Sept. 15, 1942. E. P. BOSTWICK 2,295,710

CONSISTOMETER

Filed Dec. 12, 1941 2 Sheets-Sheet 1

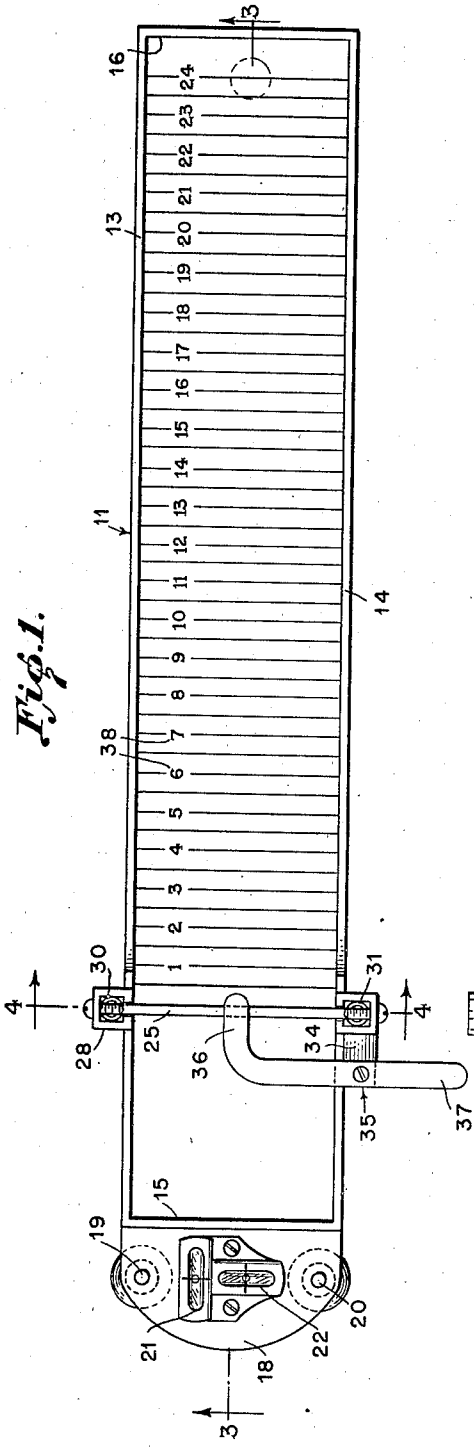


Fig. 1.

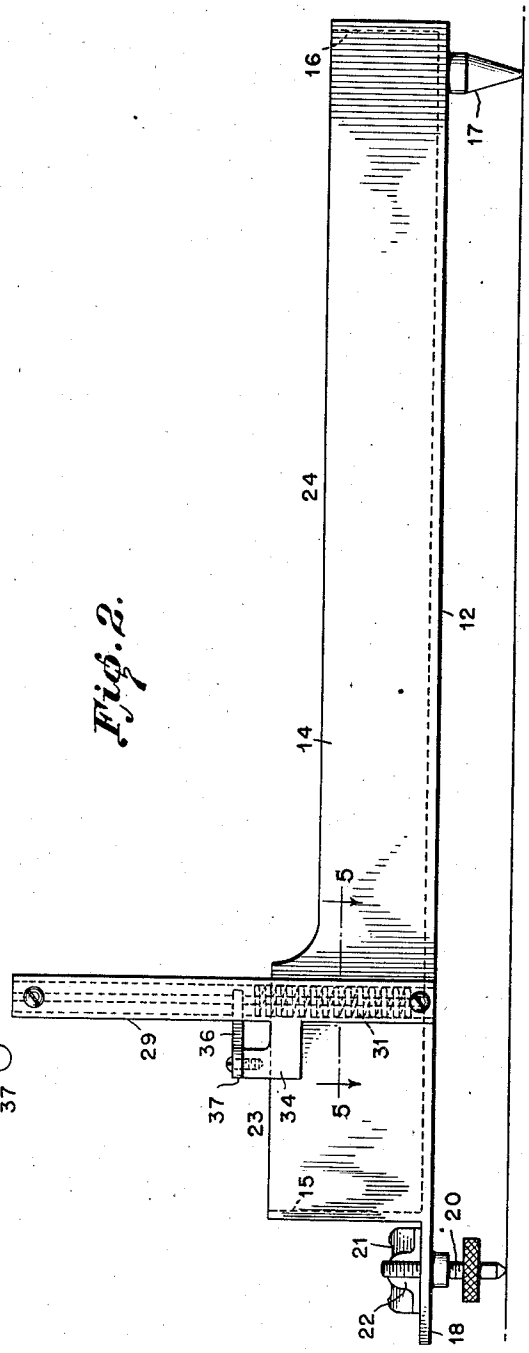


Fig. 2.

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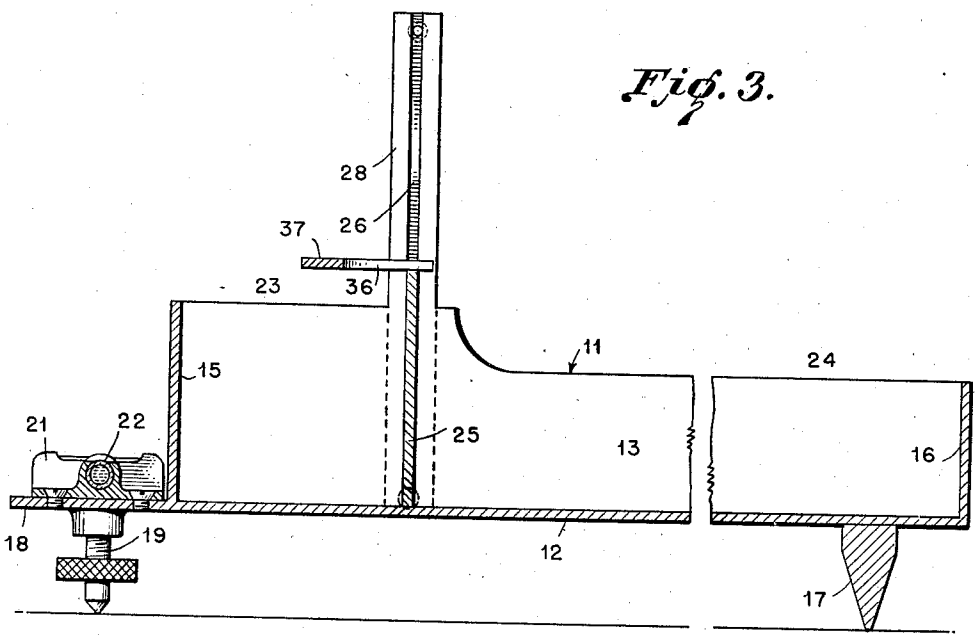
BY W. R. Foss
G. J. Kramer
ATTORNEYS

Sept. 15, 1942. E. P. BOSTWICK 2,295,710

CONSISTOMETER

Filed Dec. 12, 1941 2 Sheets-Sheet 2

Fig. 3.



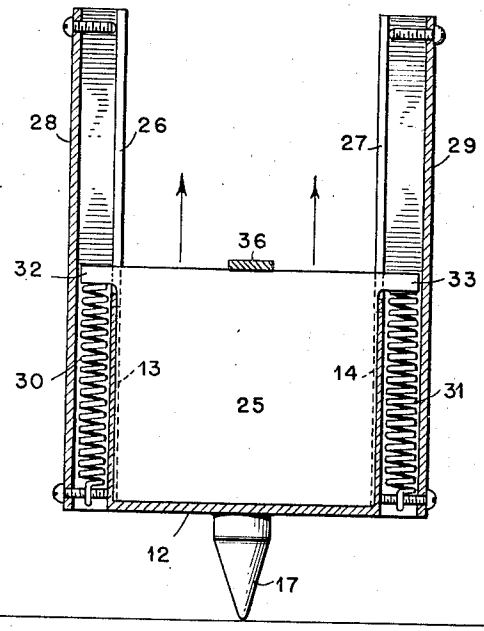


Fig. 4.

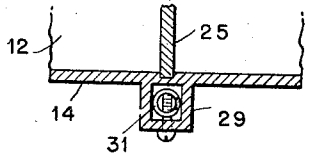


Fig. 5.

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Patented Sept. 15, 1942

2,295,710

UNITED STATES PATENT OFFICE

2,295,710

CONSISTOMETER

Elmer P. Bostwick, Oak Park, Ill.; dedicated to the free use of the People in the territory of the United States

Application December 12, 1941, Serial No. 422,706

2 Claims. (Cl. 265—11)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This application is made under the act of March 3, 1883, as amended by the act of April 30, 1928, and the invention herein described and claimed, if patented, may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment to me of any royalty thereon.

I hereby dedicate the invention described to the free use of the People in the territory of the United States to take effect on the granting of a patent to me.

This invention relates to a device for determining the consistency of materials and it is especially useful in cases where it is necessary to make rapid consistency determinations, such as of the various fluid and semi-fluid processed fruits and vegetables, and similar products.

An embodiment of this invention is fully described hereinafter and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a plan view;

Figure 2 is a side elevational view;

Figure 3 is a longitudinal section along the line 3—3 of Figure 1;

Figure 4 is a section in part along the line 4—4 of Figure 1; and

Figure 5 is a partial section along the line 5—5 of Figure 2.

Referring more particularly to the drawings, in which like numerals designate like parts, the device illustrated comprises an elongated container designated generally by the numeral 11 having a horizontal bottom 12, side walls 13 and 14, and end walls 15 and 16. A fixed leg 17 supports one end of the container near the wall 16. An extended portion 18 projects horizontally from the other end wall 15 and carries leveling screws 19 and 20, which adjustably support the instrument at this end. Spirit levels 21 and 22 are mounted on the extension 18 in two horizontal directions for indicating a level position.

The inside of the container 11 is divided into two sections 23 and 24. The section 23 at one end is normally separated from the other section 24 by means of a gate 25 slidably mounted in vertical guide slots 26 and 27 of hollow posts 28 and 29. The hollow spaces within said posts contain springs 30 and 31, the upper end of which abut fingers 32 and 33 laterally extending from and integral with the gate 25.

A bracket 34 is secured to or integral with one of said posts, such as the post 28, upon which is pivoted a horizontal lever 35. The lever 35 has a bent arm 36, the end of which is adapted to engage the top of the gate 25 when in a closed position and to hold it in this position against the action of the springs 30 and 31. The other arm 37 of the lever is for use by the operator to move the arm 36 in and out of engagement with the top of the gate 25.

A scale 38, which may be in units of centimeters or some other convenient system, is inscribed or otherwise delineated on the floor of section 24, the zero or reference line being at the gate end.

To use the instrument the gate 25 is lowered against the action of the springs 30 and 31 to prevent the flow of material from one section to the other and the arm 36 is engaged with the top of the gate 25. The section 23 is then filled with the material to be tested after thoroughly mixing it to make certain that the consistency is uniform throughout. Tests should be made at a standard temperature, preferably 20° centigrade. Accordingly, the material and the instrument should both be adjusted to the standard temperature before the test is made. The operating arm 37 is then moved to release the gate 25, which is forced up suddenly by the springs 30 and 31. This permits the material in the section 23 to flow into the section 24 over the scale 38. The maximum distance to which the material flows over the scale in a given period of time after the gate is opened is taken as the index of the consistency of the material.

Having thus described my invention, I claim:

1. A consistometer comprising an elongated horizontal container having two longitudinally contiguous sections, a gate between said sections, one of said sections being adapted to be filled with a material, the consistency of which is to be determined, whereby when said gate is opened, the material will flow into the other section, positive means for suddenly opening said gate, and a scale delineated on the floor of said other section, said scale extending longitudinally from said gate.

2. A consistometer comprising an elongated horizontal container having two longitudinally contiguous sections, a gate between said sections, one of said sections being adapted to be filled with a material when said gate is closed, the consistency of which material is to be determined, whereby when said gate is opened the material will flow into the other section, yieldable means for urging said gate to its open position, releasable means for holding said gate in a closed position against the action of said yieldable means, and a scale delineated on the floor of said other section extending longitudinally from said gate.

ELMER P. BOSTWICK.