Aug. 23, 1932. W. O. ROY 1,873,666

MEANS AND METHOD FOR PACKING FLOWERS

Filed June 30, 1931

Fig. 1

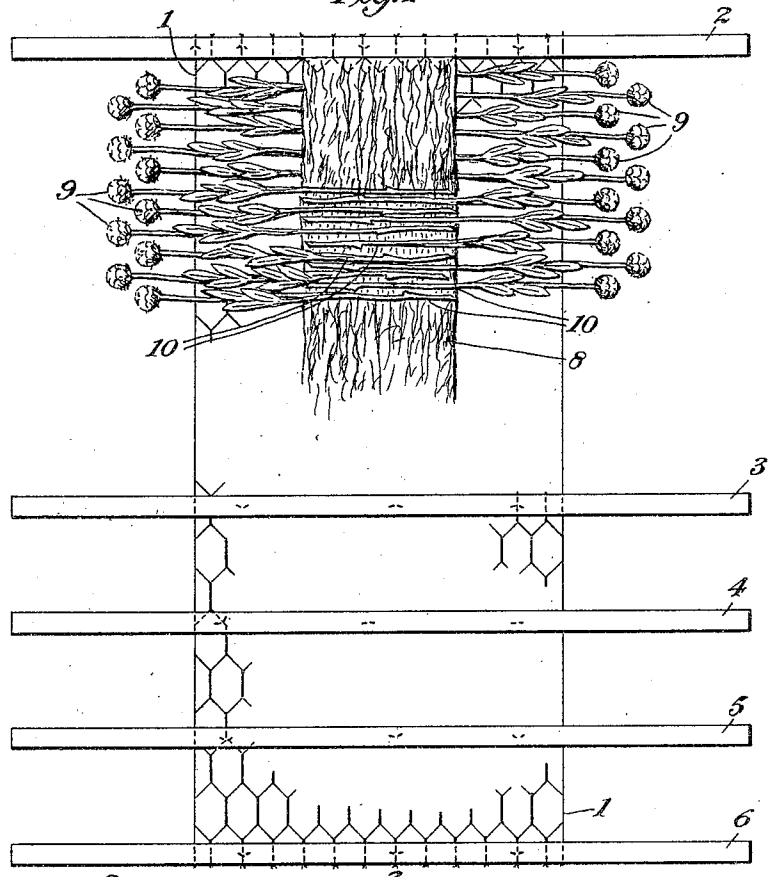


Fig. 4

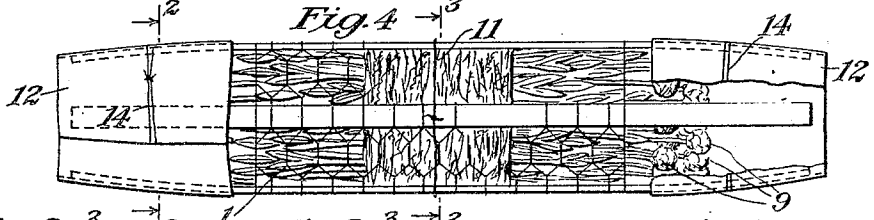


Fig. 2

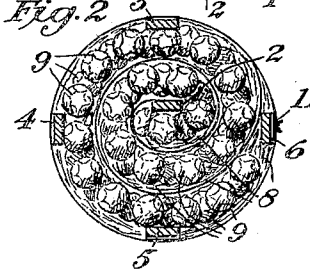


Fig. 3

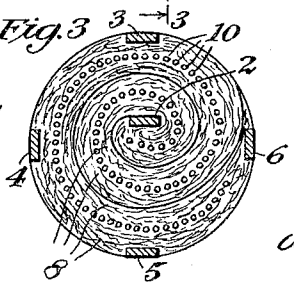
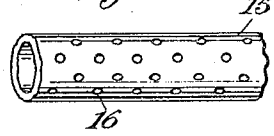


Fig. 5



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UNITED STATES PATENT OFFICE

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MEANS AND METHOD FOR PACKING FLOWERS

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My invention relates to improved and novel means for packing cut flowers and similar articles for transportation and storage; and is directed particularly to the employment of flexible packing means within which cut flowers are assembled and held so that they may be transported and/or placed in cold storage without material injury to the flowers.

Objects of my invention are to hold the flowers within the pack so that their stems will be snugly held, while their blossoms are not unduly crowded; to hold the stems in place without crushing or breaking them; to provide for ventilation around the stems and flowers; to so pack the flowers that the blossoms shall be disposed toward each end of the package while the stems are overlapped medially; to provide means for preserving the form of the package which shall be flexible and yieldable but will still adequately protect the flowers; to provide means whereby the blossoms shall be protected; to provide end closing means for the blossom protecting means; and to secure the other objects and advantages hereinafter explained.

In the drawing Figure 1 is a plan view of my improved packing means spread out and with some flowers and packing placed in initial position thereupon at one end; Figure 2 is a cross sectional view taken on the line 2—2 of Figure 4; Figure 3 is a cross sectional view taken as on the line 3—3 of Figure 4; Figure 4 is a side elevation of a completed package, the end covering being partially broken away at one end for clearness. Figures 3 and 4 are on an enlarged scale. Figure 5 is a view of a modified form of the central, reinforcing member, one end being broken off to shorten the figure. This figure is on a still further enlarged scale.

In all the figures similar parts are designated by similar reference numerals.

The body 1 of the package is preferably formed of an open mesh wire netting or the like, which is quite flexible and is still of sufficient rigidity to substantially retain its shape when the complete package has been formed.

To this netting I attach thin strips of wood, as 2, 3, 4, 5 and 6, the strip 2 being attached at or near one end of the netting and the strips 3, 4, 5 and 6 being spaced from the opposite end of the netting in such relation that they may be approximately evenly distributed around the circumference of the completed and rolled package, while strip number 2 will be disposed centrally thereof.

It will be observed that the ends of the wooden strips project substantially beyond the side of the netting, the advantages of which arrangement will be explained hereinafter.

Upon the netting 1, I place a porous and preferably yieldable and somewhat resilient packing 8, such as excelsior, hay, moss or the like, preferably disposing it along the central portion of the netting and making the packing somewhat thicker toward the center of the layer. Upon this layer I place cut flowers 9, 9, the blooms lying between the edges of the netting and the ends of the strips while the stems 10, 10, are, preferably, overlapped in the central portion of the package; and upon the stems I place a second layer of the packing and then another layer of flowers, if desired, continuing this arrangement until the capacity of this particular package has been approximated.

It should be understood that in this arrangement I preferably spread the packing and the flowers in superimposed layers along substantially the whole length of the netting; so that at this stage the flowers and packing will be arranged in layers upon the extended netting.

The package is then rolled upon itself, beginning with the end carrying the strip 2; the netting rolling snugly around the stems of the flowers, particularly around the overlapped portion of the stems, while the blooms, having been preferably somewhat staggered in the packing, are not so crowded together as to be crushed or injured in the process of rolling.

If the layout has been properly made, when the rolling is completed the reinforcing strips 3, 4, 5 and 6 will be found to be more or less evenly distributed around the outside of the roll, while the strip 2 will be

in the center of the roll. The roll is then tied or fastened together, as by a binding wire 11, the ends of which may be twisted together thus forming a roughly cylindrical package, as shown in Figure 4. End cuffs of paper 12, or the like, may be placed around the ends of the bundle, preferably projecting slightly beyond the ends of the strips and not extending inward as far as the end of the netting. These cuffs serve to snug in the blooms sufficiently to prevent their petals from bending laterally out of the end of the package so as to be damaged in handling. The cuffs can be secured in place by suitable means such as twine 14, which may be made sufficiently tight to draw the ends of the strips slightly toward each other, thus adding to the firmness of the package, which may now be handled as a bundle completed for shipping or storage purposes.

As is understood by those familiar with the art in cutting flowers for sale it is quite usual to strip off some of the leaves from the lower ends of the stalks thus leaving the stubs from which the leaves are detached slightly projecting from the stems. When, such stems are overlapped in packing as described above, they afford slight holds against packing such as 8, so that the stems may not easily shake out or fall out from the ends of the bundle.

I wish it to be understood that in the case of very long flowers, or flowers the stems of which it is undesirable to overlap, all the blooms might be placed toward one end of the bundle, and sufficient packing be placed around the stems to give to the bundle a body large enough to prevent the crushing of the blooms. For such a packing it would not be necessary to extend the strips at the stem end of the package as far as at the bloom end of the package; although it is desirable to have the ends extend somewhat beyond the edge of the netting.

This package is particularly designed for being placed vertically during shipment or cold storage. Thus if the packages are to be transported in a refrigerator car they are preferably placed on end and are held snugly in that position by appropriate blocking in the car, if necessary.

A layer of light boards or the like may then be placed on top of the ends of the first tier of bundles, the strips of which will be sufficiently strong to hold up such boards and also a second tier of bundles packed vertically above the boards. The number of tiers employed will depend upon the length of the packages, which should be made to best accommodate the particular length of cut flowers included in the shipment.

In Figure 5 I have shown a modification of the interiorly placed reinforcing element, which may be substituted for the strip 2, or placed at another point within the roll. This modification consists in the use of a tubular member 15, provided with perforations 16, 16 therein, whereby ventilation is facilitated within the body of the roll, through the tube and its perforations. This is desirable for some flowers.

I have found in my experience that flowers thus packed will stand rail transportation with little if any damage to the flowers or the packing, and that the packages may be placed in cold storage without being opened; and that the packed flowers will retain their freshness in cold storage for a considerable time. For the methods of packing holds the stems snugly in position, without crushing them, while the blooms are not bruised or damaged; and there is sufficient ventilation provided for the admission of air of the proper temperature and degree of moisture so that the cut flowers will remain fresh without being disturbed in their packages; and they may be sold either in the original packages or may be removed therefrom and sold unpacked.

I wish it to be understood, also, that my improved packing means and method may be used for other articles besides flowers; for instance for asparagus shoots and other vegetable growths; also, that woven, textile materials may be used instead of netting, so long as a proper amount of ventilation is provided for; also, that cotton waste or other spongy or open textured material may be substituted for excelsior; for these are modifications that are within the scope of my invention.

It should be noted, also, that, particularly when flowers are packed in the fields, a certain amount of shrinking may take place afterwards in the rolls, so that it may be desirable to tighten up the rolls so as to properly regulate the ventilation within them. This may be done readily by tightening the binding wire to any desired extent.

I desire it to be understood that what I have shown and described is a preferred and not an exclusive form of my invention, for details of construction might be modified, as by the use of mechanical equivalents, without departing from the spirit of my invention and the scope of the claims.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:—

1. The method of packing flowers consisting in forming an elongated, flexible openwork provided with transverse strips attached thereto and extending beyond the sides thereof; forming a bed of porous, yieldable material, centrally along the foundation, placing the flowers with their stems upon the bed and their blooms beyond the edge of the foundation; adding an additional layer of the porous yieldable material above the stems; rolling the foundation longitudinally with the flowers and yieldable material, and securing the completed roll against unwinding.

2. The method of packing flowers consisting in forming an elongated, flexible openwork provided with transverse strips attached thereto and extending beyond the sides thereof; forming a bed of porous, yieldable material, centrally along the foundation, placing the flowers in reversed series with their stems overlapping upon the bed and their blooms beyond the edges of the foundation; adding an additional layer of the porous, yieldable material above the stems; rolling the foundation longitudinally with the flowers and yieldable material, securing the completed roll against unwinding, and placing flexible shields around the projecting ends of the transverse strips.

3. The method of packing cut flowers, consisting of assembling the flowers in two series with their stems overlapping upon a bed of yieldable, open-texture material; placing an additional quantity of such yieldable material above the stems; rolling the pack thus formed transversely of the stems; reinforcing the pack centrally with flexible openwork wrapping; providing protective strips extending longitudinally of the roll and beyond the ends of the blooms; and securing the whole in place.

4. The method of packing cut flowers, consisting in disposing the flowers in two series with the heads projecting outward and the stems overlapping; providing loose, fibrous material in contact with the stems to retain them in position; forming a roll of the flowers and yieldable material; protecting the roll against distortion and providing a plurality of comparatively rigid means extending in each direction beyond the flower blooms.

5. Means for packing flowers consisting of an elongated flexible, openwork foundation, and comparatively rigid reinforcing strips attached transversely thereto with their ends projecting substantially beyond one side of the foundation.

6. Means for packing flowers consisting of an elongated flexible, openwork foundation, and comparatively rigid reinforcing strips attached transversely thereto with their ends projecting substantially beyond the sides of the foundation.

7. Means for packing flowers consisting of an elongated flexible, openwork foundation, composed of wire netting or the like, a reinforcing strip attached transversely of the foundation near one end and a plurality of other reinforcing strips attached in spaced relation toward the other end of the foundation, the ends of the reinforcing strips extending substantially beyond the edges of the foundation.

8. Means for packing flowers consisting of an elongated flexible, openwork foundation, composed of wire netting or the like, a reinforcing strip attached transversely of the foundation near each end and three other reinforcing strips attached in spaced relation from one end thereof, the ends of the reinforcing strips extending substantially beyond the edges of the foundation.

WILLIAM ORMISTON ROY.