(No Model.)

D. RYLANDS.

MEANS FOR PUNCHING HOLES IN BOTTLES.

No. 347,742. Patented Aug. 17, 1886.

Fig. 1.

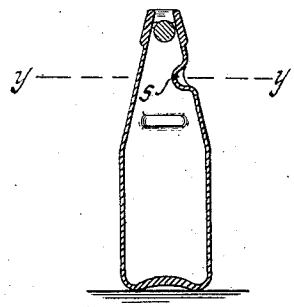


Fig. 3.

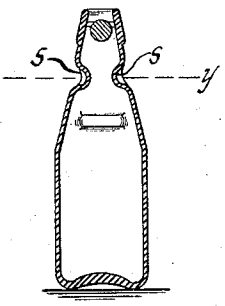


Fig. 9.

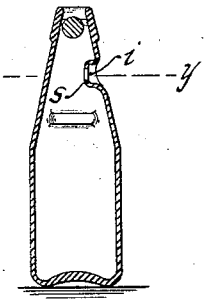
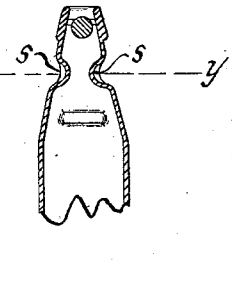


Fig. 5.



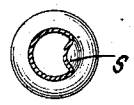


Fig. 2.

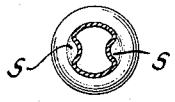


Fig. 4.

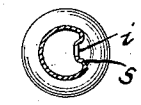


Fig. 10.

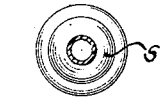


Fig. 6.

Fig. 7.

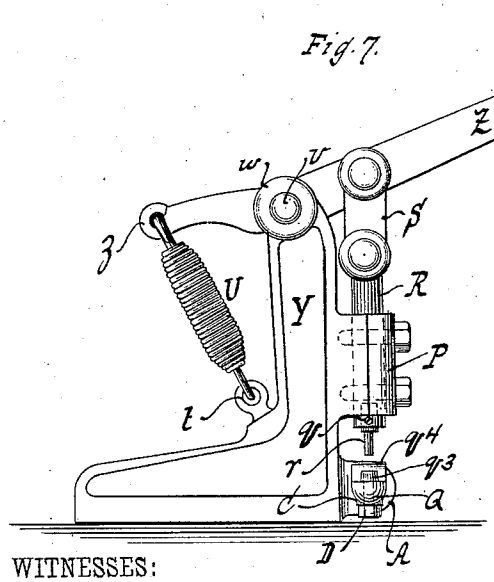
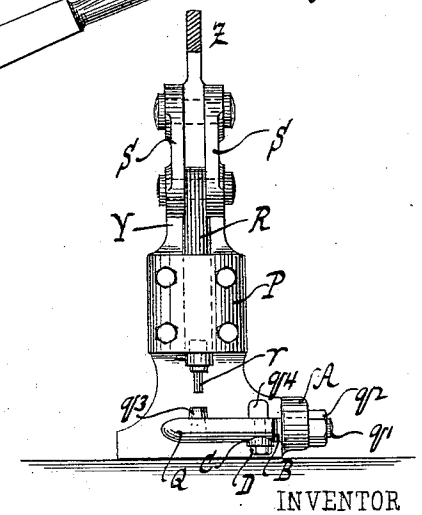


Fig. 8.



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UNITED STATES PATENT OFFICE.

DAN RYLANDS, OF STAIRFOOT, COUNTY OF YORK, ENGLAND.

MEANS FOR PUNCHING HOLES IN BOTTLES.

SPECIFICATION forming part of Letters Patent No. 347,742, dated August 17, 1886.

Application filed January 8, 1886. Serial No. 188,018. (No model.) Patented in England January 10, 1885, No. 348.

To all whom it may concern:

Be it known that I, DAN RYLANDS, a subject of the Queen of Great Britain, residing at Stairfoot, in the county of York, England, have invented new and useful Improvements in Means for Punching Holes in Bottles, (for which I have obtained a patent in Great Britain, No. 348, bearing date January 10, 1885,) of which the following is a specification.

My invention consists in a machine having a punch working vertically in a guide, and below the punch a horizontal rod mounted in the frame of the machine and arranged to receive upon it the neck of a bottle having an indent or indents through which holes are to be punched. Said horizontal rod is provided with a die, against which the punch works in making the hole in the indent in the bottle, and with a stop to gage the position of the bottle on the rod.

The machine is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of a bottle showing one indent formed in the neck thereof. Fig. 2 is a section taken on the line *y y* of Fig. 1. Fig. 3 is a sectional elevation of a bottle showing two indents formed in the neck thereof, and Fig. 4 is a section taken on the line *y y* of Fig. 3. Fig. 5 is a broken sectional elevation of a bottle, showing an annular indent, or one indent which extends all around the neck thereof; and Fig. 6 is a section taken on the line *y y* of Fig 5. Fig. 7 is a side elevation, and Fig. 8 is a front elevation, of my improved machine for punching holes through indents formed in bottles. Fig. 9 is a sectional elevation of a bottle showing a hole punched through an indent formed in the neck thereof, and Fig. 10 is a section taken on the line *y y* of Fig. 9.

Similar letters refer to similar parts throughout the several views.

My improved machine is represented at Figs. 7 and 8. Z is a lever attached to the jaw *w*, of the vertical stand Y, by means of the pin V. The spring U has one end attached to the end *z* of lever Z, and the other end is attached to the eyebolt *t*, which is screwed into the vertical stand Y. The links S S connect the lever Z to the punch R. The said punch R has its working or punching portion *r* preferably made separate and attached to the portion R by means of the set-screws *q*. The punch R has a bearing in the guide P. The guide P may either be made with or attached to the vertical stand Y. Under the portion *r* of punch R is fixed the horizontal rod Q, for receiving and supporting the bottle to be punched, having its end *q'* secured to the stand Y by means of the nut q^2, the rod Q being inserted through a lug, A, formed on the front side of the stand Y, and the nut q^2, by being turned on the threaded end *q'* of the rod Q, operating to draw the shoulder B of the rod against the lug, and thereby secure the rod Q to the stand. A raised die, q^3, is secured on the horizontal rod Q in such a position as to be directly under the portion *r* of punch R. I prefer that the die be made adjustable on the rod, so that it can be arranged in proper position with reference to the punch. q^4 is a stop on the horizontal rod Q, which is adjustable thereon, so that it can be placed in any required position on the said rod, so as to form a gage for various lengths of bottle-necks. The stop consists of a pin which passes up from below through an elongated slot in the rod Q, and is secured to it by a shoulder, C, and nut D.

After a bottle has been blown or formed and subsequently taken up from the catcher-box with a punty, the open end of the neck of the bottle is placed on the horizontal rod Q, and in such a position as to cause the raised die q^3 to come immediately under the indent formed in the bottle, in which position the bottle is held until the lever Z is pressed quickly down, by which means the portion *r* of punch R is forced through the indent, thus forming the required hole. Figs. 9 and 10 show a hole, *i*, thus punched through indent *s*, formed in the bottle-neck. It will be readily understood that the indents are to be punched when it is required to fit a valve arrangement to the bottles.

The Figs. 1 to 6 show bottles having in their necks indents *s* such as can be punched by means of my improvement.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the punch R *r*, the rod Q, provided with the die q^3 and stop q^4, and the lever Z, substantially as shown and described.

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

DAN RYLANDS. [L. S.]

Witnesses:
THOMAS JOHNSON,
A. M. RYLANDS.