

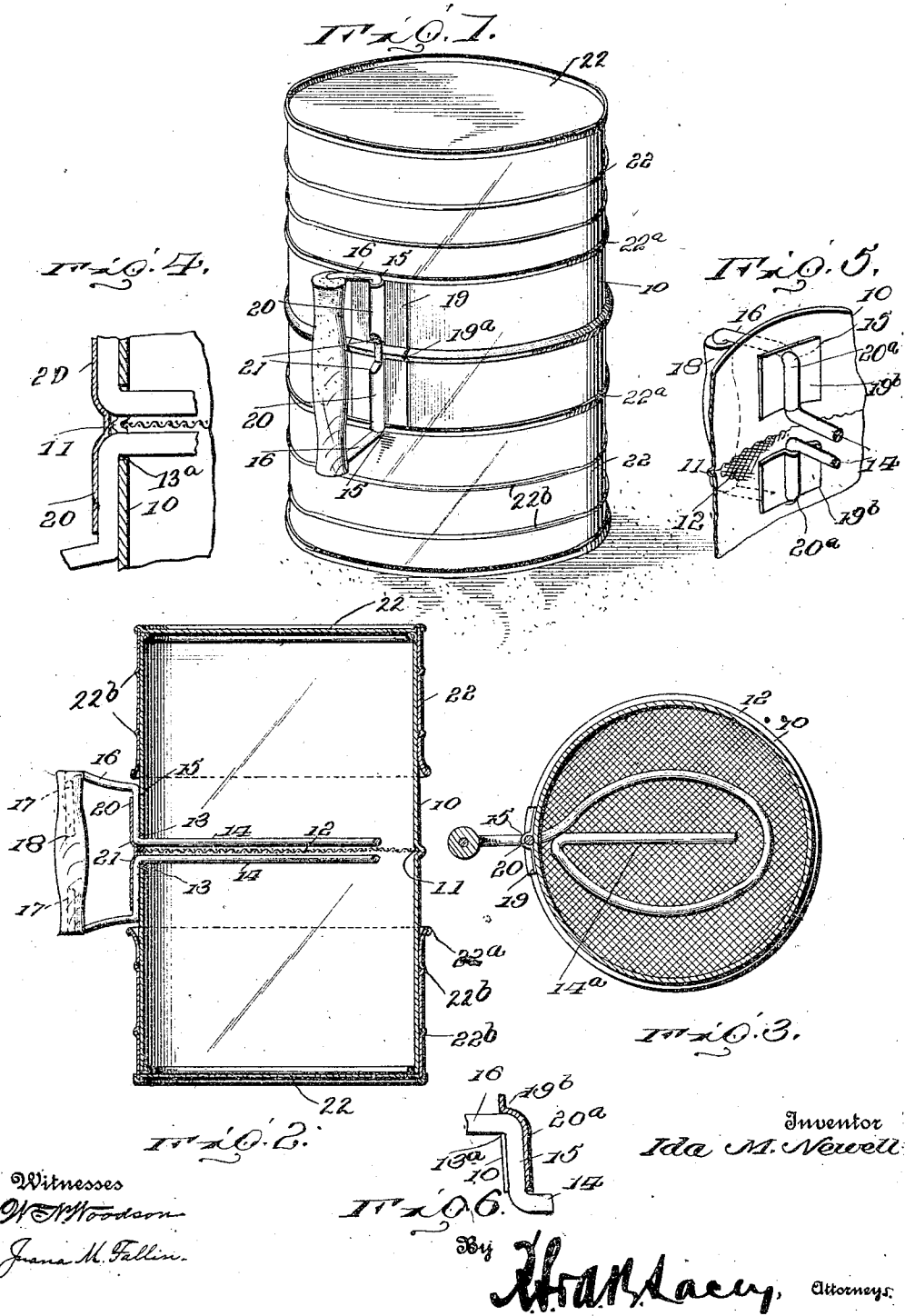
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SIFTER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, IDA M. NEWELL, citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Sifters, of which the following is a specification.

This invention relates to culinary implements and has particular reference to an improved form of sifter for use with flour, and the like.

An object of this invention is to provide a reversible sifter, or one which has upper and lower chambers with the sifting means interposed between the chambers, so that the sifter can be inverted to sift the contents back and forth by the chambers. This feature is particularly adapted for use when it is desired to dry out and fluff flour and to integrally mix baking powder through the same without the necessity of removing the material in the sifter between each operation.

This invention has for another object to form a sifter with a central section having a transverse screen and detachable measuring cups on its opposite ends, and a substantial handle section hinged supporting the central section, the handle section having agitators rigid therewith which project into the body portion and are positioned against the sides of the screen to move thereagainst as the screen is carried back and forth by the rocking of the central section.

The invention has for a further object to form a sifter comprising but few parts, and having the agitators and the vibrating handle thereof formed of one length of wire and having the body of the sifter so hinged upon the handle that the body may be rocked back and forth to thoroughly stir the contents and insure the passage of every particle thereof through the screen, or the body can be held rigid and the handle rocked back and forth.

The invention has for a further object to form a sifter wherein the agitators are held from undue contact with the screen, and the friction thereby reduced.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing in which:—

Figure 1 is a perspective view of the complete improved sifter. Fig. 2 is a vertical central section taken through the handle of the same. Fig. 3 is a horizontal section of

the sifter taken upon a plane immediately above the upper agitator. Fig. 4 is a detail enlarged section of the connection between the handle and the body of the sifter. Fig. 5 is a detail inside perspective view of a slight modification of the connection between the handle and the body of the sifter. Fig. 6 is a sectional view of the modified form.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

Referring to the drawing the numeral 10 designates the body or central portion of the sifter which is disclosed of cylindrical form open at its opposite ends and provided midway of its ends with an annular outwardly pressed bead 11. The bead 11 forms an annular channel within the central section 10 receiving the edge of a screen 12 which engages across the inner portion of the body.

Small openings 13 are formed through the body 10 and are vertically spaced in registration from the opposite sides of the screen 12 and through which the agitators pass. Each of the agitators 14 is formed of a length of wire bent into an elongated loop 14 lying in a horizontal plane in parallelism with the plane of the screen 12 and spaced slightly from the faces of the same. The returned end of the elongated loop terminates in a centrally disposed arm 14^a lying in the plane of the loop and terminating adjacent to the outer end of the same. The openings 13 are slightly elongated transversely of the body 10 to admit of a swinging movement of the inner ends of the agitators 14.

The wire from which the agitators are formed passes outwardly through the openings 13 and is bent abruptly toward the opposite ends of the body 10, as shown at 15, the outwardly bent portions bearing against the outer face of the body. The outer ends of the spindles 15 merge into out-turned arms 16 disposed in vertical registration and are provided with inturned prongs 17 engaging in the opposite ends of a handle 18. It will be noted, particularly from Fig. 2, that the handle 18 is fixedly mounted between the outer ends of the arms 16 by providing radial depressions in the ends of the handle to receive the independent rotation of the handle. Secured upon the body 10 opposite the openings 13 is a plate 19 the plate being formed from a sheet

of metal bent to conform to the curvature of the body 10 and transversely crimped, to receive a portion of the outwardly pressed bead 11. The plate 19 is provided with a transverse bead to bear over a portion of the annular bead 11 of the body and also provided with vertical beads 20 spaced slightly apart at their adjacent ends forming bearings for the vertical portions 15 of the agitators. At their inner ends the bearings 20 are rounded to form stops for the "elbows" or bends of the agitators, to limit their movement toward each other. By this means an efficient hinged connection is produced between the agitators and the bead whereby the agitators are held from vertical movement or movement toward or away from the screen 12. The ends of the body 10 project considerably beyond the extremities of the hinge portions 15 and are provided with tight fitting cups or end-sections 22. Graduations 22^b are preferably formed in the sides of the cups 22 by means of which the contents of the same may be measured.

In operating the sifter one of the cups 22 is drawn from the central section and the material to be sifted is placed therein, the quantity thereof being measured by the graduations 22^b. The body 10 is now inserted and forced into the cup 22, when the operator inverts the entire sifter. The contents now in the sifter falls upon the upper side of the screen 12. The operator grasps the handle 18 firmly and swings the arm from side to side when the hinged body 10 rocks upon the rigid spindles 15 and stirs the contents in the upper chamber. The agitators 14 are fixed to the handle and remain stationary with respect to the screen 12 carried in the body and produce the disintegration of the material and feed the particles thereof through the screen 12 into the lower chamber. If desired, the sifter is again inverted to dispose the material again in the upper chamber when the operation is repeated and a second sifting is effected without removing the contents from the device. This operation may be carried on indefinitely until the required sifting is effected.

It will be observed from Figs. 1 and 2 that when the device is supported by the handle 18 the lower spindle 15 presses against the inner face of the bearing 21 and

serves as a pivotal support for the entire body 10, relieving the marginal edge of the opening 13 of the pressure or wear of the support while passing therethrough. The agitators 14 disturb the material which rests upon the screen 12 and cause the same to pass through the screen into the lower section or chamber 22.

In the modified form, disclosed in Fig. 5 of the drawings, the central section 10 is provided with the outwardly pressed bead 11 carrying the screen 12. The fixed section, including the handle 18 having arms 16 and spindles 15 carrying the agitators 14 is of the same form as above described. The difference resides in forming the openings 13^a farther from the bead 11 in registration with the inner ends of the arms 16, and in passing the arms 16 through the openings 13^a to dispose the spindles 15 against the inner side of the central section 10. The plate 19^b employed in this modified form is in two sections which are respectively secured against the inner side of the body 10 at the opposite sides of the screen 12 and against the spindles 15. The plate sections 19^b are provided with an interrupted bead 20^a for rotatably receiving the spindles 15. The beads 20^a terminate short of the ends of the plate sections 19^b and outwardly of the ends of the spindles 15 to provide end thrust bearings therefor, as is disclosed in Fig. 6.

Having thus described the invention what is claimed as new is:—

A sifter comprising a body having an annular bead intermediate the ends, a screen extending transversely of the body and bearing in said annular bead, an agitator at each side of the screen and each including a vertically directed portion bearing against the body, and a plate connected to the body and having a transverse bead bearing over a portion of the annular bead and supported thereby and with vertical beads intersecting the transverse bead and compressed at such intersection to form bearings for the vertically directed portions of the agitators.

In testimony whereof, I affix my signature in presence of two witnesses.

IDA, M. NEWELL. [L. s.]

Witnesses:

EDITH MALMETEN,
VICTOR M. PETERSEN.