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UNDERCLEARER OR FLUKER FOR SPINNING AND TWISTING MACHINES.

APPLICATION FILED JUNE 16, 1908.

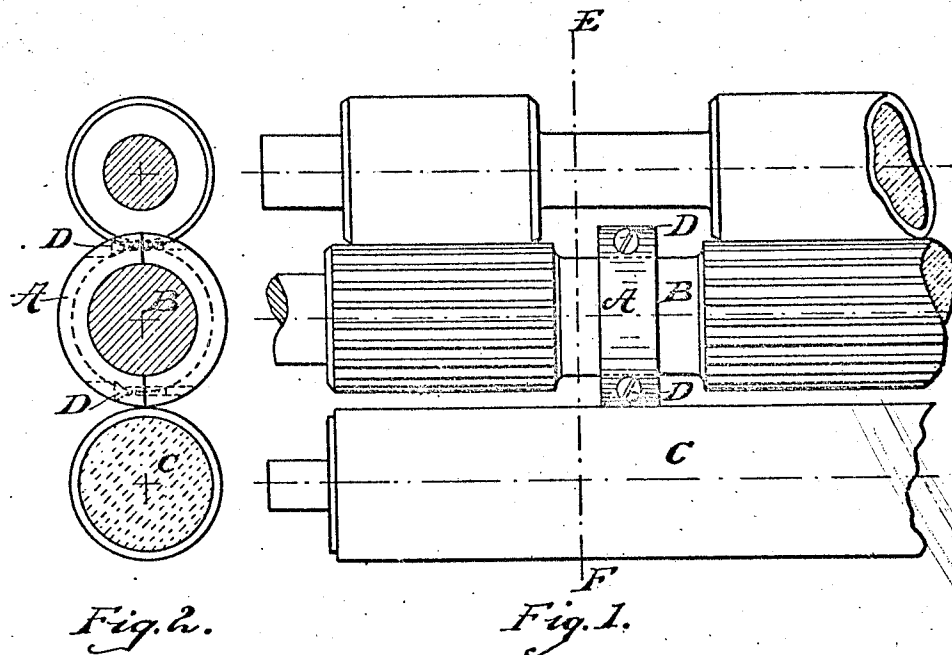


Fig. 2.

Fig. 1.

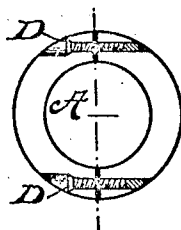


Fig. 3.

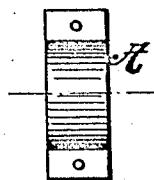


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS DAINS WILLIAMS AND WILLIAM GREENWOOD, OF OLDHAM, ENGLAND.

UNDERCLEARER OR "FLUKER" FOR SPINNING AND TWISTING MACHINES.

No. 895,131.

Specification of Letters Patent.

Patented Aug. 4, 1908.

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To all whom it may concern:

Be it known that we, THOMAS DAINS WILLIAMS and WILLIAM GREENWOOD, of Oldham, in the county of Lancaster, England, have invented certain new and useful Improvements in Underclearers or "Flukers" for Spinning and Twisting Machines, of which the following is a specification.

In connection with spinning and twisting machines, underclearers or "flukers" are applied for the purpose of keeping the bottom rollers free from waste cotton and by taking up broken ends to prevent them from wrapping round the delivery rollers. It is usual to drive the underclearers by mounting them in frictional contact with the bottom rollers. This method is subject to defects chief among which is the insufficient clearing action of the underclearer resulting in the production of "lappers" and bad ends.

When the underclearer is supported in direct contact with the bottom fluted roller, the said underclearer runs, as a matter of necessity, at the same surface speed as the fluted roller. The waste sliver therefore wraps around the underclearer in exactly the same state as it leaves the nip of the upper leather roller and the bottom fluted roller of the spinning frame. This tends to cause the sliver to wrap tightly around the underclearer and the accumulating sliver is made to assume a still more hardened and compressed form upon the underclearer, due entirely to the fact that the said underclearer is in direct contact with the fluted roller.

In order to obviate the defects mentioned, we drive the underclearers in a special manner as will now be described.

Of the accompanying drawings: Figure 1 is a front elevation of so much of the rollers of a ring frame as is necessary to show our invention. Fig. 2 is a sectional side elevation on line E—F in Fig. 1. Fig. 3 is a sectional view of a complete ring. Fig. 4 is a front elevation of one half of a ring.

In carrying out our invention, we mount upon the bottom fluted roller, at intervals, rings, rollers, or bosses A. The rings or rollers can be made of wood, fiber, india rubber or metal, preferably the latter, and they act as drivers for the underclearers or "flukers" C. We preferably mount two rings upon each section or length of the bottom fluted roller B. By the use of the rings A the underclearers C are caused to travel at

a greater surface speed than the bottom rollers. In consequence of the underclearer running at a greater surface velocity than does the bottom fluted roller, the fiber taken from the main sliver passing between the rollers is attenuated and in consequence made thinner and softer. It is this attenuated sliver that is taken up by the underclearer although, in our construction, said underclearer does not rotate in contact with the bottom fluted roller. Therefore no compressing or hardening of the waste sliver results, and owing directly to this, the operative can remove the waste sliver from the underclearer without having to resort to a metal picker as has heretofore been done.

Since the waste which the underclearers take up is more loosely wound around their periphery than formerly, and is consequently more easy to remove, not only are metal pickers rendered unnecessary, but our invention also minimizes the production of bad ends, "lappers" and "riders", and makes piecing up easier and facilitates the production of better piecings.

As the sliver passes through the three pairs of rollers of a spinning frame, it moves in an almost horizontal direction as opposed to a circular direction. When the sliver emerges from the nip of the last pair of rollers it will, if it be free, follow this horizontal direction for an appreciable distance, and then curl inward and follow the circular travel of the rollers. In consequence of this feature of the travel of the waste slivers, it is possible for a roller set slightly below the bottom fluted roller to take up the waste sliver. Moreover, a number of fibers project quite sufficiently from the outside of an untwisted sliver to enable a roughened surface to attract them and to draw the whole of the sliver from the surface of a fluted roller.

The distance between the bottom fluted roller B and the underclearer C in our construction is only a slight one, but it is sufficient for the purpose stated. This distance is determined by the thickness of the rings, rollers, or bosses A which, as indicated in Figs. 3 and 4, may comprise two metal half rings fastened on the fluted roller where required, by means of screws D.

Having now described our invention, what we claim is:

The combination with a bottom fluted roller and the underclearer of a spinning and

twisting machine, of driving rings mounted
on said fluted roller and engaging the under-
clearer, the said underclearer being out of
contact with the fluted portion of the roller,
5 the said rings being of greater diameter than
the fluted portions of the roller to drive the
underclearer at a greater surface speed than
the fluted portion of said roller.

. In testimony whereof we have affixed our
signatures, in presence of two witnesses.

THOMAS DAINS WILLIAMS.
WILLIAM GREENWOOD.

Witnesses:

FRANK NASMITH,
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