Nov. 23, 1937. G. W. GREEN 2,099,884

MILKING MACHINE INFLATION

Filed Feb. 26, 1936

Fig-2

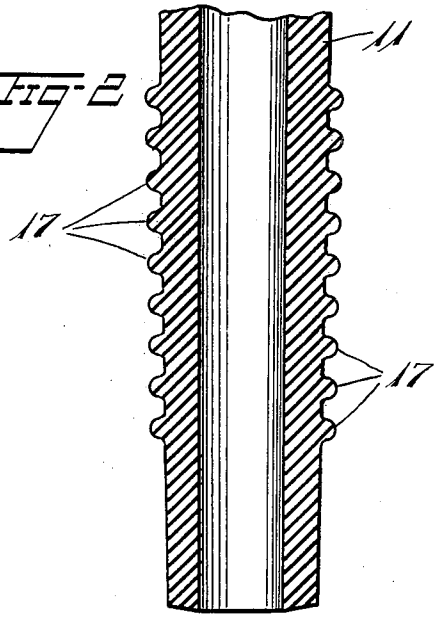
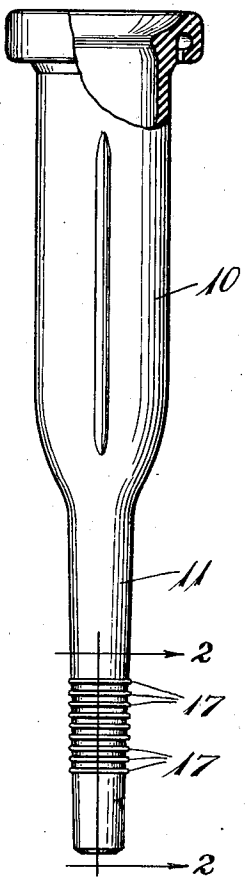


Fig-1



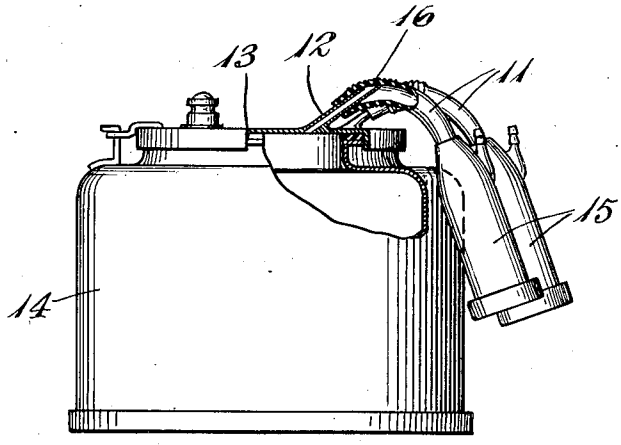


Fig-3

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MILKING-MACHINE INFLATION

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4 Claims. (Cl. 31—34)

This invention relates to milking machines and more particularly to the inflations or teat-engaging rubber members.

The principal objects of the present invention are to increase the resistance to abrasion, and to provide increased resistance against collapse of the neck of the inflation, without materially increasing its resistance to bending.

Other objects will appear from the following description and the accompanying drawing.

Of the drawing:

Fig. 1 is an elevation, partly broken away and partly in section, showing the preferred form of the invention.

Fig. 2 is an enlarged sectional view of a portion thereof taken on line 2—2 of Fig. 1, other parts being broken away.

Fig. 3 is an elevation of the pulsator of a milking machine showing the inflations in place, one of the inflations and the adjoining portion of the pulsator being partly broken away and partly in section to illustrate the bending of the inflations when not in milking position.

Referring to the drawing, the numeral 10 designates the body of the inflation and 11 the tubular integral neck thereof, which are molded from elastic soft vulcanized rubber. These inflations have their necks slipped over tubular metal tubes 12 attached to the cover 13 of a receiver 14. Their bodies are enclosed by metal tubes 15. The ends of tubes 12 are diagonal to their axes as shown at 16. The construction is such that when one of the inflations is not in contact with the teat of the cow, the flexibility of the neck 11 of the inflation and the weight of the inflation and its tube 15 cause the neck of the tube 11 to be bent so that its wall closes the diagonal end of the tube 12 and prevents entrance of air to the tube 12.

In this position the outer wall of the neck 11 is subjected to tension and the part thereof overlying the rigid metal tube 12 adjacent to its end 16 is especially vulnerable as to abrasion which is liable to occur should the cow kick the device. Such abrasion of the tensioned portion has in the past prematurely ended the life of the inflations.

In order to prevent such cutting and abrasion, a series of spaced circumferential ribs 17 are formed integrally with the neck 11 in the region subjected to bending. These ribs, being arranged circumferentially in spaced relation, do not materially strengthen the tube against bending as the wall of the tube between the ribs on the convexed side of the tube may stretch freely while protected from blows by the intervening more prominent ribs and at the same time the ribs circumferentially reinforce the tube against undue flattening.

The bore of the neck is made smooth and unbroken so as to be readily cleaned and to securely close the tube 12 when it contacts with the end thereof. The increased thickness of the tube directly beneath the ribs so strengthens the tube against tension as to substantially confine the stretching due to bending to the protected portions of the wall between the ribs. The ribs' natural resistance to abrasion is therefore undiminished during the bending of the tube.

I claim:

1. An inflation for a milking machine, said inflation comprising a body provided with a tubular flexible neck adapted to be mounted at the end of a tube of the machine and to close the end of the tube by flexing of the neck to position its inner wall against the tube end, said neck comprising circumferentially-extending reinforcing means disposed in axially spaced zones in the tube-closing region of the neck outwardly of the inner wall thereof, providing flexible portions of the neck at the zones thereof between the reinforced zones.

2. An inflation for a milking machine, said inflation comprising a body provided with a tubular rubber neck adapted to be mounted at the end of a tube of the machine and to close the end of the tube by flexing of the neck to position its inner wall against the tube end, said neck comprising circumferentially-extending rubber ribs integral with the neck and disposed in axially spaced relation at the exterior of the neck in the tube closing region thereof.

3. An inflation for a milking machine, said inflation comprising a body provided with a tubular neck adapted to be mounted at the end of a tube of the machine and to close the tube by flexing of the neck to position its inner wall against the tube end, said flexible neck comprising portions in the region of the end of the tube of locally increased thickness as compared with the neck proper for preventing objectionably sharp localized bending in said region while permitting the neck to flex to close the tube end.

4. An inflation for a milking machine, said inflation comprising a body provided with a tubular rubber neck adapted to be mounted at the end of a tube of the machine and to close the tube by flexing of the neck to position its inner wall against the tube end, said neck having outwardly projecting rubber portions in the region of the end of the tube integral with the rubber of the neck proper providing intervening areas of lesser thickness than at said projecting portions, so that the neck has adequate flexibility to close the tube end and at the same time objectionably sharp localized bending of the neck in the region of the tube end is avoided.

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