Oct. 22, 1935. C. E. WILLIAMS ET AL 2,018,045

WOOL SPINNING MULE BUNCH BUILDER

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Fig. 1

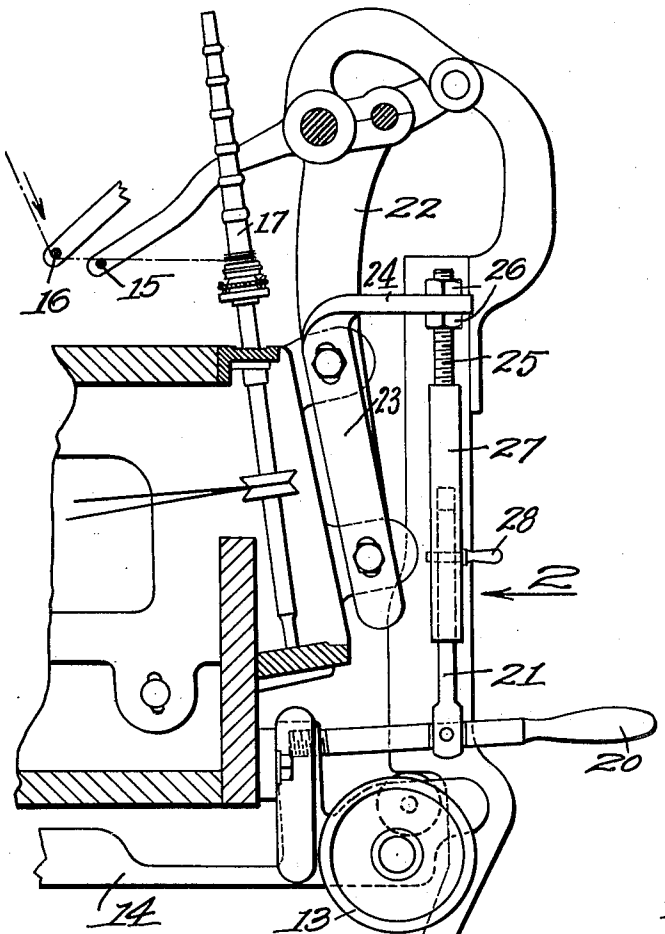
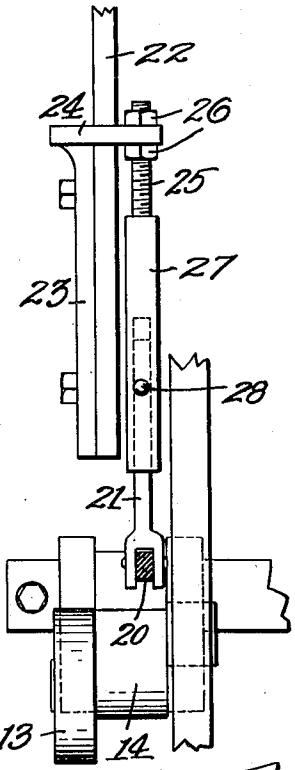
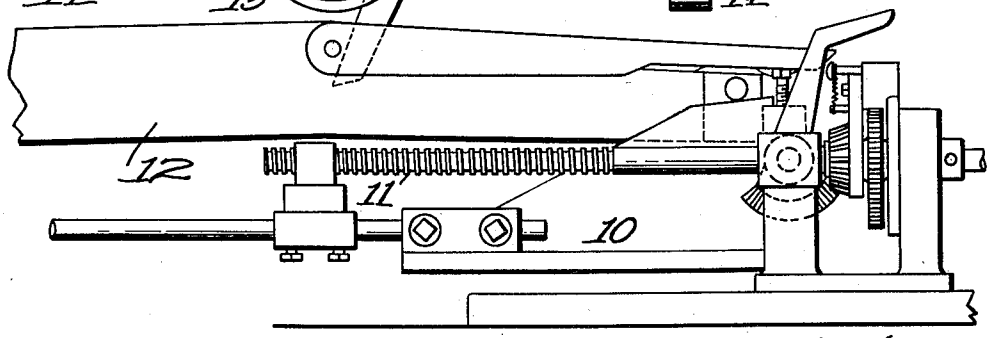


Fig. 2





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WOOL SPINNING MULE BUNCH BUILDER

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4 Claims. (Cl. 118—28)

This invention relates to a bunch builder for a wool spinning mule.

The principal objects of the invention are to provide a simple means by which the mechanism can be set so that the length of yarn desired can be wound on the bobbin to produce a bunch; to provide a very simple means for connecting up the parts so that the bunch will be wound and for disconnecting them and leaving the other parts of the winding mechanism in suitable condition for continuous operation; to provide means whereby the wheel on which the builder arm is supported from the builder rail can be lifted very easily off the builder rail and held in raised condition until released in a very simple way.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is a side view, partly in section, of an element of a wool spinning mule showing the features of this invention, and

Fig. 2 is a front elevation of the same, as indicated by the arrow 2 in Fig. 1.

The invention is shown as applied to a well known type of mule and a well known type of mechanism for winding the yarn on the bobbin.

The usual front double builder plate 10 is shown carrying the builder screw 11, which, through certain mechanism of a well known type, raises and lowers the builder rail 12. On the builder rail rests a wheel 13 rotatably carried by a stud on the builder arm 14. Ordinarily these parts are employed to control the bottom wire guide 15 and the top wire guide 16 to guide the yarn along the bobbin 17, which is rotated in the usual way.

In the present invention a handle 20 is fixed to the builder arm and projects out from it for lifting the builder arm by hand and raising the wheel 13 off the builder rail. To the handle 20 is pivotally attached an upwardly extending rod 21.

On the usual gooseneck 22 is adjustably fastened a bracket 23 which has a forwardly extending arm 24. This arm 24 is provided with a downwardly extending screw 25 adjustable up and down and held in adjusted position in any convenient way as, for example, by two nuts 26. At the lower end this screw screws into an adjusting piece 27 and this adjusting piece can be adjusted with respect to the screw by turning it thereon. The lower end of the adjusting piece is hollow for the purpose of receiving the upper end of the rod 21 in telescoping engagement. The adjusting piece and rod are provided with perforations which in the position shown are in alignment and held there by a hand pin 28.

In normal operation the hand pin is not in position and consequently the rod 21 can move up and down without affecting the winding.

To build a bunch on the bobbin, the builder rail 12 is set at the top of the front double builder plate 10 by the operation of the builder screw 11. At this point the handle 20 is raised until the perforations in the rod 21 and adjusting piece 27 are in alignment, at which time the pin 28 is inserted, as shown in the drawing. This makes the parts 21 and 27 one piece for the time being and holds the builder arm in an elevated position, thereby holding the wheel 13 at a short space above the top of the builder rail. The machine now operates and the required number of draws are taken to form the necessary bunch on the bobbin. Usually enough yarn is wound in a bunch for three picks.

The bunch having been completed, the pin 28 is withdrawn by lifting the handle 20 slightly to free the pin. The rod 21 is now free from the adjusting piece 27 and the builder arm drops until the wheel 13 thereon rests on the builder rail. The machine is now ready to function continuously in the usual way to build the bobbin.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what we claim is:—

1. In a bunch builder for a wool spinning mule, the combination with a builder rail, a builder screw for raising and lowering it, a builder arm, and a wheel journaled on the builder arm and adapted to rest on the builder rail, of an adjusting piece supported from above, a rod connected with said builder arm in adjustable engagement with said adjusting piece, and means for connecting the rod with the adjusting piece when the builder arm is raised until such time as released for the purpose of building a bunch on the bobbin.

2. In a bunch builder for a wool spinning mule, the combination with a builder rail, means for raising and lowering it, a builder arm having means for controlling the guiding of the yarn along the bobbin, and a wheel journaled on the builder arm and adapted to rest on the builder rail, of an adjusting piece supported from the above, a handle carried by the builder arm, a rod connected with said handle in telescoping engagement with said adjusting piece, and means for connecting the rod with the adjusting piece when the builder arm and wheel are raised until

such time as the wheel is released for the purpose of building a bunch on the bobbin.

3. In a bunch builder, the combination with a builder rail, a wheel adapted to run on the surface thereof, a vertically movable builder arm supporting said wheel, a rod extended upwardly and connected with the builder arm, a gooseneck, a bracket on the gooseneck and having an arm, an adjusting piece adjustably carried by said bracket and being hollow at the bottom to receive said rod in telescoping engagement therewith, the adjusting piece and rod having perforations therethrough which, when in alignment and held together, will prevent the wheel from engaging the builder rail, and means for holding the adjusting piece and rod together.

4. In a bunch builder, the combination with a builder rail, a wheel adapted to run on the surface thereof, a builder arm carrying said wheel and supported thereby, a handle fixed to the builder arm, a rod pivoted to the builder arm and extended upwardly therefrom, a gooseneck, a bracket adjustably mounted on the gooseneck and having an arm extending forwardly, a vertical screw adjustably carried by said arm and extending downwardly therefrom, a vertical adjusting piece adjustably carried by said screw and being hollow at the bottom to receive said rod in telescoping engagement therewith, the adjusting piece and rod having perforations therethrough which, when in alignment and held together, will prevent the wheel from engaging the builder rail, and a pin adapted to be inserted through said perforations for holding up the wheel.

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