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MACHINE FOR UNWINDING REMNANTS OF YARN FROM BOBBINS

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Fig. 2.

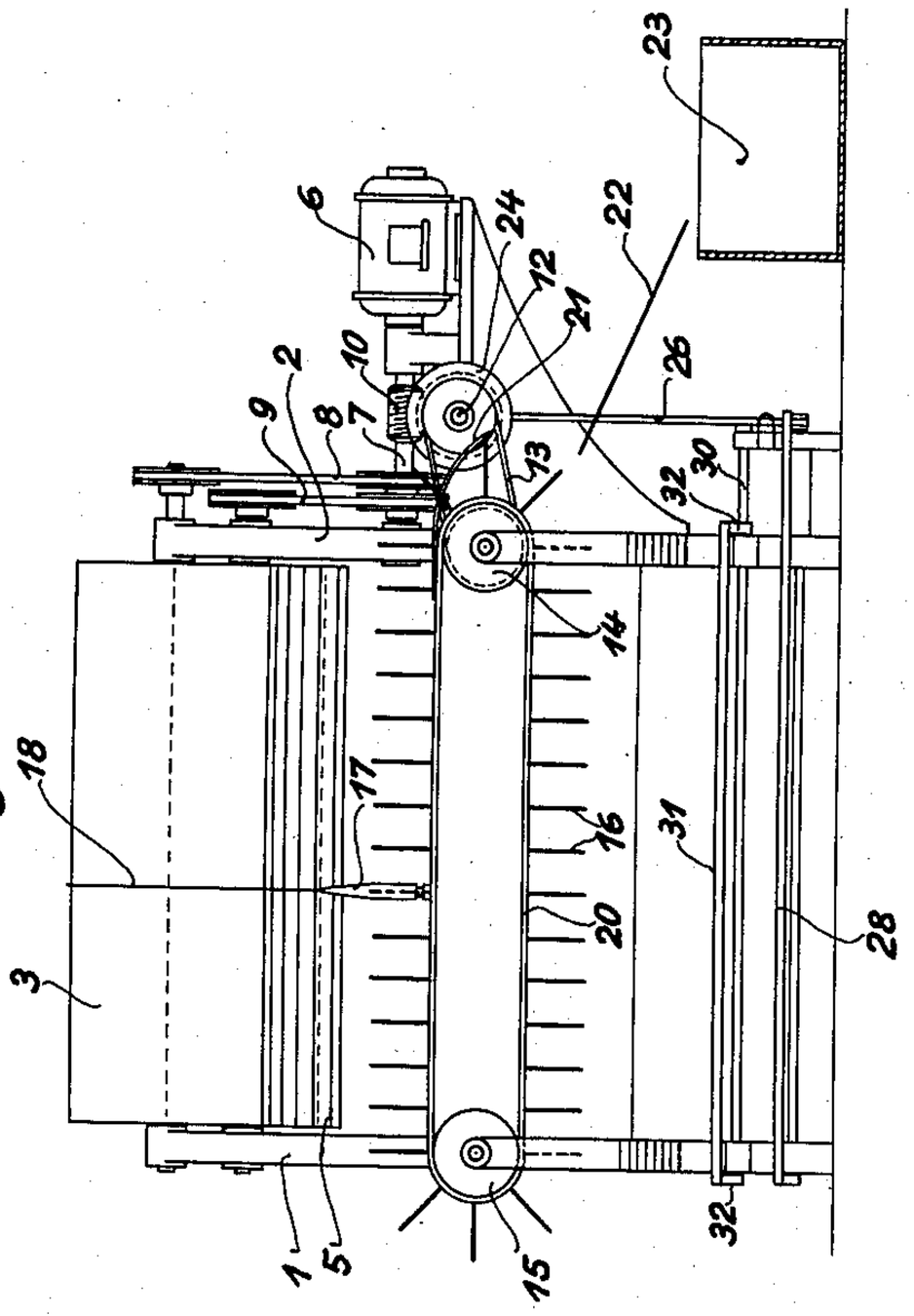
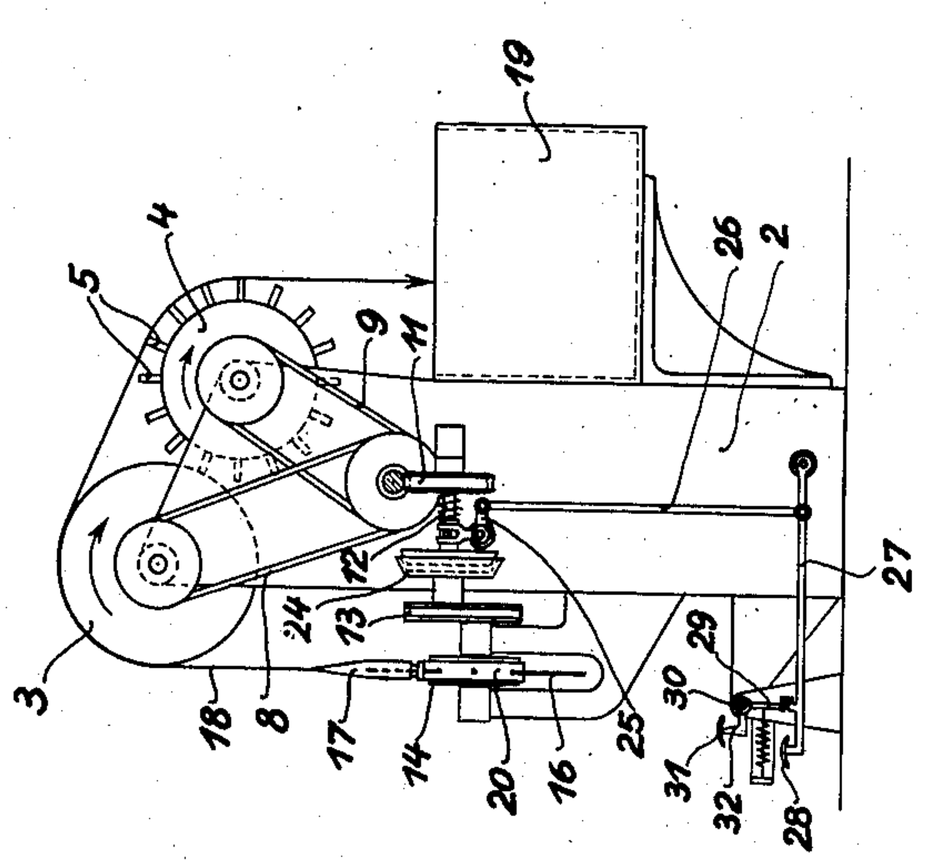


Fig. 1.



INVENTOR

HEINZ BALKEN

BY

ATTORNEY

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MACHINE FOR UNWINDING REMNANTS OF YARN FROM BOBBINS

Heinz Balken, Wipperfurth (Rheinland), Leiersmuhle, Germany

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5 Claims. (Cl. 28—19)

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This invention relates to a device for removing yarn remnants from bobbins used in weaving procedures.

The devices designed for this purpose generally include rollers which are coated with an adhesive preparation. To remove the yarn from the bobbins the yarn ends are thrown onto these rotating rollers; the rollers are stopped as soon as the yarn is wound onto them and the yarn is removed. This stoppage involves great drawbacks with regard to the efficiency of the yarn removing devices.

It is an object of the present invention to provide a continuously operable device for the unwinding of the yarn remnants from the bobbins.

With this object in view a guide roller is provided for the detachment of the yarn from the yarn unwinding roller. This guide roller is provided with circumferential ledges or similar means to cause by its rotation an air current detachment of the yarn from the unwinding roller, the yarn being transported to a collector.

This arrangement enables a continuous operation of the machine which needs not to be stopped for the unwinding of the yarn remnants from the unwinding roller, the latter being effected by the guide roller.

A conveyor device operable at a slow speed, such as a chain provided with pins, may be provided next to the unwinding roller for the support of the bobbins. All the operator has to do is to put the ends of the yarn remnants onto the unwinding roller which frees the bobbins from the yarn remnants.

Further objects and advantages of the present invention will be apparent from the following description reference being made to the accompanying drawing showing a preferred embodiment thereof.

In the drawing,

Figure 1 is a side view of a device forming the subject matter of the invention, the motor, the bobbin stripping plate and the bobbin receiver being omitted;

Figure 2 is a front view of the machine shown in Figure 1.

In the upper section of the device, forming the subject matter of this invention, a roller 3 to unwind the yarn remnants and provided in the customary manner with an adhesive covering is mounted on two lateral supports 1 and 2. In the rear of said unwinding roller 3 a transport or guide roller 4 is located between said lateral supports 1 and 2 in parallel relationship to said unwinding roller 3. This guide roller is provided on its circumference with successive longitudinal ledges 5. Both rollers 3 and 4 are driven through the intermediary of a shaft 7 by an electric motor 6, so as to rotate them in the same direction. Shaft 7 is coupled with the shaft of the unwinding roller 3 by means of belt 8 and to the shaft of the guide roller 4 by means of belt 9.

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Motorshaft 7 drives through worm 10 and worm wheel 11 an intermediate shaft 12 which through a belt 13 drives a chain wheel 14. An endless conveyor chain 20 provided with equally spaced pins 16 runs over said chain wheel 14 and a reversing wheel 15 disposed at the other end of the device.

For the operation of the device the bobbins 17 to be freed from the yarn remnants are located on the pins 16 as soon as they have passed the reversing wheel 15.

The operator applies the yarn end 18 of each bobbin 17 to the unwinding roller 3 which, due to its adhesive covering, unwinds the yarn. Through the air current produced by the longitudinal ledges 5 of the rotating guide roller the yarn ends 18 are detached from the unwinding roller 3 and conducted to a receiver collector 19 located in the rear of the machine.

The whole yarn is usually drawn from the bobbins 17 after the bobbins have been conducted by a conveyor band 20 over the chain wheel 14. By means of the stripping plate 21 the empty bobbins are stripped from the pins 16, so as to fall on the guide plate 22 and, finally, into the bobbin receiver 23.

If a bobbin carries a very large quantity of yarn remnants and it is not emptied after passing the upper section of the chain 20, the chain drive may be stopped. For this purpose the shaft 12 is divided and has a clutch 24. The lever 25 for engaging and disengaging the movable clutch half is operated by the rod 26 and the lever rod 27 by means of a treadle 28. When this treadle is trodden down the lever 25 turns the clutch clockwise and disengages it, so that the chain conveyor device is stopped. When releasing the treadle 28, it is kept in its lowermost position by means of a locking lever 29 which is kept under spring tension and stops the rear motion of the lever rod 27. The locking lever 29 is rigidly connected to a rod 30 mounted rotatably on bearing levers 32 provided with a treadle 31. After treading down the treadle 28 the clutch 24, owing to the action of the locking lever 29, remains disengaged until such time as a kick applied to the treadle 31 swings the locking lever 29 out of its locking position.

What I claim is:

1. A device for the removal of yarn remnants from weaving bobbins comprising a support for the yarn carrying bobbins, a first roller adjacently located to said support to unwind said yarn remnants from said bobbins and a second guide roller adjacently located to said first roller to withdraw said yarn remnants from said first roller for the conduct of the same into a collector.

2. A device according to claim 1 and means attached to the circumference of said guide roller to produce an air current adapted to lift the yarn remnants for said first yarn unwinding roller.

3. A device according to claim 2 in which the support for the bobbins comprises radially extending longitudinal ledges applied to the circumference of said guide roller

4 In a device according to claim 3, a common shaft to drive the first yarn unwinding roller and said guide roller in the same direction of rotation

5 In a device according to claim 4 in which the support for the bobbins comprises a conveyor band located beneath said first roller and pins attached to said conveyor band to carry said yarn carrying bobbins

HEINZ BALKEN

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