

C. H. PETERSON.
COMBINATION SQUARE AND RULE.
APPLICATION FILED SEPT. 4, 1909.

954,460.

Patented Apr. 12, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

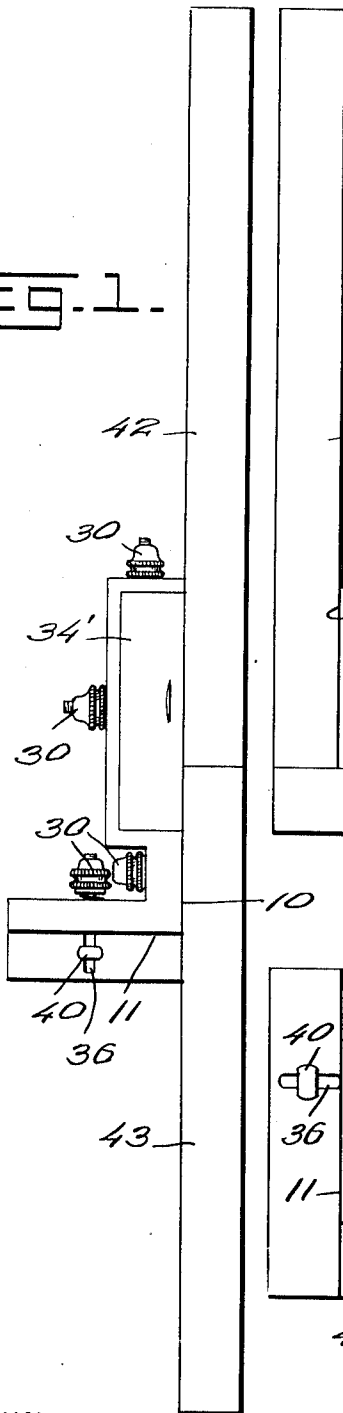


Fig. 2.

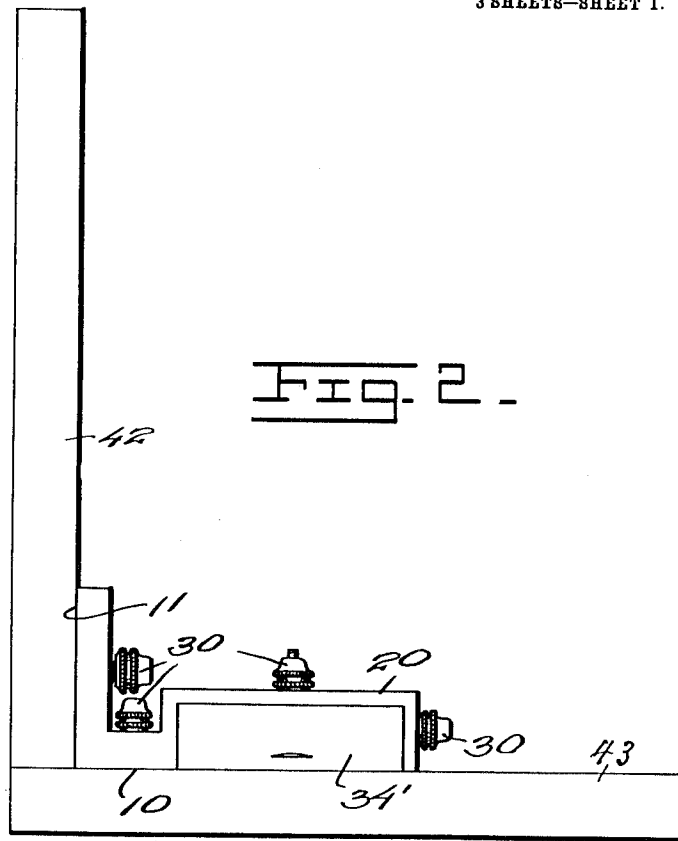
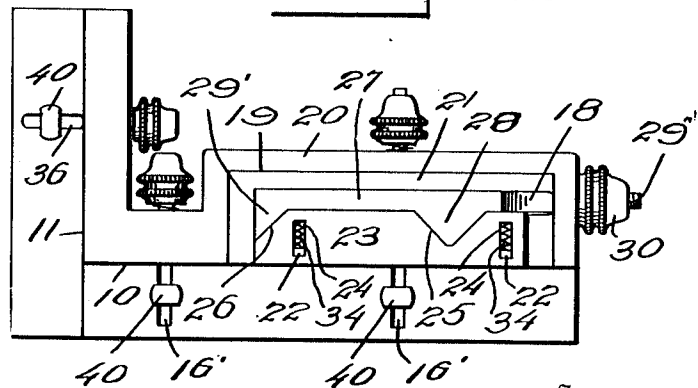


Fig. 3.



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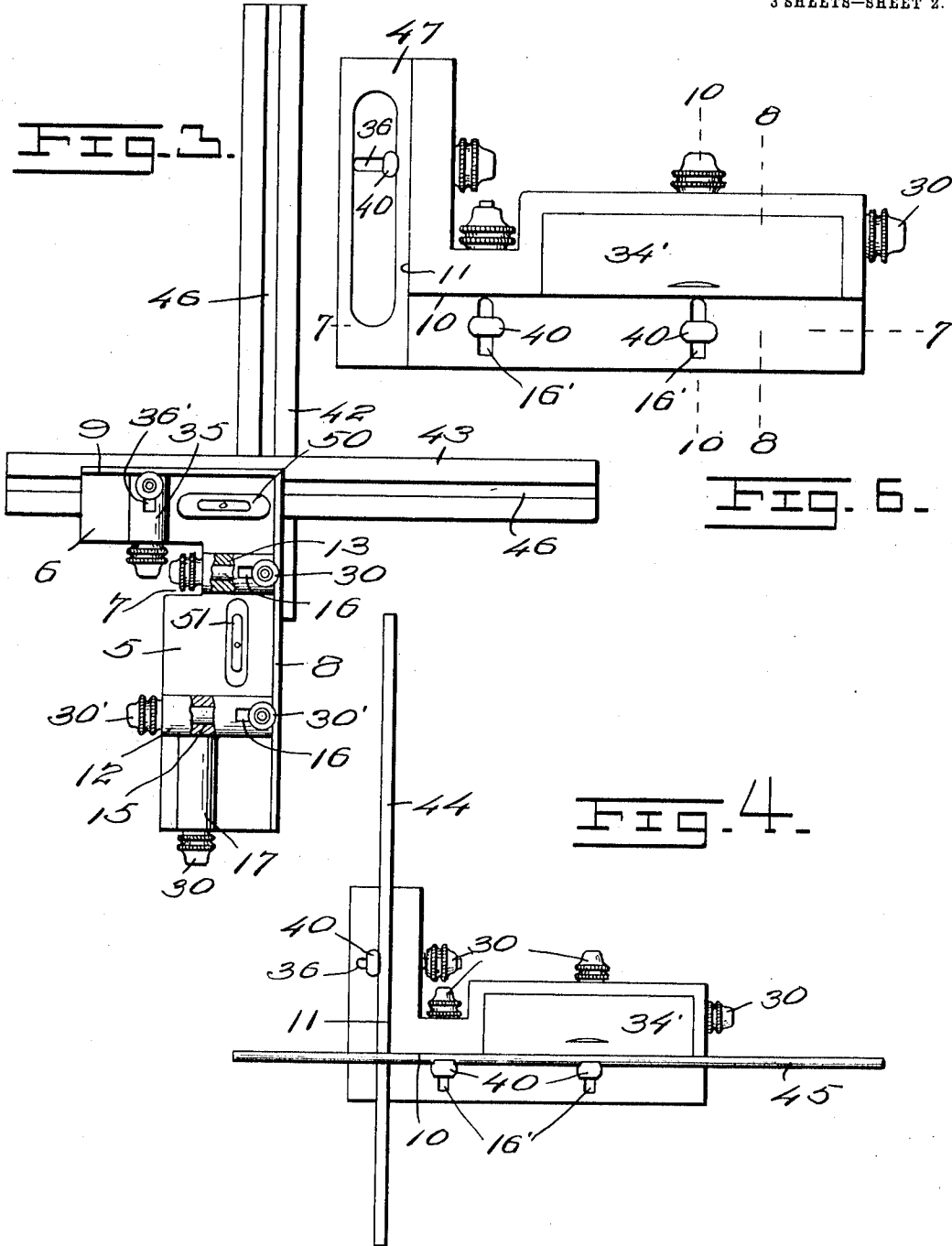
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3 SHEETS—SHEET 2.



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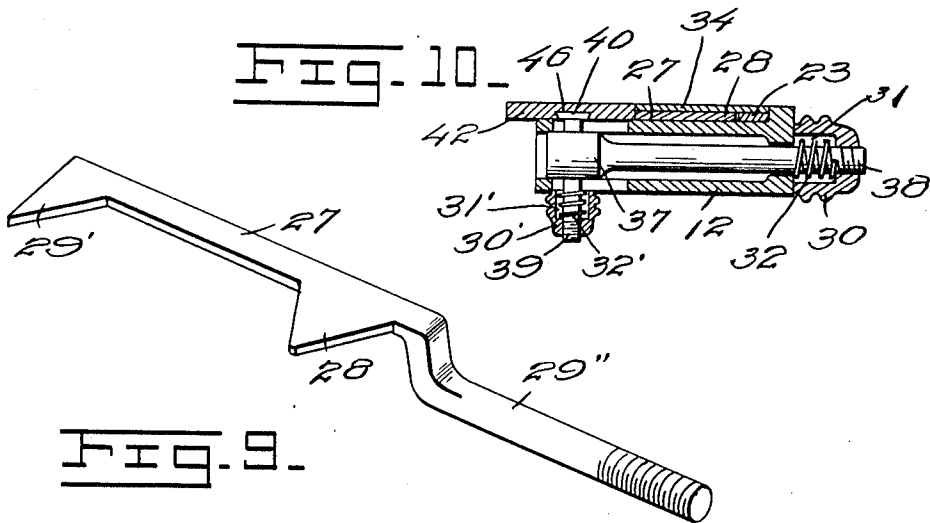
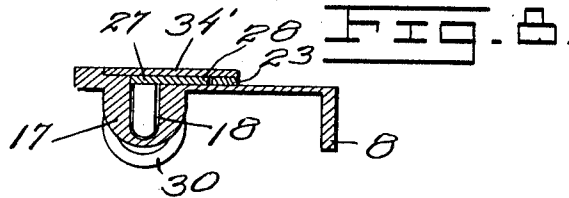
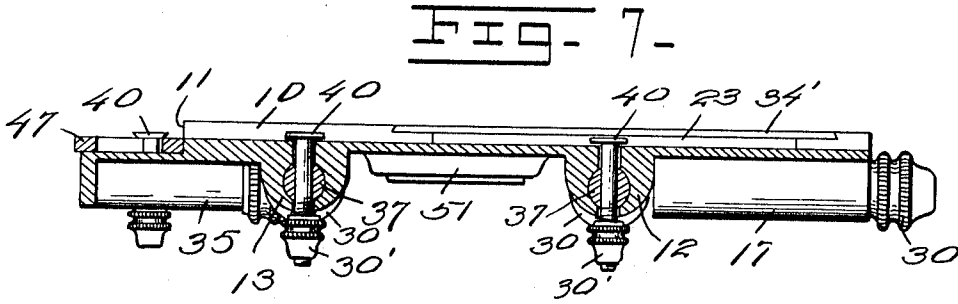
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3 SHEETS--SHEET 3.



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UNITED STATES PATENT OFFICE.

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COMBINATION SQUARE AND RULE.

954,460.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed September 4, 1909. Serial No. 516,255.

To all whom it may concern:

Be it known that I, CHARLES H. PETERSON, a citizen of the United States, residing at Rumford Falls, in the county of Oxford and State of Maine, have invented certain new and useful Improvements in Combination Squares and Rules, of which the following is a specification.

This invention relates to certain new and useful improvements in combination squares.

The object of my invention is to provide an interchangeable square, so constructed that the same may be used as a rule, square, tri-square, and depth gage.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a part of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 shows a top view of my device arranged to be used as a rule. Fig. 2 shows a tool with the two blades arranged as a square. Fig. 3 shows the two blades secured crosswise disclosing a tool in its condition when used as a tri-square. Fig. 4 shows a top view of the device disclosing the gage bar in position. Fig. 5 shows an enlarged detached detail of the tool head with the blades and face blades removed. Fig. 6 shows the stub blade in position. Fig. 7 is a section on line 7—7 of Fig. 6. Fig. 8 is a section on line 8—8 of Fig. 6. Fig. 9 is a perspective view of the cam plate. Fig. 10 is a transverse sectional view through a boss.

In carrying out the aim of my invention, I employ a tool head comprising the flat plate 5, Fig. 3 having the extension 6 continued at right angles therefrom, the plate being recessed as is shown at 7. The main plate section 5, at what forms its outer edge, is provided with the base flange 8, from which extends the base flange 9 skirting the outer edge of the shorter plate section 6, as is clearly disclosed in Fig. 3. Secured to the back of the plate section 5, are the two bosses 12 and 13, held in parallel spaced relation, and having their ends secured to the outstanding flange 8. Each boss is provided

with a bore 15 which extends entirely through the boss as well as the flange 8. In Fig. 3 the two bosses 12 and 13 have portions removed disclosing the location of the bore. Each boss is further provided with the longitudinally positioned slot 16, as shown in Fig. 3 while the main plate section 5 is provided with two slots 16' Figs. 5 and 6 which register with the boss slot as disclosed. The boss 13, is of a length less than the boss 12 and has its entering end within the recessed portion 7 of the plate as disclosed. Secured at right angles to the boss 12, is the boss 17 which is also provided with the lengthwise positioned bore which communicates with a slot 18 Fig. 5 within the plate 5. The outer edge of the plate section 5, upon its face, is rabbeted to provide the stop shoulder 10. The face portion above the rabbet, is recessed as shown at 19 Fig. 5, the recess being skirted by the flange 20, this flange in turn being rabbeted to provide the supporting flange 21, as clearly shown in Fig. 5.

The main plate section is provided with the two oppositely held guide pins 22, and these guide pins slidably receive the push plate 23 having the guide slots 24, the cam recess 25 and the cam edge 26 as clearly disclosed in Fig. 5. Slidably held against the flange 21, is the cam plate 27, having the extending cams 28 and 29', arranged to respectively engage within the cam recess 25 and against the cam edge 26 as disclosed in Fig. 5. This cam plate is provided with the outstanding operating stem 29'' upon which screws the thumb nut 30 having the spring receiving recess 31, a spring 32 being interposed between the nut 30 and the end of the plate, this arrangement being disclosed in Fig. 10. In its retracted position, the outer edge of the push plate 23 extends in alignment with the shoulder 10 as is disclosed in Fig. 6. The springs 34 held within the slots 24, exert a pressure insuring the push plate being normally forced against the cam plate. The operating stem of the cam plate 27 projects through the bore within the boss 17 Fig. 3. The opposite edges of the flange 20 are splayed, so as to slidably receive the beveled edges of the cap plate 34', which is arranged to lie over the cam plate and the push plate.

The shorter plate section 6 is also provided with a boss as is shown at 35 in Fig. 3 this boss having the longitudinally disposed

slot 36' while the plate section 6 is provided with the slot 36 registering with the slot 36'. Held within each boss 12, 13, and 35 is a plunger, and as these plungers and their
 5 connecting means are constructed alike and operated alike, the description of one will suffice for all. In Fig. 10 I have shown the boss 12 in cross section with the plunger 37 in position having the projecting threaded
 10 stem 38. Held within the plunger 37, is the threaded pin 39, having the flange head 40, this threaded pin carrying the adjusting nut 30' having the spring recess 31' and held within this recess is the spring 32', this pin
 15 39 sliding backward and forward with the plunger and is guided within the slot of the boss and blade. The stem 38 carries the adjusting nut 30 similar to the nut secured to the cam plate which has the recess 31 carry-
 20 ing the spring 32, this nut 30 working upon the end of the boss as clearly shown in Fig. 10. By means of the nut 30, the plunger 37 can be carried backward and forward, while the nut 30' serves as a means to lock the
 25 plunger.

As is shown in Fig. 6, the face of the shorter plate section 6 is also rabbeted to provide the stop shoulder 11, which shoulder
 30 10. The pin head 40 carried by the plunger reciprocating within the boss 35, is slidably held within the slot 36 of this shoulder plate section as is clearly disclosed.

The device as far as described represents
 35 the tool head. In connection with this tool head, I use two similar graduated preferably steel rules 42 and 43 each rule upon the under side having a longitudinally positioned blade slot 46, these slots being ar-
 40 ranged to receive the bevel edged pin head 40. Both of these rules are similar in size and construction, and the one used upon the main plate section is held by two pin heads 40, while the rule held to the shorter plate
 45 section is held by one pin head. When the tool is to be used as a rule, the rules 42 and 43 are secured to the stop shoulder 10 by the two carrying pins projecting through the slots of this main plate section. In Fig.
 50 1 I have disclosed the tool head carrying the two rules secured in alinement. In Fig. 2, the two rules are shown as held at right angles against the stop shoulders 10 and 11. The rule attached to the main plate section can always be carried outward beyond
 55 the outer edge of this section by operating the cam plate to carry the push plate 23 outward. In Fig. 3 the two rules are shown as connected cross wise disclosing the tool arranged when used as a tri-square. In con-
 60 nection with the tool head, I employ a narrow graduated gage bar 44 of such a width, that the same can be readily clamped against one of the shoulders 10 or 11 and the adja-
 65 cent pin head.

The numeral 45 designates a round graduated scale bar which is of a size also adapted to be held against one of the stop shoulders and the pin head. In Fig. 4, the gage bar
 44 and graduated bar 45 is shown as secured 70 to the tool head.

In certain classes of work an open scale bar is required, and in Fig. 6 I disclose the open graduated stub scale bar 47 which is
 75 held to the shoulder 11 by means of the pin sliding within the slot 36. This plate 47 is of a width greater than the rabbeted face portion of the tool head as is shown so that the edge of this member 47 will project be-
 80 yond the edge of the tool head. Each rule, as well as the graduated bar and gage bar, are slidably and adjustably held to the tool head. The tool head without any of the at-
 85 tachable members forms a serviceable square. As shown in Fig. 3, I secure to the rear portion of the tool head the two spirit lev-
 90 els 50 and 51.

This tool, as above described, is simple and inexpensive in construction, and both
 90 durable and efficient in operation, and the adjustments of the various members may be made with ease, accuracy, and despatch.

Having thus described my said invention, what I claim as new and desire to secure by
 95 United States Letters Patent is:

1. The combination with a square, of a rule longitudinally movable, secured to said square, means to adjustably secure said rule to said square, a second rule longitudinally
 100 movable at right angles to the first rule secured to said square and slidably held above said first mentioned rule, and means to secure said last mentioned rule.

2. The combination with a tool head in the form of a square, of a push plate slid-
 105 ably carried by said square, a cam plate operated in connection with said push plate, a rule slidably secured to said square and held to said push plate, and means to ad-
 110 justably secure said rule.

3. A tool head in the form of a square having its outer edges rabbeted to provide
 115 stop shoulders held at right angles, a rule slidably held within one of the rabbeted edges of deepest depth, means to secure said rule, a second rule slidably held within the remaining rabbeted edge, said second rule being held above said first mentioned rule, and means to secure said last mentioned
 120 rule to said square.

4. The combination with a square having stop shoulders extending at right angles
 125 to one another, one of said stop shoulders having a recess, guide pins within said recess, a push plate carried by said pins, a cam plate within said recess and operating against said push plate, means to actuate
 130 said cam plate, a rule adjustably secured to said push plate and working against one of said stop shoulders, and a second rule se-

cured to said remaining stop shoulder and held below said first mentioned rule, with means to secure said last mentioned rule.

5 The combination with a tool head in the form of a square, of carrying pins held to said square, means to adjustably secure said carrier pins, a rule transversely movably carried by one of said pins, and a second rule vertically movable below said first mentioned rule, and carried by one of said pins, substantially as and for the purpose set forth.

15 6. The combination with a tool head in the form of a square, of a carrying pin secured to said tool head, a spring to normally force said carrying pin in one direction, a screw to lock said carrying pin, said square having a stop shoulder, and a rule slidably secured against said stop shoulder and carried by said pin as and in the manner set forth.

25 7. The combination with an L-shaped plate forming a tool head having two plate sections of unequal lengths, two outer edges of which are rabbeted, a boss being secured to the rear face of each plate section, each plate section having a transversely positioned slot communicating with the con-

nected boss, each boss having a slot registering with the adjacent plate slot, of a plunger within each boss having a threaded extending stem, a set nut carried by each stem, a spring upon each stem working against the connected nut, a slotted rule held within the rabbet of said longer section, a pin having a head carried by the plunger to the rear of said longest section, said head being slidably held within the slot of said rule, a nut upon said pin, a spring below said last mentioned nut, a slotted rule within the rabbet of said shorter plate section and held below said first mentioned rule, a plunger within the boss in the rear of said shorter plate section, a pin having a head carried by said last mentioned plunger engaging said last mentioned rule, a threaded pin extending from said last mentioned plunger, and a nut carried by said last mentioned pin all arranged substantially as and for the purpose set forth.

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

CHARLES H. PETERSON.

Witnesses:

JOHN E. STEPHENS,
G. W. STEPHENS.