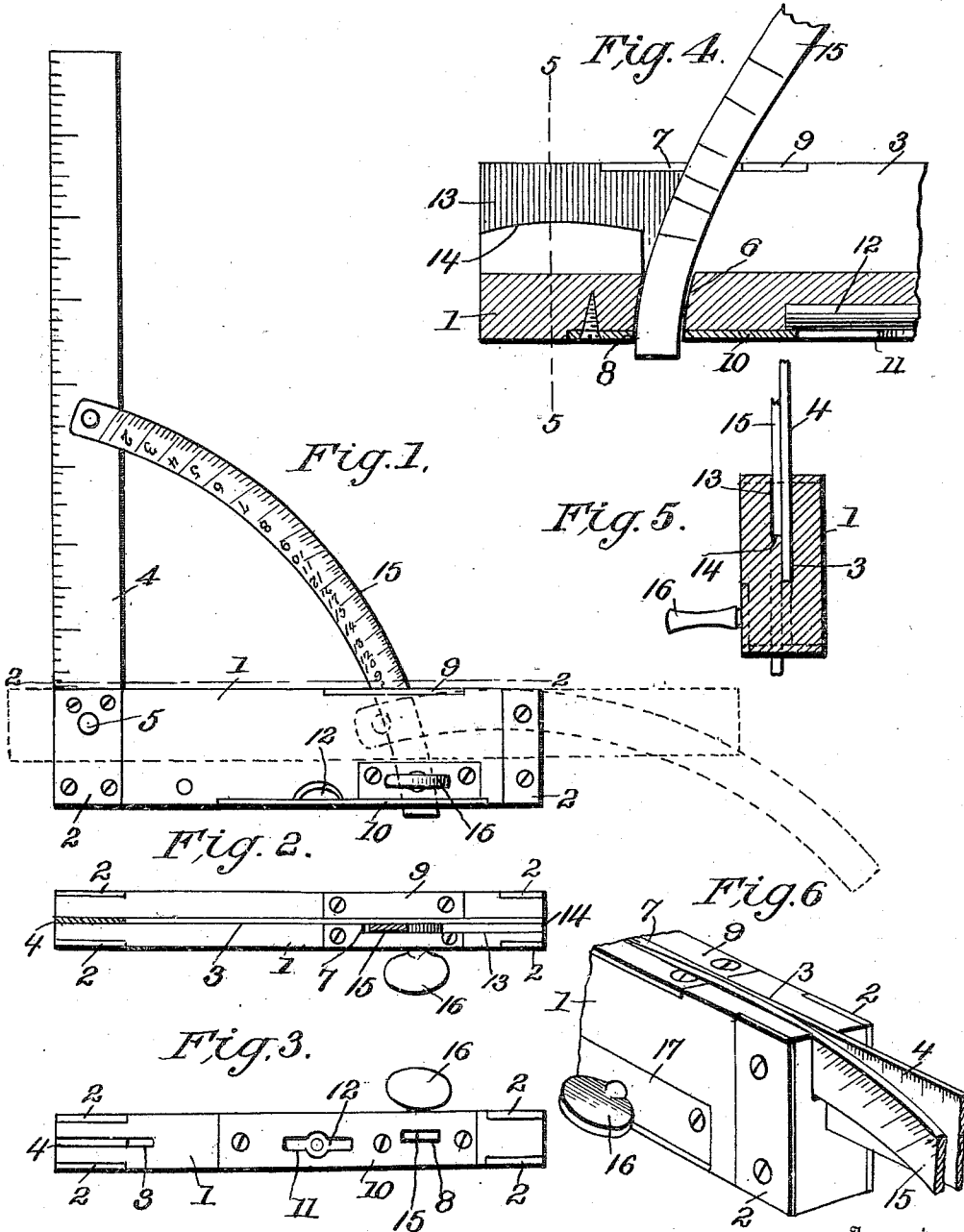


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COMPOUND MEASURING INSTRUMENT.  
APPLICATION FILED MAY 27, 1910.

973,117.

Patented Oct. 18, 1910.



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# UNITED STATES PATENT OFFICE.

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## COMPOUND MEASURING INSTRUMENT.

973,117.

Specification of Letters Patent.

Patented Oct. 18, 1910.

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*To all whom it may concern:*

Be it known that I, MATTHEW CLARKE, citizen of the United States, residing at Wilkes-Barre, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Compound Measuring Instruments, of which the following is a specification.

The present invention comprehends certain new and useful improvements in measuring instruments, and the invention has for its object to provide a combination level, square, and bevel, which is particularly convenient and efficient in use, and which possesses to a marked degree the characteristics of simplicity and durability.

A further object of the invention is to provide an instrument of this character which may be folded into a quite compact form, in order to be adapted to be carried in a pocket and to be capable of being conveniently packed for shipping purposes.

With these and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features of in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation of my improved instrument, the parts being shown in full lines in open position, and in dotted lines in folded position. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is an edge view of the device with the parts in the position shown in full lines in Fig. 1. Fig. 4 is a fragmentary longitudinal section of the stock through the slot, showing the transverse opening and the seating recess. Fig. 5 is a section on the line 5—5 of Fig. 4; and, Fig. 6 is a fragmentary perspective view showing the parts folded.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

My improved measuring machine includes a stock 1 which in the present instance is

formed of wood and is provided at each end with a pair of wear plates 2, the plates being secured to and countersunk in two opposite sides of the stock, as shown. The stock is formed with an elongated opening or slot 3 that opens outwardly through another side thereof, the slot extending throughout the entire length of the stock and also opening outwardly through the opposite ends thereof between the wear plates. One end of an adjustable blade 4 is received in one end of the slot 3 and is mounted therein through the instrumentality of a pivot stud 5 inserted through the stock and secured in the adjacent pair of wear plates 2. At the pivoted end of the stock the slot 3 is extended transversely entirely through the same so as to afford clearance for the pivoted end of the blade and thus permit the same to be turned freely about its pivot to assume different angular positions with respect to the stock. The blade is preferably made of tempered steel and has straight side edges and is provided along the same with suitable graduations or scales whereby it may be employed for measuring purposes. The blade is adapted to be folded toward the stock into the slot 3, the slot being of sufficient depth so that the blade is entirely received therein with one edge flush with the adjacent edge of the stock, as illustrated in dotted lines in Fig. 1. The blade is somewhat longer than the stock, and its end portions project through the open ends of the slot in the folded position of the parts.

The stock is formed intermediate of its ends with a transverse opening 6 that intersects the slot 3 and forms a recess in one side wall thereof. The ends of the transverse opening register respectively with slots 7 and 8 formed in wear plates 9 and 10 which are secured to and countersunk in the adjacent sides of the stock. The wear plate 10 is formed with a second slot 11 through which is displayed a spirit level 12 countersunk in one side of the stock, that is, the side opposite to the side through which the slot 3 opens.

One wall of the slot 3 is cut away so as to increase the width of the slot and to form a seating recess 13 between the transverse opening 6 and the free end of the stock. The seating recess provides an in-

terior outwardly and laterally facing shoulder 14, for a purpose to be hereinafter disclosed. It is to be observed that the slot 7 extends throughout the entire length of the wear plate 9 and registers with the slot 3 and the seating recess 13, as well as the transverse opening 6.

A segment 15 has one end overlapping one side of the blade 4 and pivotally connected thereto at an intermediate point of said blade 4. The segment is provided with suitable graduations, the graduations of one side preferably indicating degrees, and the graduations on the other side indicating inches and fractions thereof. The free end of the segment is adapted to be inserted through the transverse opening 6 and the registering slots 7 and 8, the walls of the transverse opening being preferably curved to conform substantially to the curvature of the segment. The segment may be moved freely through the stock to admit of the adjustment of the blade. A thumb screw 16 is mounted in the stock and is adapted to be projected into the transverse opening to bear against the segment, whereby to hold the same against movement through the stock. The thumb screw preferably works through a plate 17 that is countersunk in one side of the stock. When using the instrument as a square or bevel, the segment is moved through the stock until the blade and stock are disposed at the desired angle, such angle being conveniently and accurately determined by reference to the graduations on the segment. The device may also be employed for ascertaining the batter of an object. In such instance the blade 4 is placed against the object and the stock is swung upwardly until the spirit level 12 indicates that it is horizontal. By inspection of the graduations on the segment, the batter of the object is readily determined.

In order to fold the instrument, the segment is withdrawn from the stock and is swung against one side of the blade 4, the blade being then swung toward the stock and into the slot 3. The seating recess 13 receives the pivoted end portion of the segment, the shoulder 14 fitting against one edge of the segment and limiting the turning movement thereof about its pivot. The end portions of the blade 4 and the free end portion of the segment project longitudinally beyond the stock. In this position of the parts the blade and segment lie entirely within the plane of the adjacent side of the stock, so as to enable said side of the stock to be placed flat against an object to permit the device to be used as a level.

From the foregoing description in connection with the accompanying drawing, it will be apparent that I have provided an improved measuring instrument which is

thoroughly practical and efficient, which consists of comparatively few parts, and which may be easily and cheaply manufactured. It will be seen that the device is quite compact when folded, which is a manifest desideratum. The instrument is capable of being employed for many purposes that will at once present themselves to carpenters, mechanics and other persons for whom the device is intended.

Having thus described the invention, what I claim is:

1. An instrument of the character described including a pair of pivotally united members, and a segment extending between the members and connected to one of the same, the segment being foldable against the said member, the other member being formed with an elongated opening adapted to receive both the last-named member and the segment when the parts are folded.

2. An instrument of the character described including a member, a second member pivotally united with the first member, and a segment connected to the second member and movable transversely through the first member, the segment being pivoted to the second member and being foldable thereagainst, the first member being formed with an elongated opening adapted to receive both the second member and the segment when the parts are folded.

3. An instrument of the character described including a pair of pivotally united members, a segment extending between the members and connected to one of the same, the segment being pivoted to said member and being foldable thereagainst, the other member being formed with an elongated opening adapted to receive both the said member and the segment when the parts are folded, the opening being formed with an interior shoulder engaging with the segment to limit the turning movement of the same about its pivot.

4. An instrument of the character described including a member formed with an elongated opening, a second member pivotally connected to the first member and foldable within the opening, and a segment extending between the members and pivotally connected to the second member on one side thereof, the segment being foldable against said side of the second member, and one wall of the elongated opening being cut away to form a seating recess for the reception of the segment when the parts are folded.

5. An instrument of the character described including a member formed with a longitudinal slot cutaway in one longitudinal wall to provide a seating recess, the member being also formed with a transverse opening intersecting the seating recess, a second member pivotally connected to the

first member and foldable into the slot, and  
a segment connected to the second member  
and received in the transverse opening, the  
segment being adapted to be folded against  
5 the second member and being received in the  
seating recess when the parts of the instru-  
ment are folded.

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

MATTHEW CLARKE. [L. S.]

Witnesses:

ROBERT J. BLAIR,  
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