



EUROPEAN PATENT APPLICATION

Application number : **94500132.9**

Int. Cl.⁶ : **E06B 9/68**

Date of filing : **21.07.94**

Priority : **10.09.93 ES 9302437**

Date of publication of application :
15.03.95 Bulletin 95/11

Designated Contracting States :
**AT BE CH DE DK FR GB GR IE IT LI LU MC NL
PT SE**

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Driving clutch operated by means of a roller blind tape from the lower collection casing.

It is based on a cylindrical case with cover and a strip steel rolled around a central socket with its free end bored and fixed to the socket by means of hooks. This socket houses, in turn, a clutch socket attached to the cover and body of the case while the lower end of the strip steel is fixed by means of another bore to a pin protruding from the case.

OBJECT OF THE INVENTION

The invention refers to a clutch system for lower collection casing for roller blind tapes which consists of a case with a cover housing a mechanism encompassing two single internal components: a serrated socket and a strip steel, as well as an external clutch socket where the casing is incorporated.

BACKGROUND OF THE INVENTION

The rolling and fixing systems for blind rollers are well known in the art, as well as those more recent ones which incorporate these devices inside the drum on the shaft of the blind roller or on its lower tape roller.

The clutch devices offer different fixing solutions depending on whether the solution chosen is incorporated into the drum of the shaft of the blind roller or inside the lower tape roller case near the lowest level of the extended blind roller.

The technological solution offered by a clutch incorporated into the drum of the shaft of the blind roller (for instance, MU 9102552 or MU 9202311) is different that the solution proposed herein and needs the installation of a larger number of components.

Another possible solution, within the lower rolling case of the tape calls for the fixing of the clutch to the cover which, in turn, entails the installation of additional components in both elements.

On the other hand, and for cost reasons, strip steels have become widely used and are fixed to the socket by means of rivets. This solution is not a practical one since, normally, the tension of the strip steel tends to break the rivet which adds to the problems posed by the insertion of the rivet.

The proposed invention solves both problems by reducing on the one hand the number of components of the clutch system to a minimum number and, on the other hand, by conferring multiple uses to such components.

Additionally, the design of one of the components solves the mechanical problem posed by the tension at the end of the strip steel since an additional intermediate operation during the assembly consisting of a 90° turn makes it impossible to detach the strip steel from its fixing point.

DESCRIPTION OF THE INVENTION

The clutch operated rolling device for blind roller tapes consists of a metal cylindrical case with a cover. The axis presents a circular bore with the flanges bent inwards and a concentric outer projection around both bores.

At one side of the case there is a flat head pin, normally a rivet, which simultaneously supports the strip steel and the lower end of the rolled tape of the

blind roller.

Previously, it is necessary to cut such tape usually by means of heat since tapes are normally made of a plastic fabric.

This operation prepares the tape in order to tangentially introduce inside it the head of the pin. For this purpose, sufficient space should have been allowed at the rivet or the pin body to house this end of the tape which is thinner than the intermediate part of the pin.

This pin, once inside the case, is used to fix one of the ends of the strip steel. For this purpose it incorporates a central slot.

Taking into consideration the different characteristics of the material of the strip steel, the cut made in the middle part of the relevant end has the shape of keyhole so that the pin enters through its circular section and the tension of the strip steel forces the pin to be housed towards the other end of the cut.

This strip steel has the peculiarity that it is fixed - without the need for rivets - by the opposite turning end, which also presents a central slot.

To fix this end, a tubular socket is used. Two hooks with opposed angles protrude from such tubular socket towards the circumference of the socket.

The first operation consists of introducing the longitudinal slot at the end of the strip steel - keeping parallel the diagonal of the slot to the line where theoretically both hooks join after having protected the protrusion of one of them - until its end reaches the butt of the most curved inner part of it. Then, the socket is turned 45° with respect to the strip steel so that the longitudinal side of the slot remains perpendicular to the height of the socket and the strip steel is fixed between both hooks.

Since both hooks are made by making a slot in two U-shaped elements with opposed openings in the socket itself, and its thickness is the appropriate one, the tension of the strip steel prevents the deformation of the hook and, therefore, the only possibility of separating both is to repeat the assembly operation described above, following the opposite sequence. This is impossible unless the case is open and the strip steel is deliberately extracted.

This hooked socket also incorporates a double serrated layout by means of two wedge-shaped flanges made by cutting and bending its both ends. This cut is located at the orthogonally opposite ends with respect to the point diametrically opposed to that where the hooks are located.

These wedges are housed inside the relevant recesses of the clutch socket which, in turn, reinforce the spigot of the shaft so that when the strip steel turns along with the clutch case, the other end does not slide with respect to the main shaft due to this wedge effect of the serrated hooked socket on the other socket which serves both as clutch and fixing device to the spigot which, in turn, is joined to the tape

casing.

DESCRIPTION OF THE DRAWINGS

To complement this description and in an effort to better understand the main characteristics of the invention, a set of drawings is attached to this descriptive report forming an integral part of it and where, as an illustration and without limitation, the following has been represented:

Figure 1 shows a general detached perspective view of the clutch casing showing the enhancements which are the object of this invention.

Figure 2 shows a partial perspective view of the assembly formed by the spigot of the case, the clutch socket, the serrated element and the lower end of the strip steel already assembled.

Figure 3 shows a cross-sectional view of figure 2.

Figure 4 shows a front and side view of the tape rolling case with the clutch attached.

PREFERRED EMBODIMENT OF THE INVENTION

In the light of the above four figures, it can be noticed how the clutch - apart from the clutch socket (1) and the outer shaft reinforcement (9) - consists of the case with cover (2), the pin (3) which fixes the blind roller tape and supports one end of the strip steel (4) and the serrated socket (5) with the fixing hooks (6) and the clutch flanges (7).

Considering that the components have been notably reduced in number and the general description is sufficiently detail, it is not considered necessary to repeat such descriptions in this preferred execution of the invention.

It is not the intention to describe further this invention since any expert on the subject will be able to understand it easily on the basis of the information provided to appreciate the scope of this invention and its advantages and to reproduce it.

It is understood that, provided that the essentials of this invention are not altered, any variations in the materials or in the shape, size and layout of the elements can be introduced.

The terms used in this description as well as their meaning should always be considered as non-limitative.

Claims

1. Driving clutch system operated by means of a roller blind tape from the lower collection casing which consists of a cylindrical case (2) with cover, a common central passing bore and a rolling strip steel (4) from its inner concentric end which is essentially characterized because the free end of the strip steel - through a central slot (12) - is

fixed to a tubular socket (5) fixed between two hooks (6) with opposed angles and towards the circumference of this socket and, in its outer side, this socket additionally incorporates a double serrated element with wedge-shaped flanges (7) resulting from making a slot at its two ends and bending them inwards. This serrated section is permanently housed inside the opposed recesses of another clutch socket (1) inside the first one and longer than this which, in turn, presents two similar diametral recesses in both opposed ends of the socket and larger than the thickness of the teeth so that once they are hooked to the recess there is room enough towards the edge of the socket (1), to fix the two pins attached to a shaft with a keyslot (9) distributed between the body and the cover of the rolling tape casing and, in turn, fixed to both.

2. Driving clutch system operated by means of a roller blind tape from the lower collection casing, according to the above claim, characterized because the concentric outer end of the strip steel (4), is bored, in its central part by a slot (11) where a double headed pin (3) can be attached and fixes one the one hand the strip steel to the inner side of the cylindrical case (2) while on the other hand fixed the blind roller tape, where a slot has been previously cut in the central part of its lower end, to the outer side of the case.

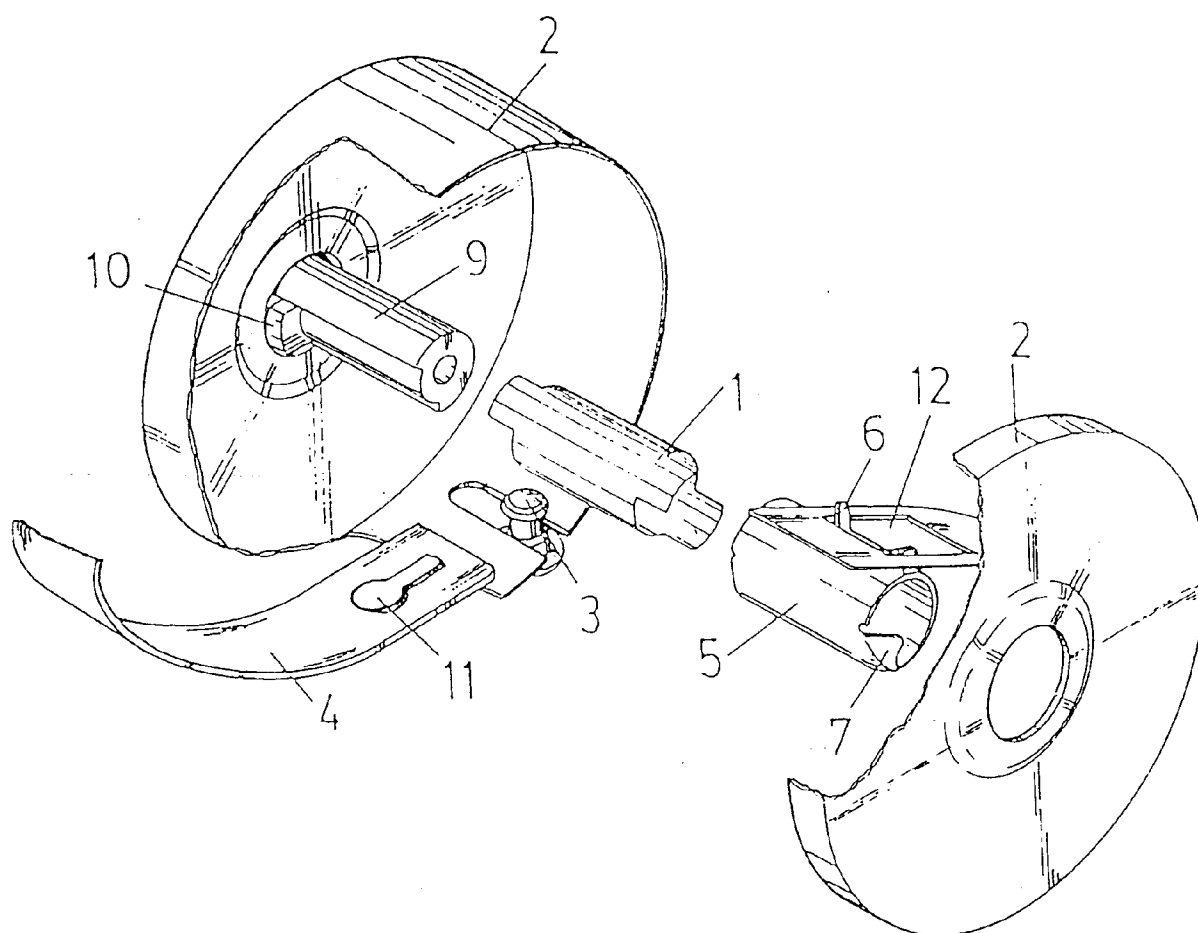


FIG.1

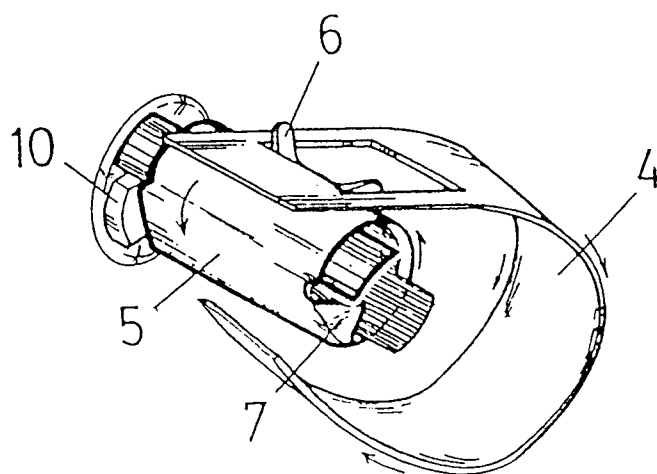


FIG. 2

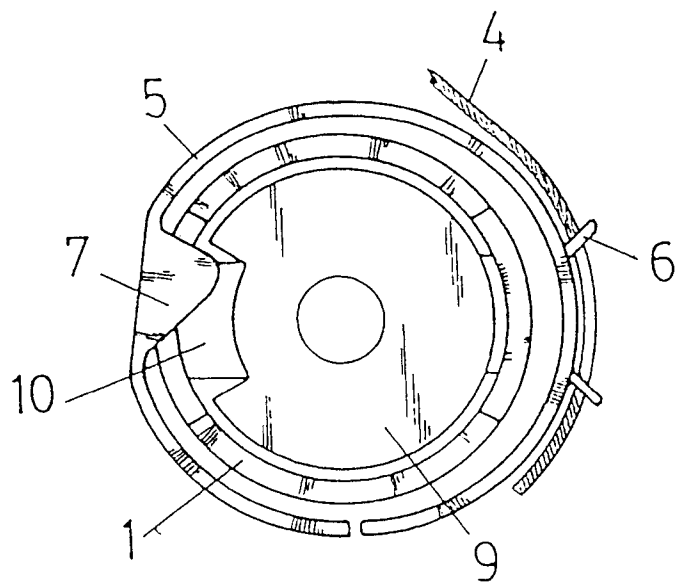


FIG. 3

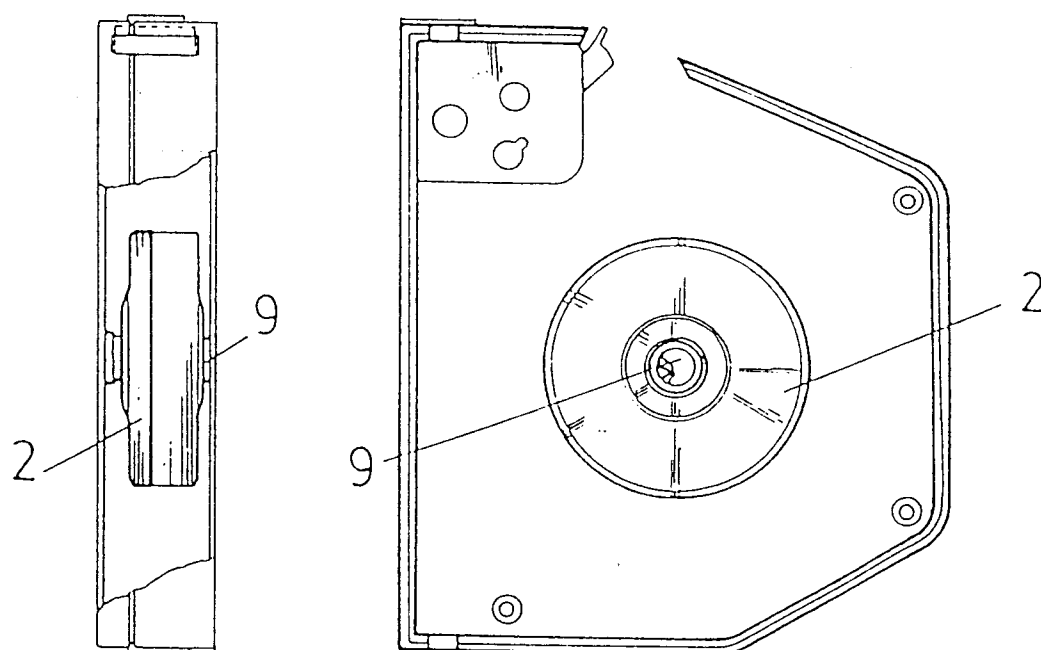


FIG. 4