

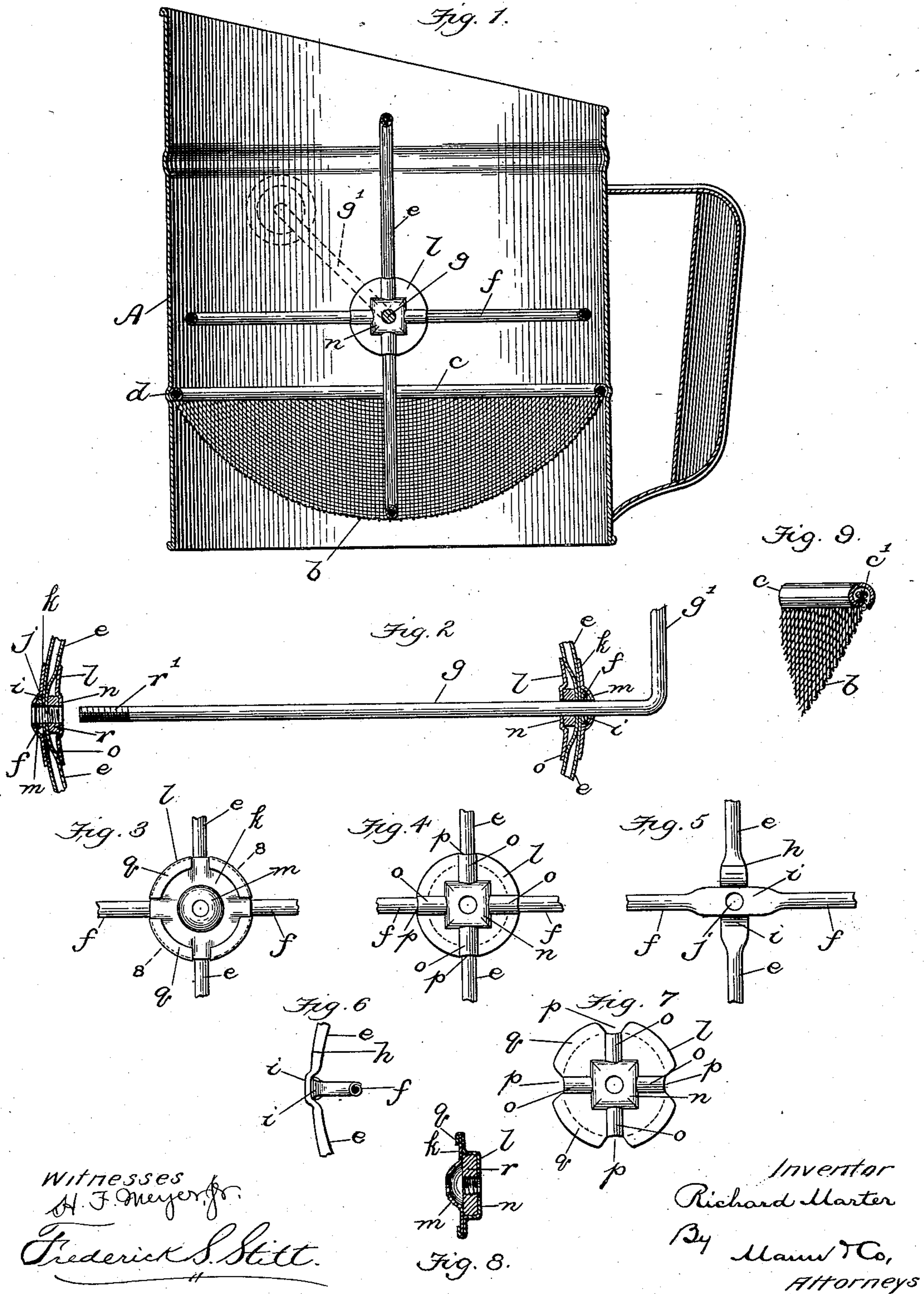
No. 713,011.

Patented Nov. 4, 1902.

R. MARTER.
SIFTER.

(Application filed June 6, 1902.)

(No Model.)



UNITED STATES PATENT OFFICE.

RICHARD MARTER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO NATIONAL ENAMELING & STAMPING CO., A CORPORATION OF NEW JERSEY.

SIFTER.

SPECIFICATION forming part of Letters Patent No. 713,011, dated November 4, 1902.

Application filed June 6, 1902. Serial No. 110,412. (No model.)

To all whom it may concern:

Be it known that I, RICHARD MARTER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Sifters, of which the following is a specification.

This invention relates to sifters of that class which employ agitators that revolve above the screen. Such sifters are used for sifting flour and other powdered material.

The object of this invention is to provide improved constructions in this class of sifters.

Referring to the drawings, Figure 1 is a vertical sectional view of a sifter having an agitator embodying my invention. Fig. 2 shows the shaft which supports the agitator and the disks in section which clamp two ring-shaped agitators. Fig. 3 is an outer side view of the united disks, showing them clamping the parts of the agitator, the latter being broken. Fig. 4 is an inner side view of the united disks, showing them clamping the agitator parts. Fig. 5 is an inner side view of two agitator-rings, showing how they cross each other and without the clamping-disks. Fig. 6 is a different view of the same parts seen in Fig. 5. Fig. 7 is a view of one of the disks as it appears before it is clamped to its companion disk. Fig. 8 is a section through the two clamped disks and taken on the line 8-8 of Fig. 3. Fig. 9 shows in section a detail of the binding on edge of the screen.

The body A of the sifter is cylindric and has within it a concave or semispherical wire screen b. This wire screen has a tubular sheet-metal ring c, provided with an internal upwardly-extending hook c', and binds or surrounds the upper edge of the screen. The wire screen has its top edge formed into a hook that engages the internal hook c' in the ring. This hook connects the ring and screen. Said ring and screen are retained in proper position within the cylindric body A by the ring c, fitting in an internal groove d, formed around the wall of the said body. The agitator may comprise two rings e f, crossing each other and mounted on a horizontal shaft g within the body A and revoluble in close

relation with respect to the upper concave surface of the screen b. The shaft g has a crank-arm g' outside of the cylindric body for imparting revoluble motion to the agitator. The crossed position of the two rings is seen in Fig. 1, where they are shown in section, and the manner in which the half-ring portions sweep over the concave surface of the screen will be readily understood.

The improvement consists of the formation of the agitator-rings from sheet metal, so as to be tubular, and of the means for clamping the agitator-ring parts together where they cross each other. A strip of sheet metal, such as tin-plate, is made into a flat ring, with its ends overlapping, as indicated at h, and the ring is then curled by suitable dies into tubular form, as shown in the drawings. Where the two rings cross each other, they are flattened, as at i, and a hole j is made through the flat portion of each, the hole serving for the shaft g. Two disks k l are employed as a clamp and are applied to the two rings where the latter cross each other. The disk k, Fig. 3, is the smaller one and is circular and has a central convex boss or swell m. This disk is placed on the outer side of the rings, so as to be next to the wall of the cylindric body A. The disk l, Figs. 1, 4, and 7, is larger than the other and has a square boss or swell n at its center. It also has radiating swells o and notches p at the rim. In the finished article that portion of the rim q between the notches folds over the rim of the smaller circular disk k and is clipped down tightly on the opposite side, as shown in Figs. 3 and 8. Thus one disk k is on the outer side, and the other disk l is on the inner side, of the crossed parts of the two rings, and said crossed parts are thereby clamped and firmly held between the two disks. This construction for uniting the ring parts of an agitator is strong and cheap and obviates the necessity for solder. A metal nut r is inclosed in the cavity formed by the square boss or swell n of one pair of disks, and this nut is tapped to receive the screw-threaded end r' of the shaft g, whereby the crossed rings of the agitator are rigidly secured on the shaft. The other pair of disks (shown at the right-hand side in Fig. 2) may

have in its cavity a metal nut without any screw-threaded tap, or, if preferred, such cavity may be empty.

The tubular rings *ef* are lighter and cheaper than those made of wire, and the tubular construction also permits of being flattened where they cross. The construction of the two disks is such as to permit them to be used with either wire or tubular agitators.

10 The description thus far given has reference to agitators of "ring" form—two rings which are crossed; but it is obvious that only one half of each ring has the downward position at a time. When one half of a ring is
15 down and sweeping over the concave surface of the screen *b*, the other half of the same ring is uppermost. It is therefore plainly to be seen that the invention of making the agitator tubular and clamping the parts by disks
20 is not limited to the ring form, but includes an agitator of half-ring shape. The disks for clamping are operative for connecting and firmly holding a plural number of half-ring-shaped agitators.

25 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a sifter, a woven-wire semispherical screen having at its top edge a downwardly-
30 extending hook; and a sheet-metal ring, *c*, binding said top edge and provided with an internal upwardly-extending hook, *c'*, with

which the hooked edge of the screen engages, as set forth.

2. In a sifter, an agitator comprising ring 35 parts; two pairs of disks, each receiving between them a portion of said ring parts and clipped together to hold said ring parts, and one disk provided in its inner side with a non-circular cavity; a nut received in the cavity 40 of said disk and held therein between said disk and its companion disk; and a shaft extending through the said disks and having screw-threads which engage the said nut.

3. In a sifter, an agitator comprising tubu- 45 lar rings crossing each other, flattened at their crossed portions, and provided in said crossed flattened portions with holes; two pairs of disks, receiving between them the crossed portions of said rings, and one disk of each pair 50 having its edges overlapped upon and clenching its companion disk, and one of said disks being provided with a non-circular cavity; a nut received in said cavity and held therein between the two disks; and a shaft extend- 55 ing through the holes in said rings and having screw-threads which engage said nut as set forth.

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

RICHARD MARTER.

Witnesses:

ERNST MOHR,
EMIL H. WINTER.