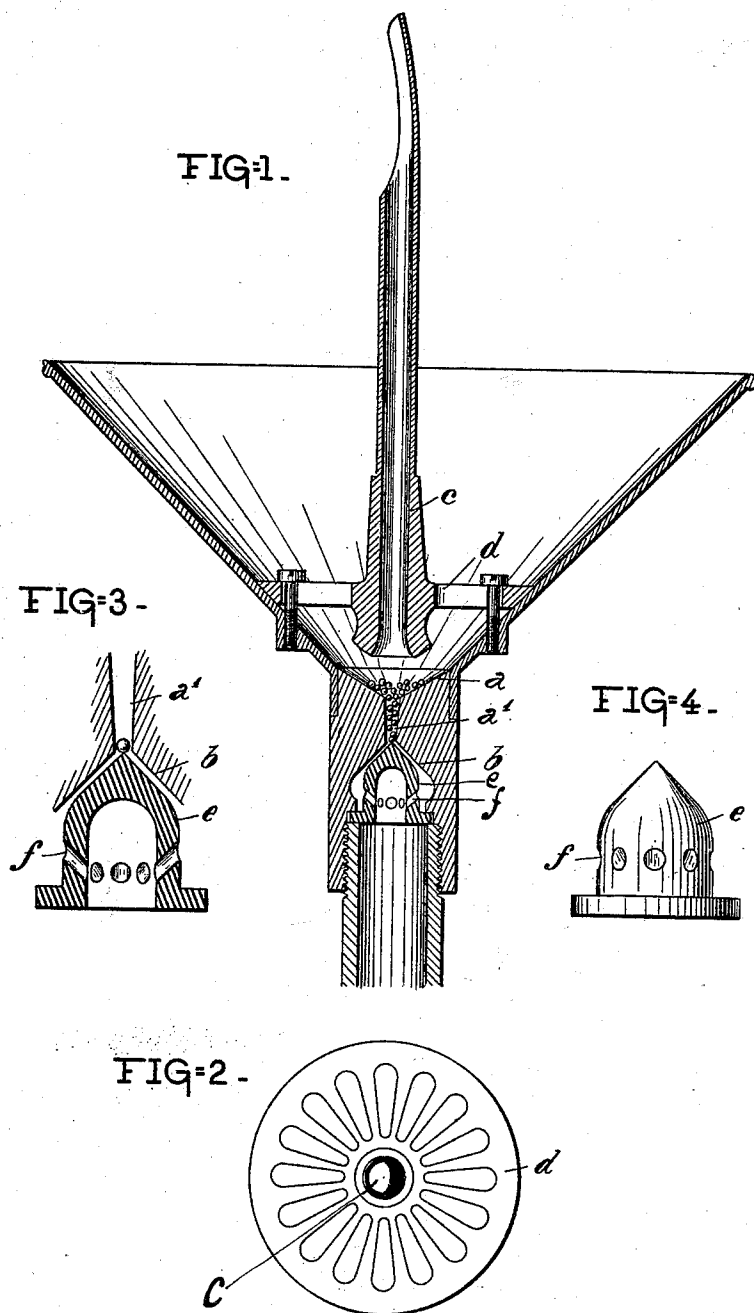


(No Model.)

J. P. GRÜNIC.
BOTTLE WASHER.

No. 513,502.

Patented Jan. 30, 1894.



Witnesses:
Theodor Haedel,
Paul Hirschke.

Inventor:
Johann Philipp Grünig
per *Persons-fach*
his Attorneys.

UNITED STATES PATENT OFFICE.

JOHANN PHILIPP GRÜNIC, OF MAYENCE, GERMANY.

BOTTLE-WASHER.

SPECIFICATION forming part of Letters Patent No. 513,502, dated January 30, 1894.

Application filed May 6, 1893. Serial No. 473,271. (No model.) Patented in Switzerland December 10, 1891, No. 4,482, and in England December 11, 1891, No. 21,696.

To all whom it may concern:

Be it known that I, JOHANN PHILIPP GRÜNIC, a subject of the Emperor of Germany, residing at Mayence, in the Empire of Germany, have invented a new and useful Device for Introducing Tin Shot into the Water-Jet of a Rinsing Apparatus, (for which I have obtained a patent in Great Britain No. 21,696, bearing date December 11, 1891, and in Switzerland, No. 4,482, bearing date December 10, 1891, of which the following is a specification.

The present invention relates to an apparatus for introducing tin shot into the water-jet used for rinsing or cleaning out the interior of bottles, jars and the like, the apparatus insuring the conveyance of the shot, and preventing the latter from stopping up the sink.

In the accompanying drawings Figure 1 is the section of the apparatus and Figs. 2 to 4 represent single parts of the same, Fig. 2 showing the perforated plate *d* for holding the nozzle-pipe *c*, Fig. 3 showing the central part of Fig. 1 in an enlarged scale and Fig. 4 illustrating the hood *e*.

The water-jet comes forth through the oblique holes *f* of the hood *e* (Fig. 3), the conical point of which closely approaches the conical recess *b*. The space between hood *e* and the recess *b* is less than the diameter of a grain of shot, and the shot is consequently supported

as shown in Fig. 3, by the point of the hood *e*. The water which flows over the point of the hood *e*, rushes through the bore *a'* which is widened toward the top, and enters the nozzle-pipe *c* as a jet; the bottle or other object to be rinsed, being placed over this pipe *c*. The latter is held in position by the perforated plate *d*. This plate *d* is screwed to the inside of the funnel *a* the lower end of which is provided with the bore *a'*. The small shot is filled into the funnel *a* and partly enters the bore *a'*, and being in the course of the water-jet, it is carried up by the latter if the pressure is sufficient. If the shot falls back, it returns through the perforated plate *d* back into the funnel *a*, in order to be thrown up again. The small space between the recess *b* and the hood *e* prevents the shot from entering into the holes *f* and the water pipe.

What I claim is—

In a device for introducing tin shot into the water-jet of a rinsing apparatus, the combination of the hood *e* provided with holes *f*, the pipe *c* held by the perforated plate *d*, the funnel *a* ending in a conical bore *a'* and a conical recess *b* as and for the purpose set forth.

JOHANN PHILIPP GRÜNIC.

Witnesses:

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