

H. M. PARKHURST.

Dividers.

No. 13,993.

Patented Dec. 25, 1855.

FIG. 3.

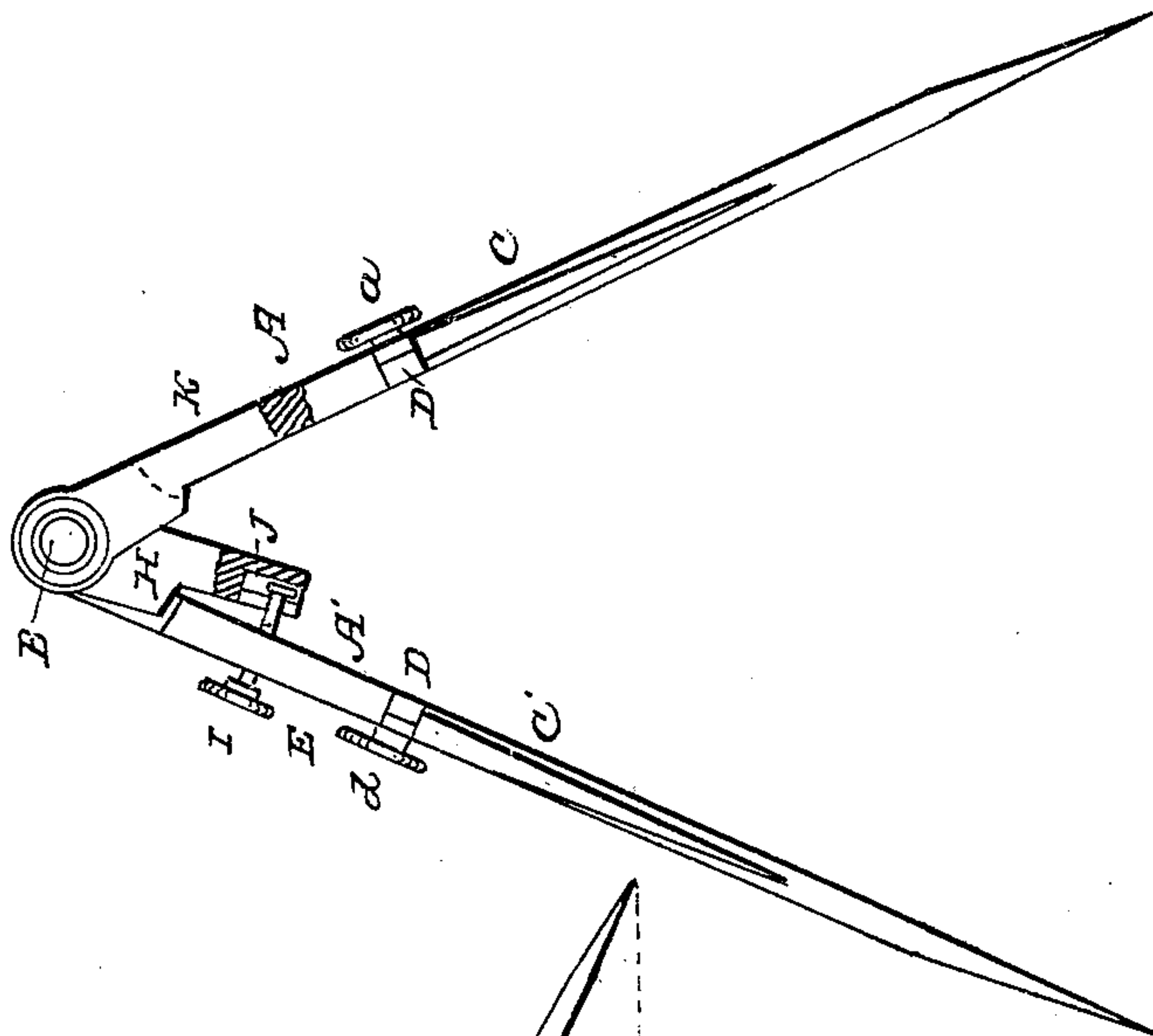


FIG. 2.

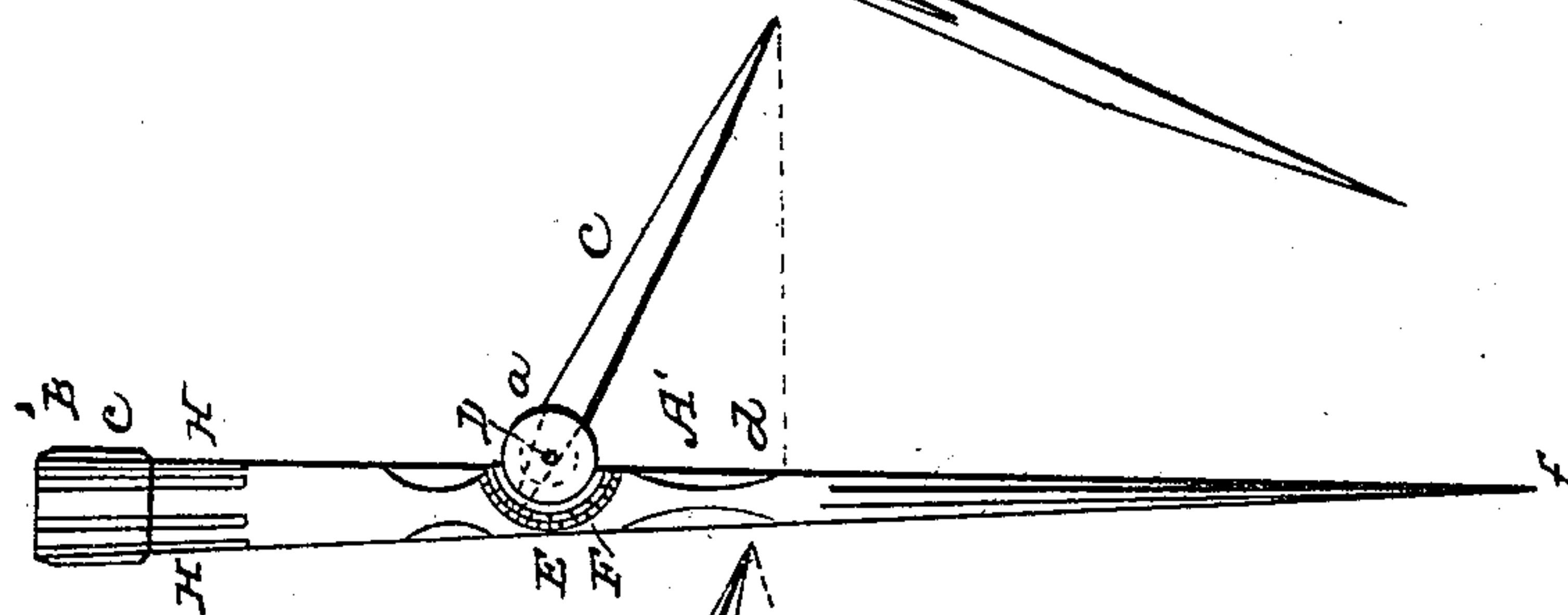
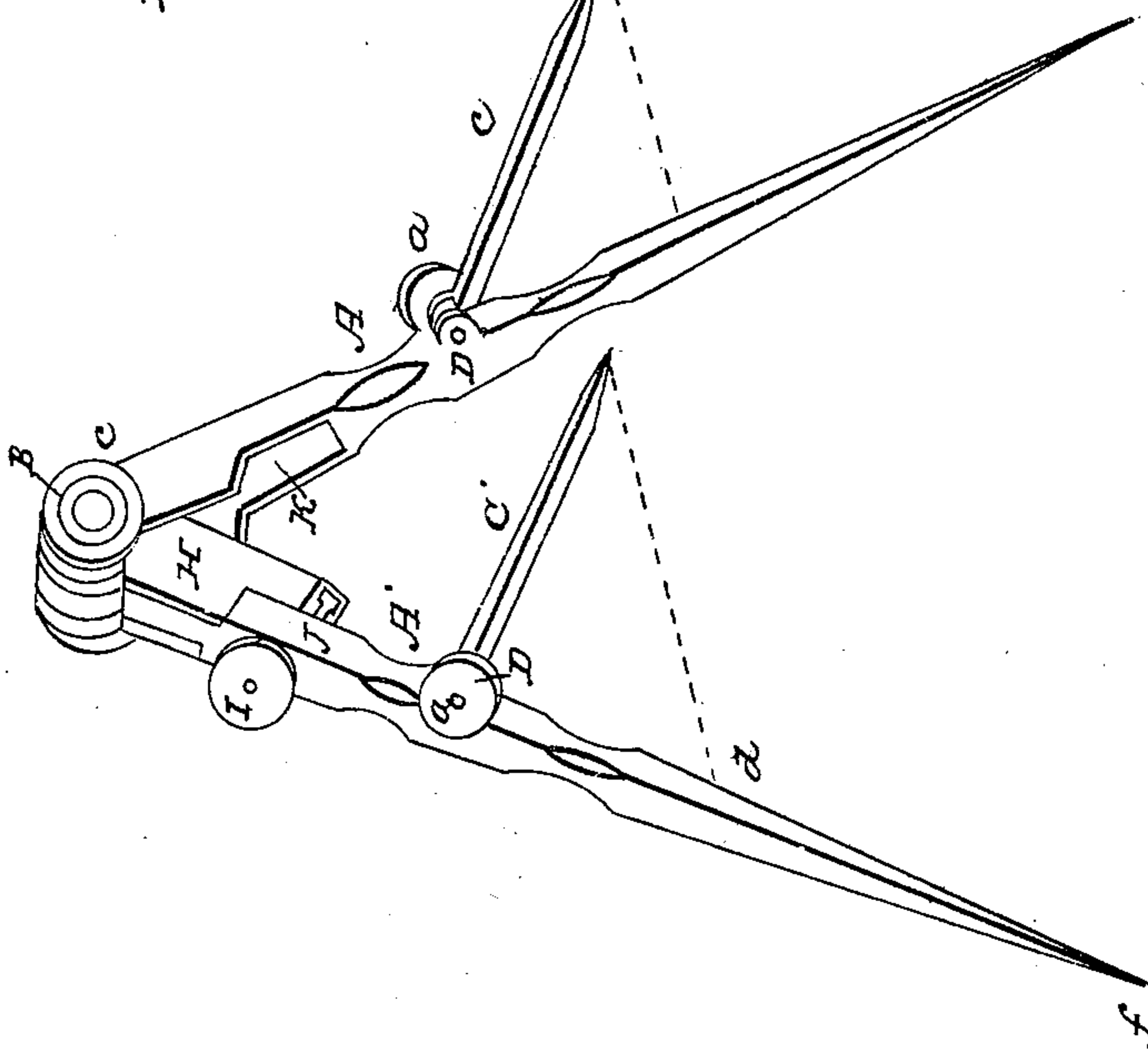


FIG. 1.



UNITED STATES PATENT OFFICE.

H. M. PARKHURST, OF PERTH AMBOY, NEW JERSEY.

PROPORTIONAL DIVIDERS.

Specification of Letters Patent No. 13,993, dated December 25, 1855.

To all whom it may concern:

Be it known that I, HENRY M. PARKHURST, of Perth Amboy, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Proportional Compasses or Dividers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a perspective view of a pair of proportional dividers constructed after my invention, the primary legs being open and the proportional or secondary legs shown set for giving one half of the proportional length of the objects measured by the primary legs. Fig. 2, is a side or edge view of the same. Fig. 3, a front view and partial section of the same, the proportional or secondary legs being shown lying against the primary legs.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to render a pair of ordinary dividers or compasses capable of serving as proportional dividers and thereby reduce expense, avoid having the proportional points pointing up to the eyes, dispense with the necessity of turning the dividers upside down in order to mark the proportional length every time obtained and enable the draftsman to obtain the proportional length of any object measured from 1 to 10 inclusive or less if desired without adding to the length of the dividers.

The nature of my invention consists in providing on each of the primary legs of a pair of common dividers or compasses an adjustable secondary leg, said legs having their joints or fulcra equidistant from, and at right angles to the joint of the primary legs and thus when the points are moved toward the joint of the primary legs come close together and give the one-tenth or other desired proportional length of the distance the primary legs are opened and when moved from said joint open wider and thereby give the proportional length; to which the primary legs are opened. The setting of the secondary legs is facilitated by a pointer attached to one of them and a scale marked out on one of the primary legs—the pointer indicating the distance on the scale that the

secondary legs are moved and thus enabling the draftsman to set them to give any desired proportional length from 1 to $\frac{1}{10}$ or less as desired.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, A', are the primary legs of a pair of common dividers, or compasses; B, the joint of the same.

C, C', are the secondary legs made adjustable and fastened with clamp screws *a, a*; D, D, the joints or fulcra of the same, turning at right angles to the joint of the primary legs, as before stated.

E, is the pointer; attached to C', and F, the scale marked on A', by which the setting of the secondary legs is facilitated.

H, is the false leg, hung on the joint D, between the primary legs; I, the set screw by which A', is adjusted when great accuracy is required; J, a slot in the false leg for the end of the set screw to play in as the adjustment is being effected, and K, a slot in one of the primary legs for the false leg to fit in as shown.

In proportional dividers constructed as shown, the secondary legs if the dividers be properly made, can, when the primary legs are closed, be turned through a space of about 180°, and their points will remain accurately together and if the secondary legs be placed together at any angle with the primary legs, their points will always maintain the same proportional distance, whatever may be the opening of the primary legs. The ratio will always be that of *c, d*, to *e, f*, *c, f*, being the effective length of the primary leg, and *c, d*, the distance from the primary joint of the point in the primary leg, cut by a perpendicular from the point of the secondary leg as illustrated.

What I claim as my invention and desire to secure by Letters Patent, is,

Providing an ordinary pair of dividers with the secondary legs, which have their joints equidistant from the primary joint, and at right angles thereto, substantially as and for the purpose set forth.

HENRY M. PARKHURST.

Witnesses:

R. W. FENWICK,
S. H. WALES.