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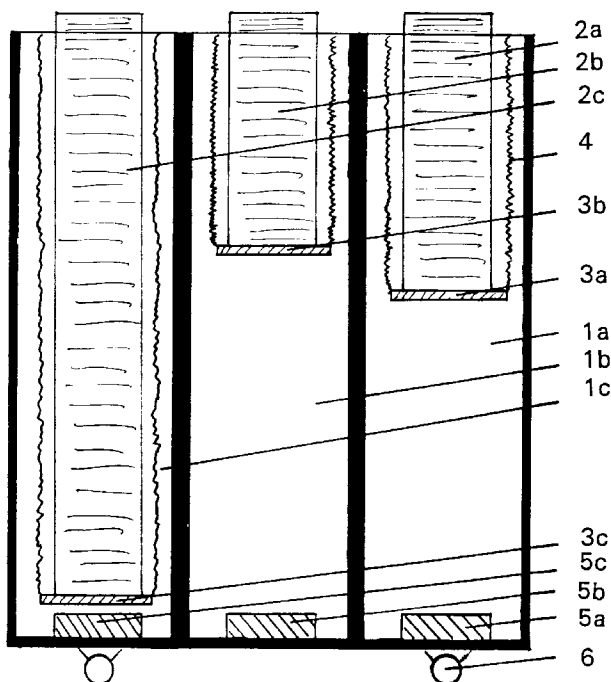
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### (54) Apparatus for distribution and storage of paper sheets

(57) Apparatus for the distribution and storage of paper sheets, comprising at least one box (1a-1c) for a pile of paper sheets (2a-2c) and a support (3a-3c) placed in the box (1a-1c), the pile of paper sheets (2a-2c) being placed on said support, and springs (4) fitted to the support to keep the top of the pile of paper sheets

(2a-2c) at a desired level. The springs (4) are suspended by their one end from a point on the upper edge of the box or at least close to the upper edge and so designed that, to facilitate distribution, the top of the paper pile (2a-2c) projects above the edge of the box by a desired height.



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## Description

The present invention relates to an apparatus for the distribution and storage of paper sheets, as defined in the preamble of claim 1.

At present, paper sheets intended e.g. for copying machines are packed at the paper mill by first wrapping them in 500-sheet reams and then packing the reams in 5-ream boxes. This packaging procedure is designed to maintain a sufficient moisture in the product, among other things. However, such a packaging procedure involves plenty of unnecessary work in connection with both packing and use of the paper. In addition, such a procedure produces a large amount of waste.

Copying machines, for example, use sheet feeders consisting of a boxlike casing containing a paper support provided with springs placed under the support to keep the top of the paper sheet pile continuously at the same height. However, such sheet feeders are always associated with a single machine, such as a copying machine, and thus they cannot be used as general-purpose devices for the distribution and storage of paper sheets e.g. in offices. Moreover, they accommodate only a small quantity of paper at a time.

The object of the present invention is to eliminate the drawbacks of prior art and to facilitate the distribution and storage of paper sheets, such as copying paper, in offices and similar places. According to the attached claim, the apparatus of the invention for distribution and storage of paper sheets is characterized in that the springs are suspended by their one end from a point at the upper edge of the box or at least close to the upper edge and so designed that the top of the paper pile, to facilitate distribution, projects above the edge of the box by a desired height.

The apparatus of the invention facilitates the user's work because he/she no longer needs to tear packages and ream wrappers open nor worry about the availability of copying paper. Moreover, the invention significantly reduces the consumption of packaging refuse and the recycling of cardboard packing boxes.

The invention provides a significant improvement in the distribution and storage of e.g. copying paper. The apparatus can be managed e.g. based on a service contract whereby the seller of copying paper is commissioned to take care of re-packing the boxes to be recycled that are used for transporting the paper. Since the paper is delivered in boxes without ream wrappings, no packaging refuse is thus produced.

In addition, by using a humidifier placed in the apparatus, the apparatus can maintain a correct humidity, which is very important in the case of the newest copying and telefax machines. Especially during the heating period, the paper tends to become too dry if it is only stored in a box.

In the following, the invention is described in more detail by the aid of an example by referring to the attached drawings, which presents a cross-section of the

apparatus of the invention for the distribution and storage of paper sheets.

The apparatus comprises three boxes 1a - 1c joined together and open at the top. The boxes have a rectangular shape in cross-section and dimensions designed for a given type of sheet, e.g. A4 or A3 size sheets. The height of the boxes is of the order of e.g. about 1 m, so that each box can accommodate e.g. 5000 pcs of A4-size or A5-size sheets.

Each one of the boxes 1a - 1c contains a pile 2a - 2c of paper sheets placed on a support 3a - 3c provided inside the box. The supports 3a - 3c are suspended by means of a number of springs 4 attached to the supports and the top edge of the boxes, the springs being disposed at certain intervals, e.g. at 20-cm intervals, along the edge of each box 1a - 1c. The length and springback factor of the springs 4 are so designed that the springs can stretch down to the bottom position of the support 3a - 3c, carrying the paper pile with their spring force so that e.g. about a ream of copying paper is continuously kept above the edge of the box and easily available regardless of the height of the pile 2a - 2c in each box 1a - 1c. On the bottom of each box 1a - 1c there is a small air humidifier 5a - 5c to maintain a correct humidity inside the box. The apparatus may have wheels 6 under it for easier movement.

It is obvious to a person skilled in the art that different embodiments of the invention are not restricted to the example described above, but that they may instead be varied in the scope of the claims presented below. Thus, for instance, the number of boxes in each apparatus can be selected as needed.

## Claims

1. Apparatus for the distribution and storage of paper sheets, comprising at least one box (1a-1c) for a pile of paper sheets (2a-2c) and a support (3a-3c) placed in the box (1a-1c), the pile of paper sheets (2a-2c) being placed on said support, and springs (4) fitted to the support to keep the top of the pile of paper sheets (2a-2c) at a desired level, **characterized** in that the springs (4) are suspended by their one end from a point on the upper edge of the box or at least close to the upper edge and so designed that, to facilitate distribution, the top of the paper pile (2a-2c) projects above the edge of the box by a desired height.
2. Apparatus for distribution and storage of paper sheets as defined in claim 1, **characterized** in that each one of the boxes (1a - 1c) is provided with an air humidifier (5a - 5c) to maintain a correct humidity inside the box.

