

No. 835,466.

PATENTED NOV. 6, 1906.

J. PRARIO.  
PROPORTIONAL CALIPERS.  
APPLICATION FILED JUNE 27, 1906.

Fig. 1

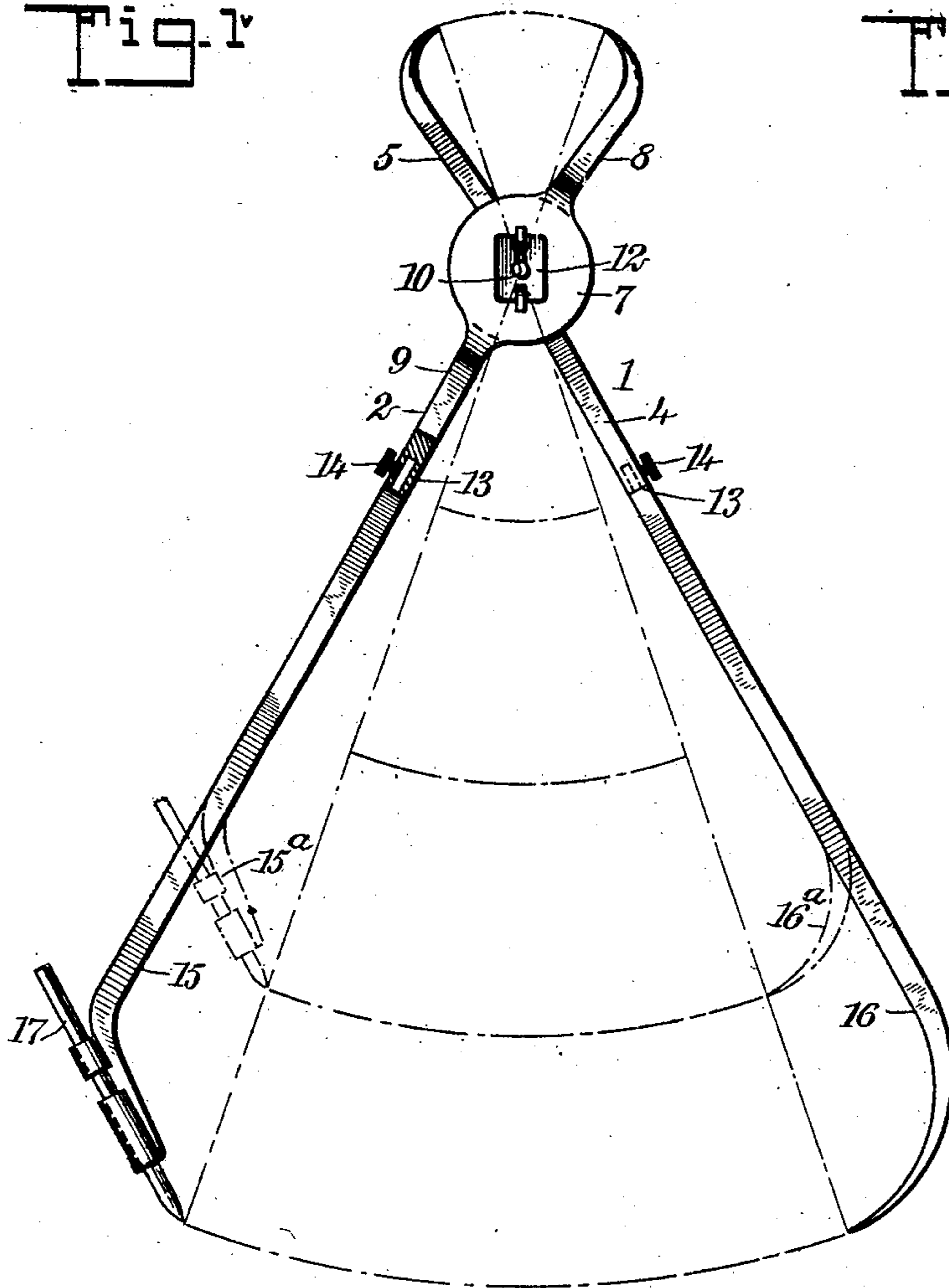


Fig. 2

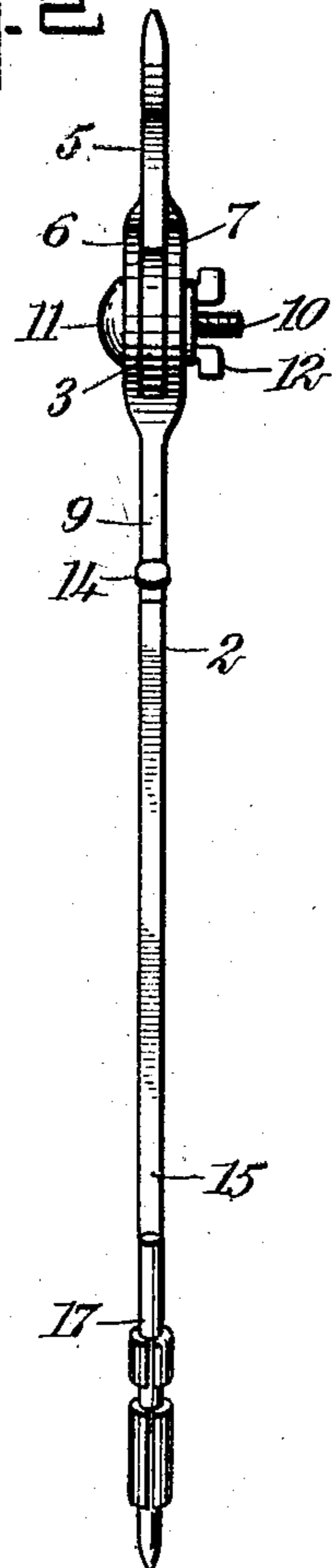
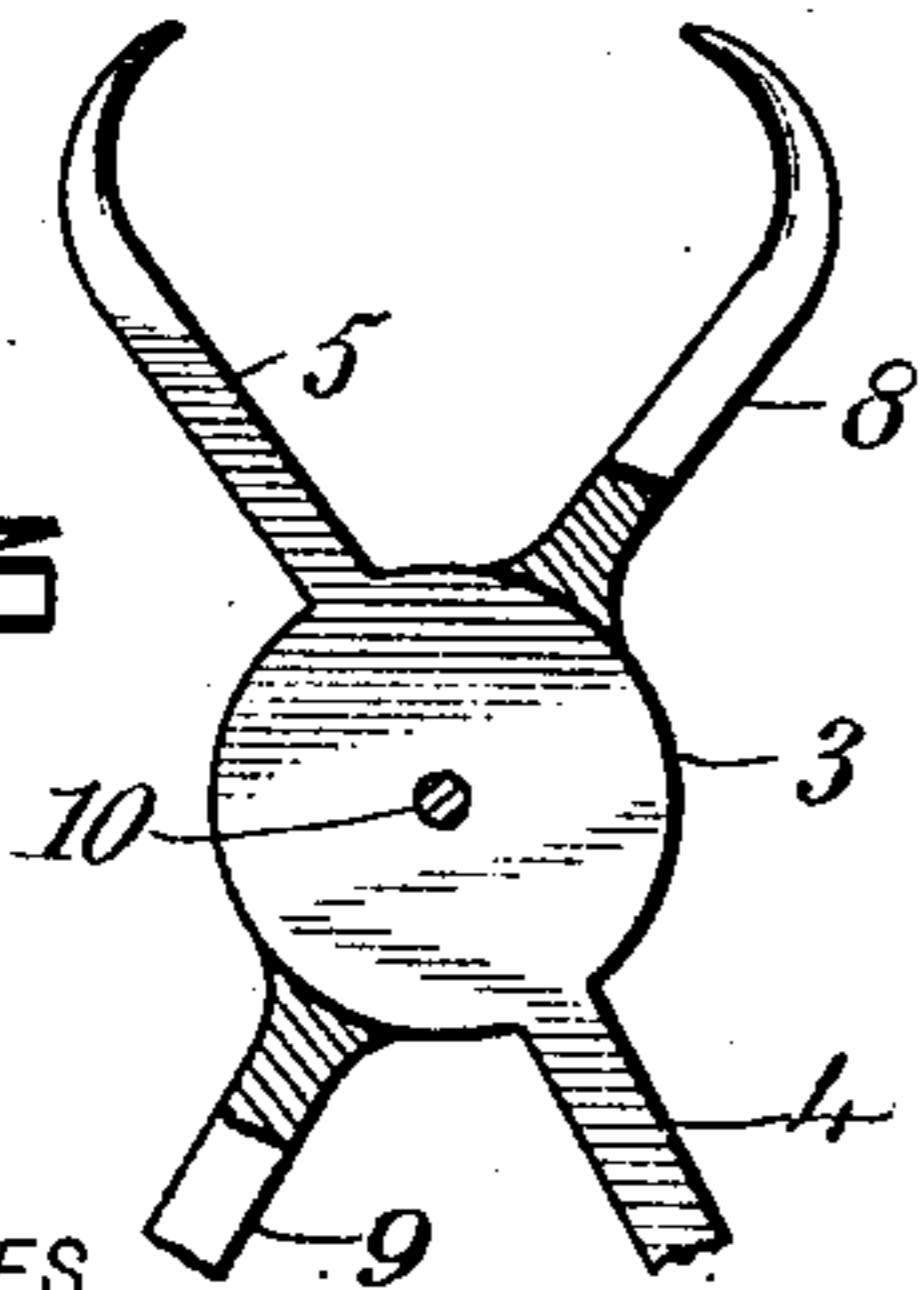


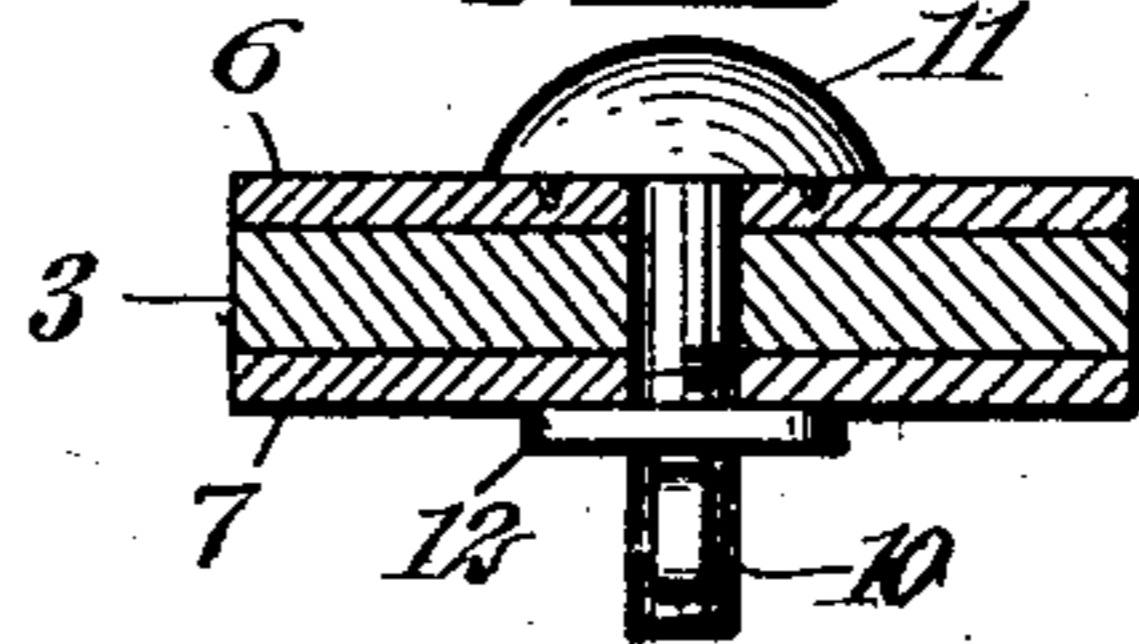
Fig. 3



WITNESSES

J. A. Brophy  
J. P. Davis

Fig. 4



INVENTOR

John Prario

BY *Mumford*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

JOHN PRARIO, OF MOUNT HOPE, WEST VIRGINIA.

## PROPORTIONAL CALIPERS.

No. 835,466.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed June 27, 1906. Serial No. 323,718.

*To all whom it may concern:*

Be it known that I, JOHN PRARIO, a subject of the King of Italy, and a resident of Mount Hope, in the county of Fayette and State of West Virginia, have invented new and Improved Proportional Calipers, of which the following is a full, clear, and exact description.

My invention relates to proportional calipers, and has for its object to provide a simple means whereby any definite relationship between the lengths of the opposite legs may be secured at will and in which there is no liability of this relationship being accidentally varied or changed during the use of the instrument on any one particular piece of work.

In most of the proportional calipers now in use the proportion is varied by shifting the pivot-pin along slots provided in the pivoted members. In such instruments if the pivot-pin or binding-screw becomes loosened or if the instrument is dropped or jarred the center may be very slightly shifted without its being noticed by the person using the instrument at the time, and such slight shifting of the center and the consequent changing of the proportion resulting therefrom may cause very serious damage before the change is noticed.

In my improved calipers I provide a series of removable legs of different lengths adapted to be used in connection with a single pair of pivoted members. The lengths of each of the pairs of removable legs when secured in place bear a simple relation to the lengths of the non-removable legs, whereby any definite proportion may be secured by using legs of the desired length.

My invention is especially adapted for use by sculptors and modelers who have occasion to reproduce in marble, granite, or clay and at a different scale from the original. Several pieces of work may be in progress at the same time and each being made to a different scale, so that it is necessary to frequently change the proportional distance between the points of the calipers. By the use of my improved instrument all the difficulty in this respect is obviated, as the removable legs may be replaced by others of a different length whenever it is desired to use the instrument on another piece of work.

To more fully explain my invention, reference is to be had to the accompanying drawings, which form part of this specification, in

which drawings like characters of reference indicate corresponding parts throughout the views, and in which—

Figure 1 is a side elevation of my improved instrument, showing in dotted lines a second pair of removable legs of different lengths than those shown in solid lines. Fig. 2 is a side elevation of the instrument as seen in the plane thereof, and Figs. 3 and 4 show details of the pivoting means.

My improved calipers comprise two members 1 and 2, pivotally connected together. The member 1 is provided with a circular plate 3 and arms 4 and 5, extending from opposite points on the periphery of the plate and in the plane thereof, while the member 2 comprises two parallel circular plates 6 and 7, spaced apart and both secured to the arms 8 and 9, extending from opposite peripheral points on said plates. The plate 3 of the member 1 is inserted between the plates 6 and 7 of the member 2, and the parts are secured together by a pivot-pin or bolt 10, having an enlarged head 11 and a thumb-nut 12. The arms 5 and 8 are of equal length and similar shape, the two being curved toward each other and each provided with a sharp point. The arms 4 and 9 are preferably straight, and each is provided with a socket 13 and a set-screw 14, whereby the removable legs 15 and 16 may be secured thereto. The legs 15 and 16, as shown, have their outer points at exactly four times the distance from the center of the pivot-pin as is the distance of the points of the arms 5 and 8 from said pivot-pin. There is also shown in dotted lines removable legs 15<sup>a</sup> and 16<sup>a</sup>, the points of which are three times the distance from the center of the pivot as are the points of the arms 5 and 8. It is evident that a large number of pairs of these legs may be provided, the length of each pair bearing a simple and definite relationship to the length of the arms 5 and 8, and when it is desired to use the instrument on any particular piece of work being made at a different scale from the piece of work upon which the instrument was last used the removable legs may be very quickly and readily taken off and another pair having the proper length substituted therefor.

I have shown the leg 15 as being provided with a removable marker 17, although it is evident that the leg 15 may be provided with a pointed end, as is the leg 16.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. A pair of proportional calipers, comprising two members, each having two legs extending in opposite directions and means intermediate the two legs and stationary as regards the ends of said legs for pivotally connecting the members together, and a plurality of pairs of detachable legs of different length, each pair being adapted to be secured directly to one end of said members, whereby calipers having different proportional distances between opposite ends may be formed.

2. A pair of proportional calipers, comprising two members, one having a circular plate and two legs extending from opposite edges thereof, and the other having two parallel circular plates and two legs extending from opposite edges spacing and uniting said plates, a pivot passing through the center of all of these plates to hold the first-mentioned

plate between the two last-mentioned ones, the adjacent legs of the two members on one side of the center being curved toward each other and the adjacent legs of the other members on the other side of the center being straight and extending to substantially the same distance from the center as the opposite curved legs, the ends of each of said straight legs being provided with a socket and set-screw, and a plurality of detachable legs of different lengths, each pair being adapted to be secured in said sockets whereby calipers having different lengths may be formed.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN PRARIO.

Witnesses:

GEO. MILLER,  
S. T. BAILEY.