

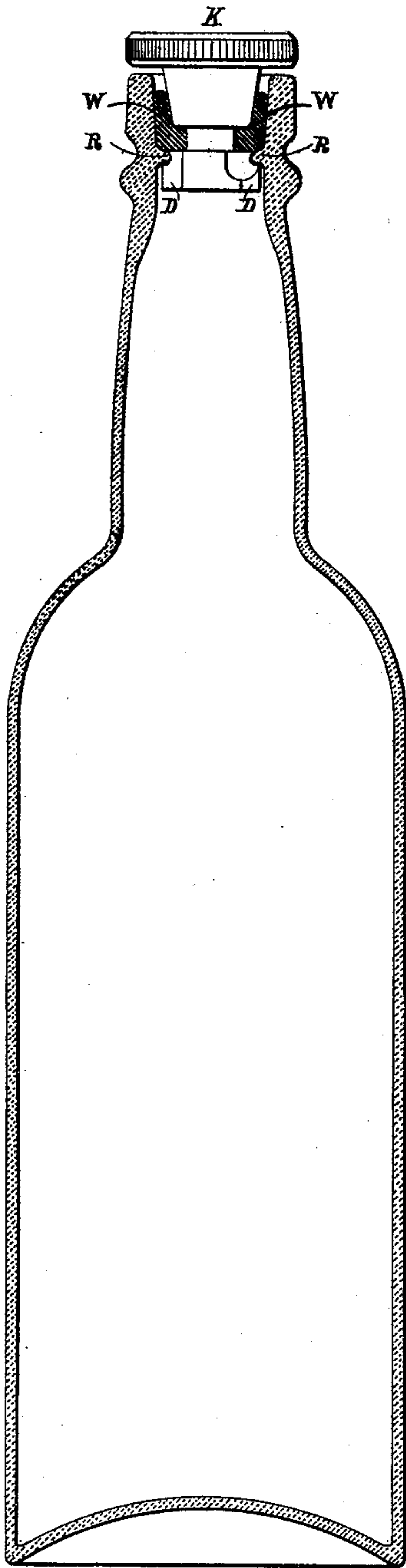
(No Model.)

M. L. MACAULEY.
BOTTLE STOPPERING DEVICE.

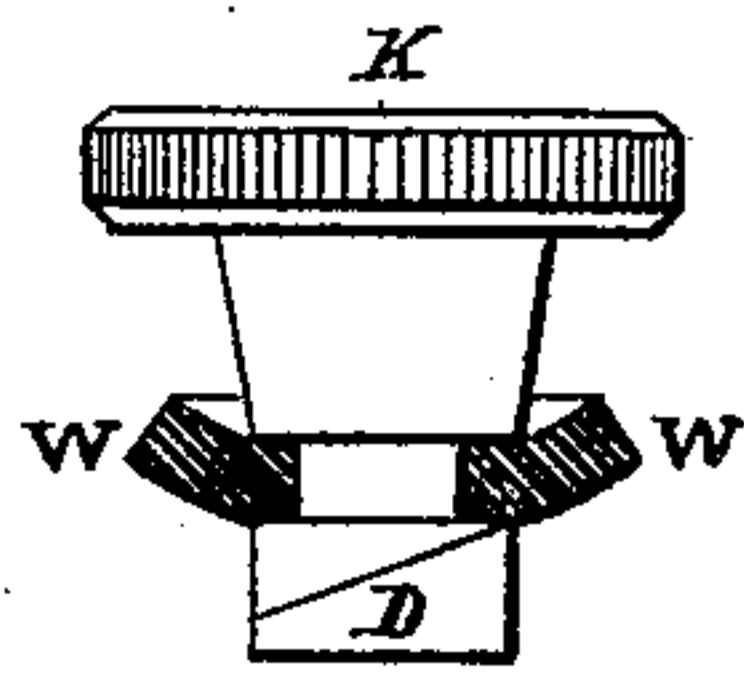
No. 481,363.

Patented Aug. 23, 1892.

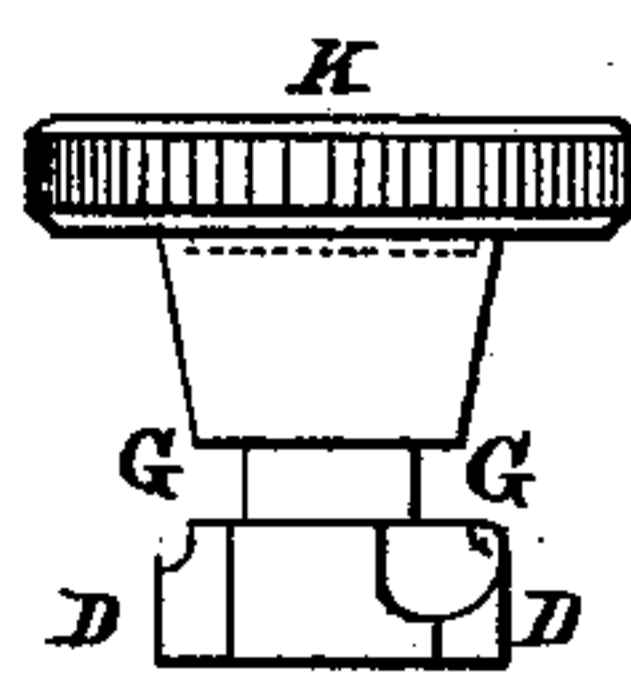
F I G. 1.



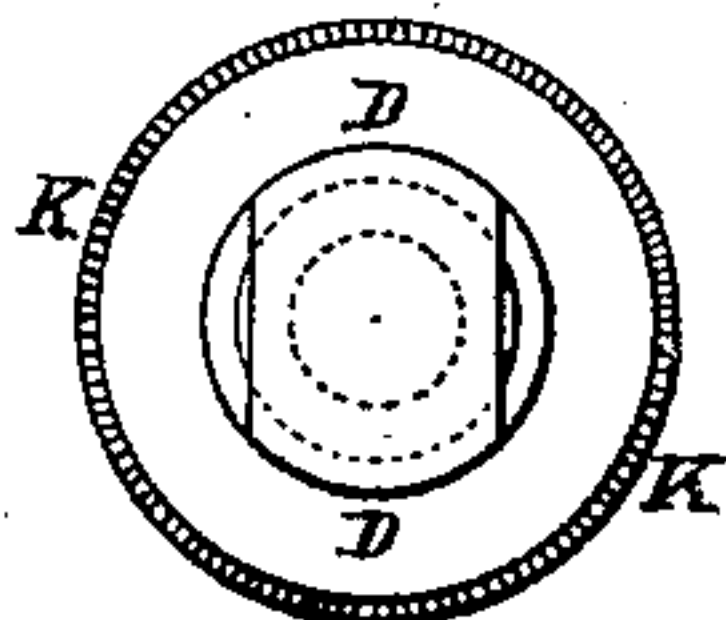
F I G. 2.



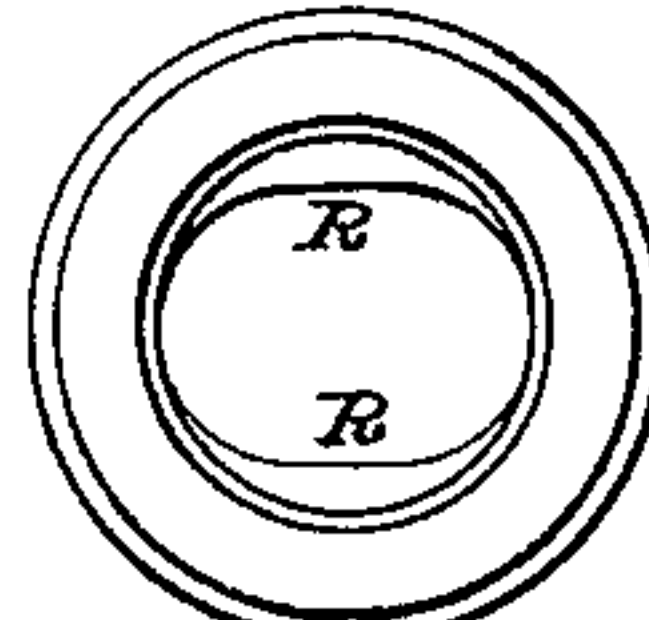
F I G. 3.



F I G. 4.



F I G. 5.



Witnesses:

George Baumann
John Revell

Inventor:

Matthew L. Macauley
By his Attorneys
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UNITED STATES PATENT OFFICE.

MATTHEW L. MACAULEY, OF GLASGOW, SCOTLAND.

BOTTLE-STOPPERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 481,363, dated August 23, 1892.

Application filed March 18, 1891. Serial No. 385,463. (No model.) Patented in England September 24, 1887, No. 12,938.

To all whom it may concern:

Be it known that I, MATTHEW LINDEN MACAULEY, a subject of the Queen of Great Britain and Ireland, and a resident of Glasgow, in the county of Lanark, Scotland, have invented a Bottle-Stoppering Device, (for which I have obtained British Letters Patent, dated September 24, 1887, No. 12,938,) of which the following is a specification.

My said invention has for its object to provide an improved stoppering device or combination for bottles; and in carrying it out I combine a new or improved construction of stopper with an internal construction or conformation of the neck of the bottle, which conformation is easily produced in making glass bottles with the aid of a tool slightly modified from that ordinarily used in forming the necks or mouths of bottles. A similar conformation can also be easily produced in making earthenware bottles or similar vessels.

In the accompanying sheet of explanatory drawings, Figure 1 is a vertical section of a glass bottle with my improved stopper in position. Fig. 2 is a sectional elevation of the stopper; Fig. 3, an elevation as at right angles to Fig. 2, and Fig. 4 is an inverted plan. Fig. 5 is a plan showing the internal conformation of the bottle-neck.

A bottle-neck as made for my improved stopper is at and near its end of the ordinary internal cylindrical or nearly cylindrical form, excepting that at a short distance inward from the outer end the passage is contracted to an oval form by two diametrically-opposite ribs R, projecting inward from the sides. This conformation of the bottle-neck is formed by means of the ordinary tool for shaping the necks of bottles, the mandrel which enters the neck of the bottle and the blocks which act on the outside of the neck being slightly modified to produce the projections R. The under or inner sides of the ribs R, formed in the bottle-neck, constitute the parts for retaining the stopper K and are in a plane at right angles to the passage; or the ribs R may be of a straight, curved, or other equivalent form instead of presenting an exactly oval shape.

The body of the improved stopper may be made of wood or vulcanite or glass or earthen-

ware or other suitable material. It is formed with a button or head K at its outer end and with its inner end of an oval or equivalent oblong form, corresponding to and capable of entering through the contracted part of the bottle-neck. The projecting parts D of the inner end of the stopper-body extend only a short distance up from the inner end and are formed with inclined or screw-like surfaces, which bear up against the ribs R in the bottle-neck when the stopper is turned round after being inserted. Between the "locking projections" D (as they may be termed) and the head K of the stopper a groove or indentation G is formed round the stopper-body to receive and hold a ring or washer W, of vulcanized rubber or analogous material, and this washer is compressed into the end of the bottle-neck, as shown in Fig. 1, by the action which draws in the stopper. The washer W bears on the outer or upper parts of the ribs R in the bottle-neck, and, being close to the higher parts of the inclined surfaces of the locking projections D, prevents the stopper from being turned too far round, which would cause the locking projections to get clear of the ribs again. The described arrangement of the rubber washer W relative to the locking projections D also serves to prevent the ribs R from being injured should the stopper be thrust in or turned violently.

The stopper K may be formed with a groove under the head or button, as indicated by a dotted line in Fig. 3, for applying a wire or cord for further securing the stopper.

When applying my improvements in the case of earthenware bottles or vessels, I form the internal ribs with a tool similar to the one used for glass bottles; but I find it best to apply the tool after the earthenware bottle or vessel has been long enough in the kiln or has been heated and dried otherwise sufficiently to withstand the action of the tool.

What I claim is—

A bottle or like vessel having ribs within the neck on opposite sides in a plane at right angles to the passage in the neck, in combination with a stopper provided at its inner end with projections having inclined or screw-like upper surfaces and adapted to pass down between the bottle-neck ribs and turn under

them when the stopper is fully in and also provided with a groove immediately above the projections, and an elastic washer held in said groove and adapted to bear upon the internal ribs when the stopper is in place, all
5 substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

MATTHEW L. MACAULEY.

Witnesses:

DAVID FERGUSON,
ARCHIBALD WALLACE.