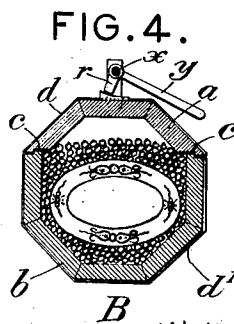
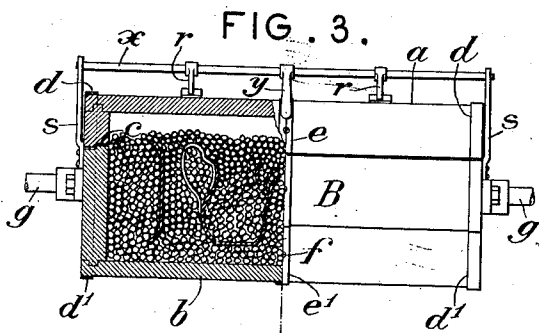
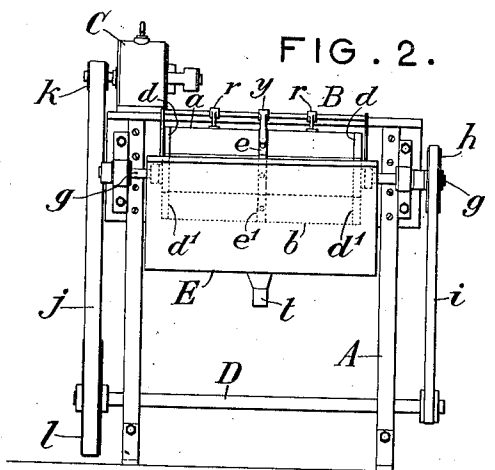
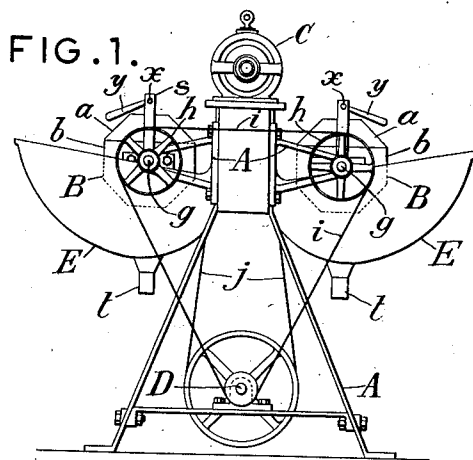


J. UEBERSAX.
 PROCESS FOR POLISHING SILVER UTENSILS.
 APPLICATION FILED APR. 7, 1911.

1,063,478.

Patented June 3, 1913.



WITNESSES.

John H. Berrigan
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 by *Frank Deane*
 Attorney.

UNITED STATES PATENT OFFICE.

JEAN UEBERSAX, OF CHAUX-DE-FONDS, SWITZERLAND, ASSIGNOR TO THE FIRM OF WENGER & CO., OF DELÉMONT, SWITZERLAND.

PROCESS FOR POLISHING SILVER UTENSILS.

1,063,478.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed April 7, 1911. Serial No. 619,553.

To all whom it may concern:

Be it known that I, JEAN UEBERSAX, a citizen of the Swiss Republic, and resident of Chaux-de-Fonds, Canton of Neuchâtel, Switzerland, have invented a new and useful Process for Polishing Silver Utensils, of which the following is a full, clear, and exact specification.

This invention relates to a process for polishing silver utensils, that is to say, for rendering silver plates and other silver utensils for table and culinary purposes brilliant by polishing. This process consists in placing those silver utensils to be polished which are very liable to get out of shape, such for example, as teapots, plates, coffee-pots, sauceboats, etc., with an aqueous soap solution, of 2 to 4 per thousand for example and with small steel balls and small steel pins in a rotary drum, and in causing the drum, thus charged and closed as hermetically as possible, to revolve for a certain time in order that, under the combined action of the steel balls and pins and the soapy water upon the silver utensils, the latter may become polished, the steel balls and pins being employed in such quantities that they always completely cover the silver utensils during the rotation of the drum for the purpose of avoiding almost the radial displacements of the said articles and consequently of preventing them from getting out of shape. Consequently the position of each utensil to be polished relatively to the longitudinal axis of the drum is not changed during the rotation of this latter, the steel balls and pins effecting only a restrained and slow displacement along the surfaces of the utensils to be polished.

To carry out this process the rotary drum employed is preferably a prismatic drum, the body of which is formed of two parts of equal length removably fitting one upon the other with an interposed elastic packing, the said two parts being provided with a connecting arrangement allowing one to be held upon the other and the smaller of the said two parts being of such dimensions that it comprises more than one of the peripheral faces of the drum.

In the accompanying drawing, by way of example, Figure 1 is a front elevation and Fig. 2 a side elevation of an apparatus having two rotary drums actuated by a common electric motor, while Figs. 3 and 4

show one of the drums detached respectively in side elevation partly in section and in transverse section.

A frame A supports the two rotary drums B, the electric motor C, the shaft D serving to transmit the movement of the latter to the rotary drums B and two troughs E, E enveloping the lower part of the drums.

The drums B are in the form of a prism with octagonal base and are formed in two parts *a, b* fitting one within the other with an elastic packing *c* between them, each of the two parts *a, b* being constructed of sheets of wood, xylolith or other similar substance connected together and the assemblage of the latter is strengthened with metal strips *d, d', d'', e, e'*. The metal strips *d, d'* applied to the ends of the drum are bent into the form of closed polygons and are forced on to the said ends so as to constitute a sort of hooping, while the metal strips *e, e'* are bent to simply extend over the periphery of the parts *a, b* of the drum to which they are fixed by screws *f*. The two parts *a, b* of the drum are removably held together by fingers *r* carried by a shaft *x* provided with a handle *y* and hinged to two metal bars *s* fixed to the lower part of the drum.

One of the pivots *g* adapted to the part *b* and by which the rotary drums are supported by the frame A, is provided with a pulley *h*. Over the two pulleys *h* corresponding to the two rotary drums B passes a driving band *i* running over a pulley on the shaft D receiving its motion from the motor C through a strap *j* passing over the pulleys *k, l*.

Each of the troughs E is designed to receive the contents of the corresponding drum when the latter is emptied after an operation, and in order to allow of separating the soapy water from the solid bodies introduced with it into the drum, the said trough is provided at its lower part with a discharge nozzle *t* covered with a very fine sieve allowing of retaining the steel balls and pins in the trough.

The apparatus is used in the following manner: Supposing one drum of the apparatus to be, for example, 80 cm. in length and its parallel faces to be 50 cm. apart, the silver utensils to be polished are introduced into the part *b* of the said drum with 5 to 10 liters of soapy water containing

about 40 gr. of soap and with as many steel balls of 3 mm. to 1 cm. in diameter and steel pins of 0.4 to 1 mm. in thickness and 6 mm. to 1 cm. in length as are necessary to fill the part *b* of the drum and completely cover the silver articles which are liable easily to get out of shape, the proportion between the steel balls and pins being about 12 kg. of pins to 100 kg. of balls. The two drums of the apparatus having been thus charged, they are caused to turn for the required time in order to effect the polishing of the silver utensils under the combined action of the steel balls and pins and the soapy water on the said articles, after which the drums are opened by separating the two parts *a* and *b* from one another and their contents are passed into the corresponding trough *E* in order to separate therein the polished silver utensils from the steel balls and pins and from the soapy water which will flow off through the nozzle *t*. During the rotation of the drum the silver utensils which are liable easily to get out of shape will remain always fully enveloped by the steel balls and pins and as these balls and pins are much more mobile than the said utensils, the latter will never become much displaced in the radial direction within the drum during the rotation of the latter, and will consequently not be subjected to deformation.

The utensils have such relation to the polishing mass in specific gravity as to be kept approximately central of the drum in its rotation, and will neither fall to the bottom nor rise to the top in the rotation of the drum, and hence are kept from contact

with the walls of the drum and prevented from being deformed in any way. The speed of rotation varies according to the character of the article; that is, a perfectly round article would still remain central whether the speed be high or low, but an article having projections, such as a water pitcher or the like, would be dislodged from an absolutely central position due to the irregular action upon the projecting parts, and hence the rotation is adjusted to a comparatively low speed which will not materially dislodge any articles which it is desired to clean from the approximately normal central position during rotation, the drum, besides, being capable of being sub-divided by transverse partitions removably adapted to its part *b* and serving to prevent the lateral displacement of the silver articles which are liable easily to get out of shape.

What I claim is:

The method herein described of polishing articles, consisting in subjecting the articles to rotation while suspended within a polishing mass, the relative specific gravity of the articles and polishing mass being such as to maintain the articles approximately central of the polishing medium during rotation, substantially as described.

In witness whereof I have hereunto signed my name this 28th day of March 1911, in the presence of two subscribing witnesses.

JEAN UEBERSAX.

Witnesses:

GEORGE GIFFORD,
AMAND BRAUN.