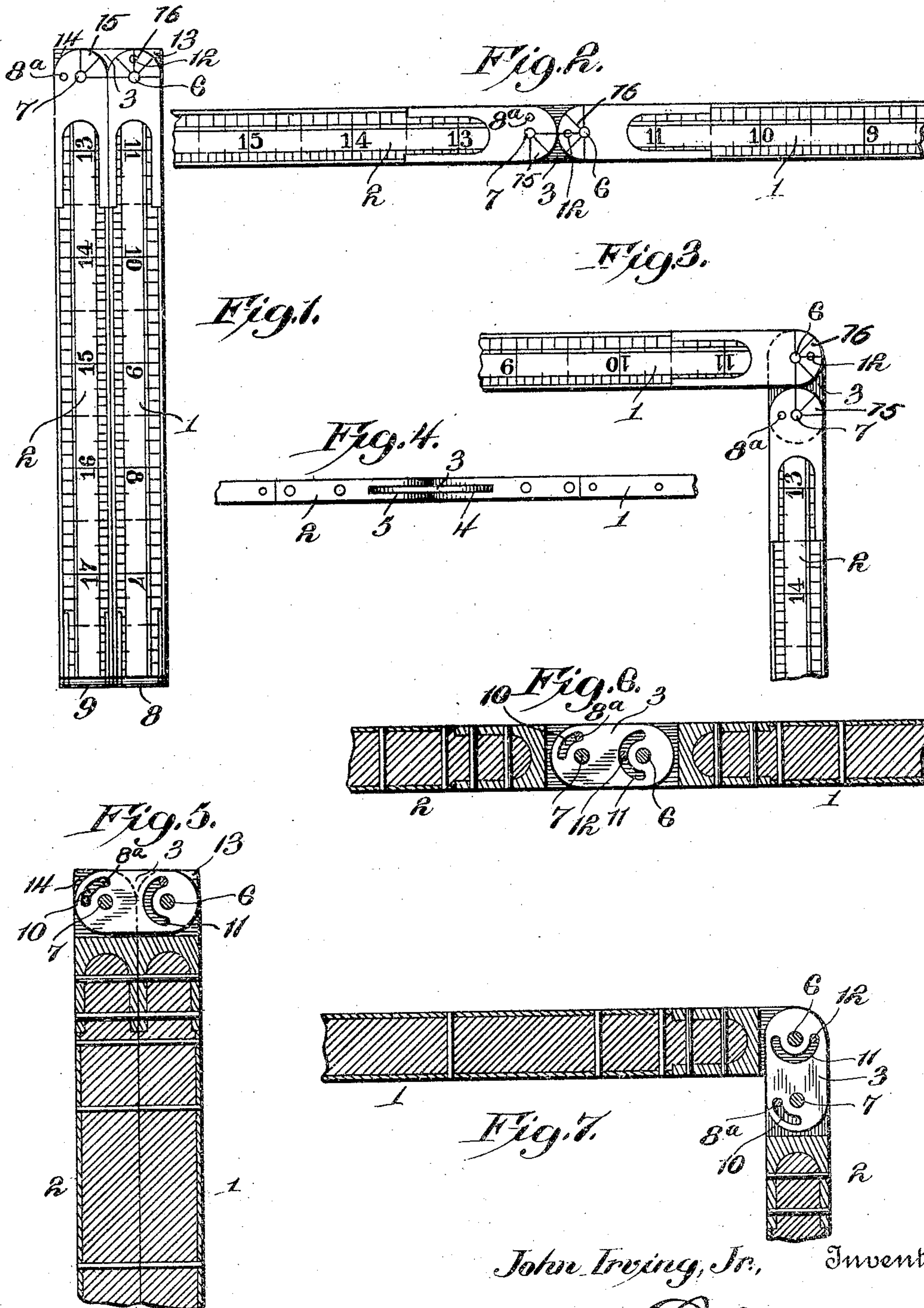


No. 794,409.

PATENTED JULY 11, 1905.

J. IRVING, JR.
COMBINED RULE AND SQUARE.
APPLICATION FILED OCT. 22, 1904.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN IRVING, JR., OF NEW BRIGHTON, NEW YORK.

COMBINED RULE AND SQUARE.

SPECIFICATION forming part of Letters Patent No. 794,409, dated July 11, 1905.

Application filed October 22, 1904. Serial No. 229,597.

To all whom it may concern:

Be it known that I, JOHN IRVING, Jr., a citizen of the United States, residing at New Brighton, in the county of Richmond and State of New York, have invented a new and useful Combined Rule and Square, of which the following is a specification.

The invention relates to improvements in combined rules and squares.

10 The object of the present invention is to improve the construction of combined rules and squares and to provide a simple and comparatively inexpensive construction adapted to enable a rule to form a perfect square and
15 capable when the rule is opened to its full extent of enabling the same to present continuous straight edges at each side, so that a straight line without a break may be drawn on either side of the rule from one end of the
20 same to the other.

A further object of the invention is to provide a rule of this character provided with means for enabling one of its legs to be arranged at right angles to the other and for
25 limiting the movement of the legs to prevent them from slipping when the rule is used as a square.

Another object of the invention is to provide a rule which when used as a square will
30 present straight edges at both its inner and outer sides for enabling each of its edges to be used for squaring purposes, whereby the rule may be arranged either within a corner or against a flat surface.

35 With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in
40 the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit
45 or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a portion of a two-foot rule constructed in accordance with this invention and shown
50 folded. Fig. 2 is a similar view, the two mem-

bers or legs being arranged in alinement. Fig. 3 is a plan view, the two members or legs being arranged at right angles to each other to form a square. Fig. 4 is an edge view, the parts being arranged as shown in
55 Fig. 2. Fig. 5 is a sectional view, the hinge plate or leaf being shown in plan view and the legs or members being arranged as shown in Fig. 1. Fig. 6 is a similar view, the parts being arranged as shown in Fig. 2. Fig. 7
60 is a sectional view, the parts being arranged to form a square.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

65 1 and 2 designate legs or members of a two-foot rule, which legs or members 1 and 2 are connected by a hinge or leaf plate 3, arranged in slots or bifurcations 4 and 5 of the adjacent ends of the legs or members 1 and 2 and
70 secured to the same by pivots 6 and 7. The legs or members are provided with the usual graduations and in practice will be composed of foldable sections connected by joints 8 and 9 of the usual construction. The bifurcated
75 ends of the legs or members 2 are rounded, as shown, and the ends of the connecting hinge or leaf plate are also rounded. One end of the connecting hinge or leaf plate is provided with a quadrant-shaped slot or way 10, arranged concentric with the pivot 7 and receiving a pin 8^a of the leg or member 2. The
80 pin 8^a forms a stop for engaging the connecting plate or leaf 3 at the ends of the slot or way 10 for limiting the movement thereof, 85 and the quadrant-shaped slot permits the leaf-plate 3 to swing from a position perpendicular to the leg or member 2 to a position in alinement with the same. The other end of the connecting hinge or leaf plate 3 is provided with a semicircular slot 11, arranged concentric with the pivot 6 and receiving a pin or stop 12. The semicircular slot permits the leg or member 1 to swing from one side of the connecting hinge or leaf plate to the
90 other side of the same. When the legs or members 1 and 2 are folded or closed, as illustrated in Fig. 1 of the drawings, the connecting hinge or leaf plate 3 is arranged transversely of or perpendicular to the legs or
100

members. The hinge or leaf plate 3 is swung on the pivot 7 to arrange it longitudinally of the leg or member 2 when it is desired either to open the rule, as illustrated in Fig. 2, or to arrange it to form a square. The connecting hinge or leaf plate is swung from its transverse position to a position longitudinally of the leg or member 2 by manipulating the legs or members, and when the leg or member 1 is swung from its folded position around the end of the leg or member 2 to the opposite side thereof to form a square, as shown in Fig. 3, any further inward movement of the legs or members is prevented by the stops, as the latter are carried by such movement to one end of each of the slots, and a perfect square is thereby provided, and there is no liability of the parts accidentally slipping when using the rule as a square. The rule presents straight edges, and both the inner and outer sides of the square may be used either on a flat surface or in a corner. The semicircular slot will permit the leg or member 1 to be swung around to the other side of the leg or member 2 to a position at right angles to the same.

In Fig. 1 of the drawings the sections 13 and 14 are shown folded against the legs or members 1 and 2 upon their under sides, and their square edges project beyond the rounded ends of the legs or members 1 and 2. These sections 13 and 14 are unfolded before opening the legs or members 1 and 2. When the sections 13 and 14 are unfolded, the legs or members will be free to open and close, as will be readily understood.

The legs or members 1 are provided with straight side edges, and the side edges of the connecting hinge or leaf plate 3 are straight and form continuations of the straight side edges of the legs or members at the joint. The foldable sections 13 and 14 of the legs or members when the latter are arranged at right angles to each other are adapted to fold against the said legs or members to provide square edges at the outer side of the rule. In practice the sides or ears formed by the slot or bifurcation 4 will preferably be spaced apart sufficiently to permit the leg or member 1 to move freely on the connecting leaf or plate, and the sides or ears formed by the slot or bifurcation 5 of the other leg or member 2 are designed to frictionally engage the hinge or leaf plate 3, so that the latter will move stiffly on the pivot 7, whereby the plate or leaf 3 will remain firmly in either of its positions with relation to the leg or member 2. The rounded edges of the legs or members 1 and 2 are concentric with the pivots 6 and 7, and the legs or members are designed to be provided with indicating-markers 15 and 16, as illustrated in the accompanying drawings, for enabling the legs or members to be accurately arranged at various angles.

The hinge connection between the legs or members 1 and 2 although desired particularly for use on a two-foot rule, yet it will be apparent that it may be employed on any other foldable rule or measure or analogous instrument.

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

1. In a device of the class described, the combination of two movable members, a short connecting plate or leaf pivoted to each of the members, and means separate from the pivots for limiting the pivotal movement of the members with relation to the leaf or plate, said means permitting the members to be folded side by side, or arranged lengthwise, or disposed one at right angles to the other to form a square, the said members when in the last-named position being held by the said limiting means from further inward movement but free to swing outward.

2. In a device of the class described, the combination of two movable members, a short connecting plate or leaf pivoted to each of the members and provided at one of the members with a quadrant-shaped way and having a semicircular way at the other member, and means operating in the ways and carried by the members for limiting the movement of the latter, said means and ways permitting the members to be arranged side by side in folding, or extended longitudinally, or swung around with one member at right angles to the other to form a square, the said means being at an end of each of the ways when the said members are in the last-named position, whereby the members are held against further inward movement.

3. In a device of the class described, the combination of two members, a short connecting leaf or plate pivoted to the members and provided at one of the pivots with a quadrant-shaped slot and having a semicircular slot at the other pivot, and pins passing through the slots and mounted on the said members, the said slots permitting the members to be arranged side by side for folding the device, and also permitting one of the members to swing to the opposite side of the other member at right angles thereto, and the pins being carried by the last-named movement to an end of each of the slots, whereby the members are positively held against further inward movement to enable the device to be used as a square.

4. In a device of the class described, the combination of two members having straight side edges and provided with rounded ends arranged contiguous to each other, a short connecting leaf or plate pivoted to the said members, and having straight side edges to form continuations of the side edges of the members, said plate being provided at one of

the pivots with a quadrant-shaped slot and
having a semicircular slot at the other pivot,
and stops carried by the members and oper-
ating in the slots, the latter permitting the
5 members to be arranged side by side, and also
permitting one of the members to be swung
to the opposite side of the other member at
right angles thereto to form a square, and the
said stops being carried by the last-named
10 movement to one end of each of the slots,

whereby the members are locked against fur-
ther inward movement.

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

JOHN IRVING, JR.

Witnesses:

JOHN H. SIGGERS,
S. GEORGE TATE.