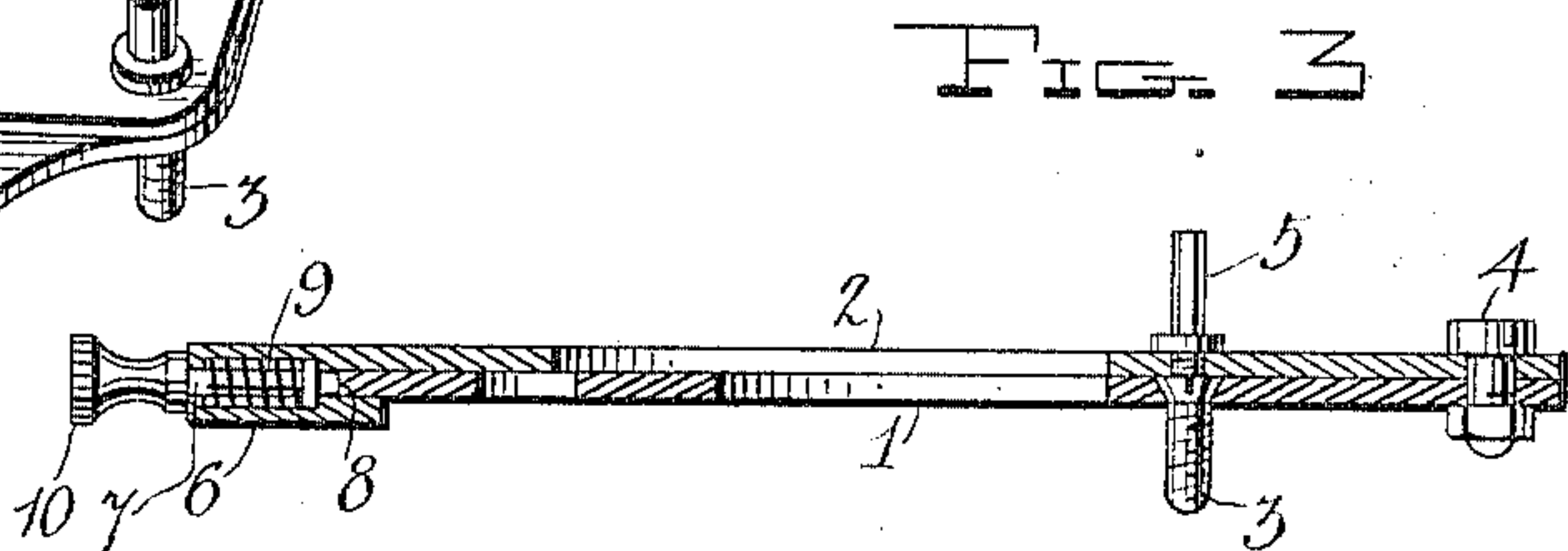
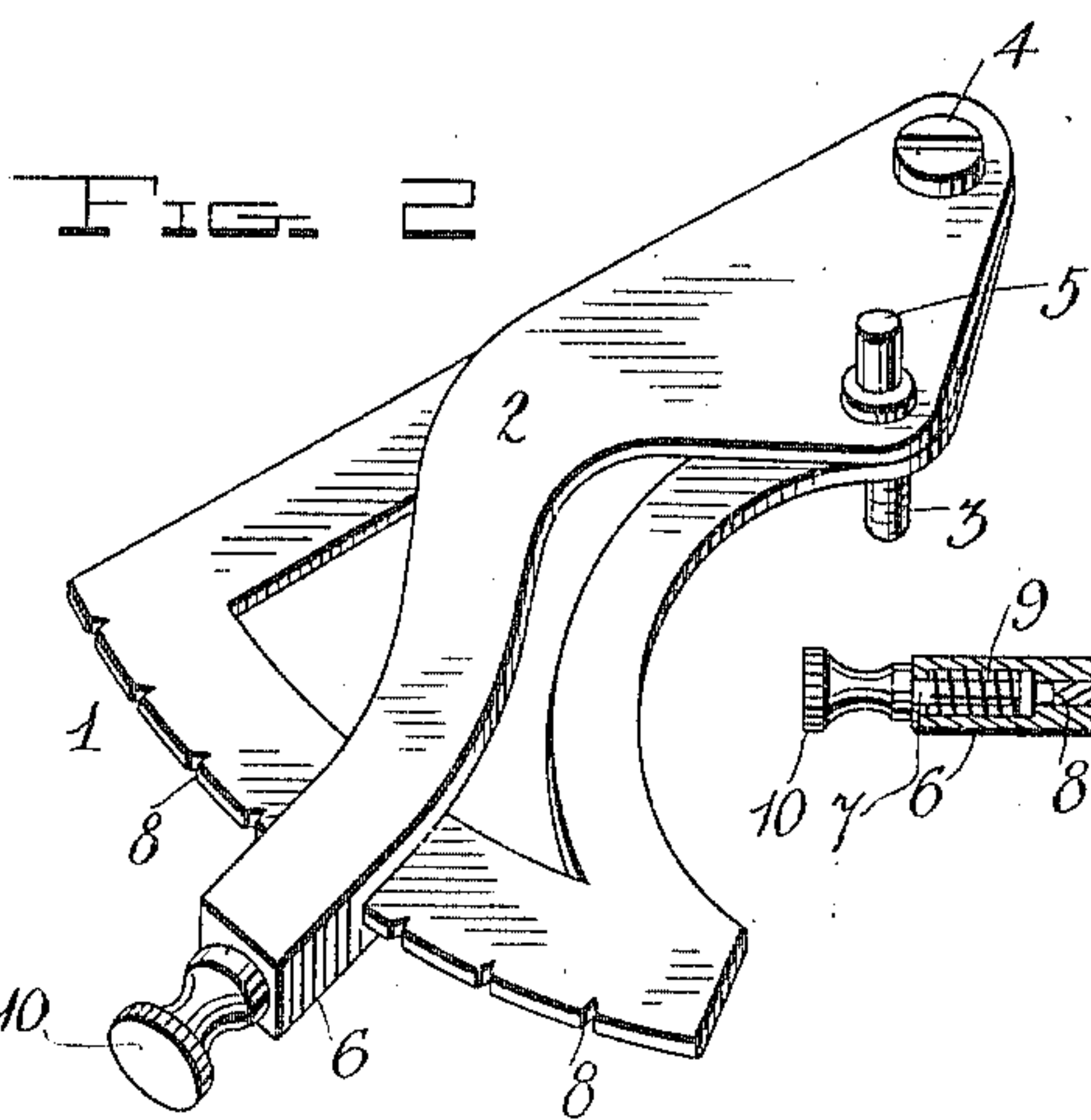
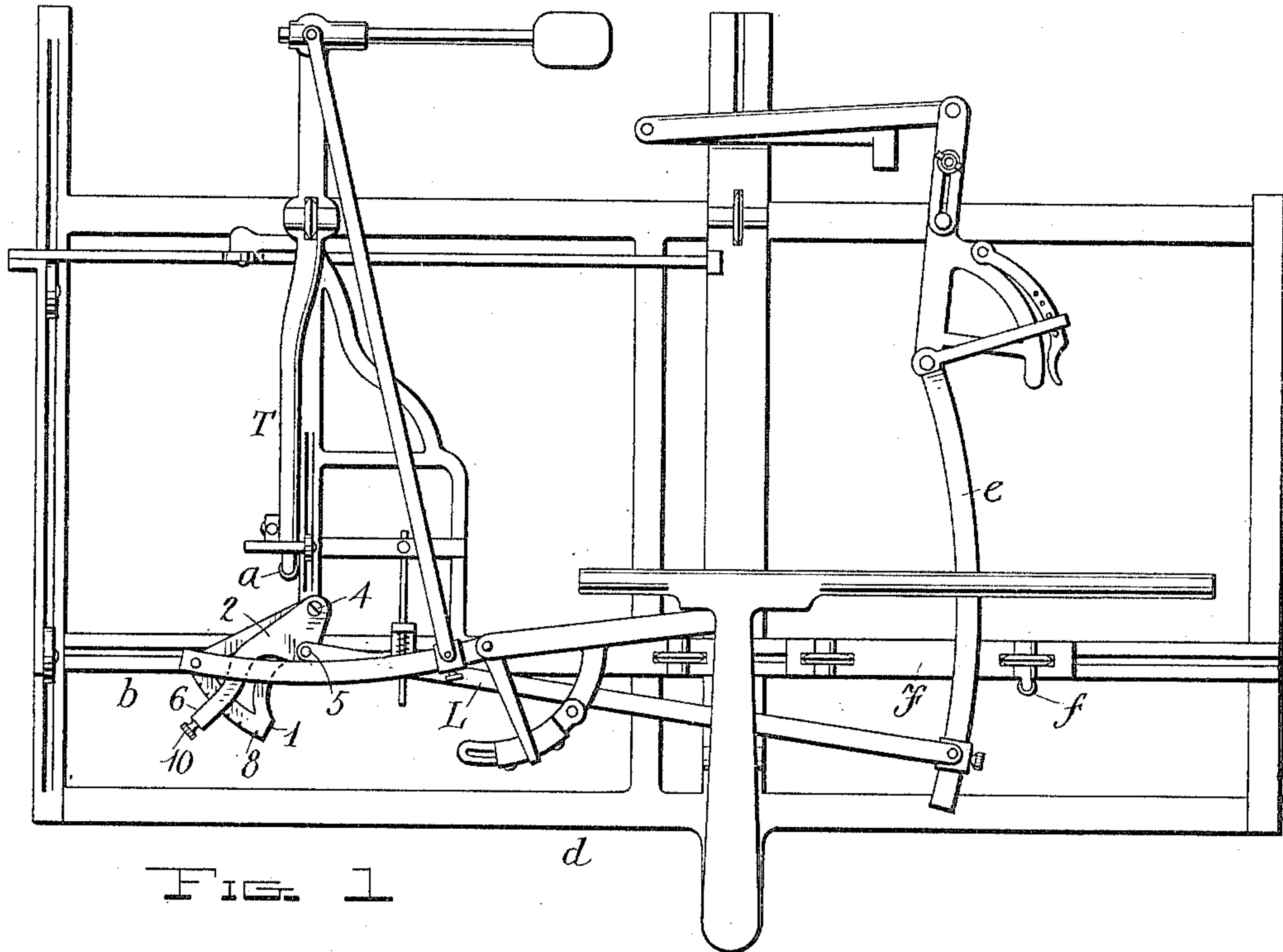


No. 821,513.

PATENTED MAY 22, 1906.

W. E. LEIGHTON.
ATTACHMENT FOR GRADING MACHINES.
APPLICATION FILED JULY 20, 1905.



Witnesses
C. H. Giesbauer

Inventor
Warren E. Leighton
by *A. B. Wilson & Co*
Attorneys

UNITED STATES PATENT OFFICE.

WARREN E. LEIGHTON, OF LEWISTON, MAINE.

ATTACHMENT FOR GRADING-MACHINES.

No. 821,513.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed July 20, 1905. Serial No. 270,537.

To all whom it may concern:

Be it known that I, WARREN E. LEIGHTON, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Attachments for Grading-Machines; 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.

My invention relates to improvements in grading-machines for marking patterns for the uppers and soles of shoes, boots, and the like.

The object of the invention is to provide a simple, inexpensive, and efficient attachment for machines of this character, which will permit patterns of various widths to be obtained from the same model.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a grading-machine with my attachment applied thereto. Fig. 2 is a perspective view of the attachment, and Fig. 3 is a sectional view.

For the purposes of this specification I herein show my improvement applied to the form of grading-machine known as "The Hartford combination sole and upper grading machine," patented March 12, 1878, No. 201,111. In such machine the tracer *a* is mounted upon the carriage *T*, which is so mounted upon a support *b* that the tracer can be freely moved from side to side, and the support *b* is so mounted upon the main frame *d* of the machine that the tracer can also be moved freely from top to bottom or up and down, thus giving the tracer *a* a universal motion in one plane. The follower *f* is in like manner so mounted that it can run freely in one direction in one plane. The carriage is indicated at *F* and is supported upon the support *b*, so that it can be moved from side to side freely. It will be understood, however, that my attachment may be used upon other machines of this class, and I do not desire to limit myself in this particular.

The invention consists of an attachment which provides an adjustable connection between the tracing wheel or element and the following wheel or element of the grading-

machine, and the embodiment of the invention herein shown consists of a plate 1 and a lever 2. The plate 1 is substantially of segmental form and is connected by a pivot screw or bolt 3 to the support *b* of the machine which carries the tracing-wheel. The lever 2 has one of its ends pivoted by a bolt 4 adjacent to the small end of the plate 1, and adjacent to said bolt is a pivot-stud 5, which is adapted to be engaged by the lengthening-rod *L* of the machine, which rod connects the carriage *T* to the radius-bar *e*, which is connected to the carriage *F*, which carries the following wheel of the machine. The free end of the lever is formed with an enlargement 6, which surrounds the curved large end of the plate, and within said enlargement is a sliding pawl or dog 7, which is adapted to engage notches 8, formed in the outer curved edge of the plate, as fully shown in Figs. 2 and 3 of the drawings. This pawl is held in engagement by a spring 9 and has upon its outer end a finger-piece 10, by means of which it may be readily operated.

When the attachment is applied to the machine by connecting the plate 1 to the frame *T* and pivoting the rod *L* of the lever 2, it will be seen that it will provide an adjustable connection between said parts, so that patterns of different widths may be made from the same model by adjusting the lever 2 upon the plate 1—that is, by engaging the pawl upon said lever with the different notches upon said plate. The attachment thus does away with the necessity of different models for obtaining different widths of shoe-uppers and the like and at the same time produces more accurate patterns.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be limited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a machine of the character described, the combination with tracing and following elements, of a connecting-bar attached to one of said elements, a plate connected to one of said elements, a lever pivoted upon said plate and pivotally connected to said rod for angu-

lar adjustment, and means for securing said lever upon said plate when adjusted.

2. In a machine of the character described, the combination with tracing and following
5 elements, of a connecting-bar attached to one of said elements, a rack-plate connected to one of said elements, a lever pivoted upon said plate and pivotally connected to said rod, and a pawl carried by said lever and
10 adapted to engage said rack-plate to hold said lever in an adjusted position, substantially as described.

3. In a machine of the character described, the combination with tracing and following
15 elements, of a plate of substantially segmental form secured to one of said elements

and having its curved end formed with notches, a lever pivoted to the opposite end of said plate, a pivot-stud upon said lever, a connecting-rod between said stud and the
20 other of said elements, a sliding pawl or dog carried by said lever and adapted to engage the notches in said plate and a spring for holding said pawl in said notches, substantially as described. 25

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WARREN E. LEIGHTON.

Witnesses:

GEORGE W. DAVIS,
TASCUS ATWOOD.