Dec. 20, 1966 K. A. VALLI 3,292,962

BUNDLE HOLDER

Filed Jan. 25, 1965 2 Sheets-Sheet 1

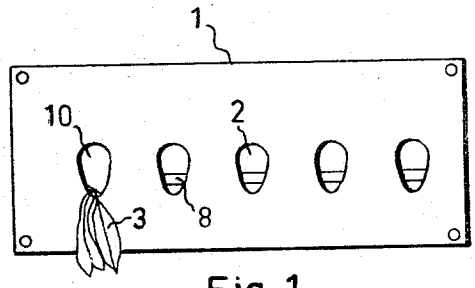

Fig. 1

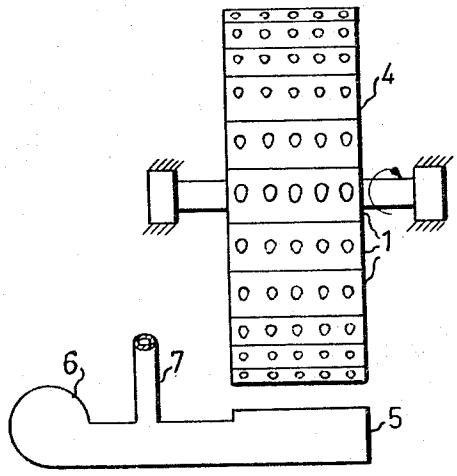

Fig. 2

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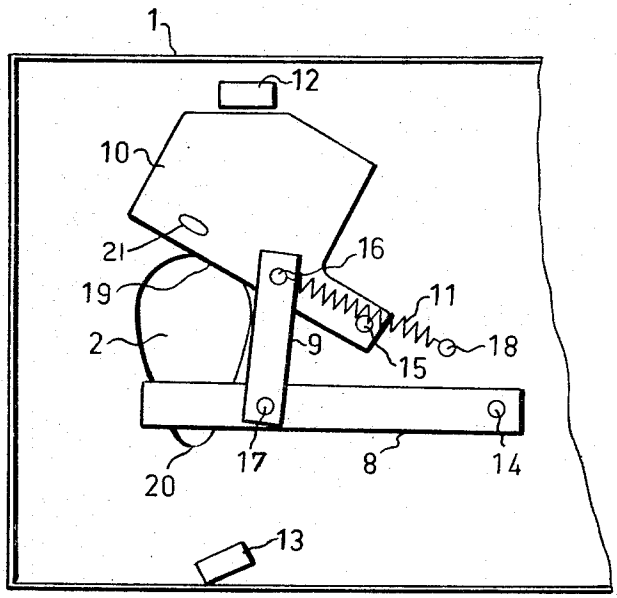

Fig. 3

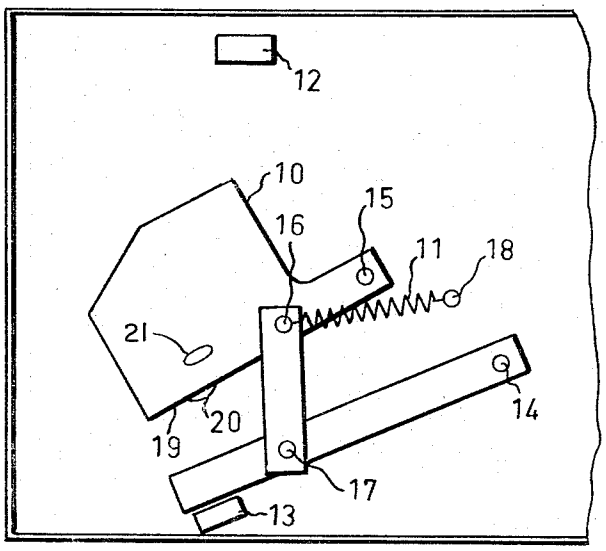

Fig. 4

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BUNDLE HOLDER

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5 Claims. (Cl. 294—5.5)

This invention relates to an improved construction of holders for objects with a projecting stiff part, for example a bundle or whisk of a vegetable product in the form of leaves with stems. A special use of the invention is as a holder for bundles or whisks of tobacco leaves in the moistening machines used in the tobacco industry.

When feeding material to be treated into a machine in operation, it is often desired that the operator shall be able to hold a quantity of material with one of his hands, while the other hand is left free to perform the feeding. This principle of feeding is, in fact, conveninet to the operator and furthermore time-saving. However, it would have been thought that the holder, which is being fed, would be complicated in order to save working time in the feeding of the machine. Nevertheless, the present invention presents a very simple and practical construction of such a one hand fed holder.

From prior art a plurality of holders for different kinds of material are known.

A device to hold tobacco whisks, consisting of a rubber disk with radial slits has been used. Owing to the slits in the middle of the rubber disk there is a series of adjacent sectors of lugs which yield to the pressure of a whisk projecting into the disk. A disadvantage of the device referred to is, however, that the wear and tear is great, and the rubber disk must therefore often be replaced. Among other known devices there is one, in which the whisks or bundles are squeezed tightly between two parallel rubber bands or springs. However, this device requires the use of two hands for its attendance. The disadvantages attached to prior known devices have now been eliminated by the bundle holder according to the present invention. Before the invention is described more exactly, the circumstances concerning the holder, especially designed for tobacco machinery, will be illustrated.

In tobacco machinery, bundle holders are, inter alia, used in the special moistening procedure to which the tobacco leaves are subjected. After having been reaped and dried in the fields, the tobacco leaves are collected together in bundles or whisks and being so they must be moistened and loosened, before they can be further treated. Moistening of the leaves is effected for example by blowing air, whose relative humidity is very high, against the bundles. The duration of the treatment may last for about an hour. After moistening the leaves are loose in the bundle and have the correct humidity for the further treatment.

The invention will be described by way of example with reference to the accompanying drawing, in which:

FIGURE 1 shows an assemblage unit of five bundle holders adjacent each other.

FIGURE 2 shows a drum moistener with a horizontal shaft and the bundle holders mounted around the periphery of the drum.

FIGURE 3 shows one of the bundle holders, included in the assemblage unit, in open position from the back of the unit.

FIGURE 4 shows a bundle holder in closed position from the back of the assemblage unit.

The number of five bundle holders shown in an assemblage unit is arbitrary and can, of course, be smaller or greater.

The assemblage unit shown in FIGURE 1 comprises a panel **1**, in which a number of apertures or openings **2** are formed. Into these apertures or openings the operator puts the ends of the stems or some other projecting part of the product **3**, which is to be fastened to the holder. By moving the bundle in downward direction to the lower edge of the opening **2**, the bundle is automatically caught by the holder in a manner described below. A plurality of assemblage units may be put together to a drum **4**, as shown in FIGURE 2. The drum is shown in this figure with a horizontal shaft, but, of course, a drum with a vertical shaft can also be assembled. The choice of a horizontal or a vertical shaft is inter alia dependent on the available spacing in the room, where the drum moistener is to be set-up. At the bottom of FIGURE 2 is shown an air duct **5** through which damp air is blown against the drum and the product to be moistened. The reference **6** denotes a fan and **7** a connection to a dampening device for the air passing through, and blowing against the product when it hangs vertically down at the lowest part of the drum. While the moistening is going on, the drum rotates around its shaft.

As stated above the product is fastened to the holder by putting some projecting part of the product into the feed opening **2** and pressing it in direction towards the lower edge of the opening **2**. In the lower part of the opening protrudes an operating arm **8**, being a member of a snap-action mechanism, mounted in the back of the panel **1**. The end of the operating arm **8** remote from the protruding part is pivoted to a fulcrum pin **14** fixed to the panel. Subject to pressure from a bundle, whisk or the like the operating arm is rocked around said pin **14**. The rotary movement is translated by a link **9**, pivoted to fulcrum pins **16** and **17**, to an arm **10**, likewise pivoted to a fulcrum pin **15**, which arm is broad enough to substantially cover the opening **2** in the position shown in FIGURE 4. The arm **10** is actuated by a tight draw spring **11** and can rock so that it is either in an upper open position or in a lower closed position. The fixing points **16**, **18** of the spring at the arm and the panel, respectively, are in fact so chosen that a snap-action in the movement of the arm between the both fixed positions occurs. To define the fixed positions, limit stops **12** and **13** are arranged in the panel. When the disk-shaped arm **10**, after a whisk or the like is pressed against the operating arm **8**, snaps over from the open position shown in FIGURE 3 to the closed position shown in FIGURE 4, the part of the product put into the opening **2** is squeezed tight between the lower edge **19** of the arm and the lower edge **20** of the opening **2**. Thus, the holding device is actuated merely by the fact that the operator puts the product into the opening and presses it slightly to the operating arm **8**.

For removing the product from the holder the arm **10** only needs to be moved in a direction towards the limit stop **12** to such an extent that the arm snaps over to its open end position. If the arm **10** happens to be in the closed position, before a product has been put into the opening **2**, the operator can move it to the open position by engaging a finger around the lower edge of the arm. In order to ensure that the operator would easily be able to move the arm to the open position a handle **21** or a similar projecting part can, of course, be arranged at the lower edge of the arm.

The embodiment described above has furthermore a panel as a stand for the device. It is obvious that the device can be assembled also with other means as a stand. Similarly the feed opening **2** need not necessarily be an aperture in a panel but, can be constituted by a frame.

What is claimed is:

1. A bundle holder in which a panel forms a stand, an aperture in said panel and an arm arranged in said aperture forming a holding member, said arm being pivoted to a pin mounted on said panel and rotatable between an open position and a closed position, a spring mounted between a point on said arm and a point on said panel, said points being so chosen that said arm with snap-action is forced into any of said positions, in addition to which an operating arm is connected with said arm of said holding member and protruding into said aperture, when said arm is in its open position.

2. A bundle holder as claimed in claim 1, characterized in that said operating arm is pivoted on said panel and has a pivoted connection with said arm of said holding member by means of a link.

3. A bundle holder as claimed in claim 1, characterized in that each said operating arm and said arm are made in one piece.

4. A bundle holder as claimed in claim 1, characterized in that the lower edge of said arm of said holding member is provided with a handle.

5. A bundle holder as claimed in claim 1, characterized in that the movement of said arm of said holding member is limited by limit stops on said panel.

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