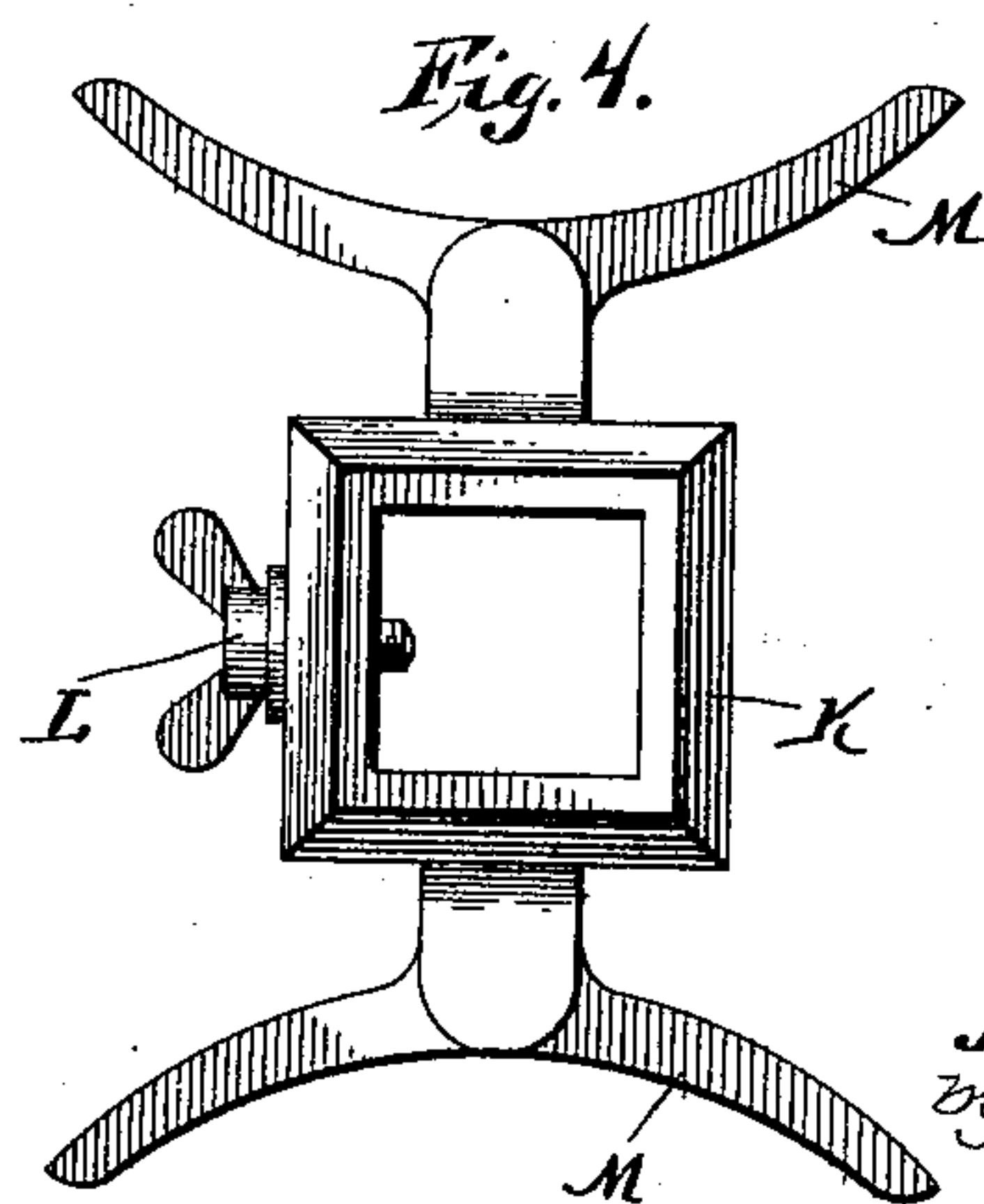
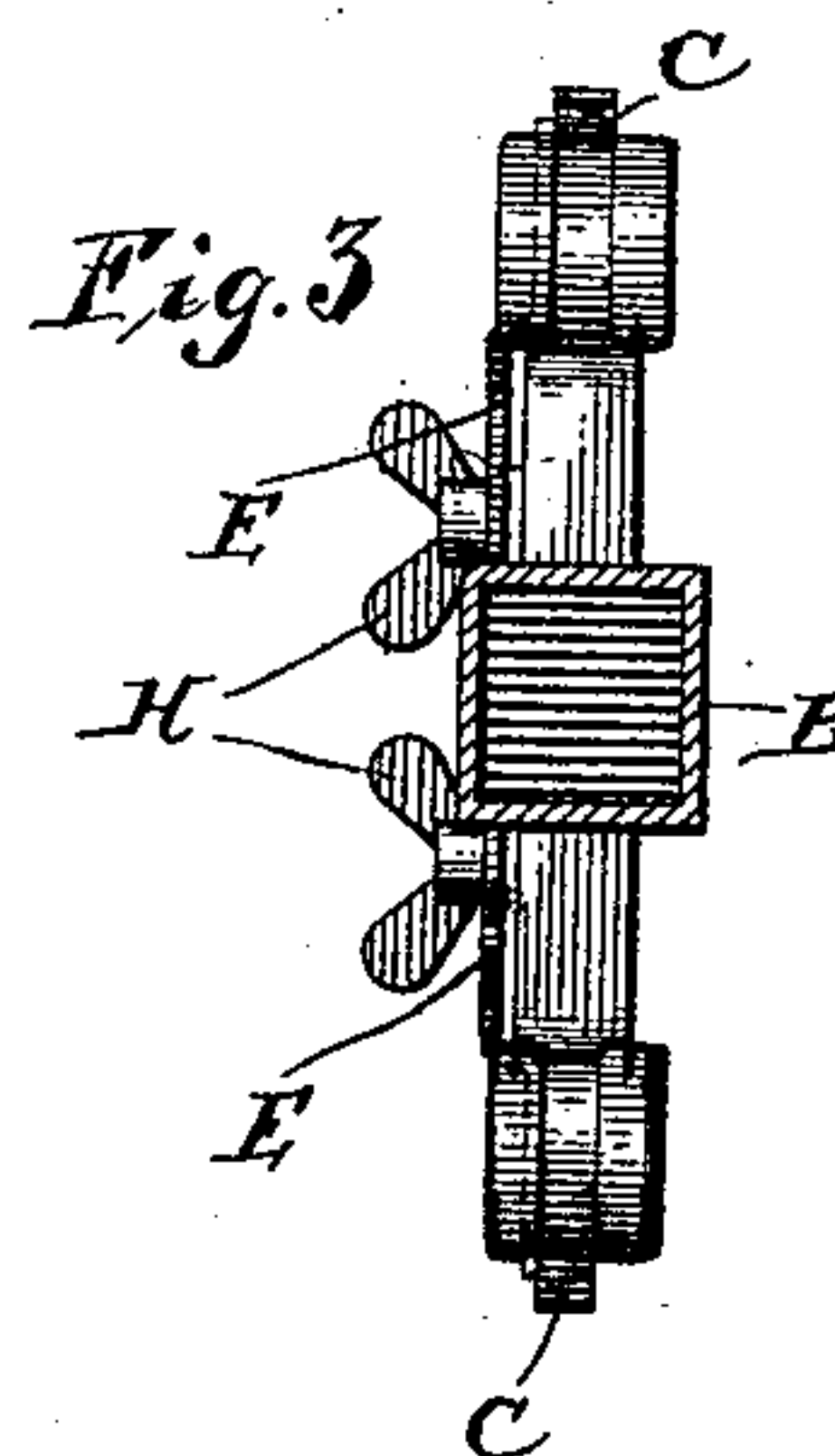
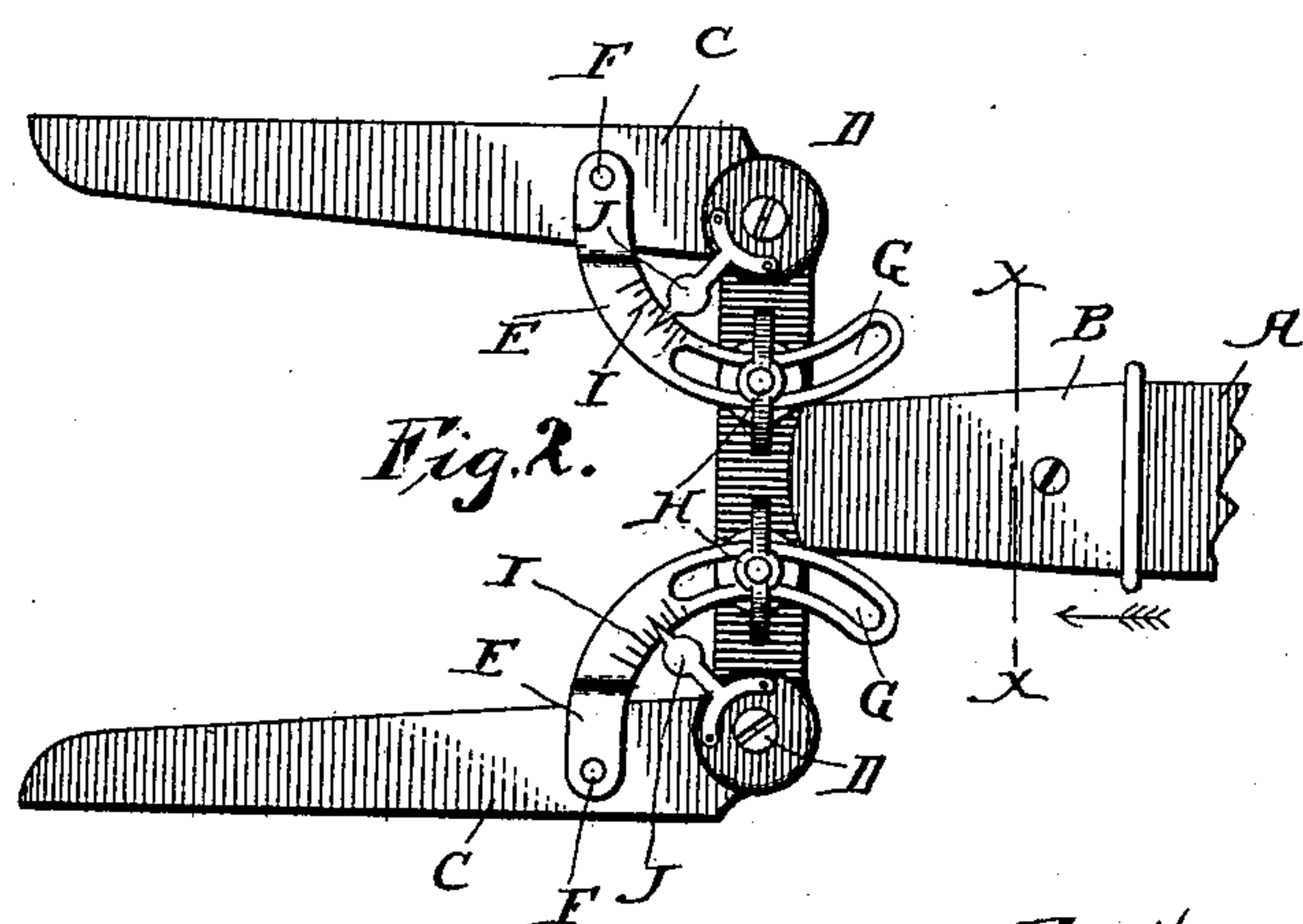
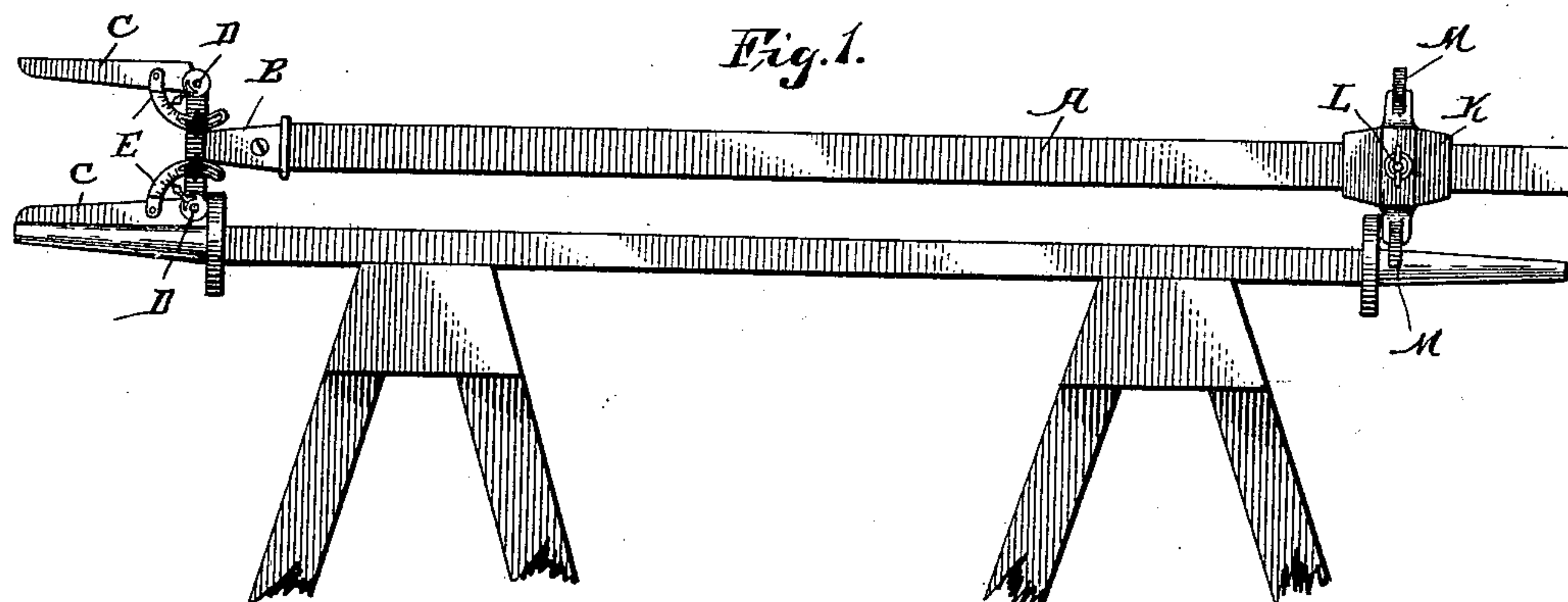


(No Model.)

J. F. DUNIGAN.  
AXLE GAGE.

No. 605,863.

Patented June 21, 1898.



Witnesses:

L. D. Heinrichs.

S. Williamson

Inventor

James F. Dunigan  
by Geo. H. Hogue  
Attorney.



# UNITED STATES PATENT OFFICE.

JAMES F. DUNIGAN, OF TORRINGTON, CONNECTICUT.

## AXLE-GAGE.

SPECIFICATION forming part of Letters Patent No. 605,863, dated June 21, 1898.

Application filed July 21, 1897. Serial No. 645,393. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. DUNIGAN, a citizen of the United States, residing at Torrington, in the county of Litchfield and State of Connecticut, have invented a certain new and useful Improvement in Axle-Gages, of which the following is a specification.

My invention relates to a new and useful improvement in axle-gages, and has for its object to provide a simple, cheap, and effective device by means of which an axle, after having been repaired, may be trued up or the condition thereof demonstrated, so as to avoid the replacing of such an axle upon a vehicle when the spindles thereof are not in proper condition, which would tend to rack the vehicle and cause it to run untrue.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 illustrates my improvement when being used in connection with an axle to determine the trueness thereof; Fig. 2, an enlarged view of one end of the gage, showing especially the blades and indicators thereof; Fig. 3, a section at the line *xx* of Fig. 2, looking in the direction of the arrow; and Fig. 4, an enlarged view of the leveling-shoe, which is adapted to rest upon one spindle while the opposite spindle is to be trued up.

In carrying out my invention as here embodied I provide a beam A, which is preferably of wood, and upon one end of this beam is fitted the bracket B by having a socket formed in the shank thereof, which is secured over the tapered end of said beam. This bracket is T-shaped and has the blades C pivoted thereto at D by means of suitable screws passing through the blades and the arms of the bracket, which screws may be securely held in place by suitable jam-nuts, if occasion requires. The outer edges of these blades are so formed as to serve as straight-edges, and the segmental strips E are pivoted

thereto at F and have the slots G formed therein, through which the thumb-screws H pass and are threaded into the bracket, as clearly shown. This arrangement permits of the ready adjustment of either of the blades at any desired angle within certain limits, and when the blade is thus adjusted it may be there secured by the proper manipulation of the thumb-screws; and for convenience in determining the angle to which the blade is adjusted graduations I are formed upon each of the segmental strips, which represent the degrees of a circle, and a pointer J is attached to the bracket and projects into proximity to these graduations, so that when either of the blades is moved the angle at which it stands to the axial line of the beam will be indicated by the position of the pointer upon the graduations.

K represents the shoe-bracket, having an opening therethrough adapted to fit over the beam and provided with set-screws L for securing the same in any position upon the beam, and this bracket is provided with the shoes M, of suitable contour to fit upon the spindle of a vehicle-axle, as clearly shown in Figs. 1 and 4.

From this description the operation of my improvement will be obviously as follows: When an axle is being repaired and it is desired to determine whether or not the spindles thereof are true, it is only necessary to set one or both of the blades at the angle which represents the taper of the spindles, and then by passing one of the shoes upon one of the spindles and bringing one of the blades into contact with the opposite spindle the trueness or otherwise of this last-named spindle will be immediately apparent, since if the spindle be not true the blade will not rest in contact therewith throughout its entire length, whereas if the spindle be true the straight edge of the beam will fit thereon.

The blades are shown as two in number for the purpose of determining the inclinations in two directions, respectively, which are given the axle-spindles, and may be, after having once been adjusted for the proper inclinations of the spindle to be trued, there left, so as to avoid constant adjustment.

My improvement is especially adapted for the use of blacksmiths and wheelwrights, and

when properly finished not only forms a useful tool, but is attractive in appearance—as, for instance, the beam may be varnished, the brackets japanned, and the blades and segmental strips polished and plated or blued.

5 Having thus fully described my invention, what I claim as new and useful is—

10 A gage consisting of a beam, a T-shaped bracket having a tapered socket fitting on one end of said beam, the arms of said bracket being slotted to produce ears, graduated segmental strips secured to said blades, thumb-screws threaded into the bracket through slots in the segmental strips, a pointer se-

cured on the end of each arm and projecting 15 out over the segmental strips to indicate the angle at which the blades are held, and a second bracket adapted to slide upon the beam, said bracket having curved shoes, as and for the purpose described. 20

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JAMES F. DUNIGAN.

Witnesses:

WILLARD A. RORABACK,  
ABNER H. WADHAMS.