

No. 715,663.

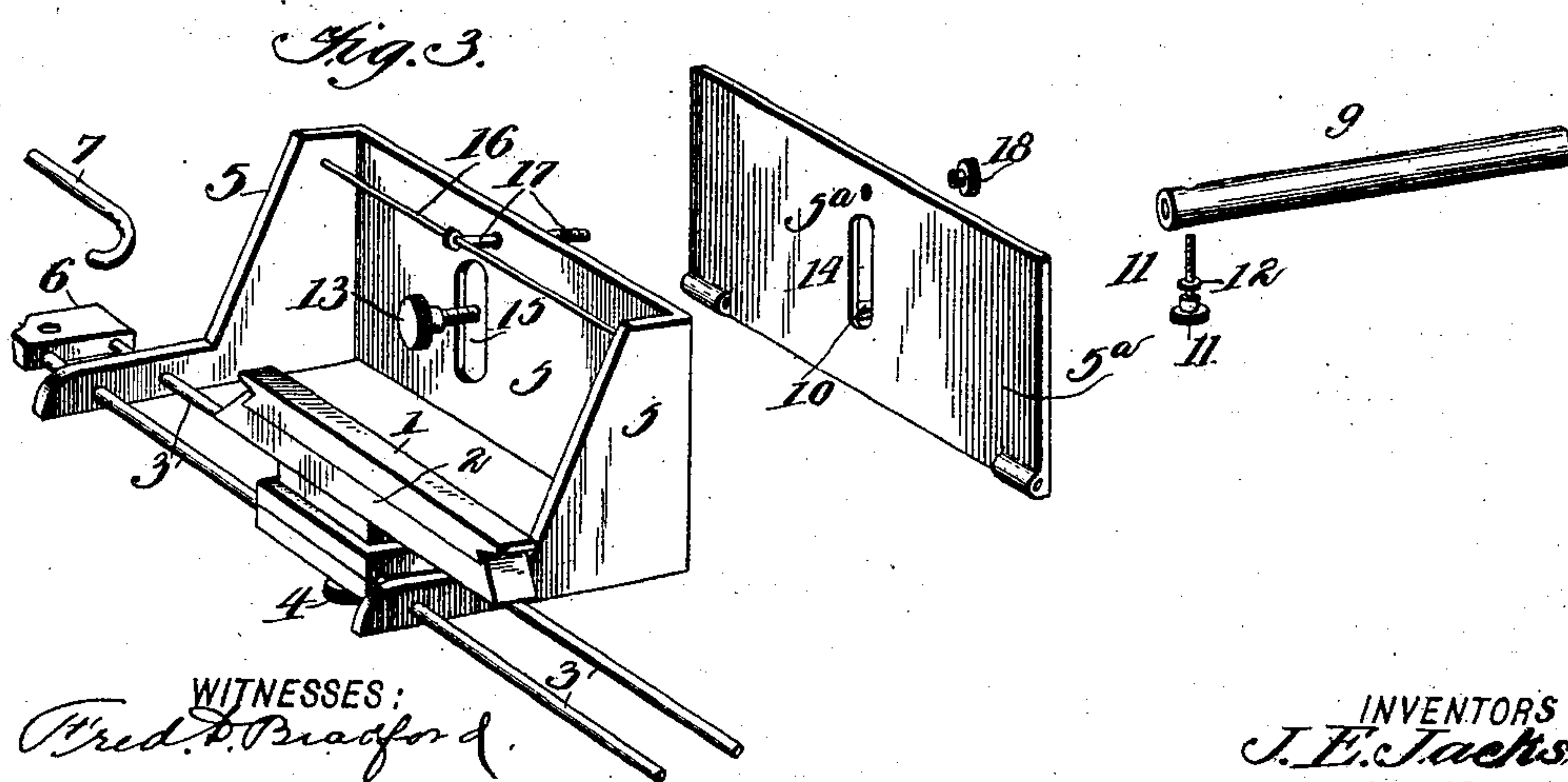
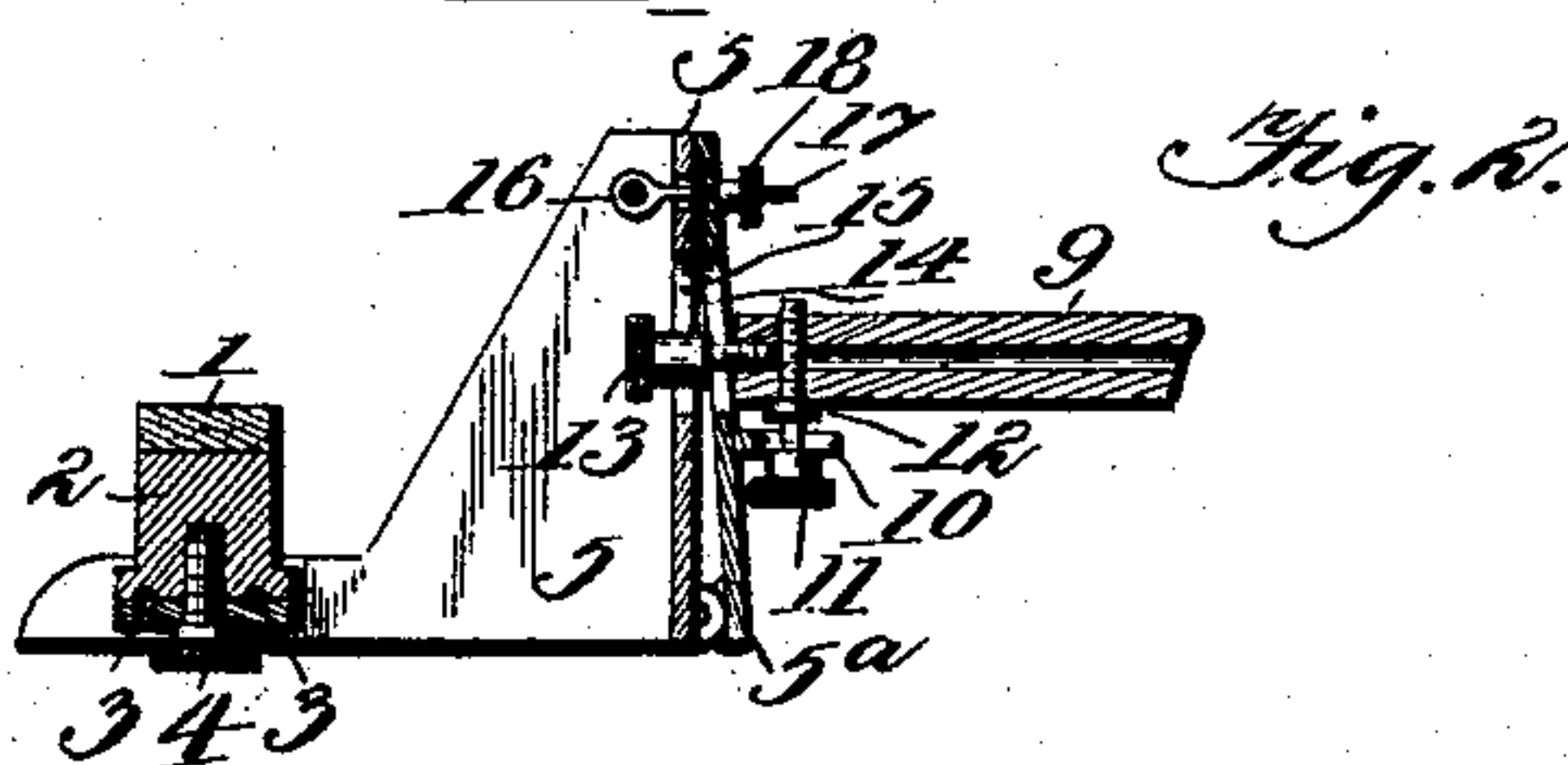
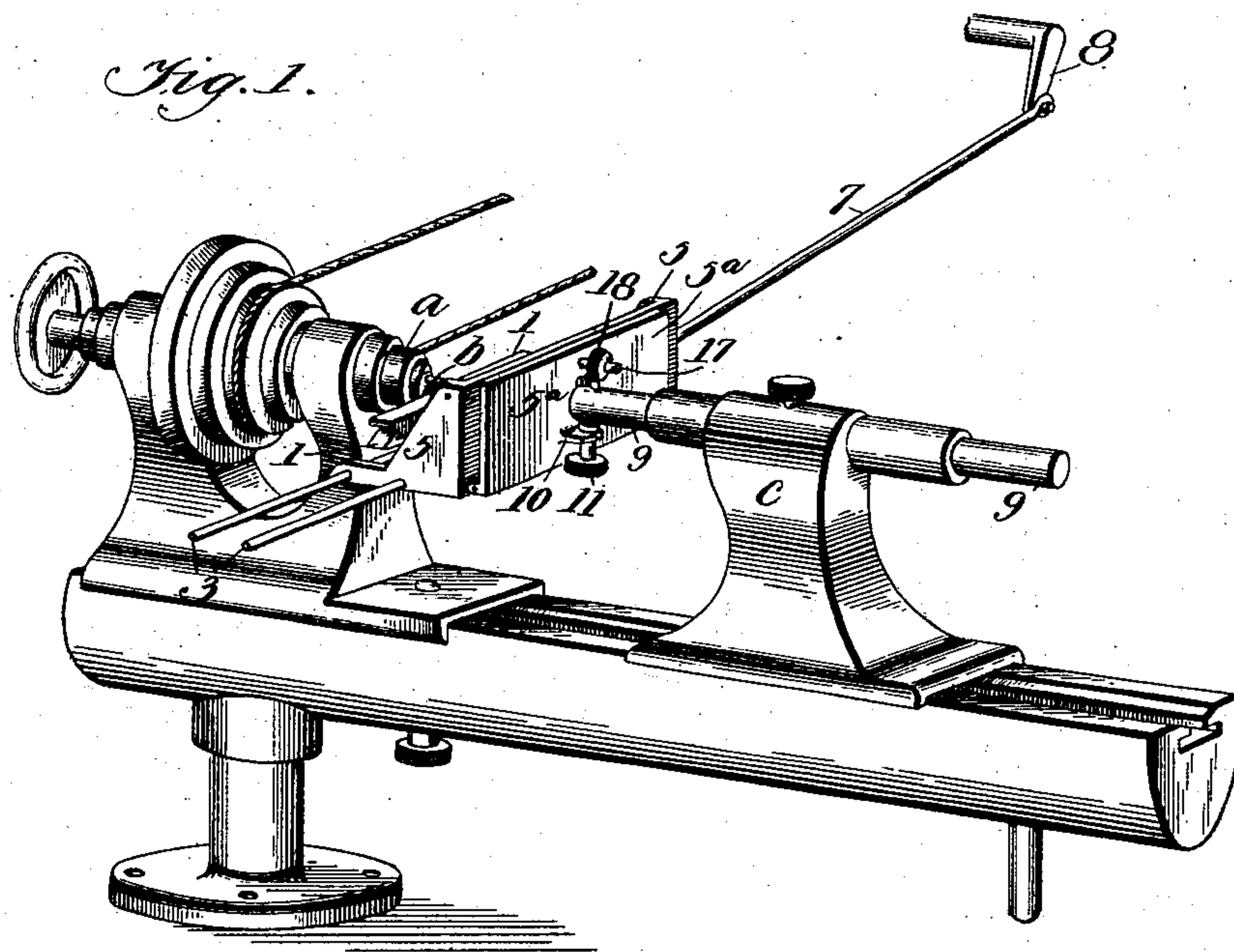
Patented Dec. 9, 1902.

J. E. & W. R. JACKSON.

PIVOT GRINDING ATTACHMENT FOR JEWELERS' LATHES.

(Application filed Apr. 30, 1902.)

(No Model.)



WITNESSES:
Fred. D. Bradford
Amos W. Hart

INVENTORS
J. E. Jackson.
BY *W. R. Jackson*
Munn & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES E. JACKSON, OF JACKSON, TENNESSEE, AND WILLIAM R. JACKSON,
OF FRANKLIN, KENTUCKY.

PIVOT-GRINDING ATTACHMENT FOR JEWELERS' LATHES.

SPECIFICATION forming part of Letters Patent No. 715,663, dated December 9, 1902.

Application filed April 30, 1902. Serial No. 105,291. (No model.)

To all whom it may concern:

Be it known that we, JAMES E. JACKSON, residing in Jackson, county of Madison, Tennessee, and WILLIAM R. JACKSON, residing in Franklin, county of Simpson, Kentucky, citizens of the United States, have invented an Improved Pivot-Grinding Attachment for Jewelers' Lathes, of which the following is a specification.

Our lathe attachment is for grinding watch-pivots to the desired size and shape. It is so constructed and applied to a lathe that a horizontal grinder reciprocates in contact with a watch-pivot which is secured to and revolves with the head-stock. The working position of the grinder may be changed to accommodate pivots of different sizes, and the parts have an elastic or yielding contact, so that there is no danger of breaking the pivot. The details of construction and operation are as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of a watchmaker's lathe provided with our improved attachment. Fig. 2 is a transverse vertical section of the attachment. Fig. 3 is a dissociated perspective of the attachment.

The rotatable head-stock *a* of the lathe is provided with a chuck adapted to receive the watch-pivot *b*, which is required to be ground. The said pivot *b* works in frictional contact with the grinder 1, which is a stone having a flat top and arranged to reciprocate horizontally just below the pivot. It is attached to a block 2, which is formed in two separate parts, Fig. 2, and carried by two parallel rods 3. The said block is clamped on the rods by a screw 4. The rods 3 slide horizontally in the arms or extended parallel sides of a light metal frame 5 and are secured to a cross-head 6, (see Fig. 3,) from which a rod 7 extends to the crank 8, Fig. 1, of any suitable motor. The said frame 5 is supported and fixed in position by due attachment to the mandrel 9, which is adjustable in the tail-stock *c*, Fig.

1. The attachment is effected as follows: A plate 5^a is hinged at its lower edge to the vertical back of frame 5 and provided on the back or outer side with a notched lug 10, (see Figs. 1 and 2,) through which passes a shouldered clamp-screw 11, that enters a trans-

verse threaded hole in the mandrel 9. A jam-nut 12 is arranged between the mandrel 9 and lug 10, and when the screw 11 is turned up the plate 5^a is clamped in place. Another shouldered clamp-screw 13 passes through a vertical slot 14 in the back plate and enters a threaded longitudinal bore in the mandrel 9. It will be noted the frame or front plate 5 is provided with a slot 15, that coincides with the slot in the back plate, but is much larger to accommodate the screw 13.

The upper edge of the back plate 5^a is secured to the front plate 5 by a yielding attachment composed of a spring-rod 16, an eyed screw-bolt 17, and a nut 18. The rod 16 extends across the frame lengthwise (see Fig. 3) and through the eye of the screw-bolt 17, which passes through coincident holes in the two plates. The nut 18 has a milled head and screws against the back plate 5^a, thus tending to draw the two plates together, while the spring 16 always allows them to separate more or less, according to the pressure with which it is desired the grinder 1 shall be applied to the watch-pivot *b*. In other words, the grinder 1 is always held to its work with elastic pressure, whereby certain advantages are attained, especially the avoidance of danger of breaking the pivot and compensation for any lack of uniformity of the grinding-surface.

It is apparent the entire attachment may be easily adjusted as a whole toward or from the head-stock *a* or detached from the lathe when other work is to be done.

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

1. The improved lathe attachment comprising a grinder, a carrier for said grinder which is adapted to be reciprocated, a frame for supporting the carrier and on which the latter slides, and means for supporting said frame on the tail-stock of a lathe, substantially as shown and described.

2. The improved lathe attachment comprising a grinding-block, a carrier for said block which is adapted to be reciprocated at right angles to the head-stock of the lathe, a frame supporting said carrier slidably, and means for attaching the frame to the tail-stock, and

means which permit the same to yield vertically as and for the purpose specified.

3. The improved lathe attachment comprising a frame, a grinding-block, rods carrying
5 the latter and supported and sliding in said frame, a plate secured to the latter, means for securing the attachment to a tail-stock, and a spring and securing device therefor arranged substantially as described whereby the frame
10 and grinder are adapted to yield relative to the pivot being ground, as shown and described.

4. In a pivot-grinding lathe attachment, the combination with a device to be held by the
15 tail-stock, of the grinder, its reciprocating

carrier, a frame in which the latter is mounted slidably, a plate hinged to said frame, a spring applied to the frame, a screw passing through the latter and said plate, and secured to the spring, and a nut applied to said screw as
20 shown and described.

JAMES E. JACKSON.
WILLIAM R. JACKSON.

Witnesses to James E. Jackson:

J. J. PREWETT,
GEO. C. WILKERSON.

Witnesses to William R. Jackson:

OSA R. MCCLEAN,
W. E. BLEWETT.