

W. MEIER & C. G. RUMFORD, JR.

LEVEL.

APPLICATION FILED MAR. 16, 1910.

988,888.

Patented Apr. 4, 1911.

Fig. 1.

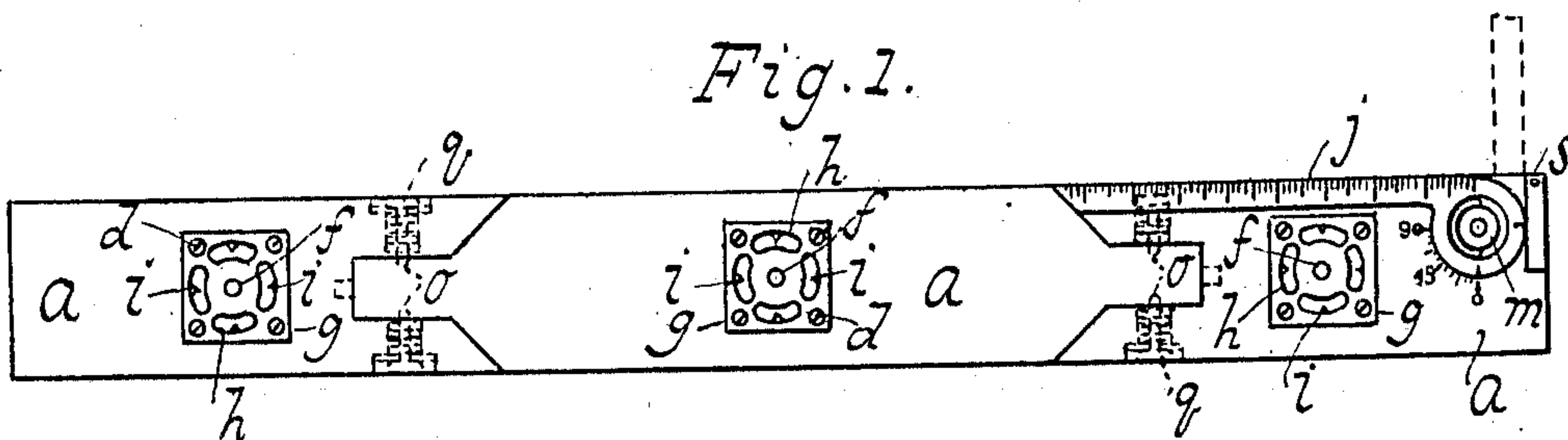


Fig. 2.

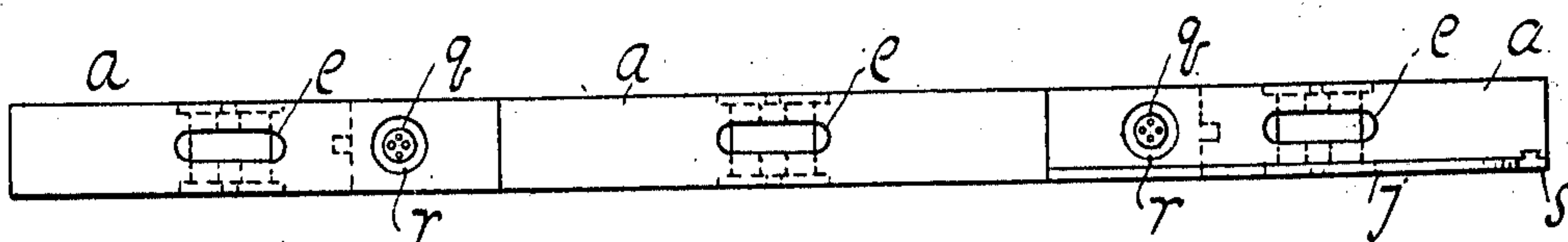


Fig. 3.

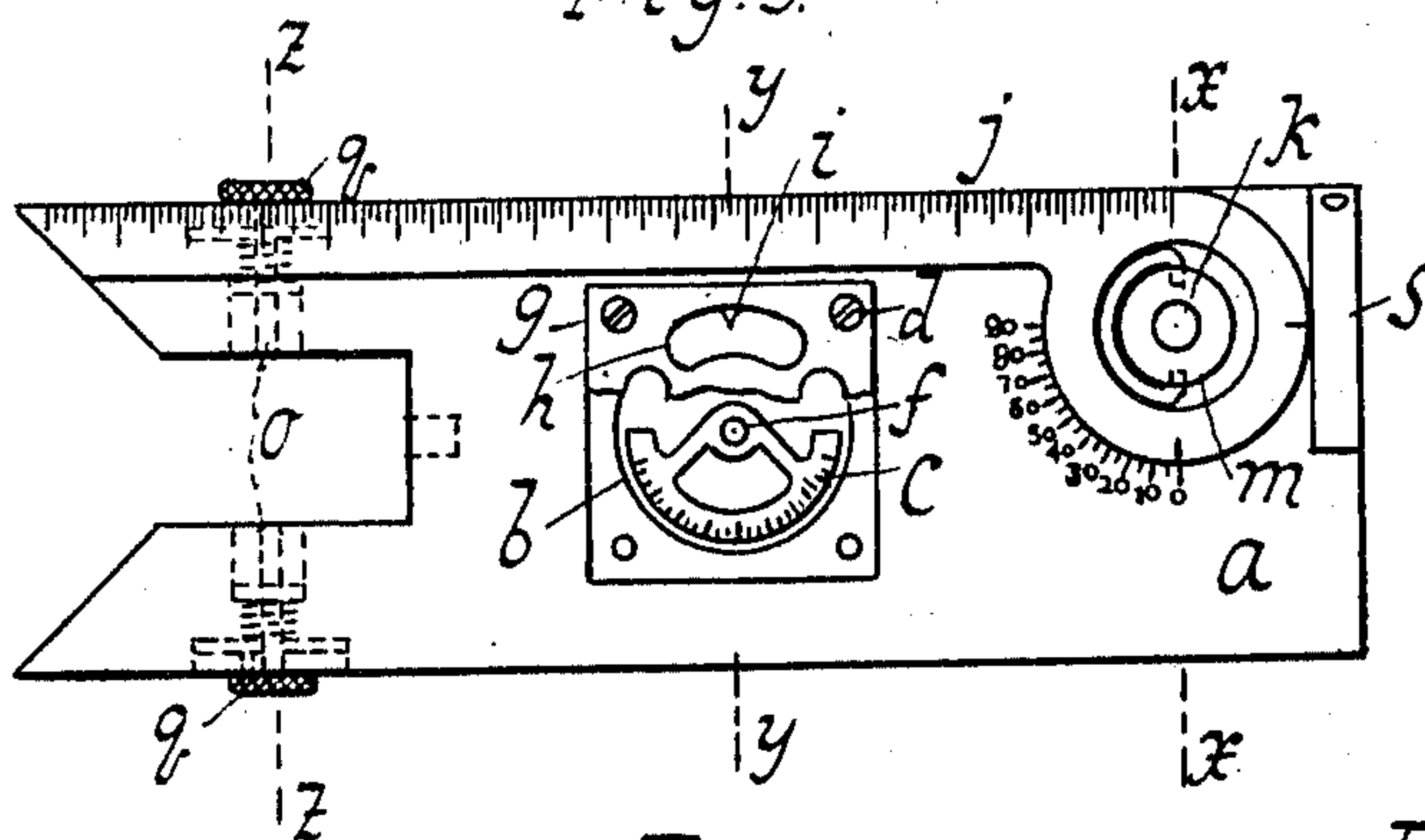


Fig. 4.

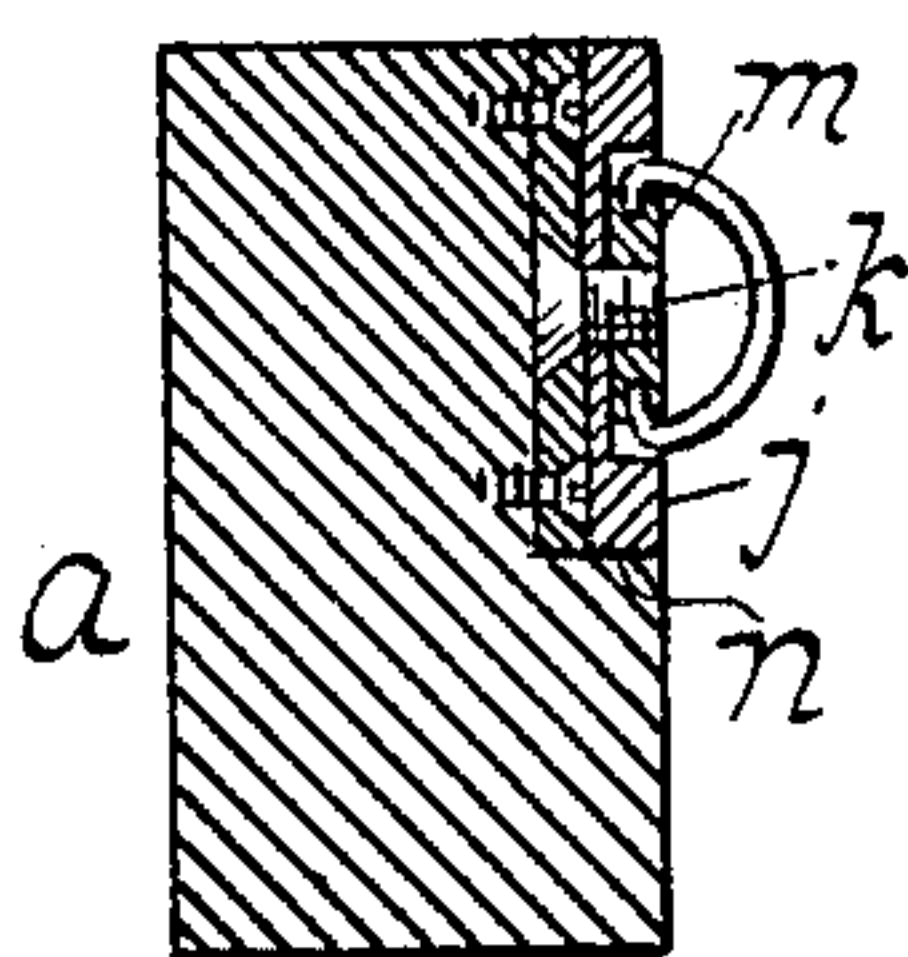


Fig. 5.

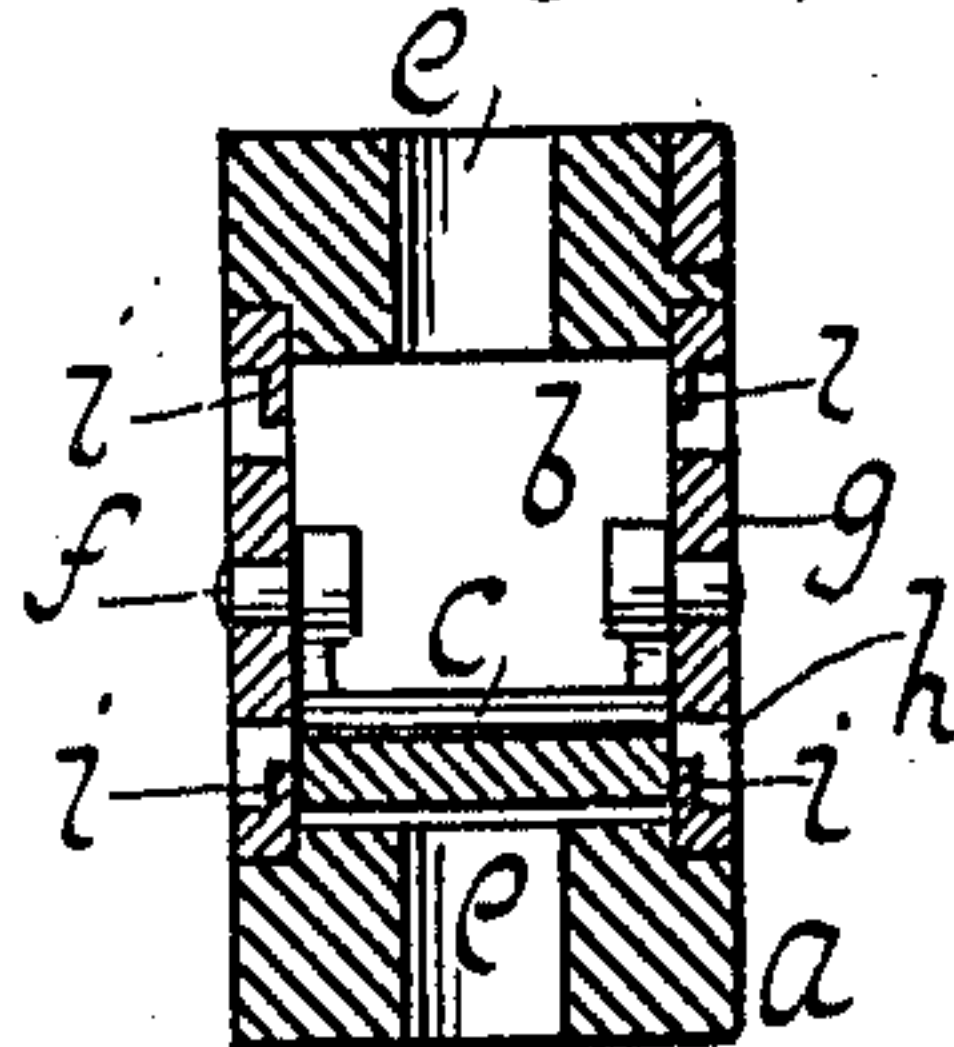


Fig. 6.

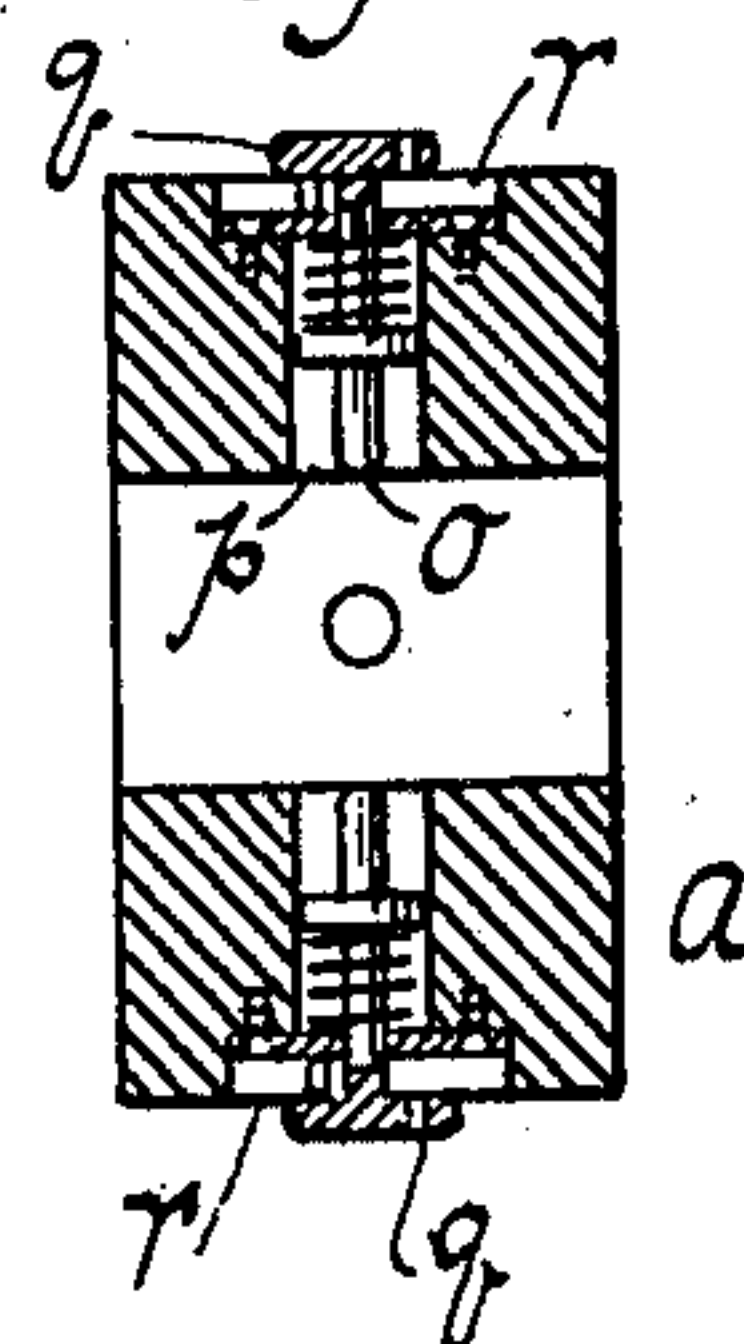
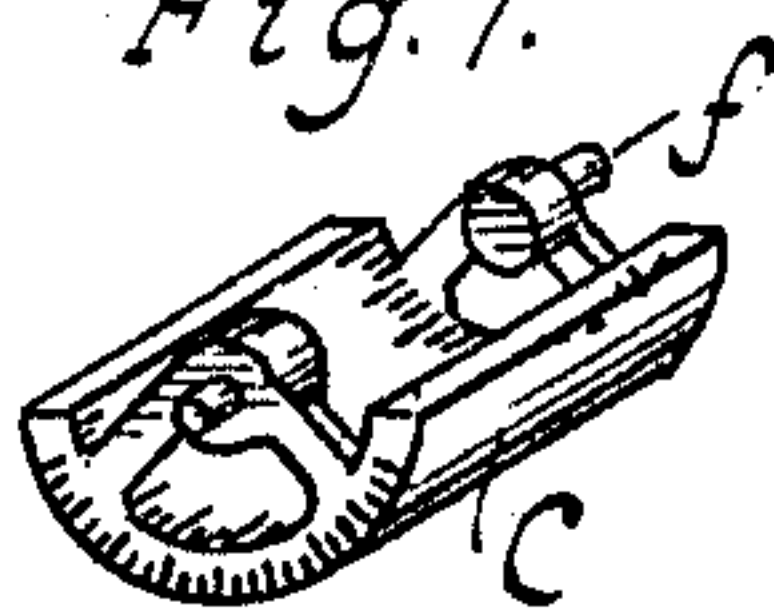


Fig. 7.



Witnesses:  
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Inventors  
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# UNITED STATES PATENT OFFICE.

WILLIAM MEIER AND CHARLES G. RUMFORD, JR., OF ELIZABETH, NEW JERSEY.

## LEVEL.

988,888.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed March 16, 1910. Serial No. 549,746.

*To all whom it may concern:*

Be it known that we, WILLIAM MEIER and CHARLES G. RUMFORD, Jr., the first named a subject of the Emperor of Germany, the second a citizen of the United States, both residing at Elizabeth, in the county of Union and State of New Jersey, have invented new and useful Improvements in Levels, of which the following is a specification.

Our invention comprises a new and improved level and square combined in which we do away with spirit and use an automatic balance dial in place of spirit.

Our level can also be made in sections and readily taken apart and packed in a small compass.

In the accompanying drawing:—Figure 1 shows a side elevation of our device in three sections. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged detailed view of one of the sections. Fig. 4 shows the means for fastening the adjustable rule to the level and the section is taken on the line  $x-x$  Fig. 3. Fig. 5 is a sectional view taken on the line  $y-y$  Fig. 3. Fig. 6 is a detail view of the means for fastening the parts of the device together and is taken on the line  $z-z$  Fig. 3. Fig. 7 is a detail view of the indicating dial.

The level is formed preferably of three parts as shown in Fig. 1, each one of which is about sixteen inches in length, although we do not confine ourselves to any particular size or any particular number of parts. The device is made preferably of wood.

The sections of the level are indicated at  $a$  and in each section is an opening  $b$  into which a pair of plates  $g$  containing the indicating dial  $c$  are sunk and in which said plates are fastened by means of screws  $d$ . With this opening  $b$  communicate the top and bottom openings  $e$  shown in Figs. 2 and 5 so that the graduations of the indicating dial may be read from the top or the reverse of the device and while looking downward.

The indicating dial  $c$  is provided with pivots  $f$  which pivots swing in the plate  $g$ . The indicating dial  $c$  as shown in Fig. 7 is

semi-circular in form and made of any desirable material preferably metal and each plate  $g$  has suitable openings  $h$  and also a series of indicating points  $i$ , the indicating dial being marked with suitable graduations such as quarter, eighth, sixteenth and zero marks, the last mentioned mark being opposite one of the points  $i$  on the plates  $g$  when the device is placed on a level surface. To one of the sections  $a$  is also attached an adjustable swinging rule  $j$  which is secured thereto by a bolt  $k$  having a thumb screw  $m$ . This section has recesses at  $n$  as shown in Fig. 4 sufficiently deep to allow the adjustable rule  $j$  to be flush with the said section when the rule is not in use. The rule  $j$  may be set at any angle as shown in Fig. 1 and secured in any desired position by sufficient tightening of the thumb-screw  $m$ . The sections  $a$  are fastened together by being dovetailed into one another as shown in Fig. 1 and are held in position by spring held pins  $o$  passing through openings  $p$  said spring pins  $o$  having milled heads  $q$  which are sunk into recesses  $r$  in the section. When the sections are fastened together the pins  $o$  are pressed in tightly as shown in Fig. 1 so that the milled heads  $q$  are level and flush with the section  $a$ .

One of the sections  $a$  is provided with a metal strip  $s$  which when the level is used as a square forms a stop for the rule  $j$  when swung at right angles. Or if desired the strip  $s$  can be withdrawn and the rule  $j$  given greater range of actuation and thus used for different purposes.

We claim:—

A device of the kind described comprising a central and end sections each of said sections having a recess in one of its sides, counter-sunk plates provided with side openings secured to the sides of the sections and covering the recesses, a graduated plumb level disposed in each of the recesses and journaled to said plate, each of said sections having an opening in its top and bottom in line with the opening in its side, each of said end sections further provided with a groove

in one of its ends and the central section having a tongue at each of its ends to enter the grooves in the end sections, and a series of spring-pressed bolts mounted in each of the  
5 end sections adapted to engage the tongue of the central section to lock the sections together.

In testimony whereof we have hereunto

set our hands in the presence of two subscribing witnesses.

WILLIAM MEIER.  
CHAS. G. RUMFORD, JR.

Witnesses:

WM. E. WARLAND,  
CHRISTIAN CLINSTAEDT.

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