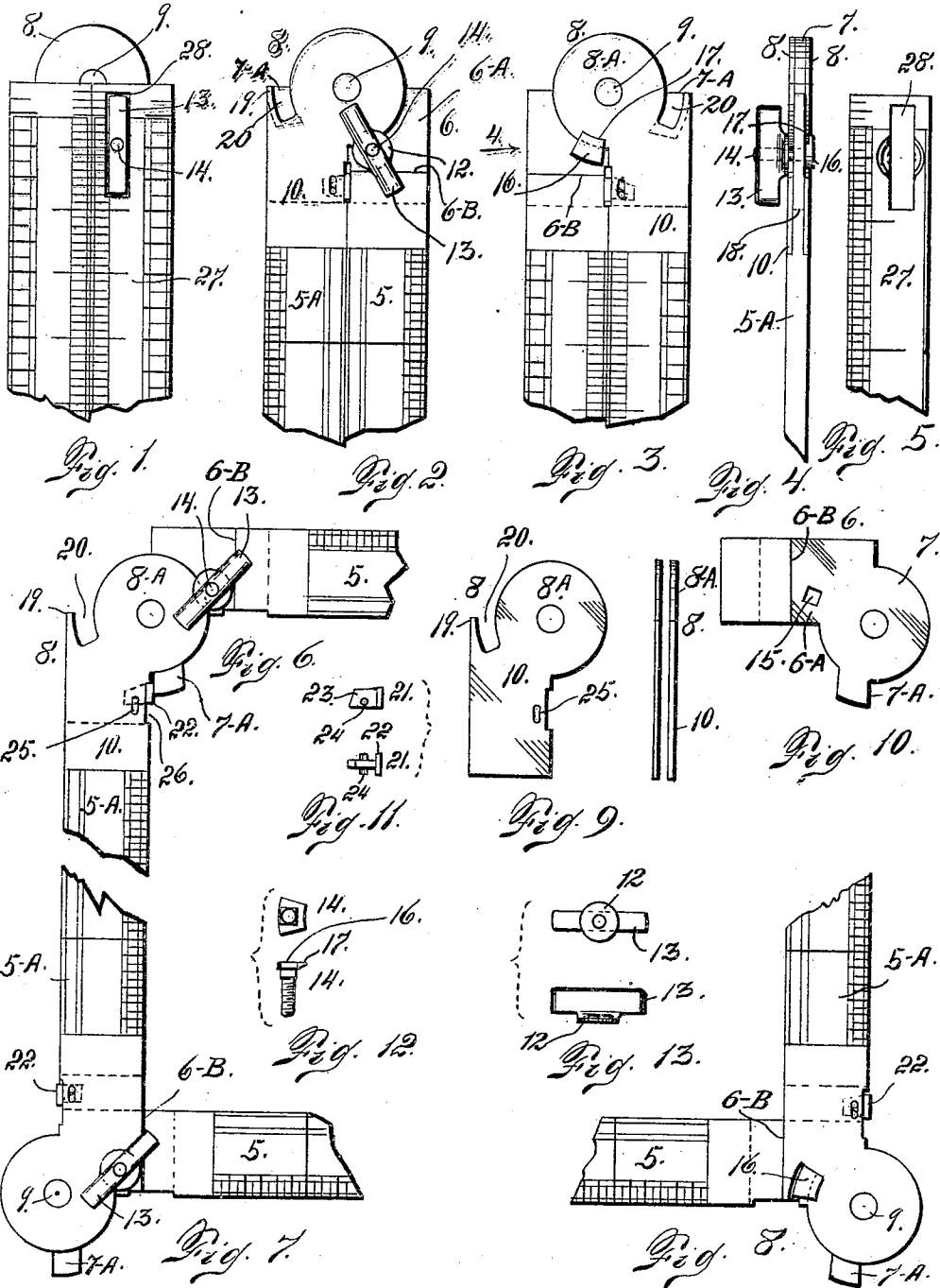


H. S. HUMES.
COMBINED RULE AND SQUARE.
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932,281.

Patented Aug. 24, 1909.



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UNITED STATES PATENT OFFICE.

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COMBINED RULE AND SQUARE.

932,281.

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To all whom it may concern:

Be it known that I, HARRY S. HUMES, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Combined Rules and Squares; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a combined rule and square of the class set forth in my previous patent No. 843,459, issued Feb. 5th, 1907.

My present improvements relate to certain novel features of construction, all of which will be fully understood by reference to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a fragmentary view of my improved device showing the same in the closed position and with the hinged parts folded, the rule being reduced to the smallest possible compass. In this view the device is partly broken away. Fig. 2 is a similar view with the folded hinged member removed. Fig. 3 is a view similar to Fig. 2 but viewed from the reverse side. Fig. 4 is an edge view of the same looking in the direction of arrow 4 in Fig. 3. Fig. 5 is a fragmentary view of one of the folding parts, showing the opening therein adapted to receive the head of the fastening screw. Fig. 6 is a view showing the two pivoted members of the rule occupying a position at right angles to each other, having moved through a ninety degree angle from the parallel position. Fig. 7 is a view showing the two pivoted members at right angles to each other having moved two hundred seventy degrees from the parallel position. Fig. 8 is a similar view looking from the opposite side. Fig. 9 is a side and edge view respectively of one of the overlapping pivoted parts. Fig. 10 is a side view of the cooperating overlapping member. Fig. 11 shows side and edge views of the adjustable stop for holding the pivoted members in a position at right angles to each other. Fig. 12 shows the set screw for locking the two members in the desired position of adjustment, two views being

shown, one being a side elevation and the other an end elevation of the screw. Fig. 13 is a view of the thumb nut which coöperates with the screw, the said nut being shown in two positions.

The same reference characters indicate the same parts in all the views.

Let the numerals 5 and 5^A designate the two members of the rule, the member 5 being provided with a metal part 6 having a part 7 located between parts 8 attached to the rule member 5^A and composed of two separate members 8^A. The parts 7 and 8^A overlap each other and are pivotally connected by a rivet 9 which holds the two members 5 and 5^A in operative relation and at the same time allows them freedom of movement. The bifurcated part 8 has an extension 10 which is directly connected with the part 5^A of the rule. The metal part 6 is cut away at 6^A whereby the thickness of the part is reduced to make room for the base 12 of a thumb nut 13 applied to a screw 14 which passes through an opening 15 formed in the member 6. The screw 14 is provided with a head 16 which projects laterally on one side as shown at 17 and is beveled to overlap the part 8 (see Fig. 3), while the base or collar 12 of the thumb screw overlaps the part 8^A on the opposite side Fig. 2. It is evident that as the thumb nut is tightened, the overlapping parts 7 and 8 will be compressed together whereby they will be held in any desired position of adjustment.

My improved rule is constructed to permit one of the members to turn through two hundred seventy degrees from the parallel position, whereby the two members occupy a position at right angles to each other, and form an unobstructed interior ninety degree angle. The member 8 as shown in the drawing (see Fig. 9), is composed of two distinct parts which are attached to the rule member 5^A at one extremity, the end of the rule passing between the two members for a short distance terminating at 18 (see Fig. 4). The bifurcated part 8 is provided with a shoulder 19, and a slot 20 adapted to receive the screw 14, when the two parts are thrown to the position shown in Fig. 7, whereby the part 6^A is caused to pass between the two members of the portion 10, of the bifurcated part 8. When this occurs shoulders 6^B on 6 engage the edges of the members 8^A of the part 8 and locks the same against further

movement, the part 6^a of the member 6 passing between the members of the part 8 as shown by the dotted line in Fig. 7. When the rule is closed or in the position shown in Fig. 2, an exteriorly projecting lug 7^a formed integral with the part 7, closes the slot 20 and fills the space between the two members of the part 8 where the slot is located, thus strengthening the part 8 at this point and preventing the two comparatively frail parts from being injured.

The member 8 is provided on its inner edge with an adjustable device 21 Fig. 11 having a sort of head 22 of such width as to prevent it from passing between the two members of the bifurcated part 8. The device 21 is also provided with a shank 23 passing between the two members of the part 8 and provided with a pin 24 passing through slots 25 formed in both members of the part 8. The inner edge of the bifurcated part 10 is provided with a recess 26 of the same depth as the head 22 of the adjustable stop thus allowing the stop to be exposed without protruding beyond the edge of the member. When this stop is moved in one direction (see Fig. 6) it is brought into the path of the lug 7^a, whereby the two members 5 and 5^a of the rule are prevented from approaching each other farther than the right angled position (see Fig. 6). When, however, the adjustable stop is moved in the opposite direction, the lug 7^a will pass between the two members of the bifurcated part 8, allowing the rule to close to the position shown in Fig. 2.

The screw 14 is located in the member 6 and does not project beyond the inner edge of the part 5 with which the member 6 is connected. The corresponding folding member 27 is provided with an opening 28 adapted to receive the head 13 of the thumb nut when the rule is in the folded position (see Fig. 1). By having the screw and thumb nut located as shown and described, the opening 28 is located entirely within one of the folding members, and therefore does not form a break in the inner edge of the part 27.

Having thus described my invention, what I claim is:

1. A combined rule and square comprising two pivoted members adapted to move through two hundred seventy degrees from the parallel position, the two members having shoulders adjacent the overlapping parts, one of the shoulders being slotted, and a locking screw applied to one member and adapted to enter the slot formed in the

shoulder of the other member, substantially as described one of the members being provided with an adjustable stop and the other member having a laterally projecting lug which engages the said stop for the purpose set forth.

2. A rule composed of two pivoted members having overlapping parts at the joint and shoulders adjacent the overlapping parts, one of the shoulders being slotted, the overlapping part of the other member having a laterally projecting lug adapted to close the said slot when the two members are in the parallel position, the bifurcated member also being provided with an adjustable stop which is adapted to be engaged by the laterally projecting lug when said pivoted members occupy a position at right angles to each other.

3. A combined rule and square comprising two pivoted members having overlapping parts at the joint, one of the members adjacent the overlapping part being bifurcated and having an adjustable stop, the overlapping part of the other member having a laterally projecting lug adapted to engage the stop when properly adjusted causing the two members to occupy a position at right angles to each other ninety degrees from the parallel position, the stop being also capable of such adjustment as to allow the said lug to enter the bifurcated part whereby the two rule members are allowed to occupy the parallel position.

4. A rule composed of two pivoted members having overlapping parts at the joint, one of the members having a set screw whose head overlaps one part of the joint, and a thumb nut applied to the said screw and overlapping the same part on the opposite side whereby as the thumb screw is tightened the two parts may be held in any desired position of adjustment.

5. A rule composed of two pivoted members, fastening means applied to one member and comprising a screw and a thumb nut, the folding part of the said member having an opening located between its two parallel edges and adapted to receive the head of the thumb screw when the latter is properly adjusted, substantially as described.

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

HARRY S. HUMES.

Witnesses:

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A. J. O'BRIEN.