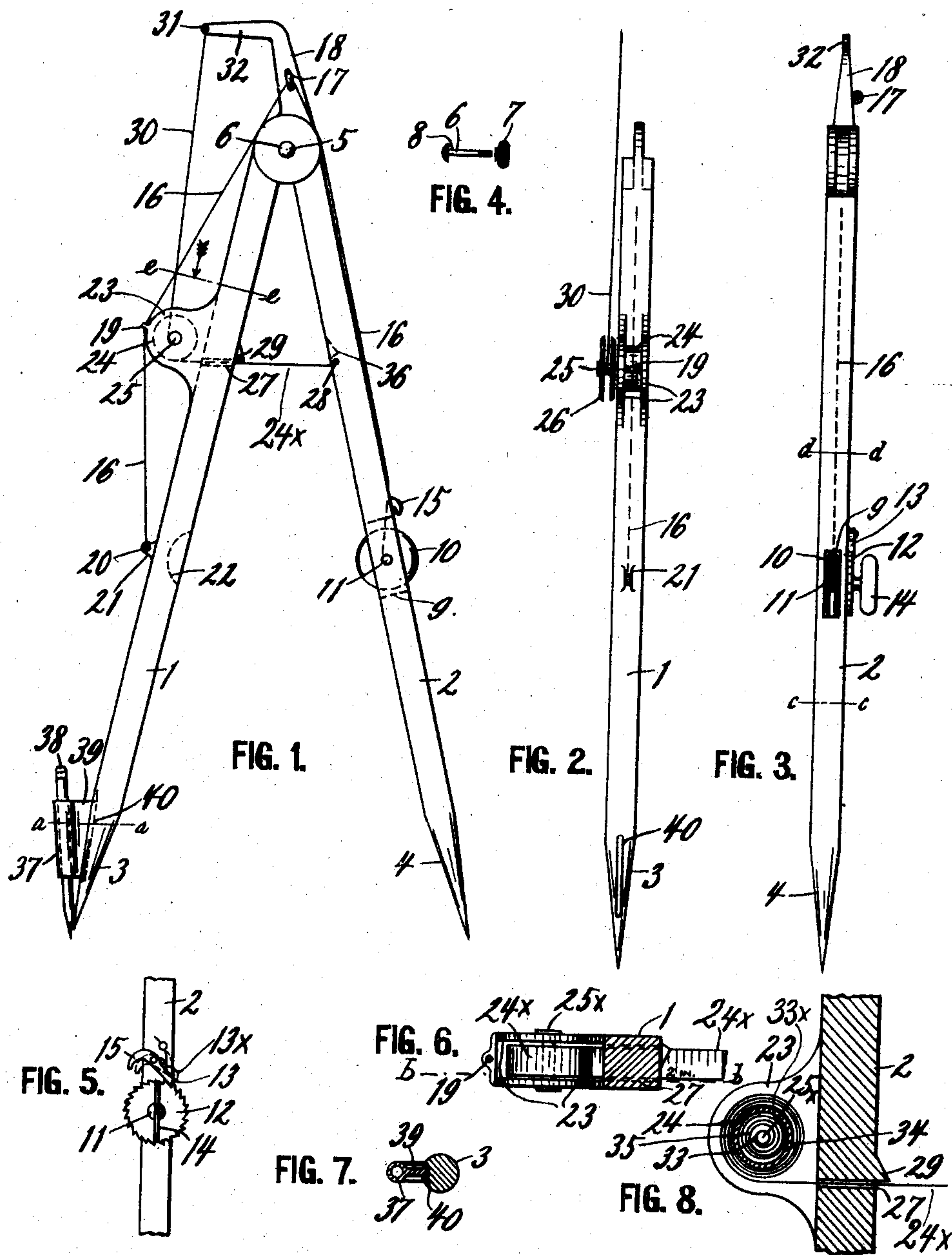


P. SPLIID.
DIVIDERS.

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905,381.

Patented Dec. 1, 1908.



WITNESSES:

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UNITED STATES PATENT OFFICE.

PEDER SPLIID, OF ST. PAUL, MINNESOTA.

DIVIDERS.

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To all whom it may concern:

Be it known that I, PEDER SPLIID, a subject of the King of Denmark, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented new and useful Dividers, of which the following is a specification.

My invention relates to improvements in dividers and compasses, and may be used on almost any drafting tool of the class mentioned.

The object of the invention is to provide an efficient, easily operated and adjustable tool of said kind.

In the drawings—Figure 1 is a side view of my improved dividers. Fig. 2 is a view of the left leg of the dividers, as seen from the left of Fig. 1, with pencil holder removed. Fig. 3 is a view of the right leg of the dividers, as seen from the right of Fig. 1. Fig. 4 is a detail view of the pivot and thumb nut by which the two legs of the dividers are connected at their upper ends. Fig. 5 is a right side view of the part of the right leg between the lines *c—c* and *d—d* in Fig. 3. Fig. 6 is an enlarged section about as on the line *e—e* in Fig. 1 but refers to a modified form. Fig. 7 is a cross section of the lower part of the left leg looking down, about as from the line *a—a* in Fig. 1. Fig. 8 is a section on line *b—b* in Fig. 6.

Referring to the drawing by reference numerals, 1 and 2 represent the left and right legs, respectively, of the dividers, having the pointed ends 3 and 4 and being connected at 5 by a pivot pin 6 which may have a thumb screw 7. On the inside surface of the head of the pivot-pin is a lug 8 fitting into a corresponding notch (not shown) in the joint and which prevents the pin from turning when the dividers are in use.

At any suitable point on the leg 2, but preferably about half way from either end, I provide a slot 9 in which is placed a drum 10 fixed on a shaft 11. Said shaft extends outside the leg and has affixed to it a small ratchet wheel 12, whose backward turning is prevented by the spring pressed dog 13. Said wheel 12 can be turned to the right (see Fig. 5) by the flat thumb-piece 14 fixed at the end of the shaft. But it cannot turn backward until the downwardly curved rear end 15 of the dog has been pushed down by the thumb and the other end thus raised out of engagement with the teeth. A steel wire

or other suitable wire 16 is fastened and partly wound on the drum 10 and is extended upwardly and passed through an eye 17 on an extension 18 of the leg 2 reaching above the joint 5. From said eye the wire is extended downwardly and through a guiding eye 19 and thence to the eye 20 in the lug 21 on leg 1, where it is secured.

22 is a clearing which forms a pocket for the drum 10 when the dividers are closed.

About one-third down from the pivot I provide on the leg 1 two cheek plates 23 which may be a part of the leg or may be secured on same. In said plates is journaled a shaft 25 on which are fixed two drums 24 and 26. The drum 24 is situated between the plates and on it is wound a tape line 24*, of which the outer end is passed through an aperture 27 in the leg and secured at 28 to the leg 2, so that a pointer 29 of the leg 1 will indicate upon the tapeline, which is made on a reduced scale, the distance between the points of the dividers. The other drum, 26, is outside the cheek plates and on it is wound a soft wire or fine wire cable or a steel tape 30, whose outer end is fixed at 31 to a lateral arm 32 of the upward extension 18 of leg 2. 36 is a cavity for the pointer 29 to occupy when the dividers are closed.

From the above description it will be understood that when the dividers are being closed the outer end of arm 32 swings away from the drum 26, thereby pulling on wire 30 and causing the drum 24 to wind in the tape line, and when the legs of the dividers are being spread the tape line will be unwound and the wire or tape 30 wound around thereby.

In the modification Figs. 6 and 8 the drum 24 of the tape line is hollow and placed loosely on a pivot 25*. Said pivot is fixed in the cheek plates and upon it is wound a spring 35 of the clock spring variety housed in the drum and having one end fixed at 33 to the pivot and the other at 33* to the inner side of the drum. When this arrangement is used the spring 35 takes the place of the wire 30 and arm 32, which are then dispensed with. The thumb-piece 14, dog 13, ratchet wheel 12, drum 10 and wire, cable or string 16 enable the user of the tool to spread the points 3 and 4 slowly and accurately, as each tooth on the ratchet wheel may spread the compass say one hundredth part of an inch or less. When the compasses or

dividers are to be closed the dog 13 is disengaged and the legs simply brought together.

In Figs. 1 and 5 is shown a pencil-holder 5 37 and pencil 38 held therein. Said holder has a longitudinal dovetail web 39 adapted to fit tightly in the dovetail groove 40 in the tapered end of one of the legs of the dividers, which in this manner may be used as 10 very handy lead-pencil compasses.

In the operation of the device it will be seen that if it is desired to measure off a certain distance the legs are spread so that the points will reach approximately the distance 15 wanted. If the distance thus reached is a little short of the desired reach, it is merely necessary to turn the ratchet wheel more or less thereby causing the wire 16 to wind on drum 10, thus shortening the wire and consequently causing the legs of the dividers to 20 spread and the points to reach the desired place. Any mechanic will readily see that with this mechanism the points can be adjusted to any desired degree of fine measurement. 25

Having thus described my invention, what I claim is:

In a pair of compasses or dividers, the combination of two legs pivoted together

at their upper ends and adapted to indicate 30 long measure on a full sized scale between their free ends or points, a winding drum mounted on one of the legs, a tape line wound on the drum and having its outer ends secured to the other leg, said tape line having 35 graduations indicating the said measure at the points of the dividers on a scale reduced in proportion to the distance the tape is located from the ends of the legs, and means for automatically winding the tape by closing 40 the legs of the tool; said other leg having an arm with an eye in it above the pivot joint of the legs, a second drum mounted on one of the legs, and having a winding stem for winding it by hand, a ratchet wheel and 45 ratchet dog arranged to normally prevent rotation of said drum in a certain direction, a wire wound on the drum and having one end passed through said eye above the pivot joint of the dividers and secured some distance 50 down on the other leg, so as to spread the legs by winding the wire onto the drum.

In testimony whereof I affix my signature, in presence of two witnesses.

PEDER SPLIID.

Witnesses:

A. M. CARLSEN,
D. E. CARLSEN.