

[54] **COPYING APPARATUS**

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[22] Filed: **July 13, 1972**

[21] Appl. No.: **271,271**

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[30] **Foreign Application Priority Data**
July 20, 1971 Germany 2136141

[52] **U.S. Cl.** **355/50, 355/103**
[51] **Int. Cl.** **G03b 27/62**
[58] **Field of Search** 226/190, 191, 192, 193,
226/194; 29/120, 132; 355/50, 51, 99, 100,
101, 102, 103

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[57] **ABSTRACT**

This specification discloses improvements in a copying apparatus of the type wherein an original to be copied is moved on a glass plate or the like while being pressed against the plate with the aid of a rotatable roller. The improvements consist in that the pressure roller is covered with a fur and spaced apart from the glass plate by such a distance that the covering fur imparts a light pressure to the original.

2 Claims, 2 Drawing Figures

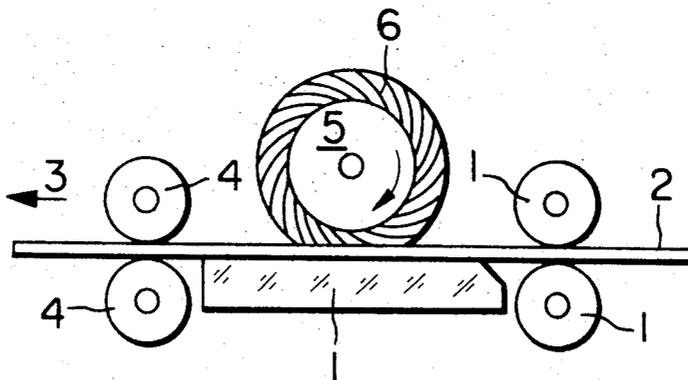


FIG. 1

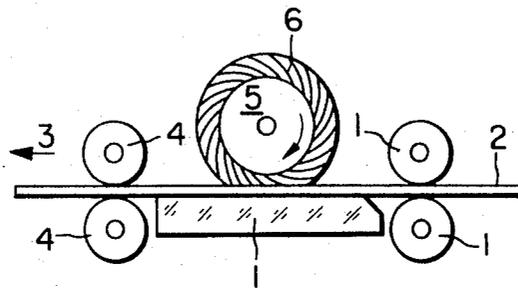
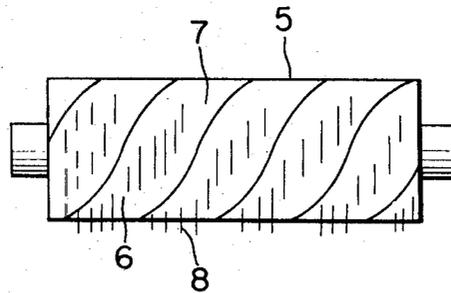


FIG. 2



COPYING APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a copying apparatus of the type wherein an original to be copied is moved on a glass or similar plate while being pressed against the glass plate with the aid of a rotatable roller.

2. Description of the Prior Art

In the copying apparatus of the above-described type, the pressure roller is needed to ensure clear copies. A rubber roller has conventionally been used as such pressure roller. However, a rubber roller has a disadvantage that it presses an original against the glass plate only along a single line.

Therefore, it has already been proposed to use sponge rubber rollers so modified that the original may be squarely pressed against the glass plate.

However, sponge rubber rollers have a disadvantage that they are very much apt to be stained. Therefore, the sponge rubber roller are often enveloped with fabric cover. Such a construction is costly. Further, during the operation of the copying apparatus, originals often bound together by means of paper fasteners or clips are conveyed on the glass plate by a transport mechanism to effect copying. In such cases, the fasteners would often break and damage the fabric cover and even the sponge rubber of the rollers, so that the service life of such rollers are poor.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a copying apparatus having a roller which can smoothly move even originals bound together by paper fasteners or clips and can squarely press such originals against the glass plate.

Thus, according to the present invention, this object can be achieved by covering the pressure roller with a fur and determining the distance between the roller and the glass plate such that the hairs of the covering fur impart a light pressure to the original.

It has been confirmed that the use of a roller covered with such fur enables particularly excellent pressing of the original against the glass plate and that the paper fasteners and clips never disturb the pressing.

Preferably, the covering fur may be a white rabbit's fur. The fur is white, and thus, when the original to be copied is smaller in size than a copy paper to be exposed to light, there is no possibility of ugly black portions being produced on the copy due to the fur hairs being copied thereon.

In a preferred embodiment, the fur is formed into a strip and helically wound about the roller and secured

thereto as by adhesion. By doing so, the fur will be substantially prevented from separation if the fur is cut exactly into the shape of strip.

In a further embodiment, the fur is attached to the roller so that the hairs of the fur in natural condition are oriented in the circumferential direction of the roller. In this case, care must be taken of the orientation of the hairs in cutting the fur. The hairs of the fur so attached will always smoothly contact the original and never be entangled even after a long-time use.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be described more particularly with respect to an embodiment shown in the accompanying drawings in which:

FIG. 1 is a schematic side view of the copying apparatus according to the present invention; and

FIG. 2 is a plan view showing the pressure roller thereof in detail.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In FIG. 1, an original 2 is moved on a glass plate 1 in the direction of arrow 3 for copying. Transport rolls 1' nip the original 2 therebetween and slidably convey it to transport rolls 4. The transport rolls 4 discharge the original. A pressure roller 5 is in intimate contact with the glass plate 1 during the copying of the original, thereby pressing the original against the upper surface of the glass plate so as to provide a clear copy.

The pressure roller 5 is covered with a white rabbit's fur 6. The distance between the roller 5 and the glass plate 1 is such that the hairs of the fur 6 contact the original and press it against the glass plate 1 over a wide area.

As shown in FIG. 2, the fur 6 cut in the form of a strip is helically wound about the roller 5 and adhered thereto. The fur strip 7 may be provided by cutting it from a white rabbit's fur so that the hairs 8 in natural condition are oriented in the circumferential direction of the roller.

We claim:

1. A copying machine comprising a flat glass plate, means for transporting an original on said flat glass plate, and a rotatable pressure roller having thereon a white fur covering, said pressure roller being disposed above said flat glass plate at a predetermined position to input a light pressure on said original while being transported between said flat glass plate and said pressure roller.

2. A copying machine according to claim 1, wherein said fur covering is made of rabbit fur.

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