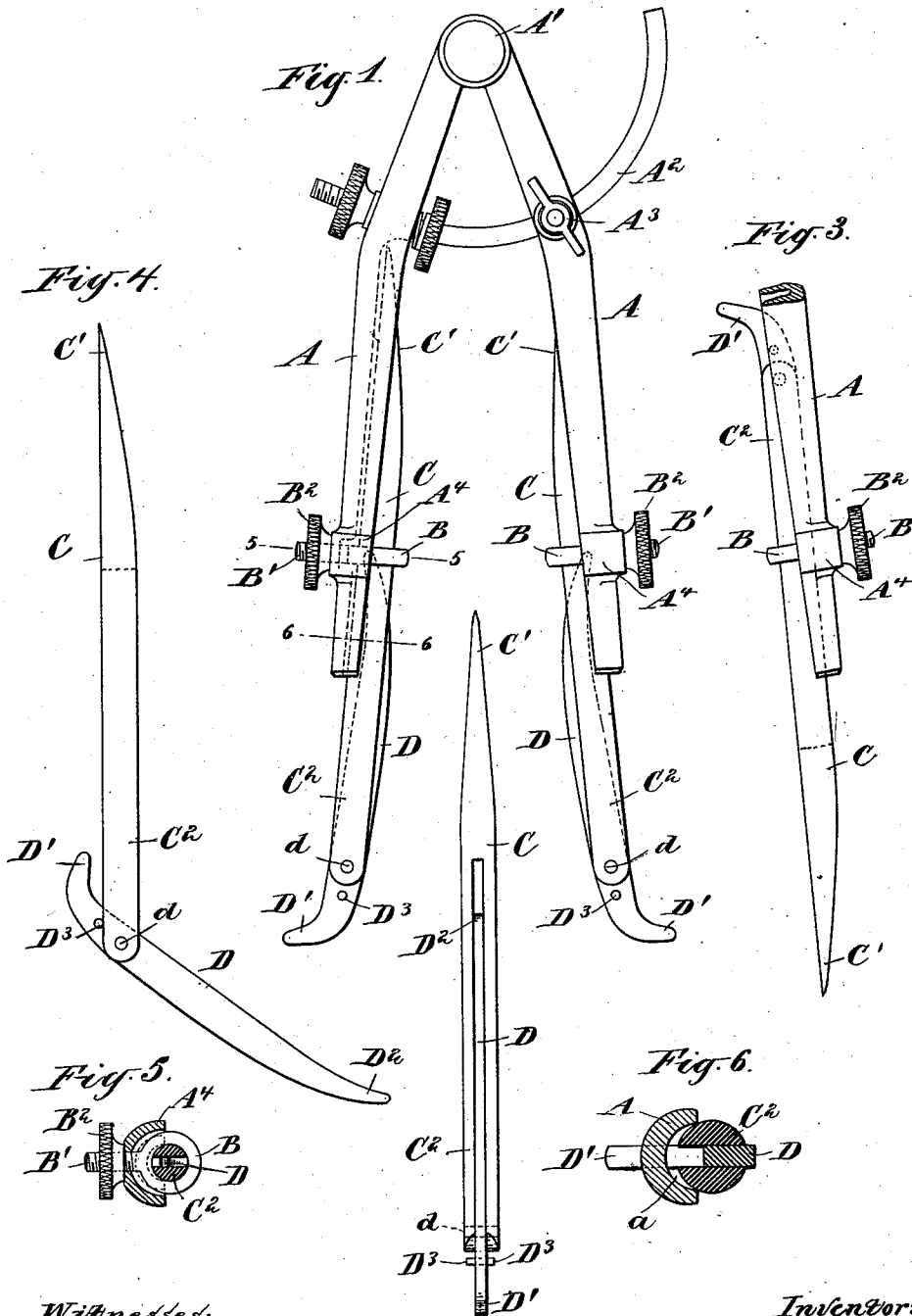


W. A. PECK.
CALIPERS AND DIVIDERS.
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UNITED STATES PATENT OFFICE.

WILLIAM A. PECK, OF JERSEY CITY, NEW JERSEY.

CALIPERS AND DIVIDERS.

1,001,219.

Specification of Letters Patent. Patented Aug. 22, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM A. PECK, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented a certain new and useful Improvement in Calipers and Dividers, of which the following is a specification.

The invention relates to combination instruments capable of serving as dividers or as calipers, and the object of the invention is to provide a tool of this character of simple construction and few parts, in which the divider-points or bars are adjustable as to length and removably held, and equipped with permanently attached folding arms adapted by change of position to serve either as inside or outside calipers as desired.

Another important object is to provide clamping means serving the double function of holding the bars firmly to the body of the tool when in the desired position, and also holding the caliper arms in position on the bars.

The invention consists in certain novel features and details of construction and arrangement by which the above objects are attained, to be hereinafter described.

The accompanying drawings form a part of this specification and show an approved form of the invention.

Figure 1 is a side or face view of the tool arranged for service as an inside caliper. Fig. 2 is an edge view of one of the bars alone similarly positioned. Fig. 3 is a side view of a portion of one leg of the tool and a reversed bar arranged for service as a divider point. Fig. 4 is a side view of one of the bars with its arm extended to serve as one member of an outside caliper. Fig. 5 is a transverse section, partly in plan view, showing the clamping device. The plane of section is indicated by the line 5-5 in Fig. 1. Fig. 6 is a corresponding section on a larger scale, taken on the line 6-6 in Fig. 1.

Similar letters of reference indicate the same parts in all the figures.

The tool shown in Fig. 1 has the legs A A hinged together at A¹, forming a body of a well-known type, with an adjustable arc A² and nut A³ therefor as usual.

The legs are of crescent form in cross-section having a circular groove or channel *a* on the inner face of each, and are equipped

each with a hollow enlargement A⁴ near the lower end in which is received a clamp comprising a ring B having a screw-threaded arm B¹ extending through the leg and receiving a thumb-nut B² abutting against the outer face of the enlargement.

Extending through each ring B is a removable bar C of cylindrical form in the main portion of its length, terminating at one end in a divider point C¹ and having a longitudinally extending opening at the other end, shown as a bifurcation extending nearly the whole length of the cylindrical part of the bar. Between the branches or walls thus formed, and pivoted therein at *d* near the end, is a caliper arm D having an outwardly curved finger D¹ at one end adapted to serve as one member of an inside caliper, and terminating at the other end in a rounded point D² adapted to serve as one member of an outside caliper when properly presented.

Each arm D is of such thickness and width as to match closely in the bifurcation C² and lie between the branches thereof, and be mainly inclosed thereby, when in the folded condition, and the diameter of the bar C is somewhat greater than that of the groove *a* so that the bar is only partially received therein.

When arranged to serve as an inside caliper, as in Fig. 1, the pointed end C¹ of each bar C with its arm D folded therein, is thrust through its ring B to the desired distance, with the fingers D¹ projecting outwardly in opposite directions from each other; the thumb-nut B² is turned to draw the bar C strongly into the channel or groove *a* in the leg A, thus securely holding the bar against lateral and longitudinal movements, and also by the pressure thus produced between the lips of the channel and bifurcated portion of the bar, compressing the two branches of the latter firmly upon the inclosed arm D and holding it reliably. The friction of such contact also insures the bar against rotation in the ring, and as the cylindrical portion of the bar has a long bearing in the groove *a* its direction relatively to the leg A is firmly maintained.

In conditioning the tool for service as an outside caliper, the clamp is loosened and the arms D turned on their pivots *d* to project the pointed ends D² inwardly, as indicated in Fig. 4, and the thumb-nut B² again

tightened, holding the bar as before with the arm D strongly compressed between its branches. A stop pin D³ is provided in each finger D¹ so located as to strike the
5 bar and limit the movement of arm.

When the instrument is to be used as a divider the bars are withdrawn and reversed, the arms D folded therein out of the way, and thus conditioned the bars are engaged by passing the curved finger D¹ of
10 each through the ring B and thus introducing the body of the bar with the divider point C¹ projecting as shown in Fig. 3; the thumb-nuts B² are then tightened and the
15 bars securely held.

Importance is attached to the features by which the compression of the bars between the lips or walls of the groove *a* is utilized; in the form shown the bars are slitted completely through to produce bifurcations
20 which are compressed upon and frictionally hold the arms.

Other modifications may be made in the forms and proportions of the parts without
25 departing from the invention, and other supporting means than the legs A A may be employed.

I claim:—

1. In a tool of the character set forth, a
30 support, a bar movable longitudinally with relation to said support and having a longitudinally extending opening therein, a caliper arm pivoted to said bar and adapted to fold into said opening, and attaching means
35 embracing said bar for adjustably and removably securing said bar to its support, said bar being endwise reversibly mounted.

2. In a tool of the character set forth, a bar having a longitudinally extending opening therein, a caliper-arm pivoted between
40 its end to said bar, one of such ends constructed to serve as an inside caliper member and the other as an outside caliper member, one of said members adapted to
45 fold inwardly into said opening, a stop limiting the outward movement of said arm, and means for adjustably and removably holding said bar to a support.

3. In a tool of the character set forth, a
50 bar having a longitudinally extending opening therein, a caliper arm pivoted to said bar and adapted to fold in said opening, and a holding means for said bar having a groove receiving said bar and a clamp con-

structed to engage said bar and force it into
55 said groove, whereby the side walls of said opening are compressed upon said arm.

4. In a tool of the character set forth, a pair of pivotally joined legs each having a groove on its inner face, a bifurcated bar
60 for each leg received in such groove, a caliper arm pivoted to said bar and adapted to fold into said bifurcation, and a clamp on each leg constructed to engage its bar and force it into said groove to compress said
65 bifurcation upon said arm.

5. In a tool of the character set forth, a pair of pivotally joined legs, a bar for each leg having a divider point at one end and bifurcated at the other, a caliper arm pivoted to said bar at the bifurcated end thereof and adapted to fold into said bifurcation, and a clamp on each leg adapted adjustably to engage its bar with either end of the
70 latter.
75

6. In a tool of the character set forth, a pair of pivotally joined legs each having a longitudinally extending groove on its inner face, a cylindrical bar for each leg partially received in said groove and having
80 a divider point at one end and bifurcated at the other, a caliper arm pivoted to said bar at the bifurcated end thereof and adapted to fold into said bifurcation, and a clamp on each leg adapted adjustably
85 to engage its bar and force it into said groove to compress said bifurcation upon said arm.

7. In a tool of the character set forth, a leg in crescent form in cross section, a bar
90 received within the channel of said leg and having a longitudinally extending opening therein, an arm pivoted to said bar and adapted to fold into said opening, and means adjustably mounted on said leg and
95 embracing and engaging opposite sides of said bar and constructed to compress the walls of said opening upon said arm and hold the latter frictionally in position relatively to said bar.
100

In testimony that I claim the invention above set forth I affix my signature, in presence of two witnesses.

WILLIAM A. PECK.

Witnesses:

CHARLES R. SEARLE,
WALLY E. YOUNG.