Nov. 17, 1925. 1,562,331

F. F. JAMIESON

STRIPPING DEVICE

Filed Jan. 20, 1923

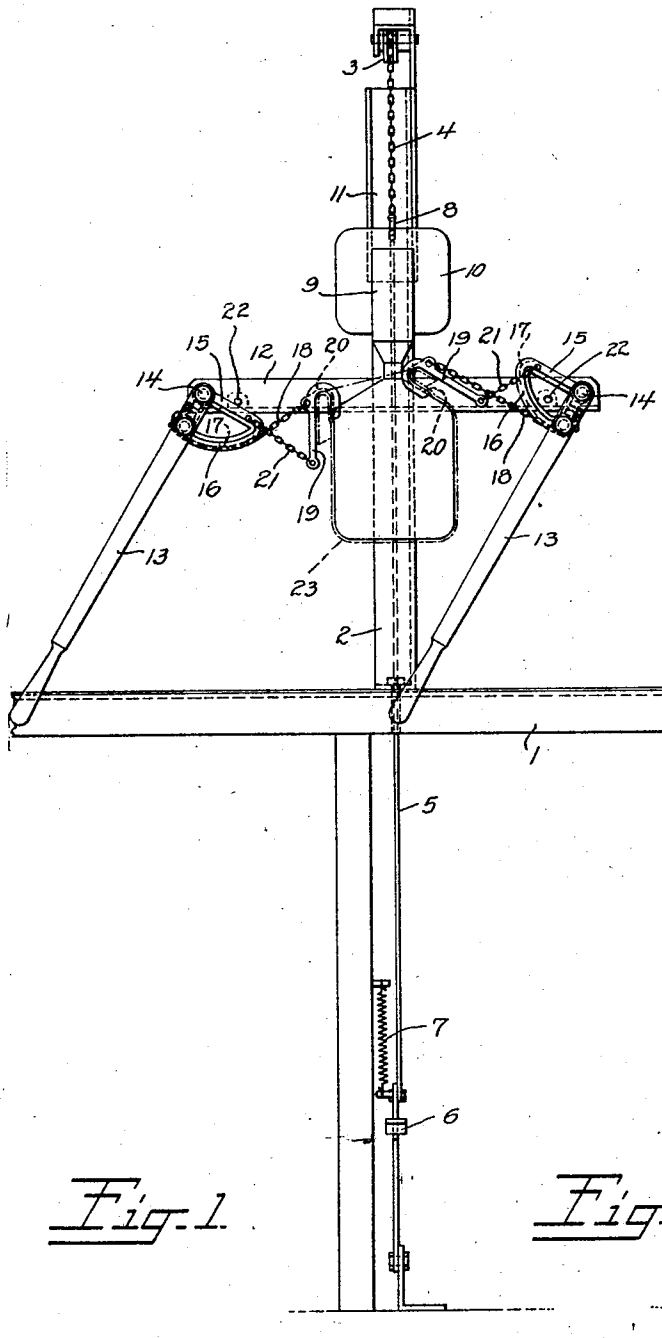

Fig. 1.

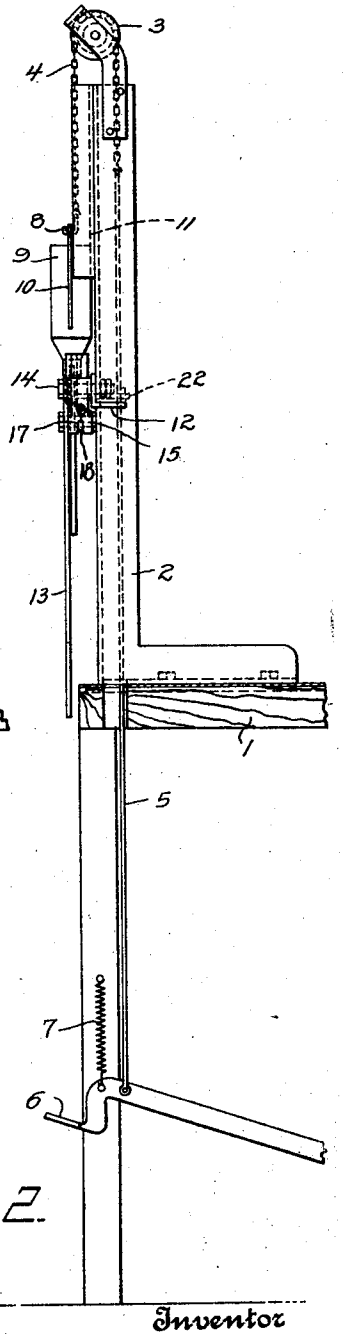

Fig. 2.

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By his Attorney

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UNITED STATES PATENT OFFICE.

FRANK FRASER JAMIESON, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR TO THE GOODYEAR'S INDIA RUBBER GLOVE MANUFACTURING COMPANY, A CORPORATION OF CONNECTICUT.

STRIPPING DEVICE.

Application filed January 20, 1923. Serial No. 613,819.

To all whom it may concern:

Be it known that I, FRANK FRASER JAMIESON, a subject of the King of Great Britain, a resident of Montreal, in the Province of Quebec and Dominion of Canada, have invented a certain new and useful Improvement in a Stripping Device, of which the following is a full, clear, and exact description.

This invention relates to a stripping device, more particularly to a device for stripping vulcanized articles from the cores on which they are formed.

In the making of many vulcanized articles such as hot water bottles, syringe bags, etc., after vulcanization the articles and cores are removed from the molds and are hung up and the article stripped from the core by inserting hooks in the neck of the article on opposite sides and stretching the neck out to the greatest diameter of the core and stripping the article downwardly from the core. This method is successful in cases where the stretch required to move the article over the point of greatest diameter of the core is not too great, such as when stripping wide mouthed water bottles and syringe bags from their cores. In the case of small necked water bottles, however, the stretch required in this operation is considerable, being frequently over 500%. If such articles are made of a stock which is not sufficiently elastic and tough they will be torn and damaged in attempting to remove them from the core. On the other hand, if a tough and good quality stock is used the stretch required is too great for the strength of the average workman, and in the struggle to remove the bag the latter in frequently damaged by the hooks and must be scrapped.

An object of my invention is to provide an improved means for stripping vulcanized articles from cores.

Another object is to obviate injury to the articles during the stripping operation.

Still another object is to reduce the manual labor required in the stripping operation.

For a detailed disclosure of the invention, reference is had to the accompanying specification and drawing, in which latter:

Fig. 1 is a front elevation of the invention; and

Fig. 2 is a side view thereof.

Referring to the drawing, the numeral 1 represents a table or other support upon which the device may be mounted, and secured to this in any suitable manner is an upright 2 carrying at its top a pulley 3 over which is movable a chain 4. To the rear end of the chain one end of a link 5 is connected, the other end of which is pivotally connected to the foot lever 6, the latter having a return spring 7. The other end of the chain 4 carries a hook 8, and the projecting portion 9 of a core may be secured to this hook by means of an opening in the surrounding flange 10. The projecting portion 9 of the core is vertically movable in a guideway 11 secured to the support 2, and the sides of the guideway prevent lateral movement of the core. Secured to the upright 2 is a cross-bar 12, to the ends of which levers 13 are pivotally secured at 14. Also mounted on the pivots 14 and secured to the respective levers 13 are operating cams 15 each of which has a curved side 16 which is provided with the longitudinal groove 17. Secured to each cam adjacent one end of the groove 17 and in alignment with the groove is a chain 18, the other end of which is connected to a stripping hook 19 in the manner shown in Fig. 1. Each hook on its outer side is provided with a groove 20 adapted to interfit with the rounded edge of the core used. A second chain 21 is also secured to the cam 15 at one end and at the other end to the free or shank end of the hook. Cooperating with each cam 15 is a stop pin 22 movable through the cross-bar 12.

In operation, the core 9 and its surrounding water bottle 23 after removal from the mold are hung upon the hook 8 and the stripping hooks 19 are inserted between the core neck and bottle neck in the manner shown on the right-hand side of Fig. 1, with the groove 20 of each hook engaging the inclined upper edge of the core. One of the operating levers 13 is then moved outwardly in the manner shown in the left-hand side of Fig. 1, and during this operation the chain 18 winds up on the curved side 16 of the cam 15 within the groove 17. As the lever 13 moves outwardly the hook 19 moves laterally and downwardly on the

inclined upper side edge portion of the core until it reaches the vertical edge portion, when it assumes the vertical position shown at the left-hand side of Fig. 1. After the upper or rear portion of the cam 15 passes the stop pin 22 the latter is pushed forwardly to retain the cam in the position shown on the left-hand side of Fig. 1. The operation above described is then repeated with the right hand lever and it will be seen that at the completion of this movement the neck of the water bottle has been stretched to the full width of the core and also stripped downwardly from the inclined upper part of the core. The foot lever 6 is then operated causing the core to be moved upwardly and withdrawn from the bottle 23. It will be seen from the left hand side of Fig. 1 that the pull of the stretched bottle neck is exerted in a line offset from the line of the chain 18, due to the point of connection of the latter with the hook 19. Hence as the core is withdrawn the shank end of the hook tends to swing inwardly and forcibly free the bottle, with resultant injury to the latter. By the provision of the chains 21, however, this tendency is prevented and the bag remains stretched between the hooks. The stop pins 22 may then be pushed in and the levers 13 retracted, thereby allowing the bottle neck to contract, when the hooks can be removed and the bottle taken off without any injury to the latter.

It will be seen that by my invention the objects previously set forth have been attained and that the apparatus used is simple, cheap, and easily manipulated. While the invention has been shown and described specifically as applied to removing hot water bottles from cores it is obvious it is of more general application and may be used for removing various vulcanized articles from cores and also dipped rubber goods from the forms on which they are built, and it is therefore not desired to limit the invention otherwise than as set forth in the appended claims.

Having thus described my invention what I claim and desire to protect by Letters Patent is:—

1. In a stripping device for removing vulcanized articles from cores, means for holding the core, a pair of stripping hooks adapted to be inserted in the neck of the article, a pair of levers, flexible connections between said levers and respective hooks, stops for said levers, and means for moving said core holding means.

2. In a stripping device for removing small necked vulcanized articles from cores, means movable on the core edge interiorly of the article and guided by said edge for stretching and partly stripping the article adjacent the core neck, and means for then withdrawing the core.

3. In a stripping device for removing hot water bottles from cores, reciprocable means for holding a core, a pair of hooks for engagement with the interior of the bottle neck, said hooks having grooves adapted to interfit with the edges of the core, means for laterally moving the hooks to stretch the bottle neck, and means for withdrawing the core.

4. In a stripping device for removing hot water bottles from cores, reciprocable means for holding a core, a pair of hooks for engagement with the interior of the bottle neck, said hooks having grooves adapted to interfit with the upper inclined edges of the core, means for moving said hooks down said edges to stretch said neck, stop means connected to said hooks, means for retaining the neck in stretched position, and means for withdrawing the core.

5. In a stripping device for removing hot water bottles from cores, reciprocable means for holding a core, a pair of hooks for engagement with the interior of the bottle neck, means for successively laterally moving each hook and turning it, means for limiting the turning movement, means for retaining the hooks in laterally displaced and turned position, and means for withdrawing the core.

6. In a stripping device for removing small necked vulcanized articles from cores, core holding means, hooks adapted to be inserted between the core and article neck, levers pivoted at each side of the core, a grooved segment secured to each lever adjacent its pivot, a flexible connection secured at one end to said segment at the end of said groove and at its other end to a respective hook adjacent the hooked portion of the latter, a second flexible connection secured to each segment and to the shank end of a corresponding hook, and means for moving said core holding means.

Signed at Montreal, Canada, this 12th day of January, 1923.

FRANK FRASER JAMIESON.