

G. G. Burgess.

Measuring Instrument.

N^o 109,868.

Patented Dec. 6, 1870.

Fig. 1.

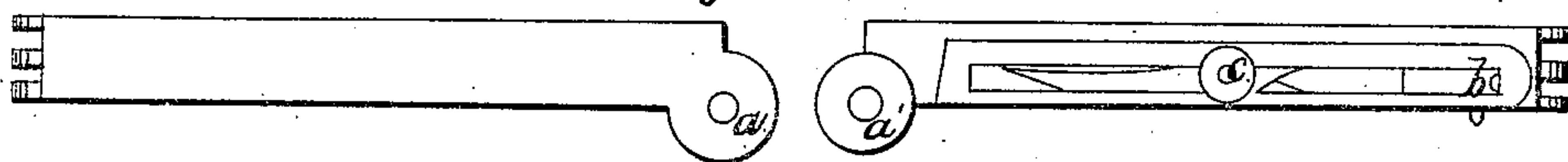


Fig. 2.

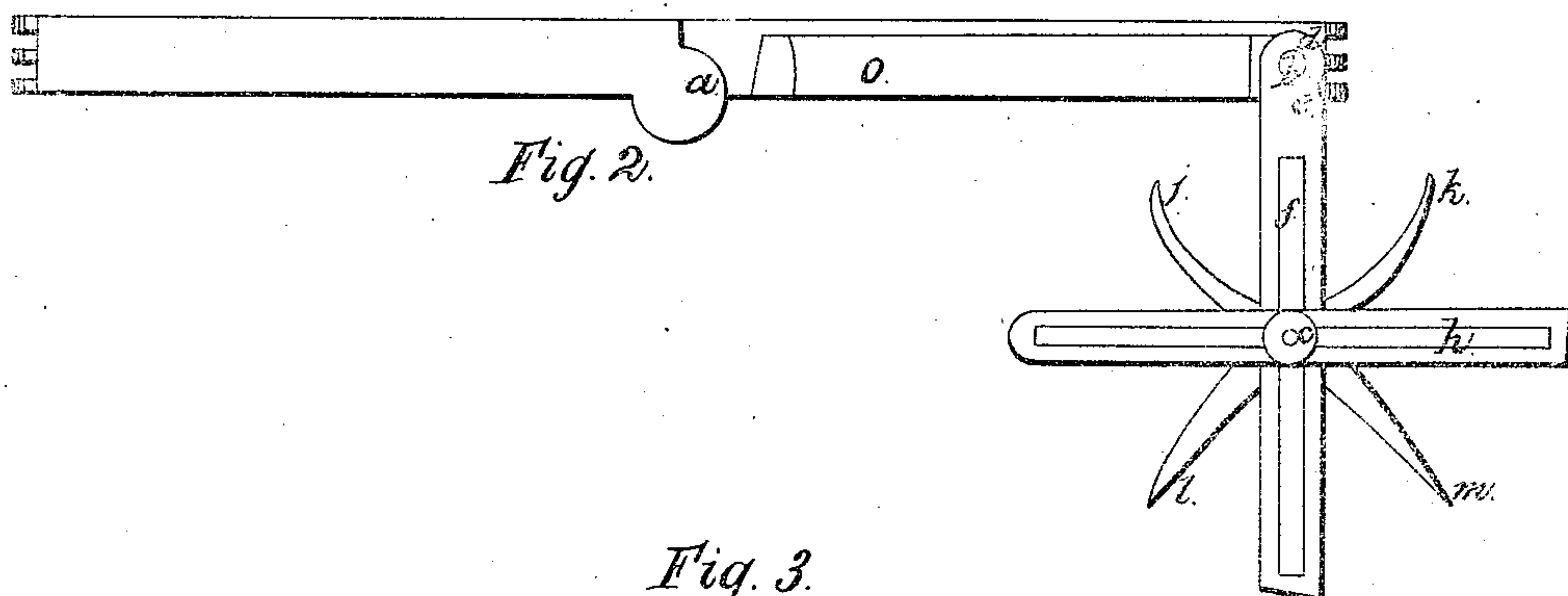


Fig. 3.

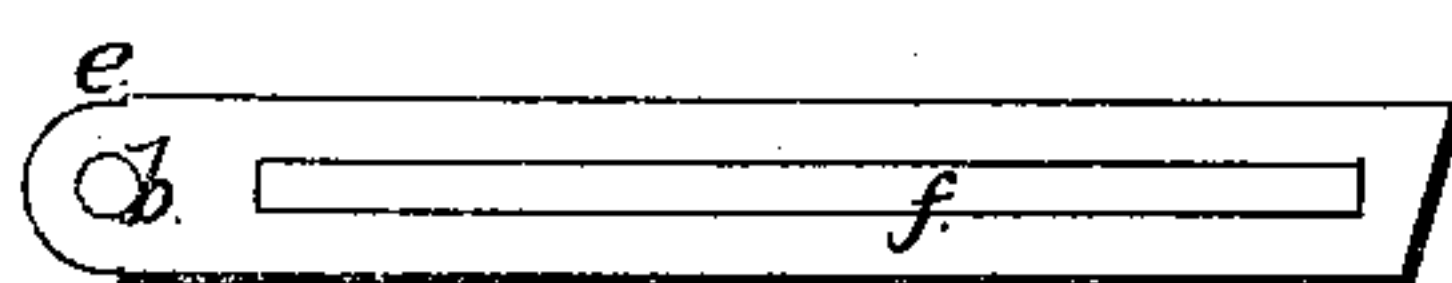


Fig. 4.

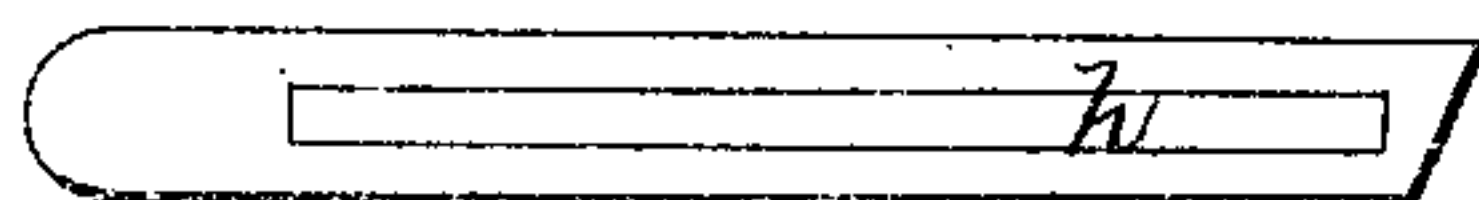


Fig. 5.

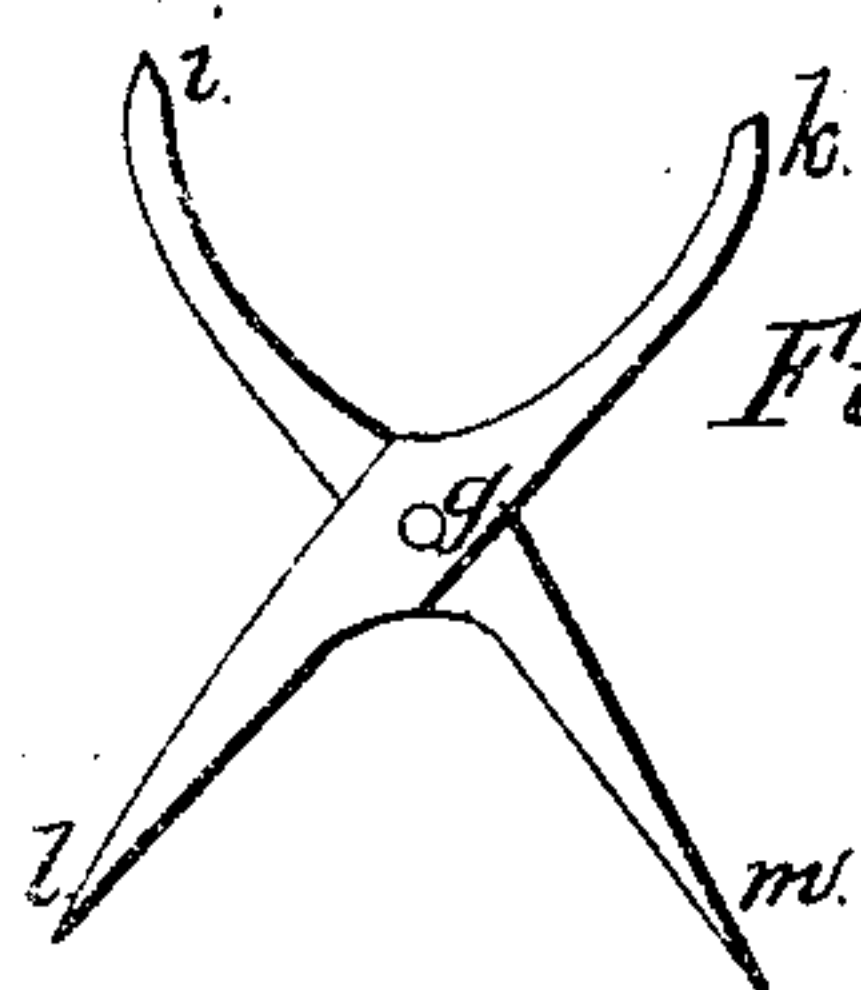
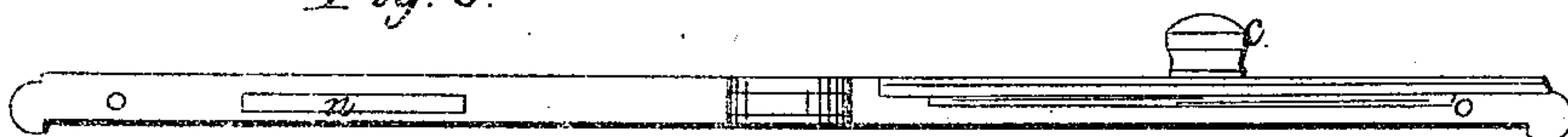


Fig. 6.



Witnesses.

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GEORGE G. BURGESS, OF GRAFTON, OHIO.

Letters Patent No. 109,868, dated December 6, 1870; antedated November 26, 1870.

IMPROVEMENT IN COMBINED RULES, BEVELS, SQUARES, AND DIVIDERS.

The Schedule referred to in these Letters Patent and making part of the same.

I, GEORGE G. BURGESS, of Grafton, in the county of Lorain and State of Ohio, have invented certain Improvements in Combined Rule, Level, Try and Bevel, Square, Dividers, and Calipers, of which the following is a specification, in which—

Figures 1, 2, 3, 4, 5, and 6, are perspective views.

The nature of my invention relates to the combination of various instruments hereinafter named, and to a new mode of making jointed or folding rules, by which one part of a rule and half a joint are made in one solid piece of rubber, or other suitable material, which enables me to make a single jointed rule by simply using a fulcrum pin to hold the two rule parts together; thus dispensing with numerous rivets and various other detached parts.

The following description will enable those skilled in the art to make and use my improvement:

My rule does not differ in construction from those in common use, except in the mode of making the rule and joint from a single solid piece of rubber, or other suitable material, as shown at fig. 1, the (two) rule and hinge parts are then joined together with a rivet, *a*, as shown at fig. 2, by which much greater strength and cheapness are obtained.

The try-square part 3 is made quite thin, and nearly as long and wide as the part of the rule to which it is secured by a rivet, *b*, in a cavity, *o*, of corresponding shape, but much deeper, to admit other parts, which admits of its being opened up to a right angle, and is then prevented from going further by a shoulder, *d*, in the cavity *o*, fig. 2, and shoulder *e* fig. 3, coming together.

f, fig. 3, is an oblong slot, which extends half or more the length of part 3, for the purpose of allowing the adjustment of the adjoining parts on the screw to any desired point in the slot *f*.

Before the binding-screw *g* is put to its place through the slot *f*, fig. 3, there is placed on it a pair of combined calipers and dividers, *j k* and *l m*, the screw *g* passing through them centrally, when one piece or half of the calipers and dividers is made rigid on the opposite end from the screw, while the other half part is left free to turn on the screw *g*.

The calipers and dividers are shaped nearly as shown at fig. 5, and when closed are about as wide and not quite as long as parts 3 and 4, which all fold up in an oblong part and are closed down into the recess *o* in the rule part, fig. 2.

Parts 2, 3, 4, and 5, *j*, *k*, *l*, *m*, and *n*, are all shown in a combined form with the screw end *g* and bur *c*.

The bevel try-square part, fig. 4, corresponds in size and shape with part fig. 3, with only a plain oblong slot, *h*, which extends to near either end, and is held to its place on part 3 by the binding-screw *g*, which is passed through slots *f*, fig. 3 and *h*, fig. 4, when the thumb-screw bur *c* is screwed down, thus retaining the try and bevel-square with the calipers and dividers in any desired position for use or otherwise, in or out of pocket.

I also use a spirit-level, *n*, in the edge of the rule part, fig. 6, which is protected from injury, when not in use, by the other part of the rule folding over it.

The operation of my combined rule and instruments is as follows:

The try-square is ready for use by opening part 3 to a right angle.

The bevel-square may then be used by releasing the thumb-screw a little, when it can be set at any desired angle and firmly held by the screw *g*.

The calipers and dividers are also used in the same way, the rule being an index on which the points of the dividers rest when using the calipers, and *vice versa*.

What I claim as new, and desire to secure by Letters Patent, is—

A folding rule, in combination with the square and bevel attachment, holding by means of the binding-screw *g*, the combined calipers and dividers, the whole being constructed and arranged to operate together, substantially in the manner as shown and set forth.

GEORGE G. BURGESS.

Witnesses:

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