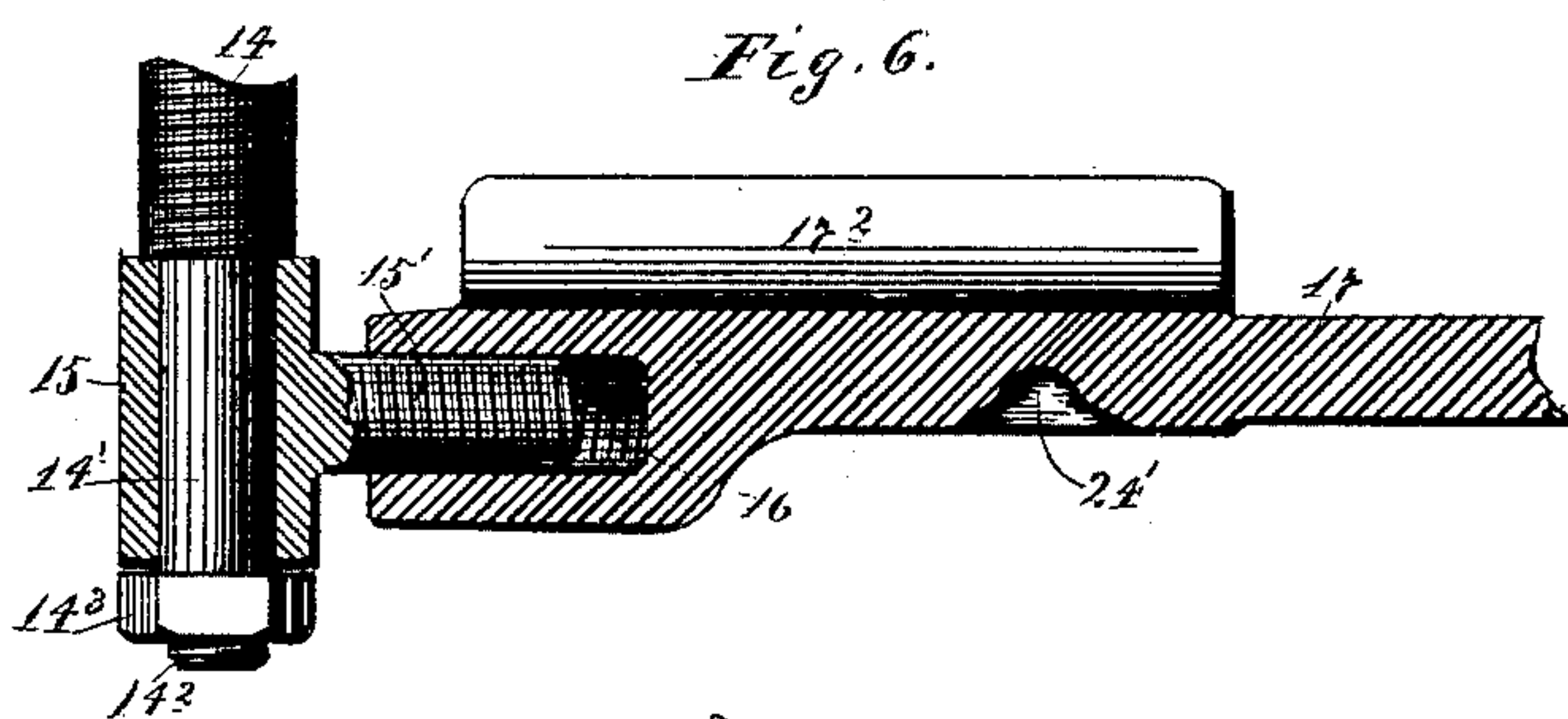
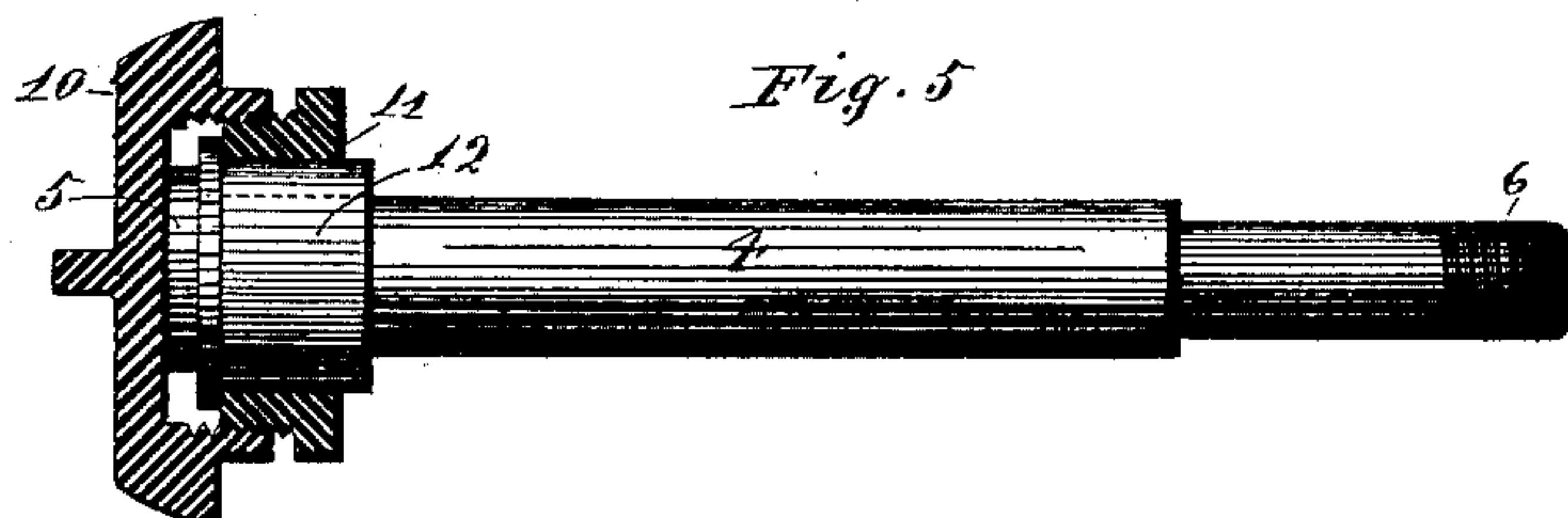
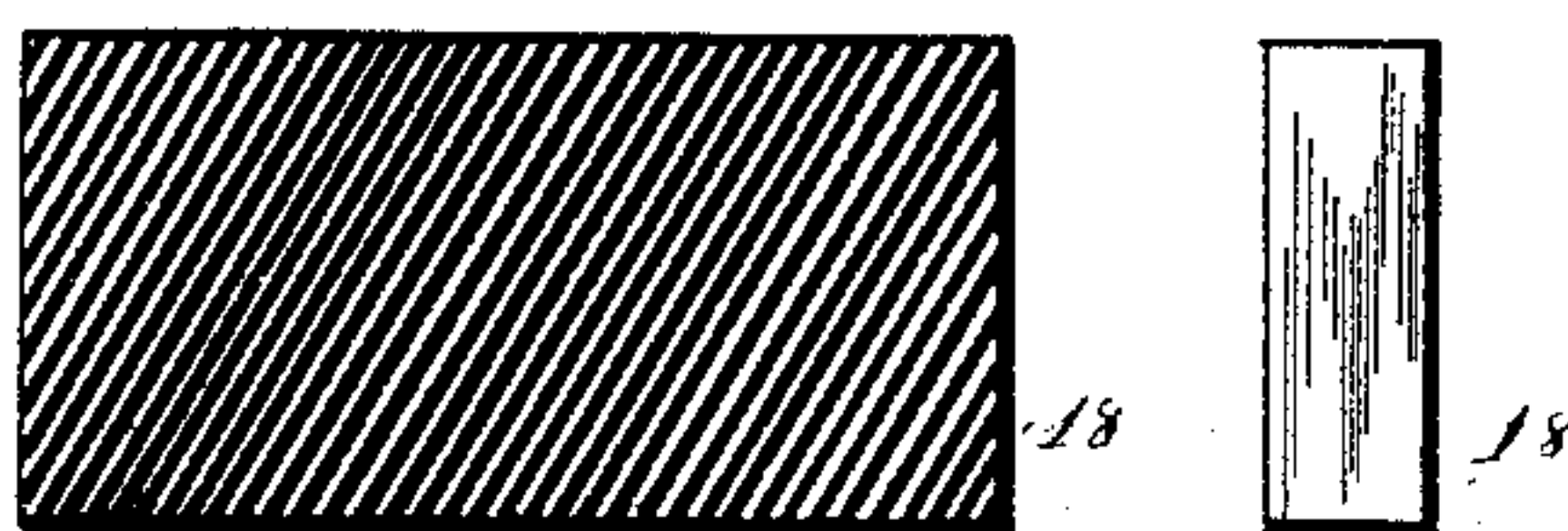
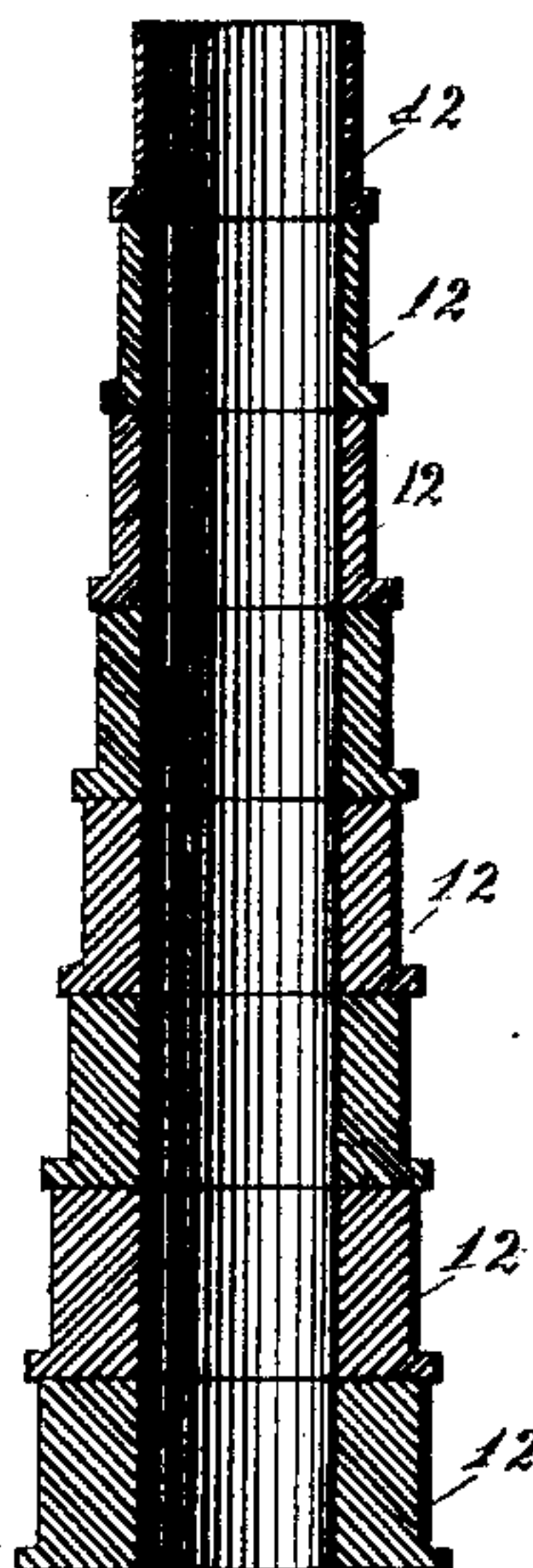


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES H. SAMPSON AND PLINY J. WRIGHT, OF MINNEAPOLIS, MINNE-
SOTA; SAID SAMPSON ASSIGNOR TO CLARA E. SAMPSON, OF SAME PLACE.

MACHINE FOR DRESSING VALVES.

SPECIFICATION forming part of Letters Patent No. 435,904, dated September 2, 1890.

Application filed January 23, 1890. Serial No. 337,907. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. SAMPSON and PLINY J. WRIGHT, citizens of the United States, residing at Minneapolis, in the county
5 of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Machines for Dressing Valves; and we do hereby declare the following to be a full, clear, and exact description of the invention, such
10 as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to a machine for dressing or surfacing globe-valves. As is well known, the face of a globe-valve, and also its
15 seat, are worn by constant use and cut by the action of matter passing through the valve-chamber, and therefore become untrue and leak.

The object of our invention is to provide
20 a machine for resurfacing valves, so that they will accurately fit their seats; and with this end in view we provide a vertical standard having a projecting tubular bearing. Within this bearing is a shaft or spindle having a
25 head at its forward end and a reduced threaded portion upon its other end adapted to receive a crank or other suitable actuating device, which is secured thereon by a nut.

Globe-valves are usually provided with a
30 conical face and with a tubular internally-threaded socket for receiving the glands or nuts for securing them on the valve-stems. When a valve is worn and needs resurfacing, it is removed from its seat and, together with
35 its securing-gland, taken off from the stem. We then slip the gland over the shaft or spindle, place the valve on the end of the same, and secure it in position thereon by screwing the gland within the threaded socket
40 of the valve. As valves are of different sizes, it becomes necessary to provide means for holding the glands of different bore upon the same shaft or spindle, and in order to do this we provide a series of interchangeable
45 bushings, all of the same bore, but of different sizes, any one of which can be slipped on the shaft or spindle. In this manner we are enabled to secure any size of valve upon the same spindle. In each side of the stand-
50 ard are a series of threaded openings. A threaded bolt having a thumb-nut at one end

is adapted to be inserted in any one of the openings on one side, and when thus inserted can be adjusted back and forth at will. Loosely mounted on a smooth portion of this
55 bolt is a short tube or sleeve having a threaded extension. At its inner end the bolt is threaded to receive a nut for securing the short tube in position. This tube is in the form of a T-coupling, and its threaded extension is adapted
60 to be inserted in a correspondingly-threaded socket in the end of a lever having a broad surface to receive a file or other attrition-surface and a hand-grasp extension. Mounted
65 in one of the series of holes in the opposite side of the standard is a screw-bolt having a perforated head, and in the perforation of said head is another bolt with a conical end, which bears in a seat on the under surface
70 of the file-carrying lever.

In virtue of the construction set forth it will be seen that the file-holding lever has a movement in every necessary direction to present the file at the proper angle to the valve, and that it can be placed at different verti-
75 cal positions to accommodate the size of the valve.

In the accompanying drawings, in which like numerals are placed on like parts throughout the several views, Figure 1 is a plan view
80 of the machine. Fig. 2 is a side elevation. Fig. 3 is a plan view of the file, and Fig. 4 an end view thereof. Fig. 5 is a side elevation of the spindle, showing the valve and valve-gland in section on the end thereof. Fig. 6
85 is a partial longitudinal section of the file-holding lever, showing the manner in which it is connected with the T-coupling. Fig. 7 is a fragmentary section of the standard and adjusting-bolts. Fig. 8 is a vertical section
90 of a number of interchangeable bushings, each of which is of the same bore, but is of a size different from each of the others.

1 is a standard mounted in any desirable manner on a base or other suitable support 2.
95

3 is a laterally-projecting tubular bearing in which is removably seated a shaft or spindle 4, provided with a head 5 at one end and with a reduced screw-threaded portion 6 at the other, said reduced portion being adapted
100 to receive a crank 7, held in place by a nut 9.

10 is a globe-valve, of the usual pattern,

shown as secured on the end of the spindle by its nut or gland 11.

12 12 are a series of interchangeable bushings, each having the same bore, and that are adapted to fit the chuck-spindle, but differing in size one from the other. Any one of these bushings can be slipped on the spindle and against the head thereof. In this way we are enabled to secure any size of valve and securing-gland upon the same spindle.

13 13 are a series of threaded openings in line with each other at one side of standard 1, and 14 is a screw-bolt having a milled head, which can be inserted in any one of said openings. At its opposite end this bolt 14 is reduced in diameter and has a smooth portion 14' and a threaded portion 14².

15 is a short tube having a threaded extension 15', which enters a threaded socket 16 in a file-holding lever 17. The threaded extension of tube 15 is first inserted in the socket 16, and the tube is then slipped upon the smooth reduced portion 14' of the bolt, and is secured in place by a nut 14³. The file-holding lever 17 is formed with a broad bearing-surface 17', having side flanges 17², between which the file 18 is clamped by set-screws 19. This lever is extended to form a hand-grasp 17³.

20 20 are a series of threaded openings in standard 1 on the side opposite that in which openings 13 are located, and 21 is a screw-bolt having a head 22, with a threaded opening, in which a bolt 23, with a milled head 24, is inserted. This bolt can be inserted in any one of the openings 20, and is adjustable back and forth therein. Bolt 23 has a conical end, which fits in a corresponding concave seat 24' on the under side of lever 17.

The operation of the machine is evident, but will be briefly stated as follows: The valve to be resurfaced is removed from the fitting and a bushing of the desired diameter is placed within the valve-securing gland, and the gland is slipped on the spindle against the head 5 thereof. The valve is then placed against the head of the spindle and the gland is turned to cause its externally-threaded portion to enter the interiorly-threaded socket in the valve and force the valve against the head of the spindle. After this is accomplished the spindle is slipped within the tubular bearing 3 and the crank 7 is applied. Bolt 14 is then placed in the proper opening 13, and the tube 15, to which the file-carrying lever is attached, is applied thereto, and the socket on the under side of said lever is then placed over the conical end of bolt 23, bolt 21 having been placed in the proper opening 20.

It will be seen that the file-carrying device can be adjusted back and forth and can be set at various angles to the valve on the end of the spindle. By grasping the hand-extension of the said file-carrying device it can be turned to the desired angle and be made to force the file against the frusto-conical face of the valve. The crank is then turned and

the face of the valve will be revolved against the surface of the file.

While we have shown the invention as designed for resurfacing or dressing worn valves, it is obvious that it could be employed for smoothing or surfacing new valves.

A file is shown, and is the tool usually employed for dressing the surface of the valve; but it is obvious that a grinding or other suitable attrition-surface could be substituted therefor without departing from our invention.

Having thus described our invention, what we claim is—

1. The combination, with a revoluble spindle for holding a valve, of an attrition-surface, against which the valve is rotated, a pivoted lever for supporting said surface, and a screw for adjusting said lever, substantially as and for the purpose specified.

2. The combination, with a revoluble spindle for supporting a valve, of a flat attrition-surface, a pivoted lever having a seat for said surface, and means for adjusting the lever, substantially as and for the purpose specified.

3. The revoluble spindle adapted to hold a valve to be dressed, jointly with the interchangeable bushings, each of the same bore, but differing in size, substantially as and for the purpose specified.

4. The combination, with a standard having an extended tubular bearing, and a revoluble valve-holding spindle mounted in said bearing, of a screw-bolt, a sleeve mounted on said bolt, a lever secured to said sleeve, and an attrition-surface carried by said lever, substantially as and for the purpose specified.

5. A standard provided with a series of threaded openings, in combination with a bolt adapted to be inserted in any one of said openings, a sleeve mounted on said bolt and having a threaded extension, and a lever provided with an attrition-surface mounted on said extension, substantially as and for the purpose specified.

6. The standard provided with a series of threaded openings in each of its sides, in combination with a file-carrying device pivoted on a bolt inserted in one of said openings, a bolt with a perforated head inserted in one of the openings on the side opposite to the first-named bolt, and an adjusting-screw mounted in the said perforated head, substantially as and for the purpose specified.

7. The combination, with a revoluble spindle, of a pivoted lever having a flat surface provided with side lugs or flanges, a file mounted between said lugs or flanges, and means for supporting and adjusting said lever, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES H. SAMPSON.
PLINY J. WRIGHT.

Witnesses:

WM. H. BLODGETT,
A. H. OPSAHL.