May 27, 1969 S. MANETTA 3,445,985

PACKAGING DEVICE

Filed Nov. 21, 1966

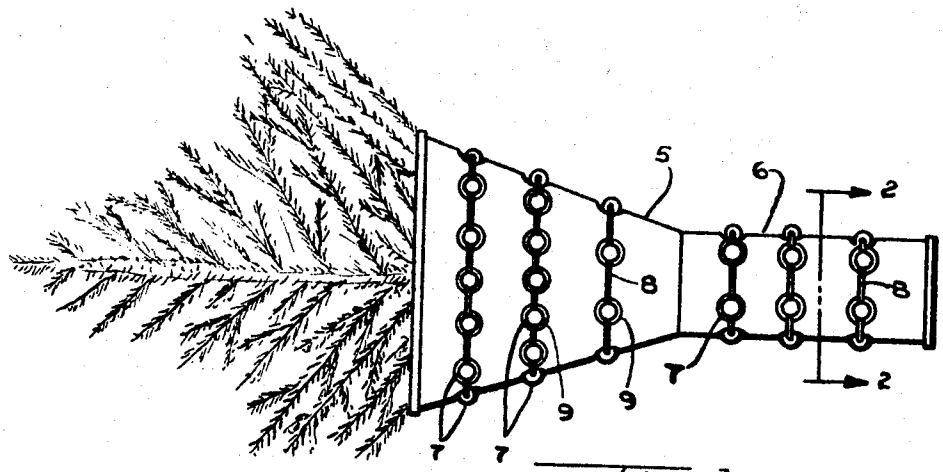


Fig 1

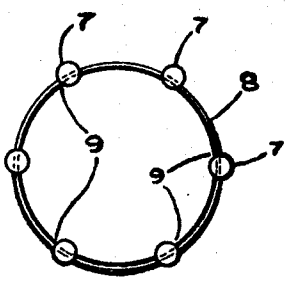


Fig 2

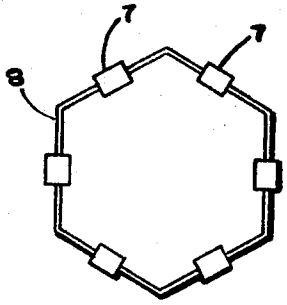


Fig 3

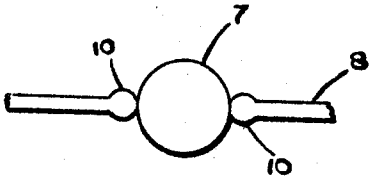


Fig 4

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PACKAGING DEVICE

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1 Claim

ABSTRACT OF THE DISCLOSURE

A tree packaging device having a funnel-shaped member with a long neck through which the tree is drawn and a series of shafts surrounding said member supporting bearings which project through apertures formed in said member to reduce the friction between the tree and said member.

This invention relates to new and useful improvements in packaging device and more particularly to improvements to my Canadian Patent No. 726,424.

The invention comprises the addition of roller bearings along the entire friction surface of packaging device and although the drawing shows a ball bearing, I do not wish to restrict myself to such since other type of bearings such as cylinders, as illustrated in FIGURE 3 of the accompanying drawing would serve the same purpose. The best results are obtained when the bearings are mounted on a common shaft at every spaced apart interval.

The main object of the invention is therefore the provision of roller or ball bearings along the entire surface of a packaging device to eliminate or substantially reduce the friction between the device and the goods being packaged therefore resulting in a greater volume of goods being packaged in a given time.

Another important object is that the elimination of friction between the device and the goods being packaged will result in considerably less wear on the packaging device.

Still another object is that the possibility of damaging the goods being packaged are greatly reduced if not entirely eliminated because of the friction free contact between goods and the packaging device.

With these and other objects in view that may appear as the description proceeds, the invention consists in the novel arrangements of cooperating elements as hereinafter more specifically set forth, claimed and shown in the accompanying drawing forming part of this application and in which:

FIGURE 1 is a side elevational view of a portion of a tree packaging device constructed in accordance with the present invention.

FIGURE 2 is a view illustrating a plurality of roller bearings mounted on a common shaft.

FIGURE 3 is a similar view of an alternative conveyor construction illustrating cylindrical bearings mounted on a common shaft.

FIGURE 4 shows one of several methods of locating the bearings on a common shaft.

Referring more in detail to the drawing in which similar reference characters designate corresponding parts

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throughout the several views, it will be seen the invention comprises a funnel-shaped conveyor **5** formed with a long neck **6** through which trees are passed through for the purpose of folding the branch along the trunk and wraping the folded tree in a small package to facilitate transportation of such goods and to prevent damage to branches during transportation.

At predetermined spaced apart interval along the entire length of both, the funnel and the neck, the invention provides a plurality of bearings so that the friction between the goods being packaged and the device is eliminated.

The bearings **7** are mounted on a continuous shaft **8** which completely encircles the funnel and neck at each interval and the bearings, per se, are disposed in apertures **9** which are preformed so that approximately half of the bearing surface extend beyond the inner face of said funnel and neck to eliminate the friction between the goods being pacakaged and the funnel face.

In FIGURE 4 of the drawing I illustrate a method by which the bearings are held in their respective position along the shaft.

The method illustrated consists in enlarging the diameter of said shaft by forming a flat **10** on both sides of the said bearing. Since there are several other methods by which the bearing could be retained in position, I do not wish to restrict myself to the illustrated one and I consider any other method as part of the present invention.

It is believed that the construction and advantages have been fully set forth and that further description is not required.

While the preferred embodiment has been disclosed it is to be understood that minor modifications may be resorted to without departing from the spirit of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows.

I claim:

1. A tree packaging device comprising a funnel-shaped member having a long neck, said member having a series of circular rows of spaced apertures, a series of shafts surrounding said member in spaced relation and bearings mounted on said shafts in alinement with said apertures and projecting through said apertures beyond the inner face of said member for yielding frictional contact with a tree drawn through said member.

References Cited

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U.S. Cl. X.R.

53—255, 390