

A. E. Bigelow.
Repairing Woollen Roving for Spinning
No. 12,582. *Patented Mar. 27, 1855.*

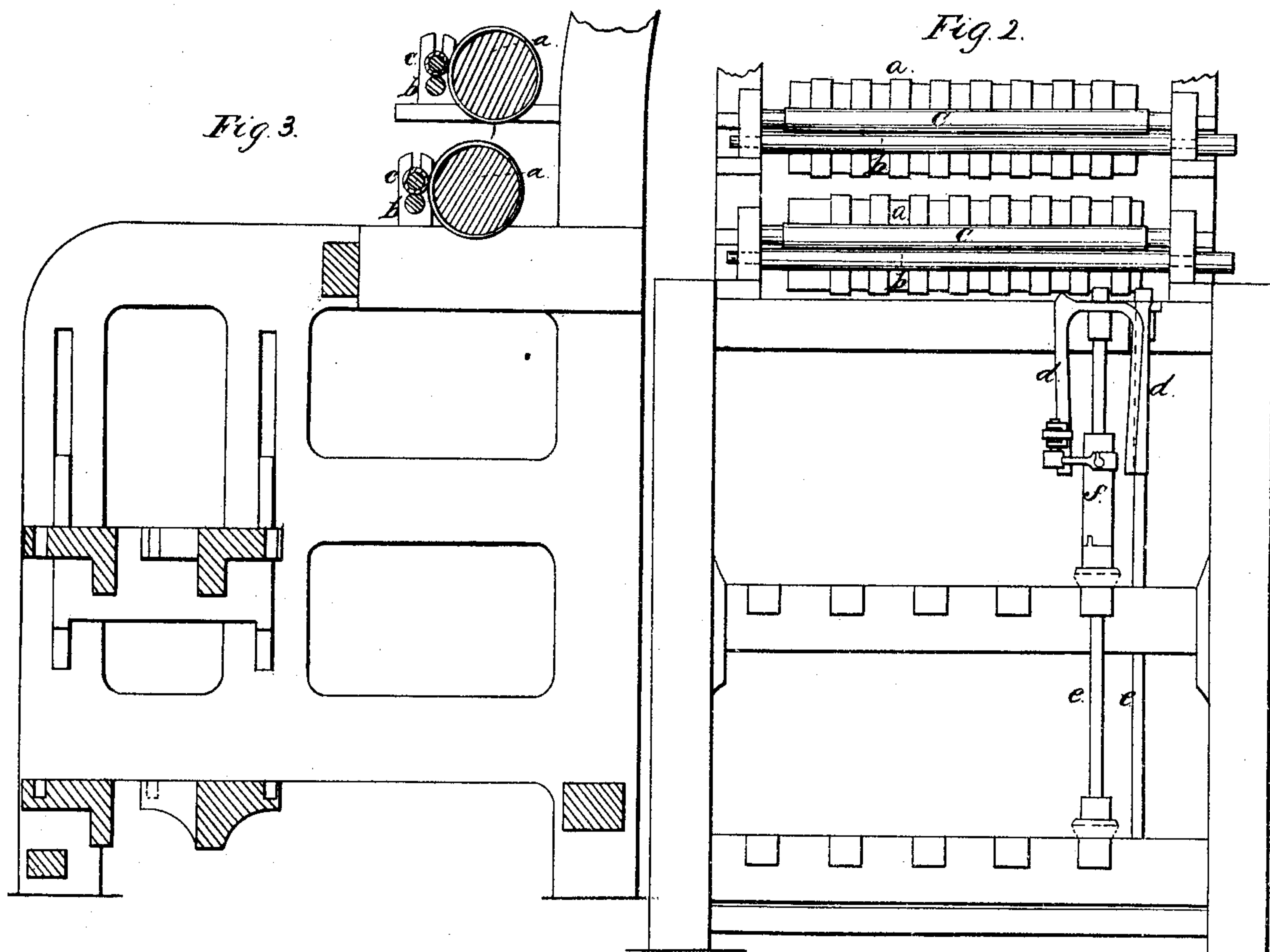
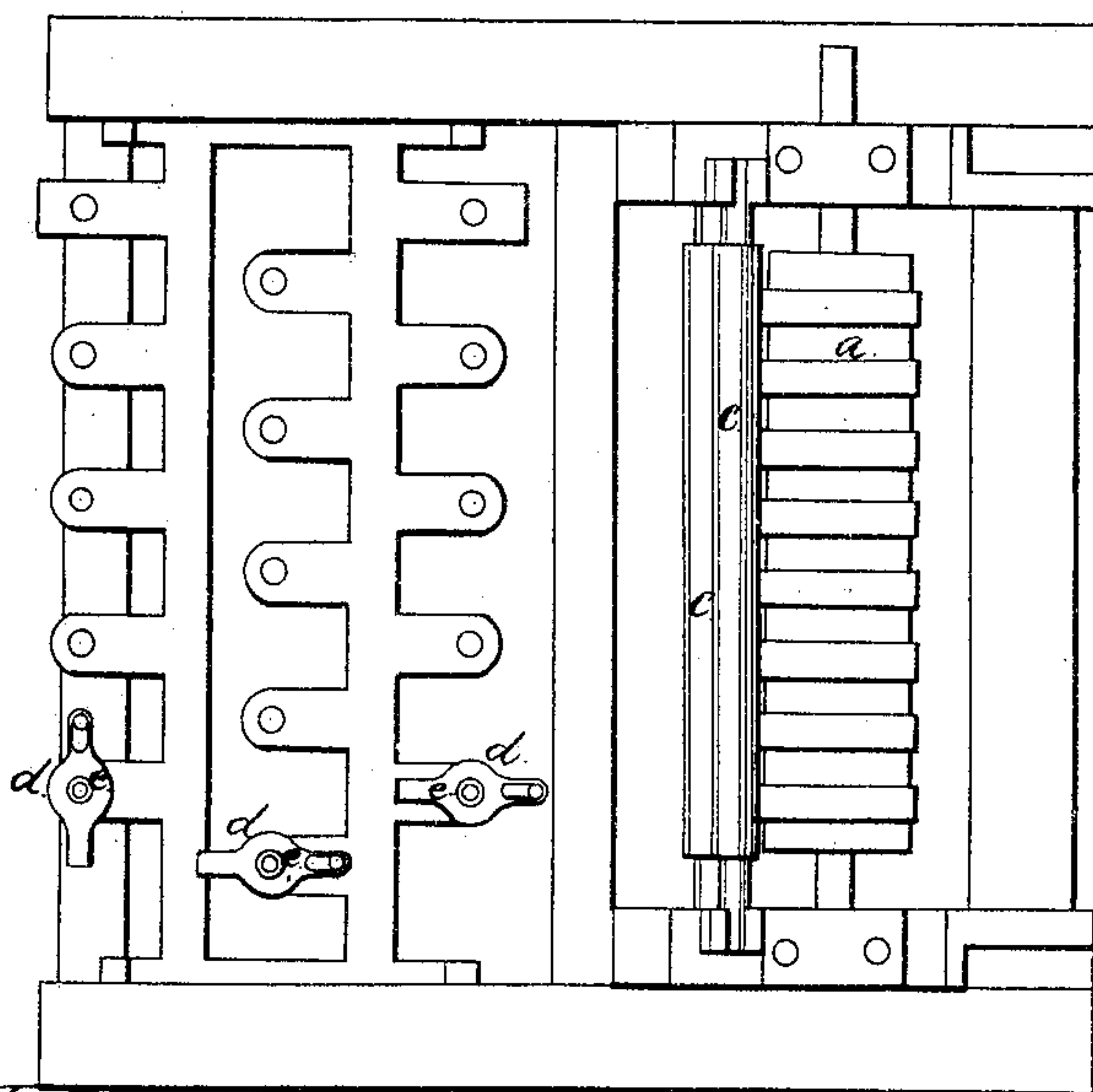


Fig. 1.



Witnesses:
E. Huntington
Geo. L. Squir

Inventor
A. E. Bigelow

UNITED STATES PATENT OFFICE.

AUGUSTUS E. BIGELOW, OF CHICOPEE, MASSACHUSETTS.

SPINNING WOOL.

Specification of Letters Patent No. 12,582, dated March 27, 1855.

To all whom it may concern:

Be it known that I, AUGUSTUS E. BIGELOW, of Chicopee, in the county of Hampden and State of Massachusetts, have invented
5 an Improvement in the Machine for Preparing Woolen Roving Preparatory to Spinning, reference being had to the accompanying drawing, making part of this specification, in which—

10 Figure 1, is a plan; Fig. 2, a front elevation; and Fig. 3, a vertical section.

The same letters indicate like parts in all the figures.

The method of preparing woolen roving
15 generally practised is by means of the carding machine with ring doffers, which divide the sheets of carded fibers into narrow strips that are then stripped from each doffer either by a comb or a roller, and delivered
20 in continuous slivers of the required thickness. And as these slivers are delivered, they each pass, on their way to a spool, through what is known as the condensing tube which condenses or compacts the sliver,
25 but does not put in a twist, for although the sliver is twisted in passing through the condensing tube this twist is taken out again by reason of the sliver being held on each side of the condensing tube, so that as the
30 sliver is wound up on the spool, the twist put in on one side of the tube is taken out on the other, the only effect being to compact the sliver. In this condition the slivers are transferred to the spinning machine.

35 It is well known that a roving of woolen fibers cannot be practically drawn into a regular thread, in the process of spinning, without twist, and it is for that reason that in spinning a woolen thread, the mode of procedure is to give out a given length of roving and draw it out as the twist is imparted;
40 and whether this operation of spinning be performed by the well known Jenny, or by any other means this drawing out is effected simultaneously with the twisting. In the old mode of preparing woolen roving by splicing together short rolls as delivered from the card, a twist was imparted, but so
45 hard that in the process of spinning the twist was given in the opposite direction to take out the original twist of the roving, that the drawing out might be effected during the act of untwisting and retwisting in the opposite direction. Such are the only
50 modes which have heretofore been successfully practised in the spinning of wool, the

fiber of which is so different from cotton that it cannot be worked in the same manner or by the same kind of mechanism. But I have discovered that if woolen roving be
60 properly twisted it can be drawn out and spun continuously as well as cotton by the use of a throstle frame with an improved drawing head which I have invented, and which I contemplate securing by Letters
65 Patent.

The object of the invention herein claimed is to prepare twisted woolen roving preparatory to spinning. And my said invention consists in combining fliers or their equivalents with the ring doffer or doffers, by the
70 interposition of a pair or pairs of rollers which take the slivers from the ring doffer, and deliver them to the fliers that put in a regular twist, without drawing, and which
75 prevent the twist from running up to and around the doffer, and also prevent the draft necessary to wind up the twisted roving onto the spool, from stripping the sliver from the ring of the doffer.
80

In the accompanying drawings it has not been deemed necessary to represent the carding machine, and the mechanism for operating the fliers, as these are well known, and make no part of my invention, which invention consists simply in the method of combining the fliers with the ring doffers of the
85 cards, and therefore it will be understood that the carding engine, and the mechanism for operating the fliers, and the spools thereof, are to be constructed according to any known or suitable mode.
90

In the said drawings *a, a*, represent the two ring doffers of an ordinary card used for carding wool. In front of each of these
95 doffers there is a pair of rollers *b, c*, the lower one a metallic roller mounted in the usual manner of the stripper roller of woolen cards, but not to act as the stripper, and the upper one formed in the usual manner of a
100 stripper, but placed above and resting on the lower roller with sufficient weight to hold the slivers as taken from the doffer. The lower roller *b*, receives motion, in the usual manner of a stripper roller, and im-
105 parts motion to the stripper which rests upon it and which is free to move up and down in its bearings. The bight of these rollers should be about in the horizontal plane of the axis of the doffer. The stripper
110 should, as usual, be covered with leather, and run so near to the doffer as to strip off the

sliver. If desired, however, the comb stripper, sometimes employed, may be introduced, in which case the pair of rollers will be put a little forward, and then neither
5 of them will act as a stripper.

In front of the pairs of rollers are arranged the required number of fliers *d*, mounted on spindles *e*, provided with spools *f*, in the usual manner of speeders. The
10 mechanism for driving the fliers and giving the required drag to the spool for winding on and determining the amount of twist, and for imparting the up and down motion to the traverse rail for the proper distribu-
15 tion of the roving on the spools, should all be constructed and arranged according to any of the known modes heretofore practised.

As the slivers are stripped from the rings
20 of the doffers, they pass through the bight of the rollers, and thence through one wing of the fliers to the spool. The delivery motion of the rollers should correspond with the winding on motion of the fliers and
25 spools, plus the amount of shortening induced by the amount of twist put in the roving. In this way it will be seen that the slivers stripped from the ring doffers will be delivered to the fliers, and by them regu-
30 larly twisted, without drawing, and wound onto the spools; and that the bight of the rollers will prevent the twist from extend-

ing up to and around the doffer; and will also prevent the drag of the winding on from drawing the sliver from the doffer; for
35 although the winding on drag would be sufficient to break off the slivers from the doffer, it is not sufficient to draw out the rovings which are twisted as fast as delivered by the rollers. And although I have
40 described the use of fliers for twisting and winding on the rovings; I do not wish to limit myself to the use of fliers in the practical application of my said invention, as
45 any of the known equivalents for the flier or any improvement thereof which might be hereafter made, may be substituted for this one element of the combination.

What I claim as my invention and desire to secure by Letters Patent in the prepara-
50 tion of woolen rovings, is—

The combination of fliers (or the equivalents thereof), and their appendages, with the ring doffer or doffers of a carding machine by the interposition of a pair or pairs,
55 of rollers, substantially as specified, to deliver the slivers from the doffer or doffers, that they may be regularly twisted and wound on without drawing, as specified.

AUGUSTUS E. BIGELOW.

Witnesses:

GEORGE M. STEAVENS,
JOHN WELLS.