

W. G. RAGSDALE.  
TOP ROLL FOR SPINNING MACHINES.  
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981,307.

Patented Jan. 10, 1911.

Fig. 1.

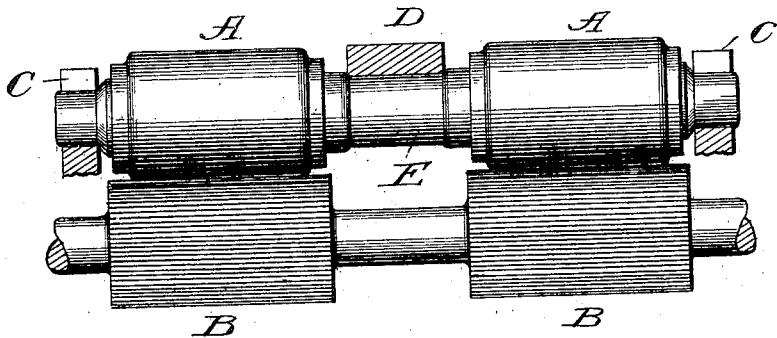


Fig. 2.

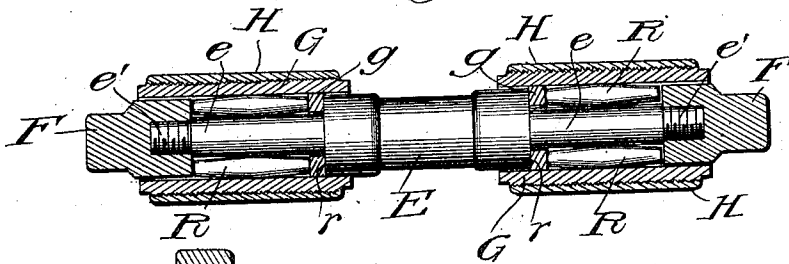


Fig. 3.

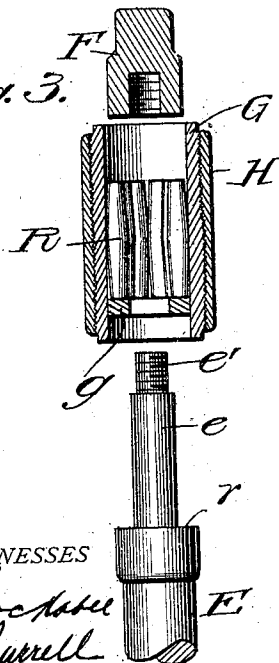
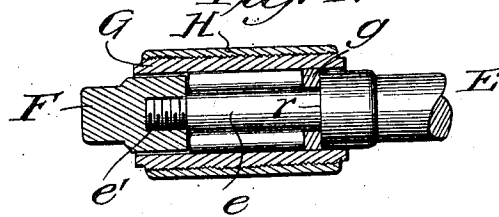


Fig. 4.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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TOP ROLL FOR SPINNING-MACHINES.

981,307.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed September 14, 1910. Serial No. 582,012.

To all whom it may concern:

Be it known that I, WILLIAM G. RAGSDALE, a citizen of the United States, residing in Jamestown, in the county of Guilford and State of North Carolina, have invented certain new and useful Improvements in Top Rolls for Spinning-Machines, of which the following is a specification.

My invention relates to certain improvements in top rolls employed in spinning frames, mules, speeders, drawing-frames and other like machinery and the object of my invention is to provide a top roll of improved construction which will not require the use of lubricating oil, but will run freely with a minimum amount of friction, will adjust itself to irregularities in the formation of the roll, and may be easily assembled, taken apart or adjusted.

A top roll possessing these general characteristics is shown in my U. S. Patent No. 840,010 of January 1, 1907. According to my present invention I simplify the construction of top rolls of this kind.

In the accompanying drawings:—Figure 1 shows a front elevation of a pair of fluted rolls commonly employed and their companion top rolls, embodying my improvements. Fig. 2 shows a longitudinal central section through a pair of my improved top rolls. Fig. 3 is a view, partly in section and partly in elevation with the component parts of the device separated. Fig. 4 shows a longitudinal central section of a modified form of top roll.

In Fig. 1 I have shown a pair of top rolls, A, arranged parallel with a pair of fluted rolls, B, in the usual way. The frame in which the top rolls are supported is indicated at C, and the usual saddle is indicated at D. The arbor, E, is provided with a central portion supported by the saddle and reduced portions or spindles, *e*, which are threaded at *e'*, to receive the nuts, F. The shells, G, of the rolls may be covered with rubber, leather or other suitable material, H, as usual. Preferably the shells are formed with fine threads and the covering is screwed on in such manner as to fit closely and tightly without any liability of slipping endwise or turning on the shells. Each shell is provided with a ring or collar, *g*, which may be attached to the inside of the shell in any suitable way, as by being forced therein making a close tight fit. This collar is lo-

cated within the shell a short distance from the inner end thereof, as clearly shown in Fig. 2, and when the shell is applied to the arbor the inner portion thereof overlaps the end of the arbor and the collar rests against the shoulder, *r*, formed between the large portion of the arbor and the spindle *e*. When the nut is applied, as indicated in Fig. 2, there is a space between the inner end of the nut, F, and the collar, *g*, which space is occupied by the rollers, R. These are preferably tapered as shown; the central portions, which are of the largest diameter, being arranged in line with the middle portion of the shell. When the rollers are in place and the nut is screwed home the parts are held in proper working position as the shell cannot move endwise off of the arbor because the rollers, which are adapted to abut against the collar, *g*, and nut, F, prevent such endwise movement. By making the rollers taper as described the shell is capable of a slight rocking movement to compensate for any irregularities in the surface or covering of the roll.

If it be desired to remove a roll from the arbor it may be done in the manner shown in Fig. 3; the nut, F, being first withdrawn and then the shell with the rollers supported on the collar, *g*, may be lifted off without displacing the rollers.

It will thus be seen that the roll consists of merely the shell and its covering, the anti-friction rollers R and the nut. This reduces the number of parts to a minimum, and yet the roll acts efficiently.

While I prefer to employ tapered rollers, as indicated in Figs. 2 and 3, straight rollers may be employed, as indicated in Fig. 4.

I claim as my invention:—

1. A top roll, comprising an arbor having a spindle threaded at its outer end, a nut screwing on to the spindle and having a flat vertical face at its inner end, a shell having an annular collar permanently connected with it near its inner end and which has a flat vertical inner face, and rollers within the shell interposed between the collar and nut, adapted to abut against the flat vertical faces of the nut and collar and also adapted to revolve with the shell bodily around the spindle.

2. A top roll, comprising an arbor having a spindle threaded at one end and provided with a shoulder at its inner end, a nut screw-

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ing on to the spindle, a shell overlapping the shouldered part of the arbor and also overlapping the nut, a collar within the shell permanently secured thereto near its inner end and bearing against the shouldered portion of the arbor, and rollers in the shell interposed between the collar and the nut each of which has a narrow bearing surface midway between its ends on which the shell

rocks and which tapers from this bearing surface to its opposite ends.

In testimony whereof, I have hereunto subscribed my name.

WILLIAM G. RAGSDALE.

Witnesses:

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