

No. 712,964.

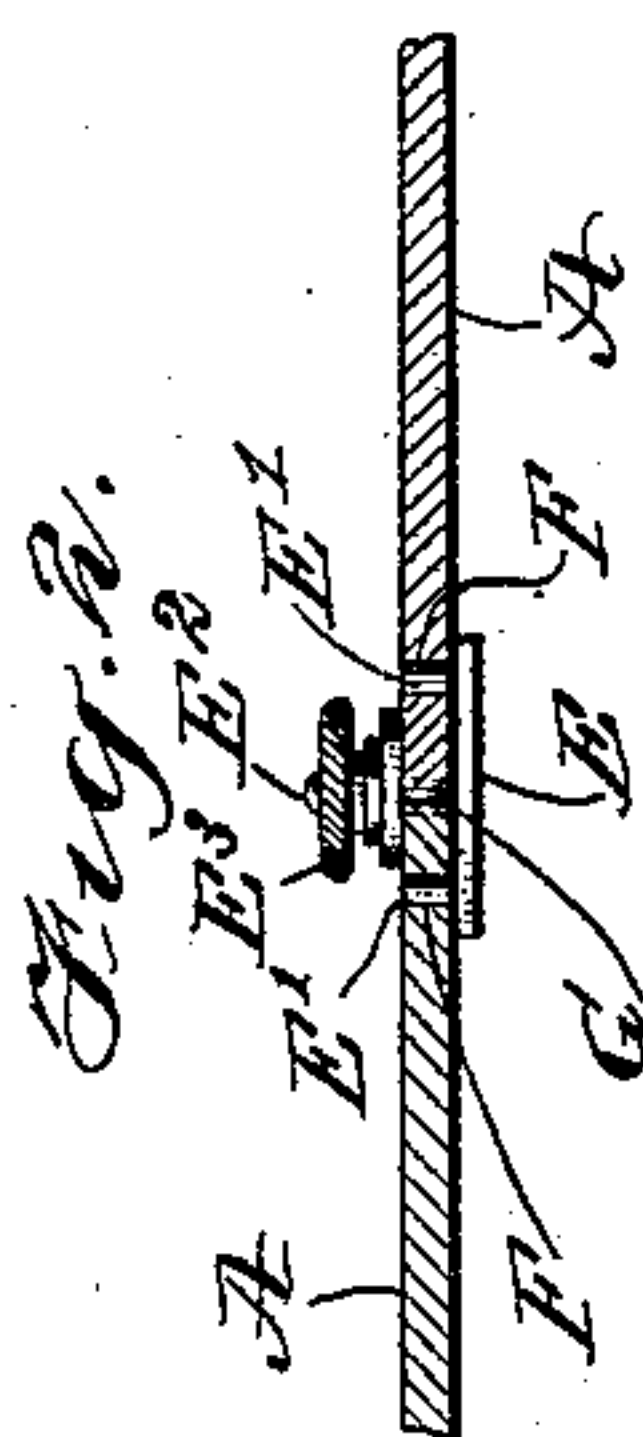
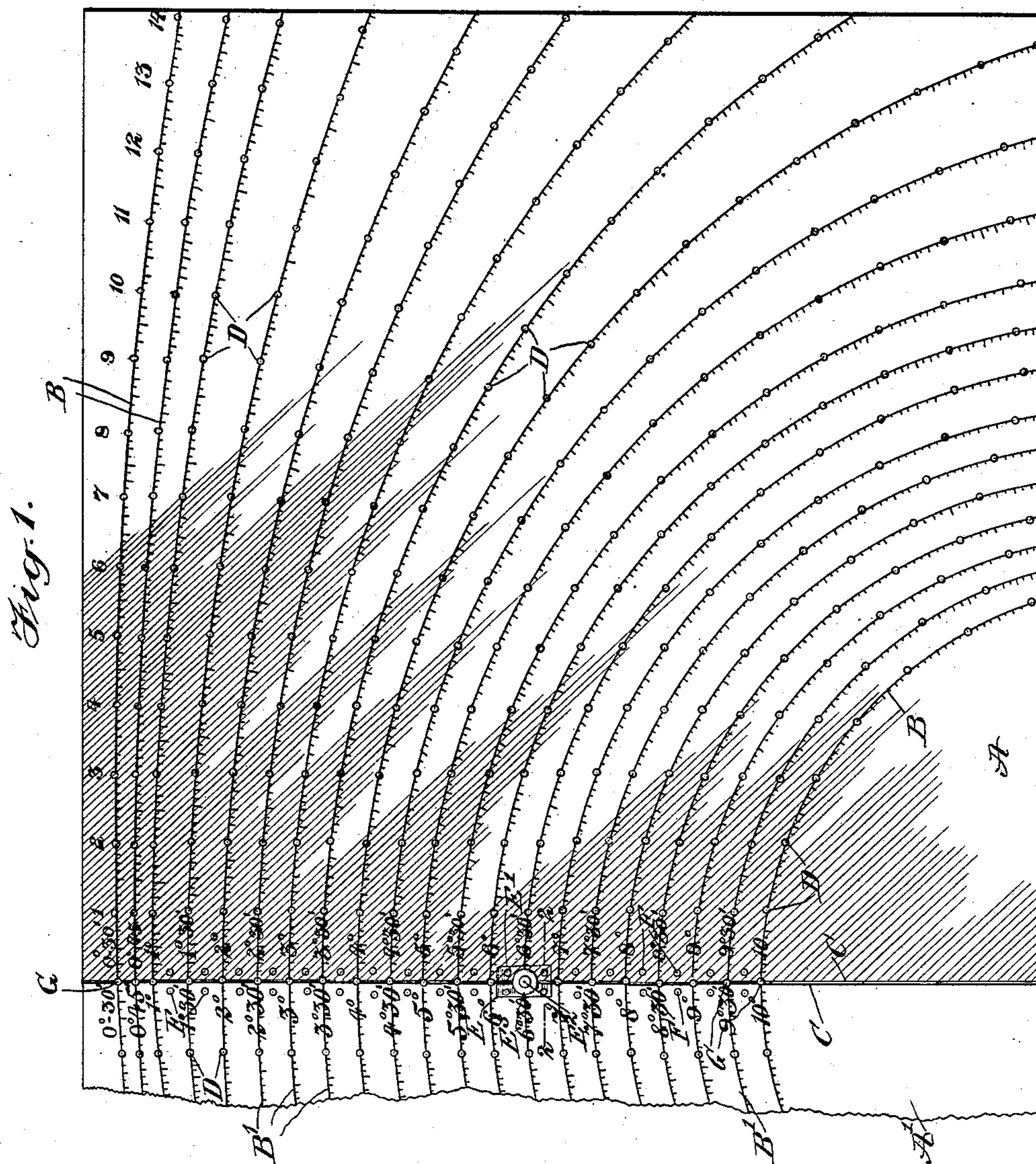
Patented Nov. 4, 1902.

C. H. QUIMBY, JR.
DRAFTING INSTRUMENT.

(Application filed Apr. 26, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

Fig. 4.

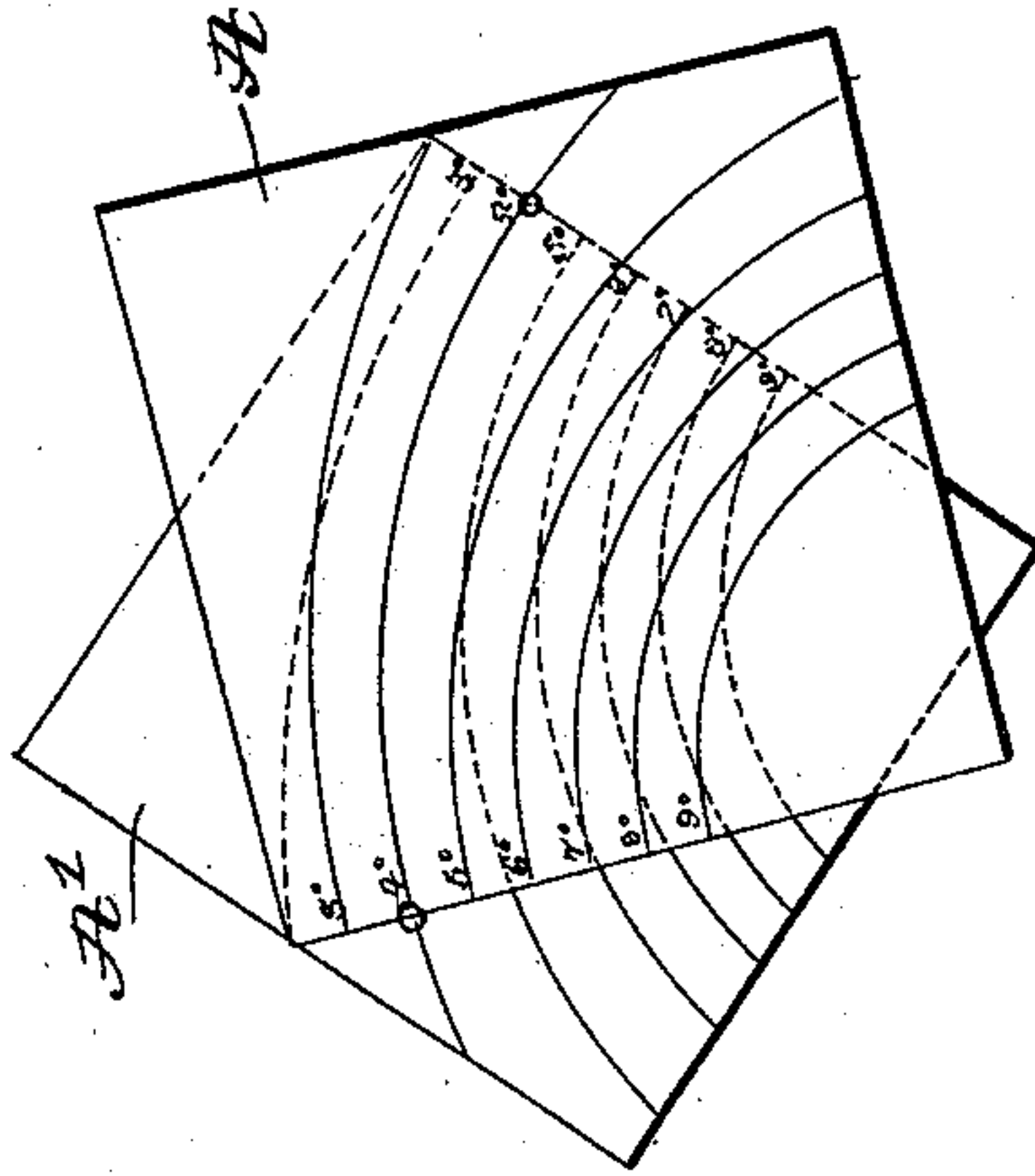
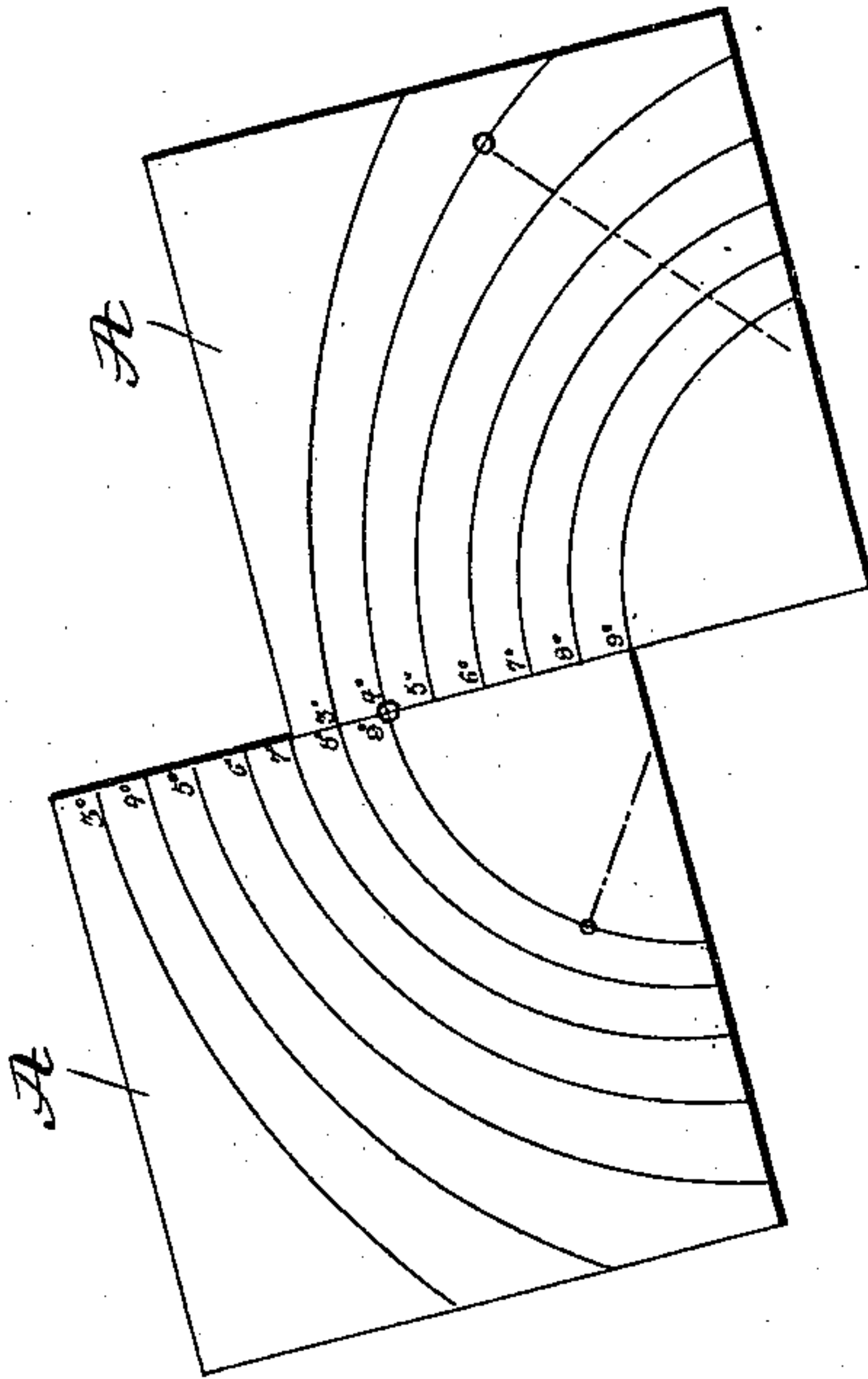


Fig. 3.



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CHARLES HENRY QUIMBY, JR., OF CONFLUENCE, PENNSYLVANIA.

DRAFTING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 712,964, dated November 4, 1902.

Application filed April 26, 1902. Serial No. 104,776. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY QUIMBY, Jr., a citizen of the United States, and a resident of Confluence, in the county of Somerset and State of Pennsylvania, have invented a new and Improved Drafting Instrument, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved drafting instrument more especially designed for the use of railroad-engineers in the work of railroad location and combining a railroad-curve projector, and a curve-scale being arranged to permit the user to readily select such curve or combination of curves as will best suit the conditions shown on the plan or contour map and to obtain the length of the curve without further calculation.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the improvement, showing two sheets coupled together. Fig. 2 is an enlarged sectional side elevation of the same on the line 2 2 in Fig. 1. Fig. 3 is a reduced face view of the improvement, showing two sheets coupled together for locating a compound curve; and Fig. 4 is a reduced view of the improvement, showing two sheets, one a right and the other a left hand, as applied one after the other, for locating a simple curve.

The drafting instrument, as shown in Fig. 1, consists of the right and left hand sheets A and A', of celluloid or other transparent or translucent material, and formed on their bottom faces with inscribed segmental curves B B', respectively, of different radii, the curves of each sheet beginning along a common radius C, which forms the joining edge for the two sheets A and A'. The beginning points of the curves are spaced apart uniformly, and the curves are marked adjacent to the common radius C, according to their value—that is, "0.30', 0.45', 1, 1.30'," &c.,

for the curves B and the same arrangement for the curves B', it being, however, understood that the curves may be arranged for values increasing by ten minutes or fifteen minutes or any other subdivision of degrees. Each curve is provided throughout its length with a linear graduation (feet) according to a predetermined scale, and at each hundred feet along its curve is formed an aperture D to allow insertion of a point or pencil to mark the map on which the instrument is used at the time.

The sheets A A' are to be exactly the same, except one is laid off to the right, as A, and the other to the left, as A', and are adapted to be joined together along their radius edges, as indicated in Fig. 1, and in order to temporarily fasten the abutting sheets together I provide one or more clamping-plates E, each having upwardly-extending lugs E', adapted to engage apertures F, formed in the sheets A A', adjacent to the radius edges and spaced equidistant apart, the same as the curves B B', to allow of joining the sheets in such a manner that a curve B on the sheet A joins a curve B' on the other sheet A', whether the curves are of the same or different radii, it being understood that when the curves are of different radii (see Fig. 3) a compound curve is produced, and when the curves of the same radii are employed simple curves of double the length given on one sheet may be had.

The clamping-plate E is provided at its middle with an upwardly-extending bolt E², adapted to extend through jointed recesses G, formed along the radius edges of the sheets A A' at the beginning of the curves B B', and on the said bolt screws a clamping-nut E³, engaging the faces of the sheets opposite the ones engaged by the plate E. Thus by the use of the clamping device and the apertures F and G in the sheets A A' the latter may be securely fastened together along their radius edges at the same or at different curves B B' and in every case giving a perfect fit or securing the curves exactly posite one another.

In Fig. 4 the sheets are not secured together and are to be applied one after the other—that is to say, one is placed on the map to locate the starting-point of the curve

and then the other is applied, after removing the first, to locate the end of the curve and to get the length of the same.

From the foregoing it will be seen that as the device is in the form of sheets of transparent or translucent material they can be readily placed in proper position on the map to indicate the desired curve and combination of curves to suit the conditions shown on the plan or map, the linear graduation of each curve giving the length of the curve.

It is expressly understood that the sheets A A' can be separately and independently used or joined and fastened together, as above described, and with the aid of the sheets the operator can readily see at what point to start a curve from a tangent and at what point to end a curve in order to obtain a certain tangent. Furthermore, the operator can readily indicate the point at which to compound the curve and also what kind of curve to compound.

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

1. A drafting instrument consisting of a sheet of transparent material, formed with curves of different radii laid off at uniform intervals along a common radius, each curve having a linear graduation, and the sheet being provided with apertures along each curve, uniformly spaced apart, as set forth.

2. A drafting instrument consisting of a sheet of transparent material, formed with curves of different radii laid off at uniform intervals along a common radius, each curve being provided with indications of its degree, distance and radius.

3. A drafting instrument, comprising right and left hand sheets of transparent material,

each having curves of different radii, laid off at uniform intervals along a common radius extending along the edge of each sheet, and means for securing the sheets together along their abutting radius edges, as set forth.

4. A drafting instrument, comprising right and left hand sheets of transparent material, each having curves of different radii, laid off at uniform intervals along a common radius extending along the edge of each sheet said sheets being provided with apertures adjacent to the radius edge, and means for securing the sheets together along their abutting radius edges, the said means comprising a clamping-plate having lugs engaging apertures in the said sheets and a clamping-bolt on the said plate, as set forth.

5. A drafting instrument, comprising right and left hand sheets of transparent material, each having curves of different radii, laid off at uniform intervals along a common radius extending along the edge of each sheet said sheets being provided with apertures adjacent to the radius edge, and means for securing the sheets together along their abutting radius edges, the said means comprising a clamping-plate having lugs engaging apertures in the said sheets and a clamping-bolt on the said plate, the said clamping-bolt extending centrally from the plate through an aperture along the common radius edges of the sheets, at the beginning of the curves, as set forth.

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

CHARLES HENRY QUIMBY, JR.

Witnesses:

ARTHUR G. BOUGHNER,
THOMAS E. COLLINS.