

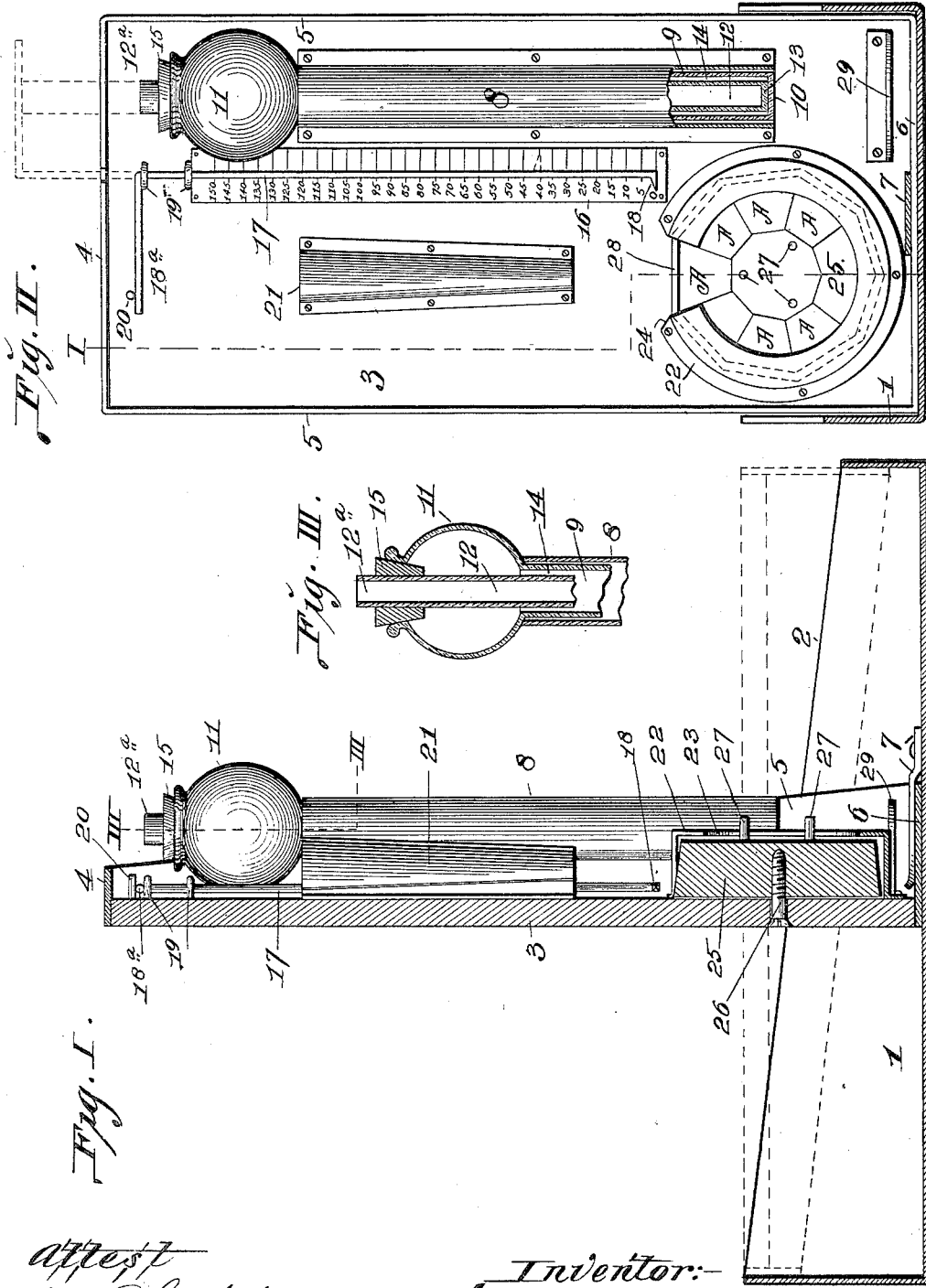
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Patented May 15, 1900.

A. M. ROUSE.  
MEASURE FOR LIQUID GOLD.

(Application filed Nov. 22, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## MEASURE FOR LIQUID GOLD.

SPECIFICATION forming part of Letters Patent No. 649,877, dated May 15, 1900.

Application filed November 22, 1899. Serial No. 737,896. (No model.)

*To all whom it may concern:*

Be it known that I, ALBION M. ROUSE, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Measures for Liquid Gold, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of appliances used to determine the quantity of gold in a solution, in which such work is accomplished by the use of tints and colors with which the substance is compared to determine the amount of gold in the solution.

The object of my invention is to construct a device of this character of such nature that the desired results may be obtained with advantage and economy.

My invention consists in features of novelty hereinafter fully described and claimed.

Figure I is a view, partly in vertical section, taken on line I I, Fig. II, and partly in side elevation, of my device. Fig. II is a view in front elevation of the device, the box or case being shown in vertical section. Fig. III is a detail vertical sectional view taken on the line III III, Fig. I.

1 designates the box or case, having inclined sides 2 and in which the measuring device may be placed when not in use and which serves as a support for the measure when in use. The box is adapted to receive the cover shown by dotted lines, Fig. I.

3 designates a frame surrounded by a flange-band 4, having side walls 5 and a base 6, that receives a clamping-finger 7, pivoted to the box 1, to serve as a holder by which the frame is maintained in upright position when in use.

8 designates an opaque casing secured to the frame 3 and having its upper and lower ends open. Fitting in the opaque casing 8 is a transparent tube 9, such as glass, having a closed lower end 10, that is designed to be positioned at the lower open end of the casing. The tube 9 is formed with a bulb 11 at its upper end. Within the tube 9 is a telescoping transparent tube 12, having an open upper end 12<sup>a</sup> and a closed lower end 13. The

diameter of the tube 12 is considerably less than that of the tube 9, so that an annular space 14 is produced between the two tubes. The bulb 11, formed upon the tube 9, is provided with an opening that is closed by an apertured pliable stopper 15, that fits snugly to the telescoping tube 12.

16 designates a scale at which is located an indicator-rod 17, mounted in eyes 19, the rod being provided with a pointer 18 and a handle 18<sup>a</sup>. When not in use, the indicator-rod lies flat against the frame 3 and its handle is held beneath a stud 20, projecting from the frame 3.

21 designates a sight-tube mounted on the frame 3 at one side of the casing 8. Also mounted on the frame 3 is a housing 22, provided with an opening 23 in its face and having at its uppermost part the slot 24. The housing 22 contains a revoluble disk 25, pivotally mounted on the screw or pin 26 and provided with studs 27, projecting through the opening 23, whereby the disk may be turned. The circumferential face of the disk 25 is provided with a series of flat fields 28, that are designed to contain separate colors, each of said fields being adapted to be brought to the slot 24 in the disk-housing beneath the sight-tube 21. On the face of the disk 25, opposite the fields 28, are a series of chart-designations A, by which the various colors are distinguished.

29 designates a white field located directly beneath the lower end of the casing 8 and likewise beneath the lower end of the transparent tubes 9 and 12.

In the practical use of this measure the liquid-gold solution is inserted into the bulb 11 of the tube 9, the tube being preferably filled until the solution reaches a level near the top of the bulb. The stopper 15 is then inserted in the bulb by sliding it over the telescoping tube, and the telescoping tube may be elevated at will within the tube 9 and may be maintained in any position to which it is moved by the frictional contact between it and the pliable stopper 15. The solution flows downwardly to the lower closed end of the tube 9, where it surrounds the telescoping tube 12. The telescoping tube 12 being raised from contact with the lower closed end of the tube 9, the solution is permitted to flow be-

neath the closed end of the tube 12 and fill the space between the closed ends of the two tubes. By placing an eye over the open end 12<sup>a</sup> of the telescoping tube a person can look 5 through said tube to the bottom thereof and through the bottoms 10 and 13 of the two transparent tubes toward the white field 29 beneath them, the opaque casing 8 preventing the light from entering the tubes through- 10 out their length. On looking through the telescoping tube, as explained, and raising said tube the person making the examination is enabled to observe the color of the gold solution contained by the tube 9 at different 15 heights of the liquid beneath the telescoping tube. At the same time the other eye is held in a position above the sight-tube 21, and thereby an observation is obtained of the color-disk 25, which is turned to bring into view 20 one of the fields 28 that will correspond to the color of the gold solution being examined.

With this measure I employ a chart or key bearing indications of gold values which may be determined on comparing the designa- 25 tions A on the color-disk 25. This chart, however, forms no part of the invention described in this application. When the color of the gold solution has been matched with a color upon the disk 25 by adjusting the tele- 30 scoping tube, the handle 18<sup>a</sup> of the indicator-rod is turned from the position seen in full lines, Fig. II, to that seen in dotted lines, where it is brought to rest on the upper end of the telescoping tube 12, in which action 35 the pointer 18 of the indicator-rod has been moved along the scale 16. The color-designation A on the color-disk found to correspond to the color of the gold solution is found on the chart by the person making the exam- 40 ination and from that color-designation is traced the numeral indicated on the scale 16, from which number tracing is accomplished to the dollar-line, at which is found a desig-

nation of the value of the gold in the solution under treatment.

The tints on the color-disk are determined 45 by the use of standard gold solutions in the tube 9. I use the word "standard" in this case as having reference to the tint in the gold solution, all of which I determine by the use 50 of other liquid metals. The chart referred to can be formulated to suit the work in hand. The only relation that exists between the combination of parts and the chart is the 55 letters on the color-disk and figures on the scale. The letter indicates the proper line of numbers, and above the number wanted will be found the value in two thousand 60 pounds of solution.

Any prospector can be taught to use the device very readily.

I claim as my invention—

1. In a measure of the class described, the combination of a frame, an opaque casing 65 mounted thereon, a pair of transparent telescoping tubes having closed lower ends, and located within said casing, a sight-tube mounted on said frame, a color-disk movably mounted on said frame, a scale, and an indi- 70 cator-rod adapted to be moved with relation to said scale, substantially as and for the purpose set forth.

2. A measure of the class described comprising a frame, an opaque casing mounted 75 on the frame, a pair of telescoping tubes having transparent bottoms and located within said casing, a white field over which the tubes are located, a sight-tube mounted on said frame, a color-disk adjustable on the frame 80 beneath the sight-tube, a scale, and an indicator-rod adapted to be moved with relation to said scale.

ALBION M. ROUSE.

In presence of—

THOS. C. BRAINARD,  
JNO. B. HENSLEE.