(No Model.)

C. P. FAY.

CALIPERS.

No. 591,348. Patented Oct. 5, 1897.

Fig. 1.

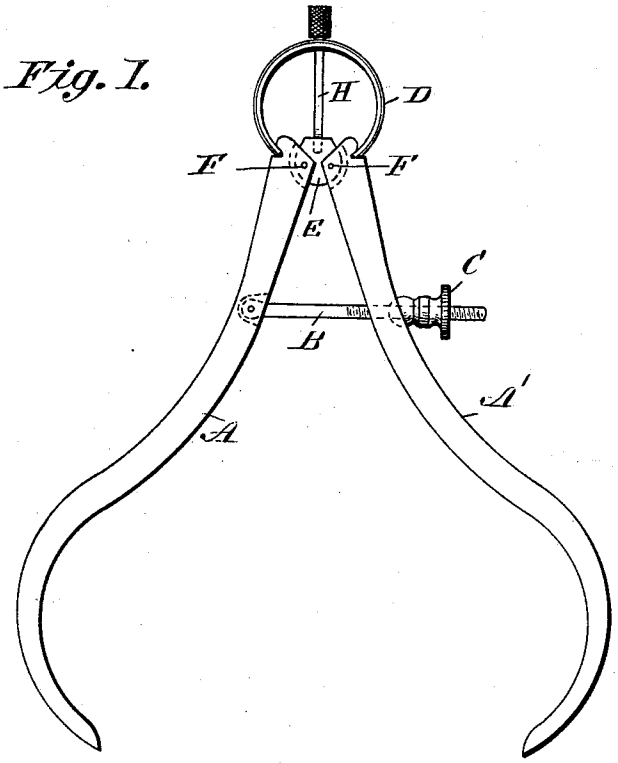


Fig. 2.

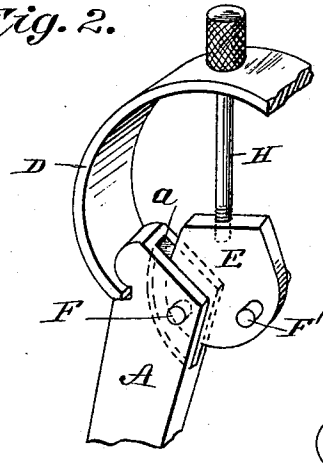


Fig. 3.

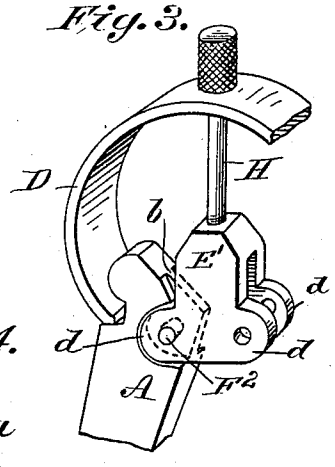
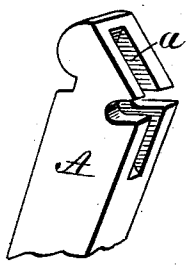


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CALIPERS.

SPECIFICATION forming part of Letters Patent No. 591,348, dated October 5, 1897.

Application filed May 27, 1896. Renewed April 6, 1897. Serial No. 631,036. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. FAY, a citizen of the United States of America, residing at Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Calipers, of which the following is a specification.

This invention relates to spring-calipers and similar instruments, and particularly to the construction of the joints thereof; and it consists in the peculiar construction of said joint, as hereinafter fully described, and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of a pair of spring-calipers embodying this invention. Fig. 2 is an enlarged view in perspective of the joint of a caliper, showing only one leg thereof and also showing the spring partly broken away. Fig. 3 is a view similar to Fig. 2, but showing a modified construction of the joint. Fig. 4 is a perspective view of one of the legs of a caliper, enlarged, and showing a modification of the construction of said leg.

In the drawings, A A′ represent the legs of the calipers; B, the adjusting-screw, having the nut C thereon; D, the spring engaging the upper ends of the caliper-legs A A′ at a point above the pivots F F′, whereby the points of said legs are kept separated and the leg A′ always held firmly against the end of nut C on the rod B.

In so far as the above-enumerated parts are concerned the construction is well known, the essential point of this invention being the construction of the joint uniting the legs of the calipers, which is made as below described.

The inner upper ends of the caliper-legs A A′ have cut therein the slot *a*, Figs. 2 and 4, to receive the plate E, which fits closely therein. A hole is drilled through each of said legs, near the edge thereof and about midway between the ends of the said slot, and a similar hole through the plate E at an equal distance from and each side of the vertical center line of said plate in such position that when the said plate has been entered into the slot *a* of each leg the holes through each of said legs and the holes in the plate coincide. Two pivot-pins F F′ are then driven through the holes in the caliper-legs and plate E, securely uniting the two and providing a pivot-point for each of the legs A A′.

In order that the separation of the points of the caliper-legs may be equal relative to a vertical line drawn centrally between the pivots F F′, a hole is drilled into the top of the plate E and screw-threaded, and a second hole in line vertically with the first is made through the spring D. Through the hole in the spring is passed the rod H, the lower end of which is threaded and screwed into the hole in the top of plate E, the knurled head of the rod projecting sufficiently above the top of the spring to afford a good grip for the fingers. With the plate E thus rigidly held the two legs of the calipers will be acted upon equally by the spring D.

Instead of constructing the pivot-plate between the two legs, as above described, it may be made as shown in Fig. 3—viz., instead of a slot, *a*, as being cut in each leg of the caliper for the reception of the pivot-plate the slots are made in the said plate E, Fig. 3, which is made wide enough for that purpose, and a portion of each side of the leg of the caliper is milled off, leaving a projecting web *b* midway between the two sides of said leg, which web is entered in the slot, all as clearly shown in Fig. 3. The plate E′ is made with suitable projections *d* thereon, and a portion of the side of the leg corresponding in contour to the said projections is milled out to receive them, and a hole drilled through both parts for the insertion of a suitable pivot-pin F^2. In the top of the plate E′ the rod H is applied, as in Fig. 2.

Another slight modification in the construction of the calipers is shown in Fig. 4, which may be used, if desired, and which, like the modified construction of the plate above described, is a mere variation as to detail and in no wise affecting the essential elements of construction, which consist of the two caliper-legs united by a pivot-plate which is held rigid by the rod H, fixed therein and having a bearing in the spring above the said plate. The spring D may engage the caliper-legs

either above or below the pivots F F′ F². If below said pivots, the nut on rod B would be placed on the inside of the leg, instead of as shown in Fig. 1 of the drawings.

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

1. In combination with the legs of a caliper, means for adjusting said legs toward and from each other, a spring encircling the upper ends of said legs and engaging therewith, a pivot-plate between the said ends of the caliper-legs, pivot-pins passing through each of said legs and said plate, and a uniting member between said plate and said spring, substantially as set forth.

2. The combination with the legs of a caliper, means for adjusting said legs toward and from each other, a spring engaging the upper ends of said legs, of a pivot-plate for said legs depending from said spring, and a pivot-pin passing through and uniting each of said legs to said plate, substantially as set forth.

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