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E. J. RANTZ

2,527,961

DEGREE LEVEL

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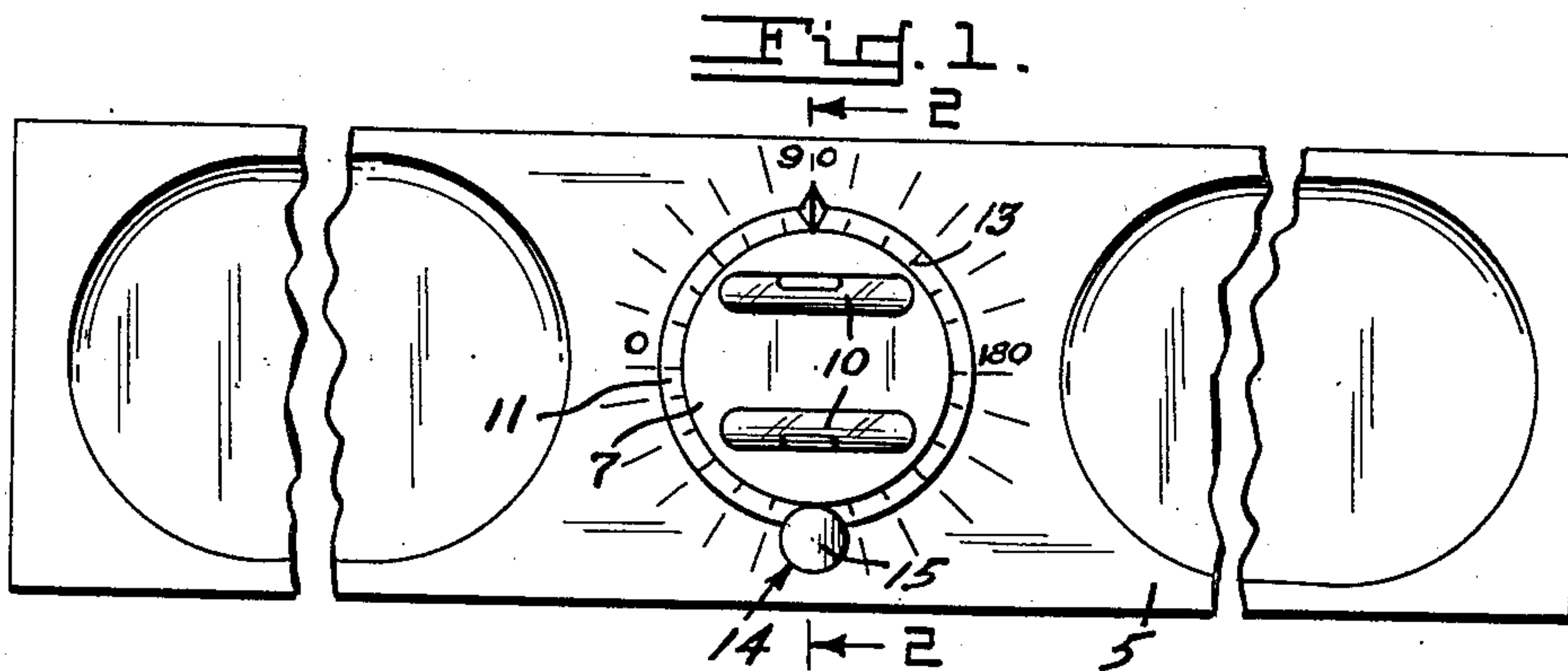


Fig. 2.

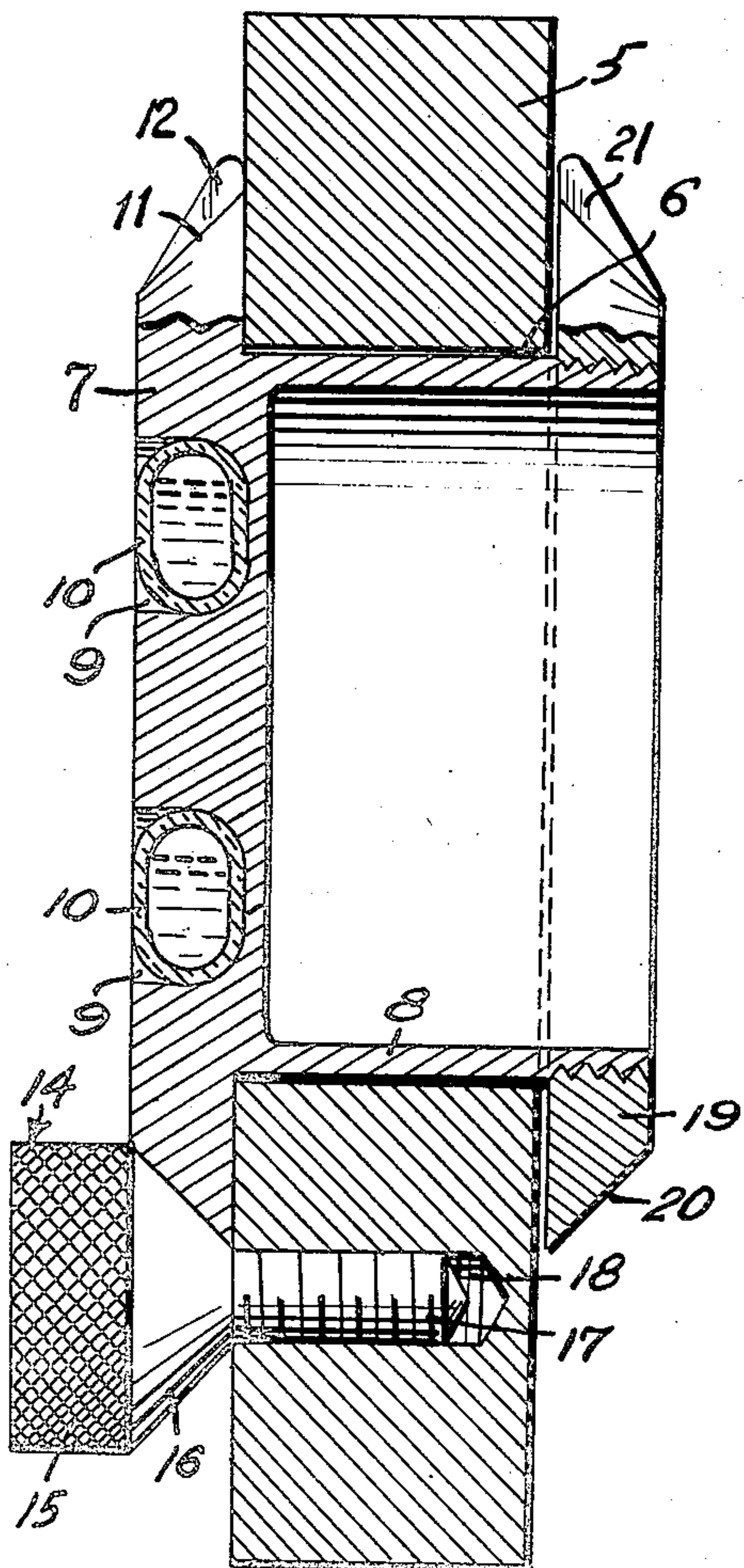
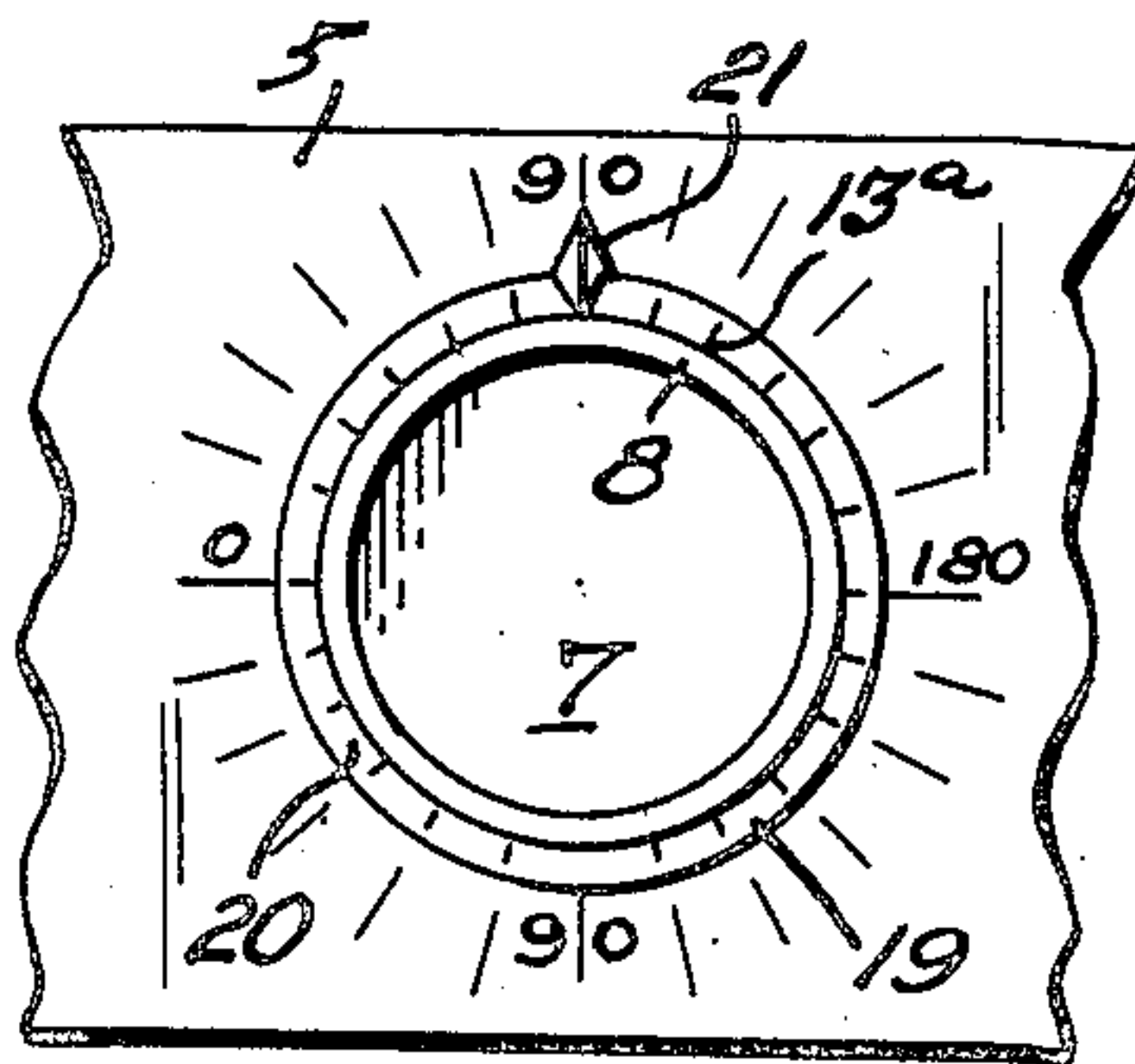


Fig. 3.



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UNITED STATES PATENT OFFICE

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1 Claim. (Cl. 33—213)

1

The present invention relates to an improved level of the bubble type wherein the bubble glass is mounted on an adjustable carrier, to the end that it can be set at various degrees of inclination from the horizontal for the purpose of leveling angles, such items as step risers, roof angles, etc.

An important object of the invention is to provide an adjustable level of the character stated which can function as a protractor and which because of its simple construction can be actually manufactured at a cost no greater than most types of carpenters levels now on the market.

Another object of the invention is to provide a level of the character stated which can be readily detached from the level stock for the purpose of repairs, replacements or cleaning and also to the end that it can be employed independently as a level.

These and various other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawing:

Figure 1 is a side elevational view of the improved level,

Figure 2 is an enlarged cross-sectional view taken on line 2—2 of Figure 1, and

Figure 3 is a fragmentary side elevational view looking at the opposite side of that shown in Figure 1.

Referring to the drawing, numeral 5 denotes the usual elongated body or stock of a carpenter's level and this stock is formed intermediate its ends with a circular opening 6 therethrough.

Numeral 7 denotes a face plate, which may be of metal, plastic or any other desirable material having a cylindrical formation 8 projecting from the rear side thereof through the opening 6 in the stock 5. The face plate 7 has grooves 9 therein, into which are set in any suitable manner level glasses or tubes 10.

The peripheral portion of the face plate 7 is beveled as at 11 and a short web or pointer 12 rises therefrom on a line exactly at right angles to the tubes 10.

The beveled surface 11 is marked off in degrees as noted by numeral 13 and the adjacent surface of the stock 5 is also marked off in degrees and preferably boldly at 90 degree intervals.

In order to hold the face plate 7 against rotation, a detent 14 is provided and this detent consists of a knurled knob 15 having a beveled portion 16 merging with an elongated reduced threaded member 17 capable of being fed into a threaded recess 18 in the stock 5. By screwing

2

the detent inwardly, the beveled portion 16 of the detent will bind against the beveled surface or periphery 11 of the face plate 7 and hold the face plate against rotation.

The annular wall 8 is substantially longer than the thickness of the stock 5 and its portion projecting beyond the side of the stock opposite from that of the face plate 7 is formed with threads and over this threaded portion is disposed an internally threaded ring 19, which has a beveled peripheral surface 20, the same having graduations 13a in the same manner as the beveled surface 11 and this side of the stock 5 is laid off in graduations the same as the opposite side. The ring 19 also has an upstanding web or pointer 21. In the use and operation of the level, the degree of angle for any given surface work can be ascertained by first holding the level to the work structure and then unloosening the detent 14. The face plate 7 with the bubble glass 10 thereon is then turned until they read level. The detent is then tightened and the pointer 12 or the pointer 21 points to the particular angle at which the stock was disposed. The angles are marked in degrees on both sides of the level stock.

Obviously the bubble unit can be removed so that it can form a level of its own, whenever the occasion demands.

While the foregoing description sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention what is claimed as new is:

A carpenter's level comprising an elongated stock having a circular opening at a medial portion, a bubble glass carrying unit rotatably mounted within the opening, said unit comprising a cylinder for disposition through the opening and provided with a wall at one end thereof, said wall being provided with a bevelled flange peripherally disposed and opposing one side of the stock, a pointer on the bevelled flange, said stock being provided with graduations thereon, adjacent the bevelled flange, the other end of the cylindrical portion protruding beyond the opposite side of the stock and provided with threads, a ring internally threaded for disposition on the threaded portion of the cylindrical portion and provided with a pointer, graduations on the last mentioned side of the stock, opposed to the ring, a threaded

member feedable into the stock and provided with a bevelled head engageable with the bevelled flange for holding the rotatable bubble glass carrying unit fixed, said wall being provided with a bubble glass.

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