

R. VEECK.
 DEVICE FOR SHRINKING RINGS ON BOTTLES AND OTHER OBJECTS.
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934,951.

Patented Sept. 21, 1909.

Fig. 1

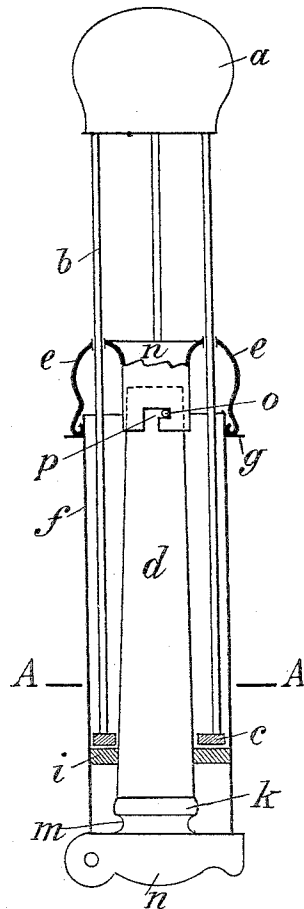
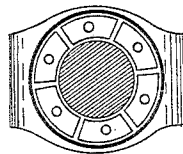


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

RUDOLF VEECK, OF ALGENRODT, GERMANY.

DEVICE FOR SHRINKING RINGS ON BOTTLES AND OTHER OBJECTS.

934,951.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed August 20, 1906. Serial No. 331,414.

To all whom it may concern:

Be it known that I, RUDOLF VEECK, manufacturer, a subject of the Grand Duke of Oldenburg and of the German Emperor, residing at Algenrodt, in the Grand Dukedom of Oldenburg and German Empire, have invented certain new and useful Improvements in Devices for Shrinking Rings on Bottles and other Objects, of which the following is a specification.

The present invention refers to a device for shrinking on rings chiefly of brittle material, as cork or the like, by means of which the rings are shrunk on in such a manner, that they are widened on a conical mandrel while passing through a guide tube, so that when released they can contract and fill out the groove into which they are to fit. The arrangement is chiefly used for fitting surface packing rings into closures the projection of which has a groove for receiving the packing ring.

The invention is illustrated in the accompanying drawing.

Figure 1 is a vertical section through the arrangement; Fig. 2 being a section along A—A in Fig. 1.

According to the present invention a conical mandrel *d*— is employed the smaller part of which points upward and the lower end of which rests against the plate like projection *k*— of the closure *n*—. The size of the mandrel and the material used are of no importance to the character of the present invention, it is only desirable, that the diameter of the mandrel *d*— is at its lower end equal to the diameter of the plate-like projection. At the smaller end of this mandrel is provided a pin *o*— projecting therefrom. For allowing of easily and conveniently employing the arrangement for shrinking on rings, the diameter of the smaller end of the mandrel *d*— is suitably made smaller than that of the annular groove *m*— provided in the plate-shaped projection *k*—, into which groove the packing ring is to fit.

f is a hollow cylinder, made of metal and containing the mandrel *d*— and the projection *k*—, and its inside width corresponds to the size of the packing ring *i*—. At its upper end an annular flange *g*— is fitted around the shell, serving as a rest to a hood *e*—. The tubular extension *n*— is bent centrally into the hood and fits over

the small end of the mandrel *d*—. For producing a safe fixture of the mandrel, the tubular projection has an angle-slot *p*— so that by this slot and pin *o*— a coupling of the bayonet style can be produced.

The hood *e*— serves at the same time as a guide for the rods *b*— which are fitted to the head-piece *a*— outside of this guide, the free ends extending into the annular space formed by tube *f*—. The lower ends of said rods *b*—, are secured to segment pieces *c*—, which, owing to the springy metal of said rods *b*—, are radially forced toward the center and, thereby, tend to close up against each other and the central cone *d*—.

The arrangement operates as follows: According to the size and the diameter of the annular groove *m*—, into which the packing ring is to be fitted, a mandrel *d*— is selected the lower, wider end of which corresponds with the plate *k*—. On the small end of the mandrel is then pushed the packing ring *i*—, head *e*— and its tubular projection *n*— is coupled with pin *o*— and the head *e*— is pressed down on the guide-tube *f*— until it strikes against the flange *g*—. This arrangement is rigid and strong enough to keep the mandrel *d*— central to the walls of the guide tube *f*—; so that if the latter is correctly placed on the closure, mandrel *d*— will fit exactly on the plate *k*—. The segments *c*— which were first drawn up, are now pressed down by rods *b*— or head-piece *a*— and push the ring forward until, sliding over the plate *k*— it will fill out the annular groove *m*—, by contracting into the same. The guide tube *f*—, will have the effect of preventing the ring from being expanded in its outside diameter while its central aperture is being widened upon the cone *d*—; the resistance of the tube *f*—, will save the ring or washer *i*—, from being cracked or broken, particularly if consisting of cork or other brittle material.

Having now described my invention what I claim and desire to secure by Letters Patent of the United States is:

1. In a device for shrinking on rings, the combination, with an upwardly tapering mandrel, of a cylindrical guide tube surrounding said mandrel with an annular space left between them, segmental blocks adapted to slide within said annular space,

and means for forcing down said segmental pieces, substantially as and for the purpose set forth.

2. In a device for shrinking on rings, the combination, with an upwardly tapering mandrel, of a cylindrical guide tube concentrically surrounding said mandrel with an annular space left between them, segmental blocks adapted to slide within said annular space, rods connected to said segmental blocks and projecting upward from the cylindrical tube, and a head piece connecting the upper ends of said rods, substantially as and for the purpose set forth.

3. In a device for shrinking on rings, the combination, with an upwardly tapering mandrel, of a cylindrical tube concentrically surrounding said mandrel with an annular space left between them, a hood adapted to fit upon the open end of said cylindrical tube and carrying a central tubular portion adapted to fit upon the tapering mandrel, rods passing through said hood, a head-piece connected to the projecting upper ends of said rods, and segmental pieces secured to the lower ends of said rods, said segmental pieces being adapted to slide within the space between the mandrel and surrounding

guide tube, substantially as and for the purpose set forth.

4. In a device for shrinking on rings, the combination, with an upwardly tapering mandrel, of a cylindrical tube concentrically surrounding said mandrel with an annular space left between them, a flange carried outside near the upper end of said cylindrical tube, a hood adapted to fit upon the open end of said tube and to bear against said flange, said hood carrying a central tubular portion adapted to fit upon the tapering mandrel, means for connecting said tubular portion with the top of said tapering mandrel, rods passing through said hood, a head piece connecting the projecting upper ends of said rods, and segmental pieces secured to the lower ends of said rods to slide within the space between the mandrel and surrounding tube, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

RUDOLF VEECK.

Witnesses:

CARL VEECK,
LOUIS KRÜGER.