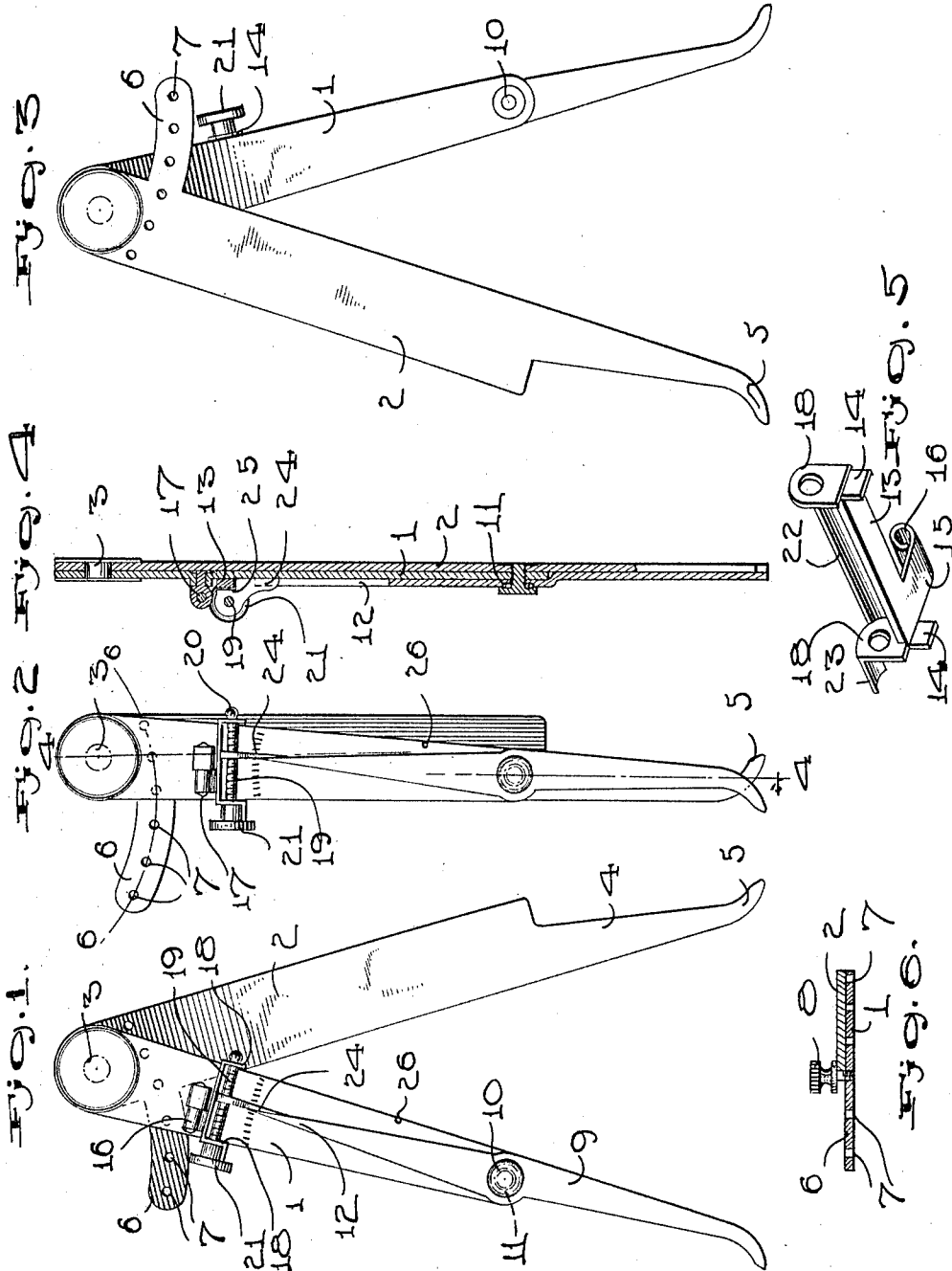


A. JOHNES.
CALIPERS.

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WITNESSES

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CALIPERS.

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To all whom it may concern:

Be it known that I, ALFRED JOHNES, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Calipers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to calipers, and has for its object the production of an efficient means for limiting the pivotal movement of the legs in one direction.

Another object of this invention is the production of a pivotally mounted arm carried by one of the legs, the ends of said arm normally extending to one side of the central portion of said leg, and means for adjustably moving said arm.

Another object of this invention is the production of a novel and efficient bracket member carried by one of the legs whereby to adjustably move an arm carried by said leg.

With these and other objects in view this invention consists of certain novel constructions, combinations, and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings:—Figure 1 is a front elevation of the calipers in an extended position. Fig. 2 is a front elevation of the calipers in a closed position. Fig. 3 is a rear view of the calipers. Fig. 4 is a section taken on line 4—4, of Fig. 2 looking in the direction of the arrow. Fig. 5 is a perspective view of the improved bracket. Fig. 6 is a section taken on the line 6—6, of Fig. 2 showing the screw which is used in combination with the device.

Referring to the accompanying drawings it will be seen that the calipers consists of a pair of legs 1 and 2 which are pivotally connected by means of the pivot member 3 at their upper ends. The leg 2 is provided with the reduced portion 4 and the out-turned portion 5 for facilitating the measuring of the inside diameter of a cylindrical body. The leg 2 is provided near its upper end with the projecting finger 6, said projecting finger 6 is provided with a plurality of apertures 7. A screw 8 is adapted to be threaded within the apertures 7 whereby to limit the swing of the leg 1.

When it is desired to obtain the diameter of a cylindrical body the screw is placed within one of the apertures at a length which is approximately the diameter of the member to be measured at which time the legs are open until one of the legs bears upon the screw 8 at which time the exact diameter of the member can be obtained by means of the bracket member and arm which are carried by the leg 1. The leg 1 is terminated at a distance short of the length of the leg 2 and is provided with the arm 9. This arm 9 is pivotally mounted upon the leg 1 by means of the screw 10. The arm 9 is normally held to one side of the central portion of the leg 1 by means of the coil spring 11 which is positioned around the screw 10 and is fastened to the leg 1 and the arm 9. The inner end of the arm 9 is reduced as shown at 12 so as to allow the same to pass over a gage which is formed upon the leg 1.

In order to adjust the arm 9 there is provided a bracket which is carried by the leg 1. This bracket consists of a bar 13 which carries a pair of downwardly extending lugs 14. When the bracket is in its correct position upon the leg 1 these lugs fit over the edges of said legs for preventing any lateral movement of said bracket relative to said leg. The bar 13 is provided with the outwardly extending portion 15 which is rolled to form the pivot eye 16. By means of this pivot eye 16 the bracket is pivotally secured to the lug 17 which is carried by the leg 1. The bar 13 carries a pair of bearing members 18 in which is threaded a screw 19. This screw 19 is provided at one end with a head 20 and at the other end with an enlarged head 21 whereby the screw is held in the bracket and may be easily rotated therein. In order to more firmly hold the bearing members 18 there has been provided a brace member 22 for that purpose. One of the bearing members 18 is provided with an overhanging flange 23 which fits upon the body portion of the head 21. Mounted upon the screw 19 is a finger 24, said finger 24 being adapted to move transversely of the leg 1 when the screw is rotated. The rear edge of the finger 24 rests against the brace member 22 for preventing said finger from rotating as it passes transversely of said leg. The under portion of the finger is cut away to form a seat 25 for securely holding

the finger and preventing the same from wabbling. It will be seen that by use of this bracket member, screw and finger that the arm 9 is so held as to allow the person
 5 using the calipers to ascertain the exact diameter of the inside of a hollow member, by simply rotating the screw 19 so as to allow the finger 24 to move the arm to one side. If it is desired to allow the arm to
 10 swing back the screw is rotated in the opposite direction and the spring 11 will move the arm back until it strikes against the pin 26.

It will be seen from the above that an efficient device has been produced for accurately procuring the exact diameter of a hollow cylindrical member.

Having thus described the invention what is claimed as new, is:—

- 20 1. Calipers of the class described comprising a pair of legs, said legs pivotally secured to each other, means carried by one of said legs which is adapted to limit the pivotal movement of said legs in one direction,
 25 an arm pivotally secured to the other of said legs, a spring carried by said arm and coiled for holding one end of said arm to one side of the central portion of said leg, a bracket member carried by said last mentioned leg,
 30 said bracket member provided with a screw, a finger carried by said screw, said finger adapted to move laterally relative to said leg, the outer end of said finger engaging the inner end of said arm for moving said arm.
 35 2. Calipers of the class described comprising

to each other, means carried by one of said legs which is adapted to limit the pivotal movement of said legs in one direction, an arm pivotally secured to the other of said
 40 legs, a spring carried by said arm and coiled for holding one end of said arm to one side of the central portion of said leg, a bracket member carried by said last mentioned leg,
 45 said bracket member comprising a bar, downwardly extending lugs carried by said bar, said lugs adapted to fit over the edges of said leg for preventing any lateral movement of said bracket upon said leg, said bar
 50 provided with an outwardly extending portion rolled to form a pivot eye, a lug carried by said leg, said pivot member positioned upon said lug for pivotally securing said
 55 bracket upon said leg, bearing members carried by the outer end of said bar, a screw carried by said bracket member, said screw provided with enlarged head portions, a
 60 bracing member carried by said bearing members, a finger carried by said screw, the inner face of said finger bearing against said bracing member and the lower edge of said
 65 finger cut away to form a seat and resting upon said bar, said finger capable of being moved laterally relative to said leg upon said screw for moving said arm when so desired.

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

ALFRED JOHNES.

Witnesses:

ALEX. L. DE LANEY,
 LOUIS A. KOMBLAT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."