

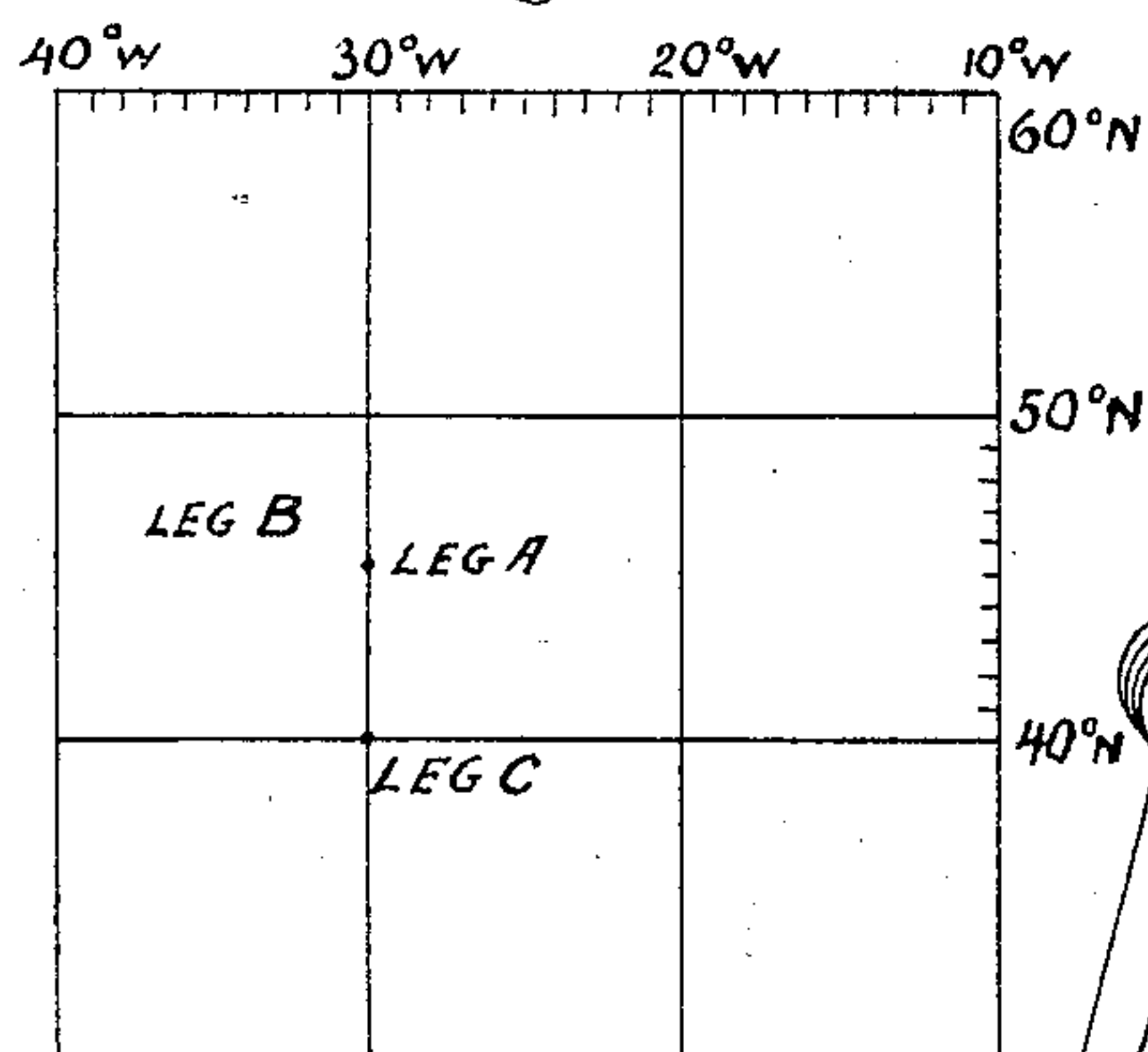
No. 828,608.

PATENTED AUG. 14, 1906.

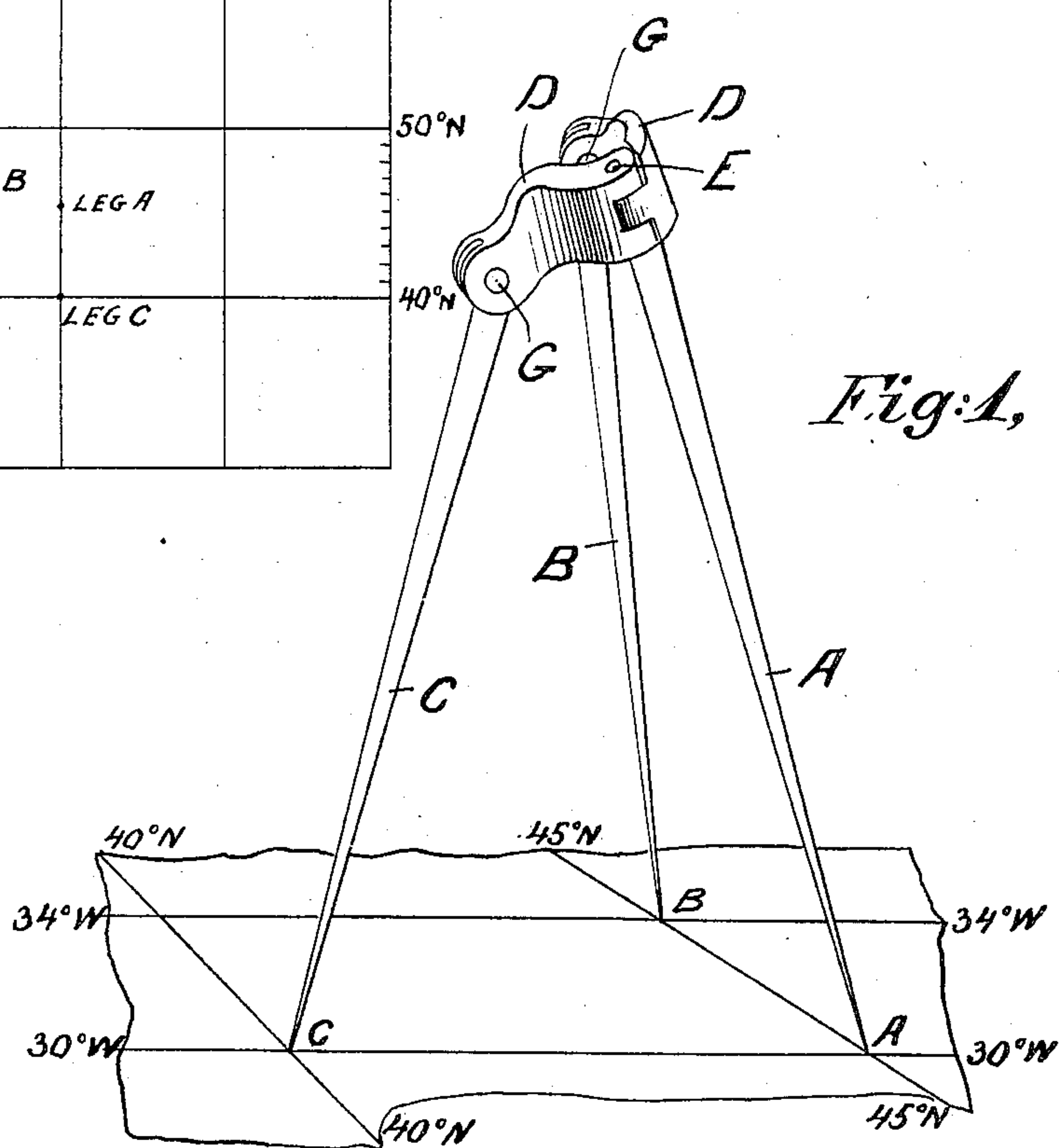
E. KEANE.  
DIVIDERS.

APPLICATION FILED APR. 6, 1906.

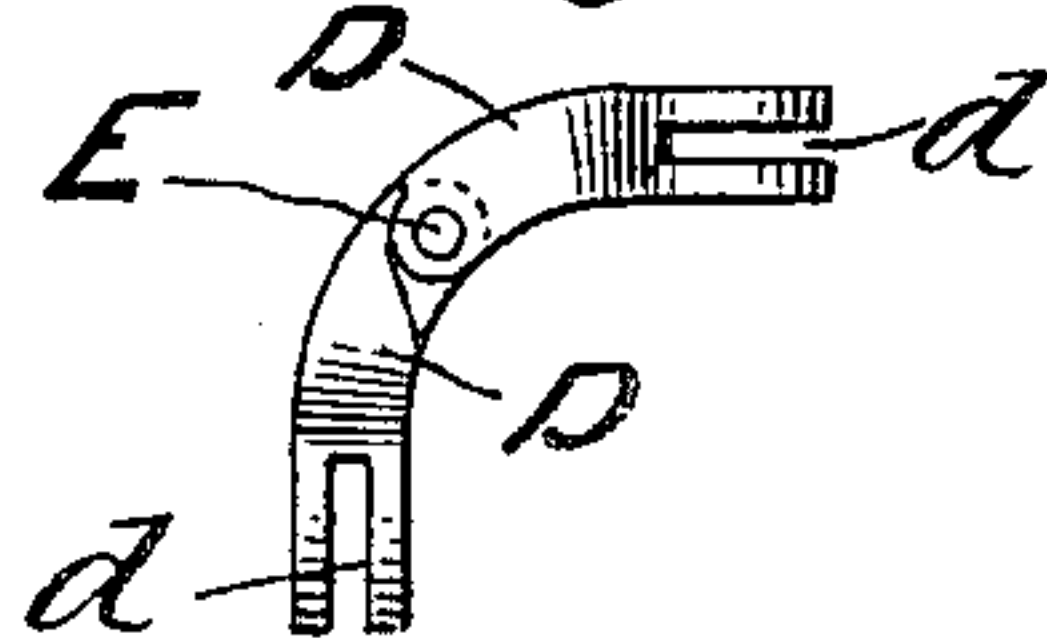
*Fig: 5,*



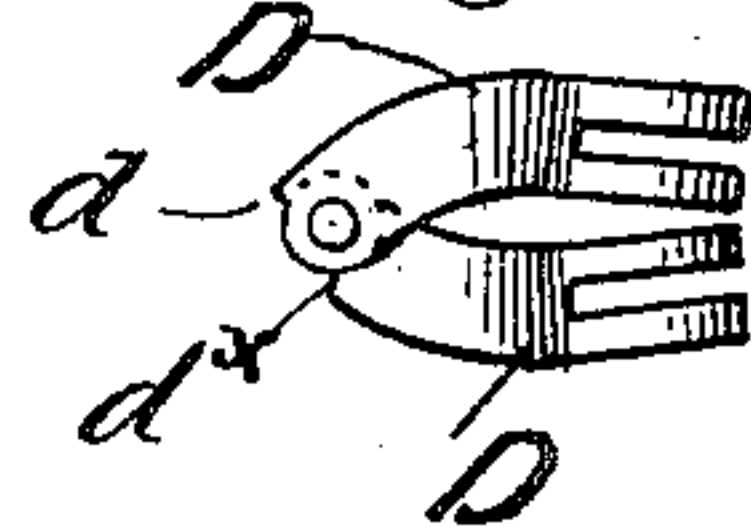
*Fig: 1,*



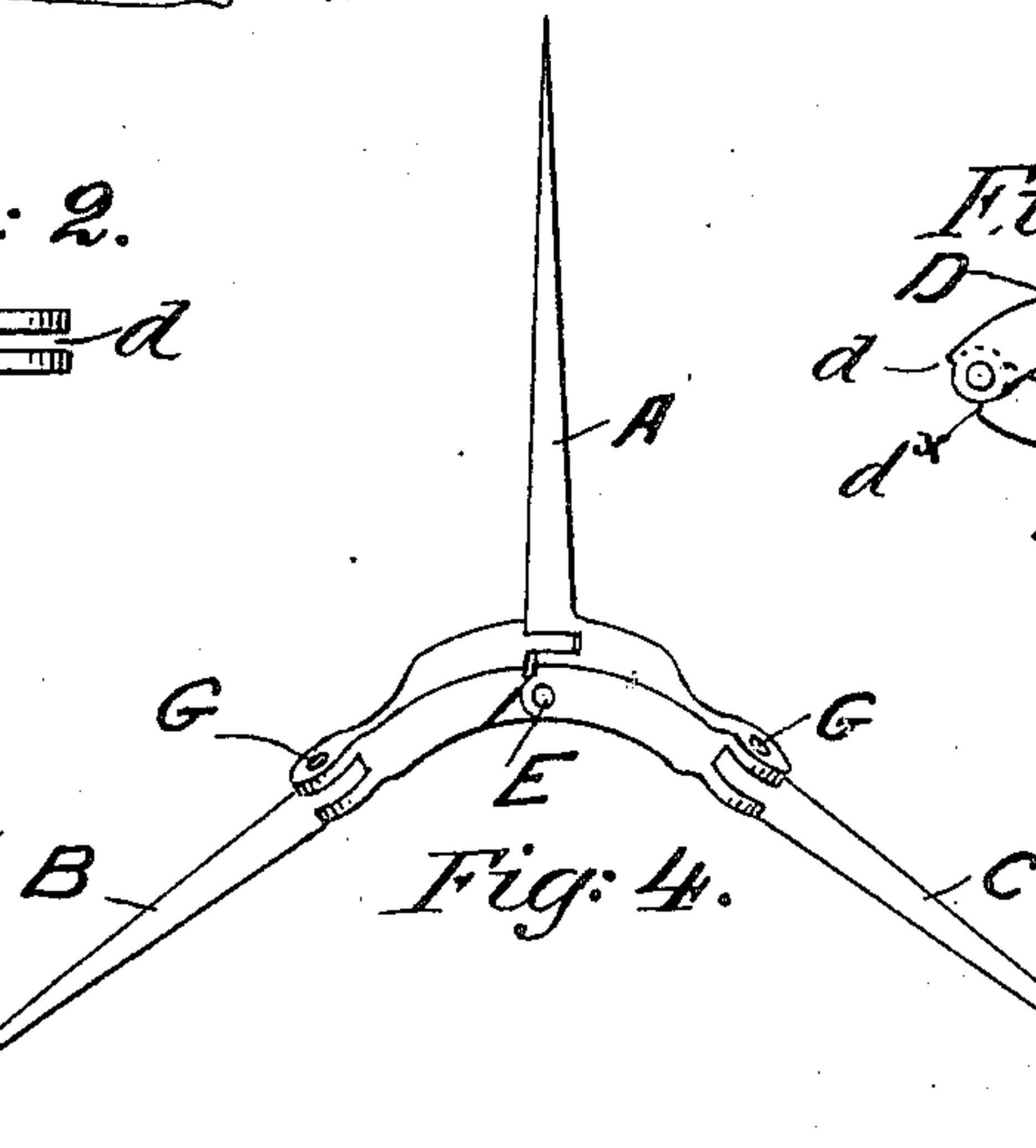
*Fig: 2.*



*Fig: 3.*



*Fig: 4.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

EDWARD KEANE, OF NEW YORK, N. Y.

## DIVIDERS.

No. 828,608.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed April 6, 1906. Serial No. 310,348.

*To all whom it may concern:*

Be it known that I, EDWARD KEANE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Dividers, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to what are known as "dividers;" and the object thereof is to provide an improved device or devices of this class designed particularly for use in plotting a ship's position on a chart; and with this object in view the invention consists in a device or devices of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a perspective view of my instrument in use; Figs. 2 and 3, detail views of the hinge in the open and closed positions; Fig. 4, a plan view; and Fig. 5 a diagrammatic view of a chart, showing method of laying down a ship's position.

My instrument is a form of chart position dividers or compasses provided with three legs A, B, and C. D represents a pair of wing-pieces hinged together at E, and to these wings the legs B and C are hinged in the jaws  $d$  of the same by the pivots G in any suitable manner. The leg A at the top forms the pivot E, on which the wing-pieces are hinged. The legs B and C, however, being hinged at G, they can be moved so as to bring their points nearer to or farther away from the point of the leg A. The hinged wings D are made with shoulders  $d^x$ , which form no obstruction to the wings, being folded flat together, as shown in Fig. 3, but prevent their being opened wider than a right angle, as shown in Fig. 2. Thus no matter what the position of the legs A, B, and C if the shoulders  $d^x$  of the wings D abut together a line drawn from the point of A to the point of B and from the point of A to the point of C will be at right angles to each other. By turning

the legs B and C on their hinges G their points are brought nearer to or farther away from the point of the leg A.

The mode of using the instrument is as follows: Latitude is measured, say, with the legs A C and longitude with the legs A B. The legs A C are placed on the meridian nearest the supposed longitude, leg C resting on the parallel from which the latitude is measured and where it is intersected by the meridian nearest the ship's longitude. Then the leg B will show the ship's position. Now suppose the ship be in latitude  $45^\circ$  north, longitude  $34^\circ$  west, and it is required to plot the ship's position in a chart such as shown in Fig. 5. First measure the latitude with the legs A C by placing the leg C of the dividers on  $40^\circ$  north and squeezing them until the point of the leg A touches  $45^\circ$  north. Then measure the longitude with the legs A B by placing leg A of the dividers on  $30^\circ$  west and squeezing leg B until its point touches  $34^\circ$  west. Then place leg C on the fortieth parallel where it is intersected by the thirtieth meridian and the leg A on the thirtieth meridian, then where the point of B rests is the ship's position on the chart.

The leg A is fixed on the axis of the hinge and in alinement with said axis, while legs B C are, as before mentioned, movable on their hinges. When the compass is not required for use, the wing-pieces D are folded together flat, as shown in Fig. 3, and the legs are then in parallel planes. When required for use, however, these wing-pieces D are opened out at right angles. My present invention dispenses with the use of two separate compasses or with the use of a parallel-ruler and a pair of two-leg compasses, and thus saves an officer a considerable amount of time in plotting the ship's position on a chart.

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

1. In three-legged dividers, a straight leg fixed on the axis of a hinge and in alinement with said axis, and two adjustable legs fixed to the wings of said hinge.

2. In three-legged dividers, a pair of hinged wing-pieces capable of being folded



flat together, and provided with shoulders to prevent their opening farther than a right angle, a straight leg fixed on the axis of the hinge and the other two legs also straight  
5 and hinged to the wing-pieces, substantially as shown and described.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of the subscribing witnesses, this 5th day of April, 1906.

EDWARD KEANE.

Witnesses:

F. A. STEWART,

C. E. MULREANY.