

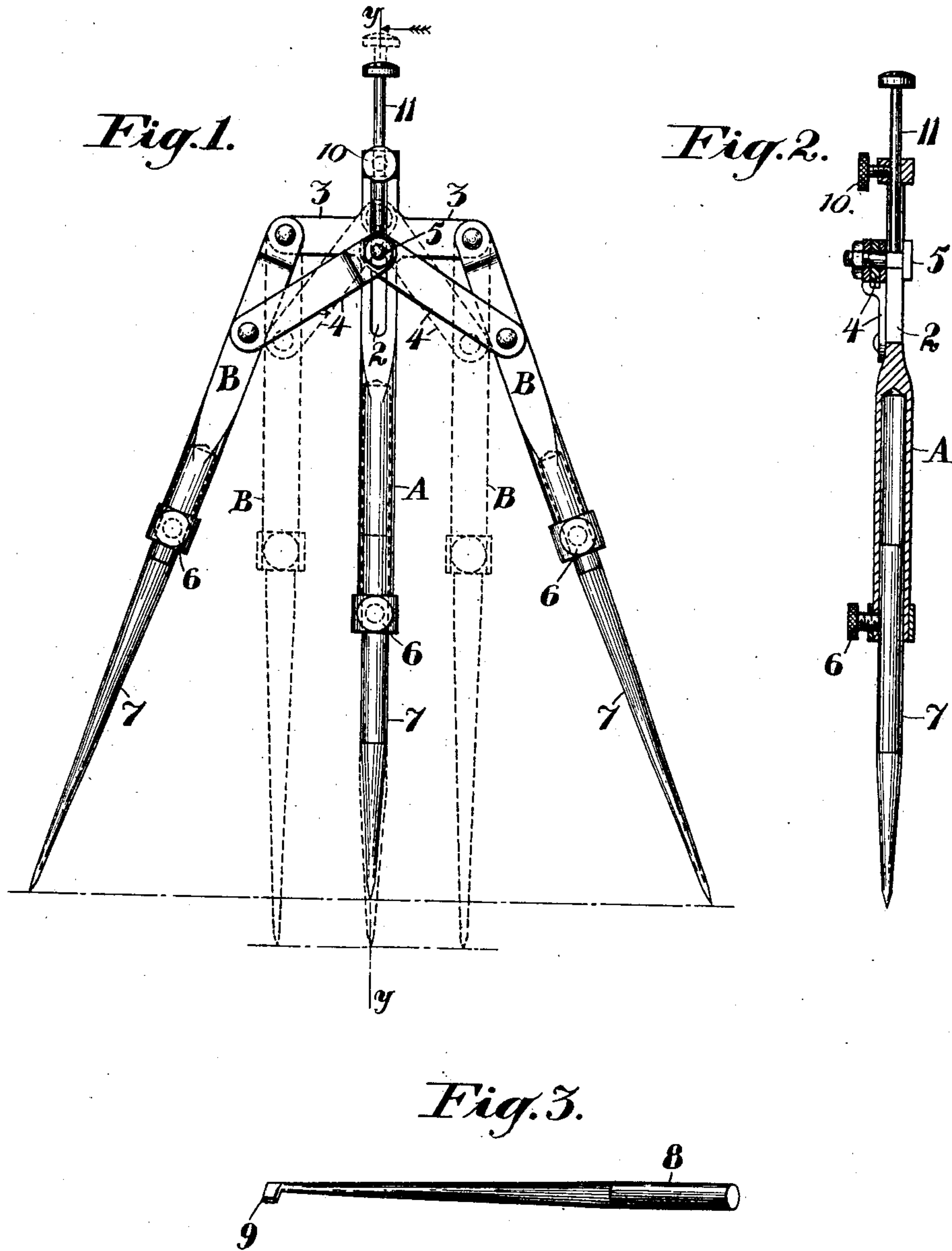
No. 762,553.

PATENTED JUNE 14, 1904.

P. S. PALMER.
COMBINATION DIVIDERS AND CALIPERS.

APPLICATION FILED FEB. 16, 1904.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

PHILIP S. PALMER, OF SPOKANE, WASHINGTON.

COMBINATION DIVIDERS AND CALIPERS.

SPECIFICATION forming part of Letters Patent No. 762,553, dated June 14, 1904.

Application filed February 16, 1904. Serial No. 193,787. (No model.)

To all whom it may concern:

Be it known that I, PHILIP S. PALMER, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented new and useful Improvements in Combination Dividers and Calipers, of which the following is a specification.

My invention relates to an improved combination-tool, and particularly to a combined adjustable divider and caliper with means for determining instantly the center of a circle or a point midway between the ends of the caliper or divider.

It consists of the parts and the construction and combination of parts, as hereinafter more fully described, having reference to the accompanying drawings, in which—

Figure 1 shows my device in two positions. Fig. 2 is a section on line *y y* of Fig. 1. Fig. 3 is a perspective view of the caliper-arm.

A represents a socketed member or tubular leg slotted adjacent to one end, as at 2, and having the opposed projecting arms 3, from the ends of which are pivoted the legs B. As here shown, the central leg A is of slightly greater length than the outer legs B. The centers of the pivots of members B are equidistant from the axial line of member A, and the members B are connected together by means of the links 4, the inner ends of the links being pivoted to a bolt 5 or other suitable carriage, having a guided movement in slot 2. Thus any movement of one of members B relative to member A causes the other member B to partake of precisely the same movement, and the member A will always bisect the angle included between the member B. The outer end of each member is formed with a socket and provided with a set-screw 6 or equivalent clamping means and is adapted to receive a divider-pointer, as 7, or a caliper-arm, as 8.

Where the device is to be used as a divider, two of the pointers 7 are inserted into their sockets in members B and locked. Except it is desired to bisect the distance between the ends of the pointers carried by members B or, what is the equivalent, determine the center of a circle whose diameter is equal to

the distance between those ends the other pointer need not be inserted into the central member A. As the outer members or legs and pointers open and close equally from and toward the center by reason of the knuckle-joint connection 4 5, it becomes an easy matter to find the center of a line or circle without the trouble of the old style of measuring. The center pointer is adjustable up and down, so that as the outer ones open and close the ends of the three pointers may be maintained in a straight line.

Where the device is used as a caliper, the pointers 7 are removed and the caliper-arms 8 inserted. The center pointer may still be retained, if desired, as where the center of a circle is to be determined. To find the inside dimensions of a pipe or opening, the arms 8 are turned half around to bring the lips 9 outward.

If it is desired to use the device as a gage, the arms 8 are turned to bring the lips parallel, or one of the arms may be removed and the other operated in conjunction with the central pointer. The outer members are locked at any desired point relative to each other and member A by means of a set-screw 10 in member A engaging a reciprocating bolt 11, fastened to carriage 5.

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

1. In a tool of the character described, the combination of a central member having laterally and oppositely projecting arms, legs pivoted to the ends of said arms, said central member longitudinally slotted and a part slidable in said slot, links pivoted to said part and to said legs, and a vertically-guided rod as 11 connected with said slidable part and means for locking said rod against movement.

2. In a tool of the character described, the combination of a central member, outer members in the same plane with said central member and pivotally connected thereto, said central member having a longitudinal slot, a part slidable in said slot, links connected pivotally with said slidable part and said outer members, and means including a sliding rod to reciprocate said part.

3. In a tool of the character described, the combination of a central member, outer members in the same plane with said central member and pivotally connected thereto, said central member having a longitudinal slot, a part
5 slidable in said slot, links connected pivotally with said slidable part and said outer members, means including a sliding rod to reciprocate said part and removable and adjustable

caliper members as 8 carried by said outer members.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PHILIP S. PALMER.

Witnesses:

J. E. CRADDICK,

GLEN B. CREIGHTON.