Jan. 3, 1928.

1,654,940

N. E. LUCAS

UNDERCLEARER ROLL

Filed Aug. 19, 1925

Fig. 3.

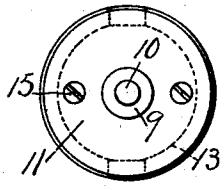



Fig. 2.

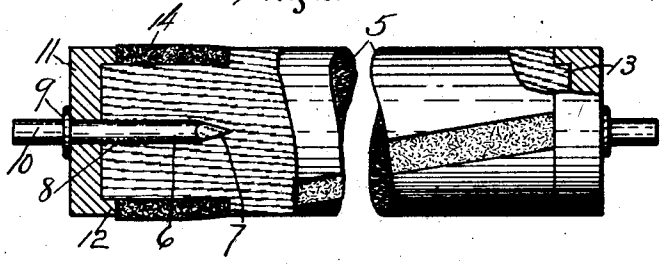
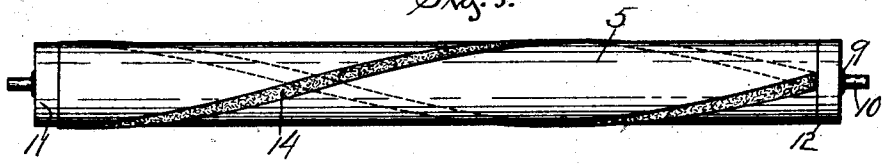



Fig. 1.




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# UNITED STATES PATENT OFFICE.

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## UNDERCLEARER ROLL.

Application filed August 19, 1925. Serial No. 51,131.

My invention relates more especially to that class of devices that are used in spinning frames and similar machines for catching up loose thread ends and other matter to prevent accumulation where it is not desired, and an object of my invention, among others, is the production of a device of this type that shall be durable and that shall enable a mass collected thereon to be readily removed.

One form of underclearer roll embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a roll embodying my invention.

Figure 2 is a view, scale enlarged, of said roll with a part broken out in central longitudinal section to show construction, the central portion of the roll being broken out.

Figure 3 is an end view, scale the same as Figure 2, of my improved roll.

Underclearer rolls are commonly rotatably supported by journals projecting from the ends thereof, said journals comprising pins that are driven into the end of the roll. These rolls are commonly constructed of wood and the roll usually gives out as to the journal that becomes loosened in use. Further than this in taking the rolls out from the machine for the purpose of removing matter accumulated thereon, the ends of the rolls frequently come in contact with the fluted drawing rolls much to the detriment of the former.

My invention provides means for preventing the journal from becoming loose and also for protecting the end of the roll from injury by contact with the fluted drawing rolls or other objects, my improved device being illustrated in the drawings herein in which the numeral 5 indicates the body of an underclearer roll constructed of wood, which roll is of cylindrical shape and of a proper diameter and length. A pin 6 preferably having its end pointed as at 7 is driven into the end of the roll and this pin may be provided with spurs 8 to resist withdrawing of the pin from the roll. A flange 9 is formed on the pin to serve as a stop and thereby limit the movement of the pin when being driven into the roll. The end of the pin outside the flange 9 comprises a journal 10.

In order to protect the end of the roll I have provided a shield 11 that is seated against the end of the roll and is held in place by the pin 6, and in order that the pin 6 may be supported against lateral movement, and thereby becoming loosened in the roll, I provide a flange 12 on the shield that closely fits the reduced end 13 of the roll. This effectually supports the pin against any force to move it laterally and thereby loosen it within the roll. Screws 15 may be employed, if desired, for securing the shield to the end of the roll.

My invention is especially applicable to an underclearer roll provided with means for removing the accumulated thread mass by sliding it off of the end of the roll, and especially as shown and described in my copending application filed December 12, 1923, of Serial Number 680,081, my improved device facilitating removal of accumulated masses on the roll as contemplated by the device of said application. The sides of the shield 11, which shields are in the form of caps, are flush and smooth with the side of the roll, and this condition should be maintained in order to prevent any shoulder or projection against which the thread mass would catch and hold in attempting to slide it off the end of the roll. By providing the flange upon the shield any lateral movement of the shield is prevented, the reduced end of the roll retaining the shield securely in place, and the smooth outer surface of the roll, including the shield and the body of the roll, is effectually maintained.

The roll above described includes a spiral groove in which a catcher 14 of felt or similar material is inserted, in the device herein shown the ends of the strip or strips of felt projecting beyond the shoulder formed by the reduced end 13 of the roll, and the ends of the strip may be thus clamped by the shield and thereby held in place.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim—

1. An underclearer roll comprising a body having a reduced end, a shield having

a shallow recess fitting said reduced end of the body with a thick flange forming the side wall of the recess and a thick bottom for said recess, a journal projecting beyond the end of said shield, said roll being spirally grooved with a felt therein, and said shield engaged with the felt to retain the same in position.

2. An underclearer roll comprising a body having a groove extending longitudinally therein, a catcher of soft material located in said groove, a shield having a shallow recess fitting the end of said body providing a thick flange to protect said catcher and retain the same in the groove, and a thick bottom for said recess to protect the end of the roll.

NOAH E. LUCAS.