No. 836,812. PATENTED NOV. 27, 1906.

P. E. KENT.

DIVIDERS.

APPLICATION FILED SEPT. 21, 1905.

Fig. 1.

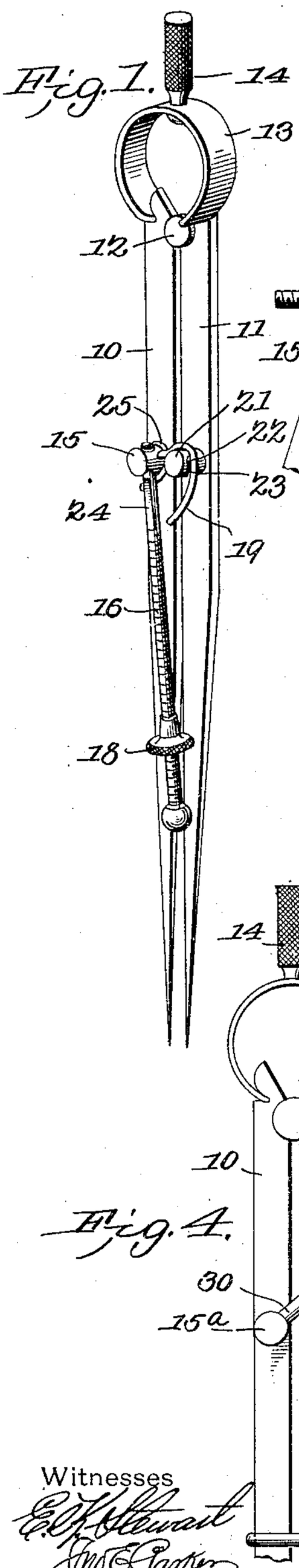

Fig. 5.

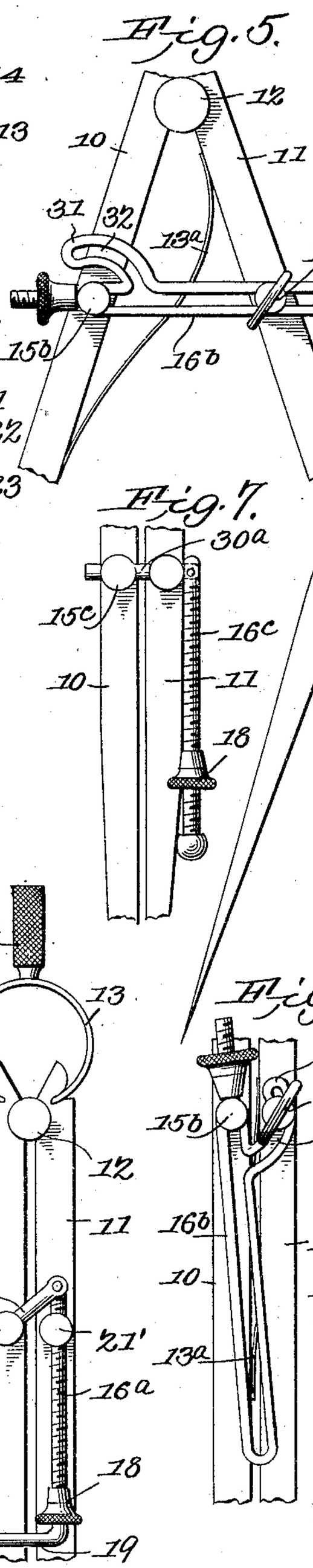

Fig. 2.

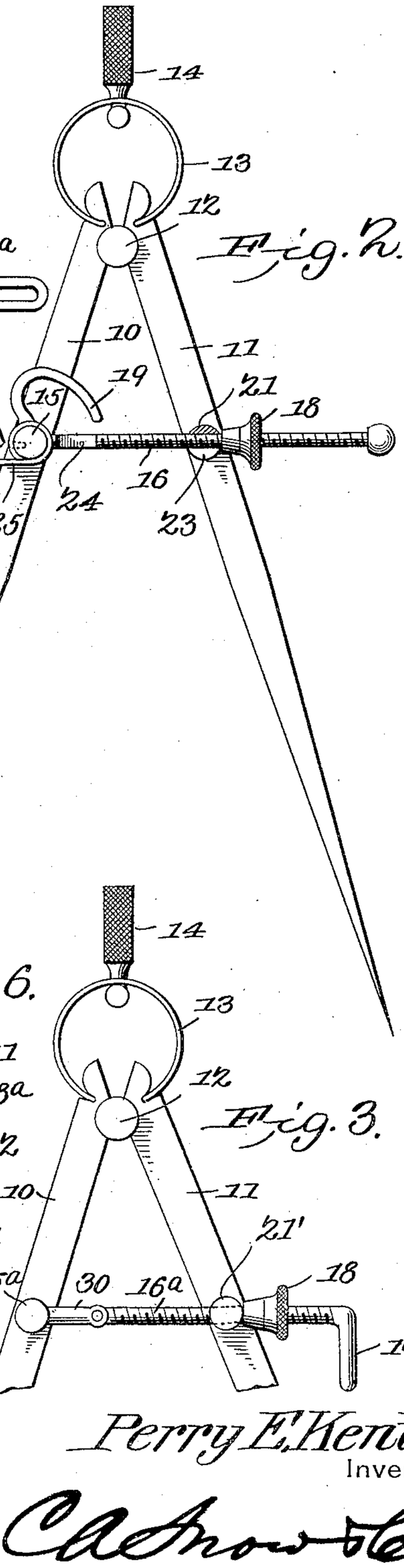

Fig. 7.

Fig. 6.

Fig. 4.

Fig. 3.

Witnesses

E. F. Stewart

Jno. E. Parker

Perry E. Kent,

Inventor,

by Church & Church

Attorneys

UNITED STATES PATENT OFFICE.

PERRY E. KENT, OF UTICA, NEW YORK.

DIVIDERS.

No. 836,812. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed September 21, 1905. Serial No. 279,490.

To all whom it may concern:

Be it known that I, PERRY E. KENT, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented new and useful Dividers, of which the following is a specification.

This invention relates to the construction of dividers, calipers, and other instruments of that general type having spring-opened legs.

The principal object of the invention is to provide an instrument of this class which may be readily folded and conveniently carried in the pocket and occupy a more compact space when not in use or packed with other tools.

A further object of the invention is to provide a divider or other measuring instrument with means for locking the legs together in substantially parallel relation.

A still further object of the invention is to provide an instrument of this class in which the legs when drawn together are automatically locked in closed position.

A still further object of the invention is to provide a spring-opened divider or other measuring instrument having a graduating-screw that may be moved to a position approximately parallel with the legs when closed, so that the instrument may be readily carried in the pocket.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a measuring instrument in the form of a pair of dividers constructed in accordance with the invention. Fig. 2 is a side elevation of the same, showing the legs in open position. Fig. 3 is a side elevation of the upper portion of a spring-opened instrument, showing a slightly-modified construction of holding and locking device. Fig. 4 is a similar view showing the instrument locked in folded position. Fig. 5 illustrates a further modification of the folding and locking means and further shows a different form of spring for holding the legs open. Fig. 6 is a similar view showing the legs locked in folded position. Fig. 7 is an elevation of a portion of an instrument, illustrating a still further modification of the invention.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The instrument shown in the present instance includes a pair of legs 10 11, that are pivotally connected at 12, and in the upper ends of the legs are notches for the reception of a spring 13, carrying the usual handle or finger-piece 14. The function of the spring is to open or spread the legs, and the form shown is one that is commonly employed in instruments of this type, although any other form of spring, as in Fig. 5, may be employed for the purpose, and while the instrument has pointed legs to form a pair of dividers the legs may be of any shape and employed, for instance, as inside or outside calipers. In all instruments of this general type means are employed for locking the legs in adjusted position, a screw and nut being commonly used, although in some cases a link or bar carried by one leg is engaged by a thumb-screw carried by the other. In all cases, however, the connecting member, whether in the form of a screw, link, or bar, projects substantially at a right angle from the plane of the legs, and an instrument of large size cannot be readily placed in the pocket or laid with other tools conveniently.

In carrying out the present invention the leg 10 in Figs. 1 and 2 is provided with a pivot-stud 15, which may be freely revolved, and secured to said stud is a screw 16, carrying an adjustable nut 18. The pin is further provided with a hook 19, that extends approximately at a right angle to the plane of the screw. On the leg 11 of the instrument is secured a pin or lug 21, having an opening 22 of a diameter slightly larger than the major diameter of the screw, and from this opening extends a radial slot 23 of a width sufficient to permit the passage of a reduced or recessed portion 24 of the screw, this reduced portion being disposed close to the end where the screw is attached to the stud 15. Coiled around the stud 15 is a torsion-spring 25, one end of which is secured to the stud and the other end to the leg 10. This spring tends to turn the stud and move the screw to a position approximately parallel with the legs of the instrument. When the screw is in the opening 22, the spring 13 tends to

force the lug or pin 21 against the adjusting-nut 18, and the distance between the legs may be adjusted by turning the nut 18. When the instrument is to be folded, the legs are forced together by grasping them in one hand, and when the reduced portion 24 of the screw comes opposite the slot 23 spring 25 acts to turn the stud 15, moving the screw. At the same time the bill of the hook 19 passes down over the outside of the lug or pin 21, and the parts thus automatically assume the position shown in Fig. 1, with the legs and the screw substantially in parallel relation, the instrument being thus held in very small compass, so that it takes up less area and may be carried in the pocket without difficulty or conveniently packed. To again place the instrument in working position, it is merely necessary to push the screw outward until the reduced or recessed portion of the screw enters the slot 23, the hook moving from engagement with the lug or pin 21 and allowing the legs to spread in the usual manner.

In Figs. 3 and 4 is illustrated a slight modification of the invention, wherein the stud 15^a is provided with a projecting arm 30, to which is pivoted a screw 16^a, the screw passing through a suitable opening formed in a lug $21'$ and being provided with an adjusting-nut 18. The outer end of the screw is provided with a hook 19^a, so that when the instrument is folded—that is to say, the two legs moved into parallel relation with each other, as shown in Fig. 4—the hook may be placed over the outer edge of the leg 10, and thus hold the two legs and the screw parallel. In folding this device it is merely necessary to draw the legs slightly together and at the same time pull down on the outer end of the screw. This may be accomplished by a single movement.

Figs. 5 and 6 illustrate a further modification, in which the stud 15^b carries a slotted bar 16^b. The slot of this bar receives a thumb-screw 18^a, which enters the lug 20, the screw when tightened on the bar clamping the legs in adjusted position. The legs in this instance are provided with an opening-spring 13^a of a type commonly employed in instruments of this class. To permit movement of the bar to a position in parallelism with the legs, said bar is provided with an arcuate extension 31, that is provided with a similarly-shaped slot 32, the arc being struck from the center of the stud 15^b. When the two legs of the instrument are drawn together, the slotted portion of the bar may be moved over the screw 18^a and the parts will then assume the position shown in Fig. 6.

Fig. 7 illustrates a still further modification of the invention wherein the stud 15^c carries an arm 30^a, which passes through an opening in a lug 21^c, and at the outer end of the arm is pivoted a graduating-screw 16^c, carrying the threaded nut 18. When the legs of this instrument are drawn together, the instrument being held upright, the screw 16^c will fall by gravity to the position shown in Fig. 7, and the legs will thus be locked in closed position, the screw remaining parallel therewith.

Having thus described the invention, what is claimed is—

1. Dividers or similar instruments having straight spring-opened legs, and an adjusting means for holding the legs in any position of adjustment, said adjusting means being foldable into parallel relation with the legs when the latter are closed and a locking means movable with the adjusting means and serving to retain the legs in the closed position.

2. Dividers or similar instruments having an adjusting means for holding the legs in any position of adjustment, and being movable into parallel relation with the legs when the latter are closed, and a locking means carried by the adjusting means, and serving to maintain the legs closed when the adjusting means is moved into parallel relation with the legs.

3. Dividers or similar instruments having legs, a graduating-screw pivotally connected to one leg and movable to a position approximately parallel with said leg, and means for detachably and adjustably connecting the screw to the second leg.

4. Dividers or similar instruments having spring-opened legs, a screw pivotally connected to one leg, and a lug or pin carried by the other leg and provided with an opening extending to the side of the lug and through which the screw may be introduced.

5. Dividers or similar instruments having legs, a screw pivotally connected to one of the legs and provided with a recessed or reduced portion, a lug carried by the other leg and having an opening for the passage of the screw, said lug being further provided with a slot to permit the passage of the reduced portion of the screw.

6. Dividers or similar instruments having legs, a graduating-screw pivoted to one of the legs and movable into approximately parallel relation with the legs when the latter are closed, and means connected to the screw for locking the legs in closed position.

7. Dividers or similar instruments having legs, a hook carried by one of the legs and arranged to engage with the other to hold said legs in substantially parallel relation, and a graduating-screw for operating said hook.

8. Dividers or similar instruments having legs, a pivot-stud on one of the legs, an adjusting-screw carried by the pivot-stud and arranged to engage the second leg, a hook secured to said stud, and a spring tending to revolve the stud and move said screw into parallel relation with the legs when the latter are operated.

9. Dividers or similar instruments having legs, a pivot-stud carried by one of said legs, a recessed lug carried by the second leg, a screw carried by the stud and arranged to enter said recessed lug, said screw having a portion of reduced diameter, a hook carried by the stud and arranged to engage with the lug, and a spring connecting the stud and the leg on which said stud is mounted, said spring tending to move the screw into parallel relation with the legs, and the hook into engagement with the lug.

10. Dividers or similar instruments having legs, a graduating-screw pivoted to one of them, a lug carried by the other leg and arranged for the reception of the screw, and a hook connected to the screw and movable over the lug when the legs are closed.

11. The combination in dividers or similar instruments, of a pair of legs, a pin pivotally mounted on one leg, a hook projecting from the pin, a screw, also, projecting from said pin and provided with a reduced portion at a point adjacent to the pin, a nut on said screw, a lug carried by the second leg and provided with an opening for the passage of the screw, and with a slot that extends from the wall of the opening to the periphery of the lug to permit the passage of the reduced portion of the screw.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PERRY E. KENT.

Witnesses:
J. Ross Colhoun,
C. E. Doyle.