No. 861,598. PATENTED JULY 30, 1907.

I. S. MOSCOVITZ.

WAXLESS FLASK.

APPLICATION FILED OCT. 22, 1906.

FIG. 1

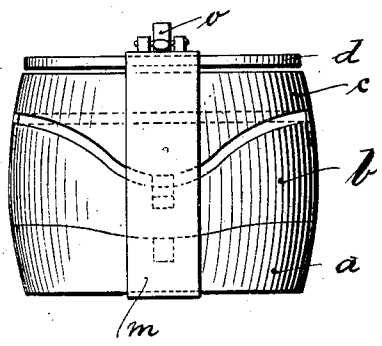


FIG. 2

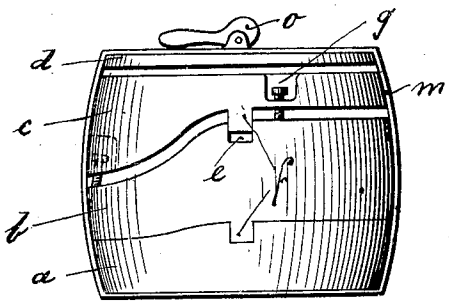


FIG. 3

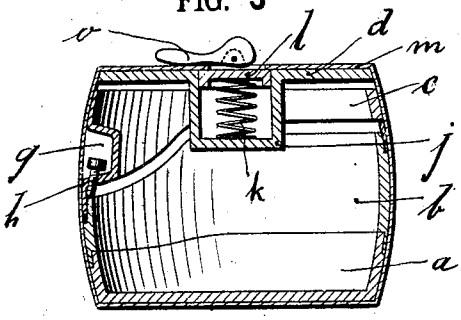


FIG. 5

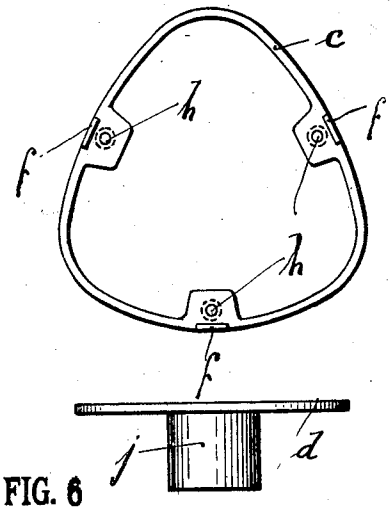


FIG. 4

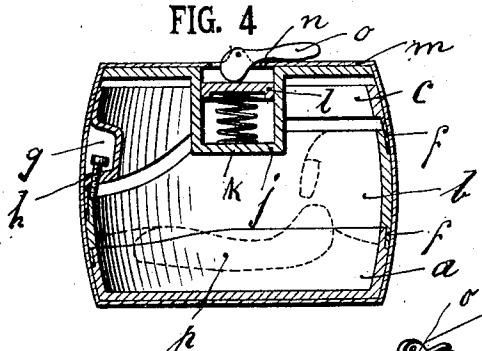


FIG. 6

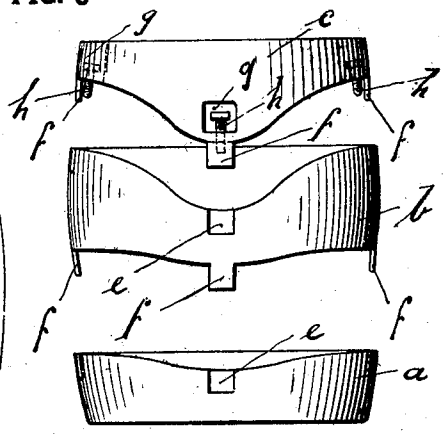
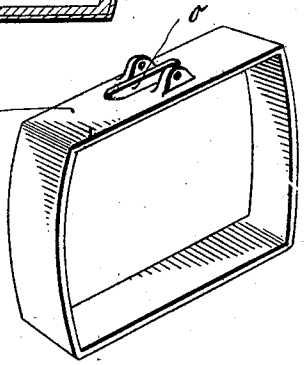


FIG. 7



Witnesses
Max F. A. Doring
Johanne Dzumberger.

Inventor
Isidor S. Moscovitz
By his Attorney
Max V. Ordnung

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ISIDOR S. MOSCOVITZ, OF NEW YORK, N. Y.

WAXLESS FLASK.

No. 861,598. Specification of Letters Patent. Patented July 30, 1907.

Application filed October 22, 1906. Serial No. 339,964.

To all whom it may concern:

Be it known that I, ISIDOR S. MOSCOVITZ, a subject of the King of Roumania, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Waxless Flasks, of which the following is a specification.

The object of my present invention is to remedy the evils found in the hitherto used waxless and rugæ flasks for rubber work. One of the main disadvantages of these flasks is that the so-called "raising ring" the object of which is to determine the thickness of the rubber plate, must necessarily vary in its thickness to meet the different requirements. Aside from this, in order to find out whether or not there is sufficient rubber in the flask, the latter which consists of a plurality of sections must be repeatedly taken apart so as to allow of the removal of the surplus or the addition of rubber, as the case may be. This, of course, is often very tiresome, and causes a loss of time. It is necessary to form the plate so that its front in which the pins of the teeth are attached is thicker and the back thinner to prevent the latter from interfering with the tongue. This cannot be effected when the raising ring is employed. Another great disadvantage found with the hitherto used flasks is that the bolts that connect the different sections, slacken when the rubber at the vulcanizing point shrinks whereby vacant spaces are formed in the latter. To remove all these drawbacks, I have designed a flask in which the raising ring and the connecting bolts are superfluous, and in which for the adjustment of the flask for different thicknesses of the rubber, I use set screws, between the upper and the middle section, which form when the flask is assembled, a free space for the surplus rubber to run off. I also provide suitable means to prevent vacant spaces in the vulcanized rubber.

My invention will be fully understood from the accompanying drawing in which Figure 1 is a rear elevation of my assembled flask; Fig. 2 a side elevation thereof; Fig. 3 a vertical central section of Fig. 2 showing the spring expanded; Fig. 4 a similar section showing the spring compressed; Fig. 5 a bottom plan view of the upper section of the flask; Fig. 6 shows the different sections of the flask taken apart, and Fig. 7 is a perspective view of a detail part.

As usually, my flask is composed of sections of which, however, I employ only three, *a*, *b* and *c*, and a cover *d*. The shape of the different sections is also the usual one with the exception that the curvature at the junction of the upper and middle sections is at the back larger than with the ordinary flasks. To provide for a proper engagement of the sections with each other when assembled, grooves or recesses *e* are formed in the upper edges of the lower and middle section and noses or projections *f* on the lower edges of the upper and middle section to engage in said recesses or grooves *e* when the parts are mounted on top of each other. The upper section *c* is provided in its wall with impressions *g* in the bottom of which set screws *h* are adapted to work. These set screws are adapted, when properly adjusted, to form a free space between the upper section *c* and the top of the middle section *b*. According to this adjustment, the said space can be increased or decreased at wish, and made wider at the front and narrower at the back, to allow of the plate being made thicker at its front and thinner at the rear. The space thus formed takes the place of the hitherto used raising ring and serves to determine the thickness of the rubber plate to be formed within the flask as will be hereinafter specified.

The cover *d* that fits on top of the upper section *c* is formed in its center with a cylindrical impression *j* in which a spiral spring *k* attached at its upper end to a slidable cap *l* is suitably mounted to expand in vertical direction.

After the parts are assembled, a band *m* of steel or the like, is passed around the flask, said band having a central aperture *n*, that will register with the impression *j* of the cover *d*, and a cam lever *o* that is pivoted thereto. The latter extends with its cam portion over the opening *n* and is adapted, when turned around its pivot to act against the slidable cap *l* of the spring *k*, to compress the latter. By the compression of the said spring *k*, the cover *d* and the upper section *c* are pressed downward, whereby the counter side formed of plaster of paris in the upper section *c* will press against the rubber placed on the palatal surface of the model *p* (indicated by dotted lines in Fig. 4).

The mode of operation is as follows: After the model is invested into the lower and central sections *a*, *b* and the latter are filled as usual with plaster of paris, and after applying a layer of oil, varnish or soap to the plaster, the upper section *c* is mounted on top of the middle section *b*, its set screws being screwed up, so as to permit of the edges of both said sections to bear on each other. Thereupon the counter side is formed by completing the filling of the flask with plaster of paris from the open top of the upper section, and the cover *d* then placed on top of the latter whereby its impression *j* will become embedded in the soft plaster of paris.

When the plaster is hardened, the upper section *c* and the cover *d* are removed, and the set screws *h* adjusted to correspond with the desired thickness or thicknesses of the rubber plate to be formed in the flask. Thereupon the rubber is placed onto the palatal surface of the model, its quantity being chosen somewhat larger than deemed necessary, and the upper section *c* and cover *d* are remounted, so that the lower edge of the counter side will rest upon the rubber, and the set screws will not yet touch the middle section *b*. After this the steel band *m* is applied, the size of which is so chosen that it will allow sufficient expansion of the

flask sections, and the cam lever of the band is turned around to compress the spring *k* in the cover *d*. Under the action of the said spring, the counter side will be allowed to yield when the rubber expands in the vulcanizer during the vulcanization process, so that the rubber will run off through the free space between the upper and middle sections of the flask. When the vulcanization is completed, the rubber will shrink approximately to the extent of its previous expansion, and the counter side under the spring pressure will follow the shrinkage and thus prevent vacant spaces formed in the plate. The upper section containing the counter side will sink so far down until the set screws come to rest on the upper edge of the middle section. From this moment, no more of the rubber will flow out, the remainder being the exact quantity required for the predetermined thickness or thicknesses of the plate to be vulcanized.

From the above it will be gathered that my flask will work automatically and it will therefore not be necessary to treat the same in hot water previous to its being placed into the vulcanizer, as it is done with the hitherto used flasks, in which the quantity of the rubber can be determined only after a repeated, often very tiresome examination, removal and addition of rubber.

What I claim and desire to secure by Letters Patent is:

1. The combination with a waxless and rugæ flask, consisting of several sections, of an upper section having set screws permitting the adjustment of the flask so as to form a free space between said upper section and the section below, and means to yieldingly connect the upper section with the other sections of the flask, substantially as and for the purpose specified.

2. The combination with a waxless and rugæ flask, consisting of several sections, of an upper section having set screws in its lower edge which are adapted to rest upon the upper edge of the section below, and which according to their adjustment, will form a wider or narrower free space between said upper section and the section below, and means to yieldingly connect said upper section with the other sections of the flask, substantially as and for the purpose specified.

3. The combination with a waxless and rugæ flask consisting of several sections, of an upper section having set screws at the lower edge which are adapted to rest upon the upper edge of the section below, a cover fitting on said upper section and formed with a box adapted to project into the upper section when the parts are assembled, said box being open at its top, a spring inclosed in said box, said spring when compressed being adapted to force the counterside formed in the upper section downwards and permitting the same to yield under the expansion of the rubber at its vulcanization, substantially as and for the purpose specified.

4. The combination with a waxless and rugæ flask, consisting of several sections, of an upper section having set screws at the lower edge which are adapted to rest upon the upper edge of the section below, a cover fitting on said upper section and formed with a box adapted to project into the upper section when the parts are assembled, said box being open at its top, a spring inclosed in said box, and means for compressing the said spring and holding the same in compressed state during the process of vulcanization of the rubber in the flask, substantially as and for the purpose specified.

5. The combination with a waxless and rugæ flask consisting of several sections, of an upper section having set screws at the lower edge which are adapted to rest upon the upper edge of the section below, a cover fitting on said upper section and formed with a box adapted to project into the upper section when the parts are assembled, said box being open at its top, a spring inclosed in said box, an endless rigid band separate from the flask adapted to loosely embrace the latter, a cam lever pivotally secured to said band and adapted when the latter is mounted over said flask to register with the opening in the cover, said lever when turned down being adapted to compress the spring in the cover, substantially as and for the purpose specified.

Signed at New York this 20 day of October 1906.

ISIDOR S. MOSCOVITZ.

Witnesses:

JOHN T. CARMODY,

MAX D. ORDMANN.