

C. WEATHERHEAD.
 APPARATUS FOR SPINNING YARN.
 APPLICATION FILED JUNE 8, 1912.

1,041,539.

Patented Oct. 15, 1912.

3 SHEETS-SHEET 1.

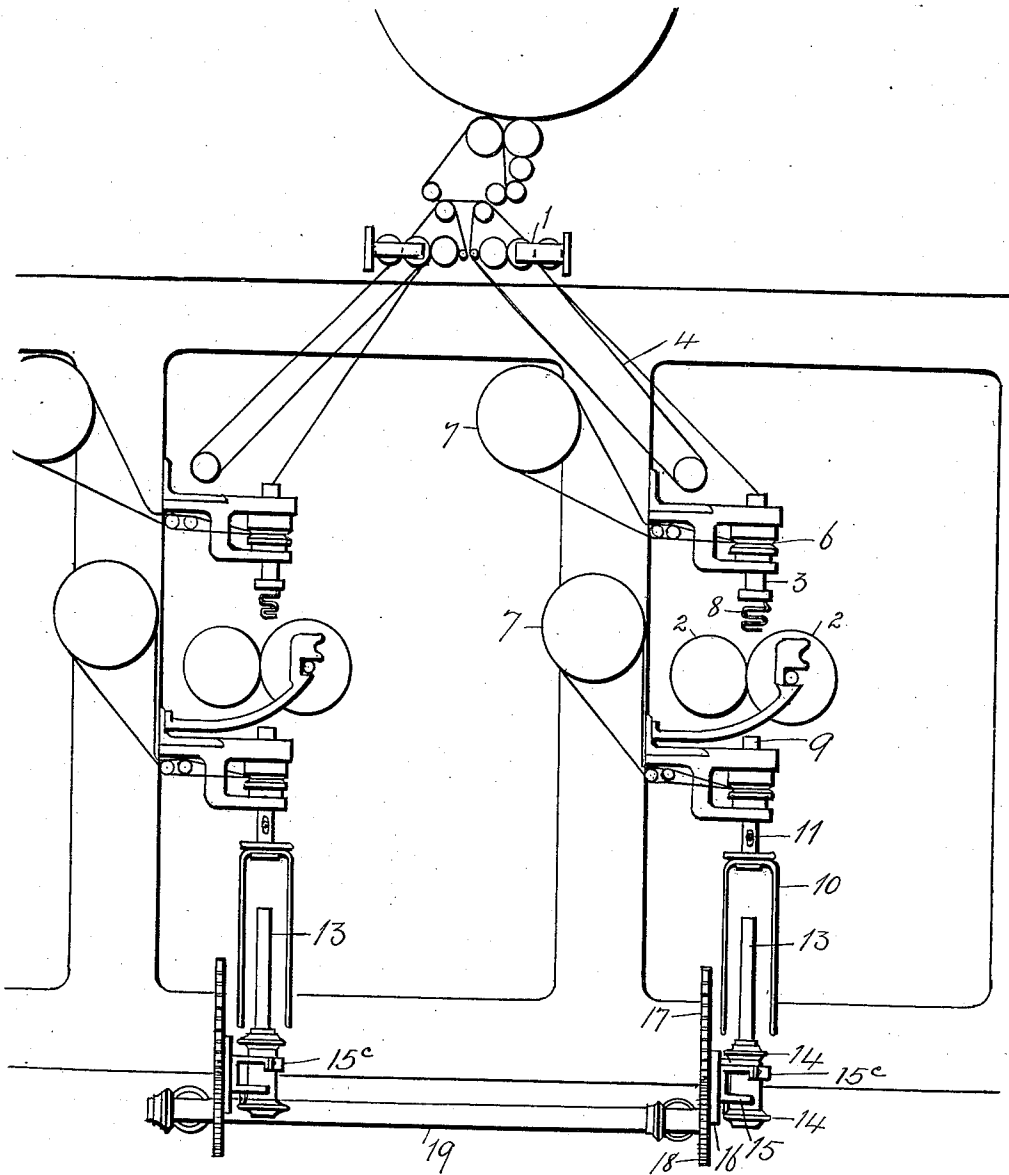


FIG. 1.

Witnesses.

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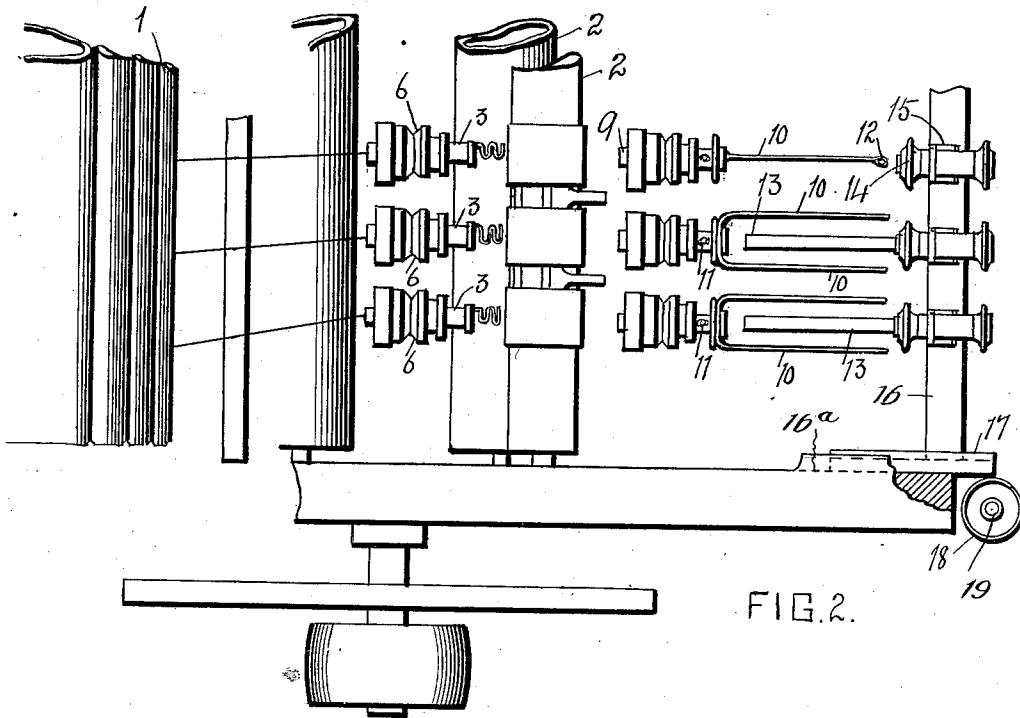


FIG. 2.

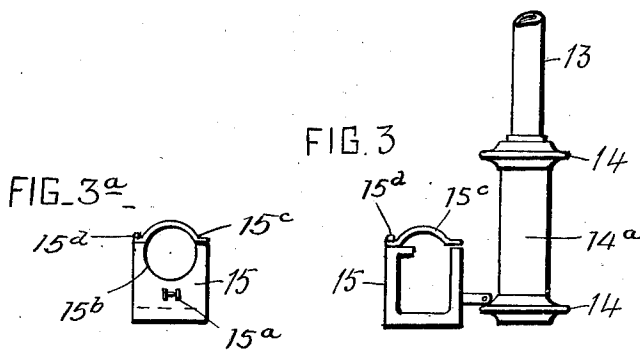


FIG. 3

FIG. 3a

Witnesses.
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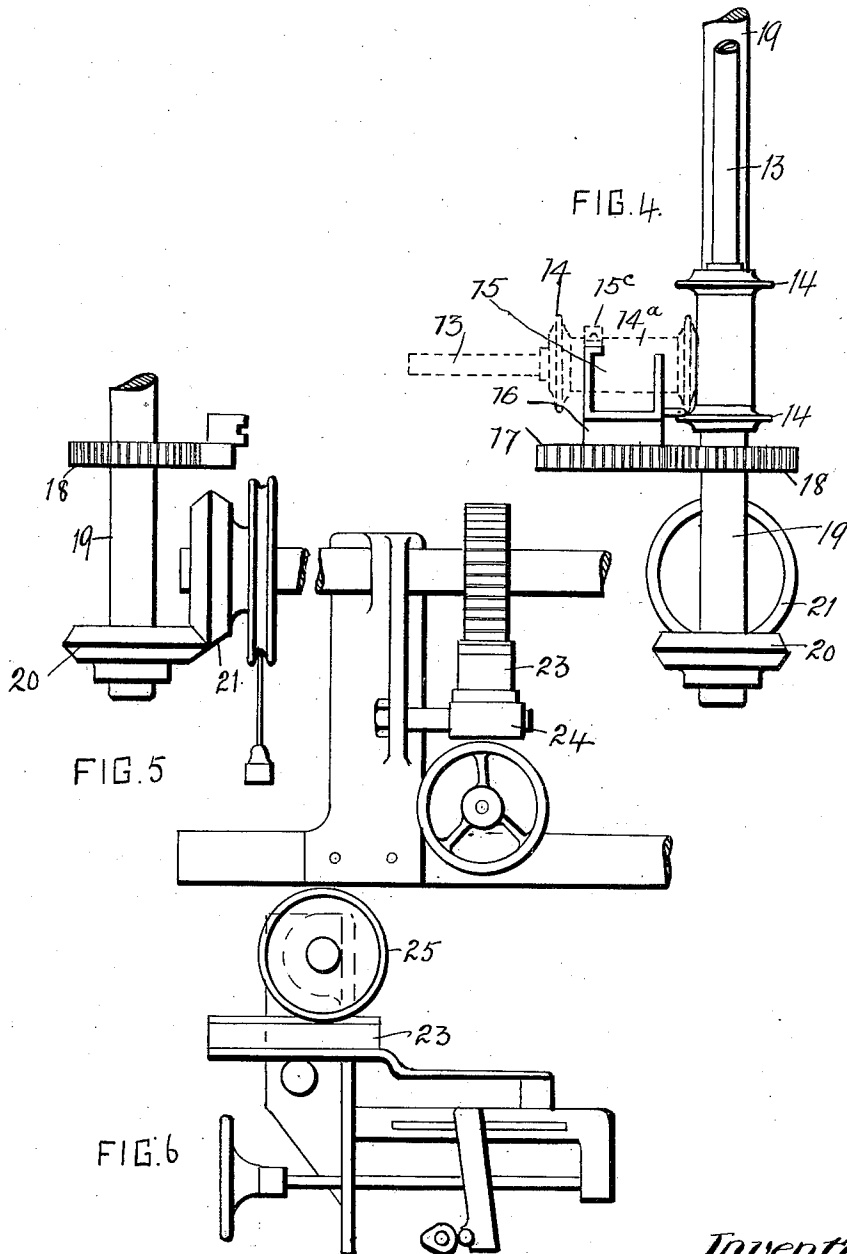
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

CHARLES WEATHERHEAD, OF BRADFORD, ENGLAND.

APPARATUS FOR SPINNING YARN.

1,041,539.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed June 8, 1912. Serial No. 702,563.

To all whom it may concern:

Be it known that I, CHARLES WEATHERHEAD, a subject of the King of Great Britain, residing at Bradford, Yorkshire, England, have invented certain new and useful Improvements in Apparatus for Spinning Yarn; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in apparatus for spinning or twisting fibrous materials drawn direct from carding or like machines.

According to the present invention the material is by a new and improved means of drawing and spinning or twisting converted into yarn in one operation which renders the use of condensing rubbers unnecessary. The drafting may be done by the usual drafting rollers as used in worsted spinning or by means of two sets of rollers placed at suitable distance apart and between which are fixed revolving tubes through which the slivers are passed to impart to them the necessary twist to enable the same to be drafted.

In the drawings Figure 1 is a view showing the arrangement of apparatus according to the present invention. Fig. 2 is a plan view showing drafting rollers, spinning tubes and the spindles with part of the said gearing. Fig. 3 is a detail side elevation, showing one of the clip brackets, with the bobbin spindle swung outwardly in position for removing the bobbin therefrom; Fig. 3^a is an elevation of the front wall of the clip bracket. Figs. 4, 5 and 6 show the traverse motion, the yarn spindle being shown raised in Fig. 4.

The various parts of the apparatus are mounted on any suitable framework and provided with the usual driving devices. For each sliver of fiber delivered from the carding machine, doffer or fleece divider two sets of drawing rollers are provided arranged at a suitable distance apart the rear set comprising the receiving rollers 1 having one set for each end of the sliver, set at a required angle, and revolved by gearing directly from the ring doffers or fleece divider. The other set of drawing rollers consist of delivery rollers 2.

When starting or on breaking down the slivers are conveyed to the twisting or spinning tubes 3 by means of endless bands 4.

Between the two sets of drafting rollers and near the rear end of the delivery rollers 2 a hollow tube 3 is mounted through which the sliver is passed. This hollow tube is provided with a whirl 6 or grooved pulley adapted to be driven by any suitable means from the drum or pulley 7. At the delivery end of the tube 3 a grid 8 is arranged through which the sliver is interlaced to hold or retain the twist according to the length of fiber.

The speed of the receiving rollers 1 and the delivery rollers 2 may be adjusted to any required degree.

The partly spun thread after leaving the delivery drafting rollers 2 passes through a second hollow tube 9 revolving in the opposite direction to the first mentioned hollow tube and having at the delivery end instead of a grip or lips an arm or arms 10. The spun thread passes through the tube at 11 just before reaching the shoulder of the arm 10 and is wound once or twice around the said arm and passes through an eyelet 12 at the extreme end of one arm to be wound upon bobbins, tubes or the like fixed on a spindle 13 mounted at one end in a sleeve 14^a provided with enlargements 14 for containing ball bearings; said bearing sleeve being pivotally supported by an extension 15^a on said bracket 15. The walls of the bracket 15 are provided with a recess 15^b for receiving the sleeve 14^a when the spindle is swung to its normal position; a clip 15^c being pivoted at 15^d on said bracket in position to snap over said sleeve 14^a for retaining the latter in the recess 15^b. The bracket 15 is secured to a transverse flat plate 16 reciprocatingly mounted in slots 16^a in the frame, and racks 17 are secured to said plate in mesh with spur wheels 18 secured to shafts 19; the shafts 19 carrying bevel wheels 20 meshing with similar wheels 21 on a cross shaft 22. The cross shaft 22 carries a spur wheel 25 meshing with a rack 23, which latter is maintained in position by a roller 24; an oscillating motion being given to said cross shaft 22 by reciprocating said rack 23 by any usually employed mechanism, such as Scaife's motion.

I declare that what I claim is:—

1. In an apparatus of the character described, the combination of a reciprocatingly-mounted plate, brackets on said plate provided with extensions, supports pivoted on said extensions for swinging into engage-

ment with said brackets, means on said brackets for detachably locking said supports in engagement therewith, and bobbin spindles carried by said pivoted supports for
5 swinging into and from winding position.

2. In an apparatus of the character described, the combination of a reciprocatingly-mounted plate, brackets on said plate provided with recessed seats, supports piv-
10 otally mounted on said brackets for swinging into engagement with said recessed seats, means on said brackets for detachably locking said supports on said seats, and bob-
bin spindles carried by said pivoted sup-
15 ports for swinging into and from winding position.

3. In an apparatus of the character de-

scribed, the combination of a reciprocatingly-mounted plate, brackets on said plate provided with recessed seats, sleeves pivot- 20
ally mounted on said brackets for swinging into engagement with said recessed seats, latches on said brackets for detachably locking said sleeves on said seats, and bobbin
spindles rotatably mounted in said pivoted 25
sleeves for swinging into and from winding position.

In testimony whereof, I affix my signature, in presence of two witnesses.

CHAS. WEATHERHEAD.

Witnesses:

LUCY RANEY,

VICTOR ARMSTRONG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
