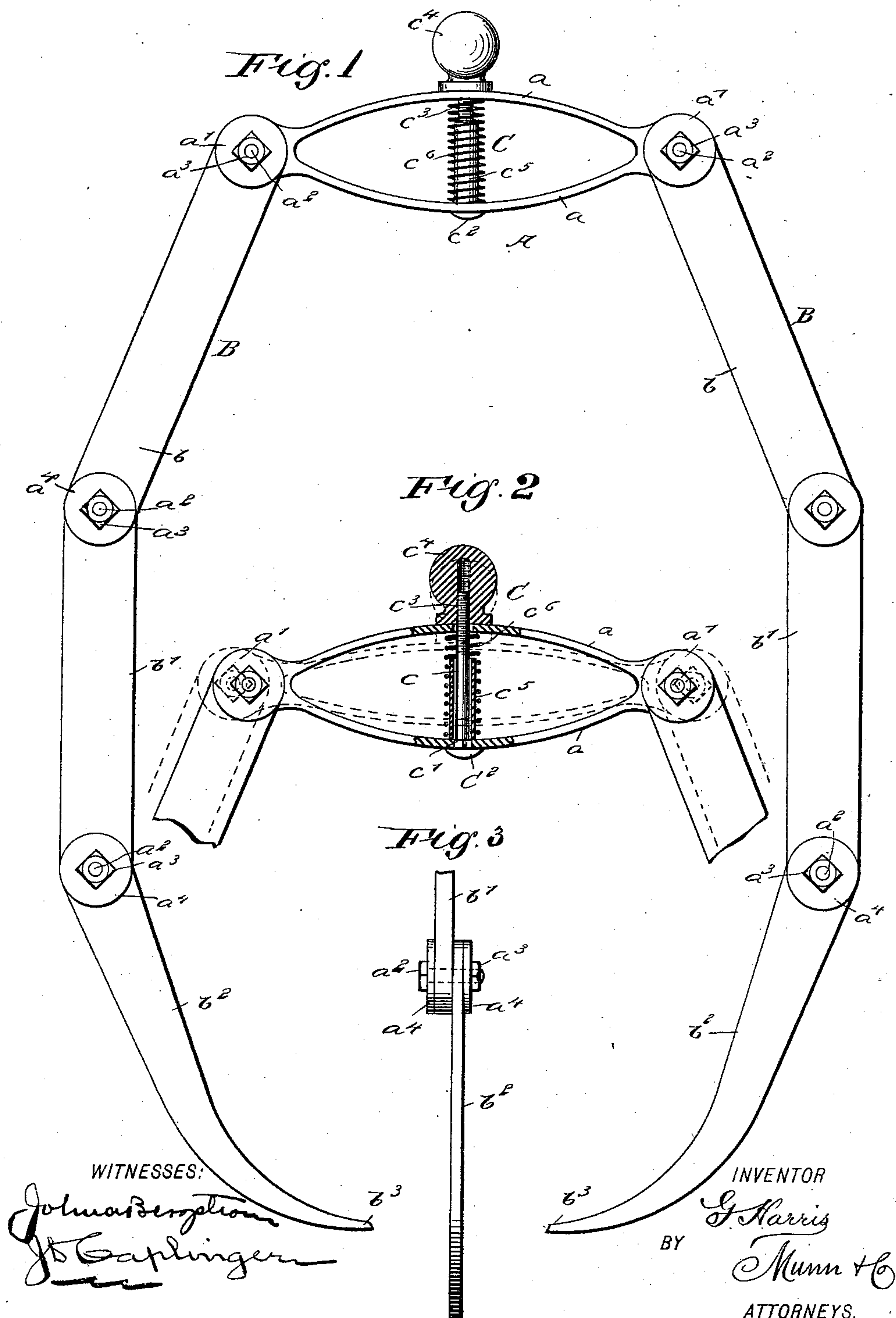


(No Model.)

G. HARRIS.
CALIPERS.

No. 541,749.

Patented June 25, 1895.



UNITED STATES PATENT OFFICE.

GEORGE HARRIS, OF NEW YORK, N. Y.

CALIPERS.

SPECIFICATION forming part of Letters Patent No. 541,749, dated June 25, 1895.

Application filed March 1, 1895. Serial No. 540,178. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HARRIS, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Calipers, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in calipers and has for its object to provide a pair of calipers having a micrometer adjustment which shall present certain features of novelty in construction and advantages for use over similar devices heretofore employed, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the calipers. Fig. 2 is a fragmentary view, showing the adjusting devices partly in section; and Fig. 3 is a fragmentary view, showing the joint between two sections of the arms.

The device is composed of a body A and sectional arms or legs B, B, said arms B being pivoted at their upper ends to the opposite ends a' of the body section A. As shown in the drawings, each arm B is composed of three sections b , b' and b^2 respectively, and said sections have overlapping perforated ends as seen in the detail view, Fig. 3, which ends are connected together by screws a^2 having nuts a^3 and washers a^4 , in such a way that the arms may be adjusted so that their sections stand at various angles to one another. The outer sections b^2 of the arms B are provided with curved jaws b^3 as clearly seen in Fig. 1.

The body A is composed of any suitable material and is formed of two curved or bowed central parts a having sufficient elasticity to permit of being drawn together so as to increase or diminish the distance between the end portions a' of the section A. At the center of the body A the portions a thereof are provided with registering perforations, the perforation in the inner part a being square to receive the squared end c' of a screw c constituting one member of the adjusting device

C. The screw c has a head c^2 at one end and is threaded at its opposite end c^3 and extends through the perforation in the outer part or member a of the body A, as clearly seen in Fig. 2, and is adapted to receive a nut c^4 capable of being turned by the fingers in a well known way.

Upon the central portion of the screw c between the members a of the body A is arranged a sleeve c^5 of a length adapted to form a stop to prevent too great movement of the members a toward each other, and a spring c^6 is also arranged on the screw c between the members a of the body A and serves to hold said members normally away from each other.

In using the device the nut c^4 is screwed down on the screw c so as to compress the body A and cause the same to become elongated, as indicated in dotted lines in Fig. 2. The jaws b^3 of the arms B are then set opposite each other and the sections of said arms arranged at any desired angle, and when thus arranged the arms are slipped over the outer side of the article to be measured and accurately adjusted by loosening the nut c^4 so as to take the dimensions of the article.

The sleeve c^5 will act as a stop to prevent the members A of the body from being moved too near each other, and such a stop will be necessary when the body A is composed of wood.

It will be seen that in some cases the sections b and b' of the arms B may be omitted and the sections b^2 may be pivoted directly on the ends of the body A, and in other cases the sections b alone may be omitted and the ends of the sections b' pivotally connected to the body A, so that the length of the arms B may be made greater or less as required; and it will also be observed that in lieu of employing curved sections b^2 at the ends of the arms B, said sections may be formed with points whereby the device is adapted for use as a compass.

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

1. The combination of a longitudinally extensible elastic body composed of two members connected together at their opposite ends, arms pivoted at the ends of the body,

and an adjusting device for regulating the movement of said members toward and from each other, substantially as set forth.

2. The combination of a body composed of 5 elastic members connected together at their opposite ends, arms pivoted at the ends of the body, a screw extending through the members and connected at one end to one of said members, and a nut secured on the opposite end 10 of said screw, substantially as set forth.

3. The combination of a body composed of elastic members, arms pivoted to the ends of the body, a screw secured to one of the members and extending through the other member, 15 a sleeve on said screw forming a stop to limit the movement of the members toward and from each other, and a nut secured on the end of said screw, substantially as set forth.

4. The combination of a body composed of 20 two elastic members, arms pivoted to the ends of the body, a screw secured to one member and extending through the other member, a stop for limiting the movement of the members toward and from each other, a spring on 25 said screw between the members, and a nut secured on the outer end of said screw, substantially as described.

5. The combination of a longitudinally extensible body composed of two members one of which is movable toward and from the 30 other and adapted, when moved, to return to its original position by its own elasticity said members being connected together at their opposite ends, means for actuating said movable member and arms pivoted at the ends of 35 the body and adapted to be moved toward and from each other when the movable member of the body is actuated, substantially as set forth.

6. The combination of a longitudinally extensible body composed of two members connected together at their opposite ends and 40 movable toward and from each other and adapted when moved to return to their original positions by their own elasticity, means for actuating said members, and arms pivoted 45 at the ends of the body and adapted to be moved toward and from each other when the body is extended and contracted, substantially as set forth.

GEORGE HARRIS.

Witnesses:

JOHN PENNAY,
CASPER A. BAADEN.