

E. J., E. H. & W. T. CARROLL.
TOP ROLL SADDLE FOR SPINNING MACHINES.

No. 342,778.

Patented June 1, 1886.

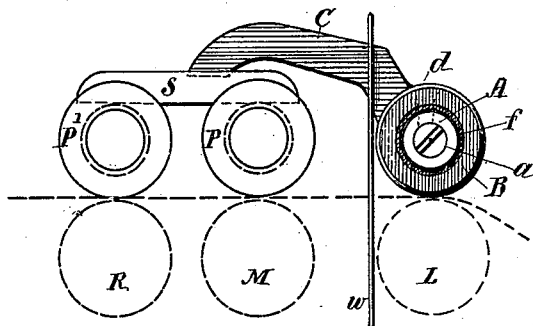


Fig. 1+

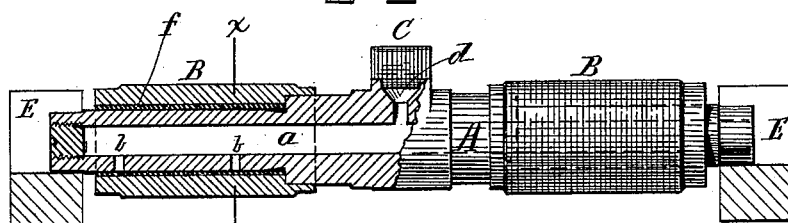


Fig. 2+

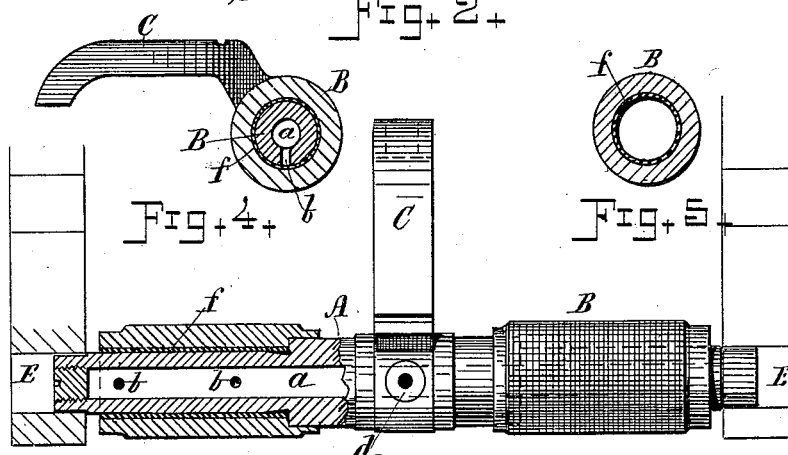


Fig. 4+

Fig. 5+

WITNESSES—

A. R. Barton

Geo. W. Rice 2^d

Fig. 3+

INVENTORS—

*Edgar J. Carroll, Albert H. Carroll
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(No Model.)

2 Sheets—Sheet 2.

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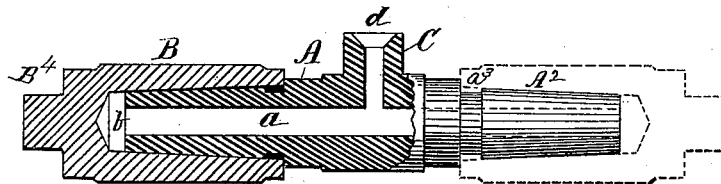
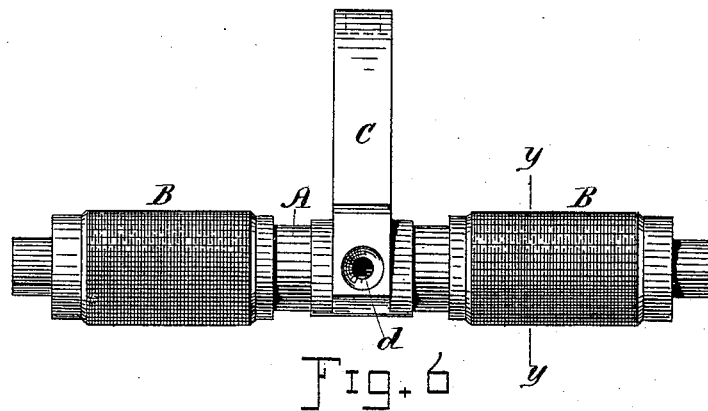


Fig. 6

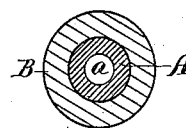
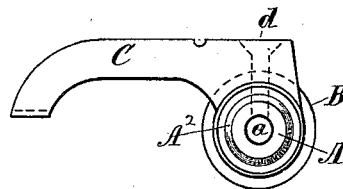


Fig. 8

Fig. 9

WITNESSES—

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INVENTORS

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*By Chas. H. Burlingame
Att'y.*

UNITED STATES PATENT OFFICE.

EDGAR J. CARROLL, ELBERT H. CARROLL, AND WILLIAM T. CARROLL, OF
WORCESTER, MASSACHUSETTS, ASSIGNORS TO THE WRIGHT MACHINE
COMPANY, OF SAME PLACE.

TOP-ROLL SADDLE FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 342,778, dated June 1, 1886.

Application filed July 11, 1883. Serial No. 100,487. (No model.)

To all whom it may concern:

Be it known that we, EDGAR J. CARROLL, ELBERT H. CARROLL, and WILLIAM T. CARROLL, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Top-Roll Saddles for Spinning-Machines; and we declare the following to be a description of our said invention, sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of our present invention is to provide a practical and convenient top-roll and saddle device for the drawing-rolls employed in various kinds of roving-machines—such as drawing-frames, railway-heads, slubbers, speeders, mules, ring-spinners, &c.—for feeding, working, or drawing the sliver, or roving; and our invention consists in mechanism the nature and construction of which is herein illustrated and explained, the particular features claimed being hereinafter definitely specified.

In the drawings, Figure 1 is an end view of our improved top-roll and saddle device, with diagrammatic lines indicating the middle, back, and lower rolls and rear saddle. Fig. 2 is a sectional elevation showing a top drawing-roll, constructed in accordance with my invention, together with a portion of the end bearings. Fig. 3 is a plan view of the same, partly in section. Fig. 4 is a transverse section thereof, on line *x x*, Fig. 2. Fig. 5 is a transverse section of the boss and its lining. Fig. 6 is a plan view of two bosses and their arbor and saddle. Fig. 7 is a longitudinal sectional view showing the bearings on the arbor made shorter than the bosses, which latter are made closed at their outer ends. Fig. 8 is an end view of the arbor when made as in Fig. 7. Fig. 9 is a transverse section of a boss and its arbor, on line *y y*, Fig. 6.

In drawing-frames, roving-machines, and spinning-machines, as now commonly constructed, the covered top rolls are fixed to the shafts or arbors which carry them, and the arbor of the front top rolls is retained in its

bearings and pressed down upon the roving and under roll by means of a loose saddle, the forward end of which rests upon the arbor, which is free to revolve beneath it, while its rear end rests upon a second saddle, which in turn acts in similar manner to retain the shafts or arbors of the middle and back top rolls, the saddles being pressed down upon the parts by means of a link looped over the first saddle and connected at its lower end with a weighted lever that is adapted, by adjusting the weight, to give the pressure required.

In this our invention the arbor A, for the front top rolls in the set of drawing-rolls, is made with the saddle C rigidly attached or forming an integral part of the arbor, the parts A and C being cast together in a single piece, and finished in the form shown, so that the arbor is provided with a rigid and permanent saddle-arm extending out from its central portion in a plane perpendicular to the axis of the roll-bearings. The arbor is also provided with a longitudinal chamber or oil-channel, *a*, the opening *d* into which is at the front end of the saddle or arm C, while ducts or passages, as at *b*, afford means for the flow of oil to the bearing-surfaces between the arbor and bosses B.

The arbor A may be made slightly rounding on the length of its bearings, so that boss B can have a little rocking motion in its length, if desired.

The shells or bosses B are provided with independent linings of brass or other suitable bearing metal, as shown at *f*, to enable the said bosses to run with the least wear on the iron arbors.

The arbor A may be made with its bearings A' shorter than the bosses B, and the bosses may be made closed or solid at their outer ends, as shown in Fig. 7, the chamber *a* being extended through the arbor to the end of the bearing, so that oil will flow into the interior of the thimble-formed boss B from the open end of the arbor-bearing.

The bearings A' on the arbor can be made slightly conical, and the bosses provided with a correspondingly-shaped bearing-cavity, the parts fitting together as shown in Fig. 7, the outer or closed end of said bosses being pro-

- vided with supporting-hubs, as at B⁴, or otherwise suitably shaped to form a bearing that will assist in keeping the rolls in proper relative position when in operation on the machine. The bearing may be reduced or chambered by a groove cut around its neck, as at a³, which groove may contain a soft oil-absorbent packing, or be left free and open, as preferred.
- 10 In ordinary top rolls, where the saddle rests on the shaft or arbor and the latter revolves, roving and waste winds on or accumulates at the junction of the saddle and the said shaft, and the operator has, as a rule, to "pick the bearings," as it is called, at the end of the saddle twice each day, which requires time; but such operation is rendered unnecessary by fixing the saddle C rigidly to the arbor A, which remains stationary.
- 15 L, M, and R indicate, respectively, the lower front, middle, and rear rolls of the set, and S the second saddle, while P and P' denote the upper middle and rear rolls; w, the weighting-link, and E the bearings for the ends of the arbor, which several parts may be of ordinary or any suitable construction.
- What we claim as of our invention, and desire to secure by Letters Patent, is—
1. An arbor for the top drawing-rolls of roving and spinning machines, having an arm or saddle formed integral therewith, substantially as and for the purpose set forth.
2. A chambered or hollow arbor for the top drawing-rolls in roving and spinning machines, having an integral or rigidly-attached saddle-arm, in combination with the shell bosses mounted thereon, substantially as shown and described.
3. The arbor A, having the saddle C formed

integral with the body thereof and provided with a channel for conducting oil to its bearings, and the covered shell-bosses B, mounted for rotation thereon, in combination with the bearings and lower drawing-rolls in a spinning or roving machine, for the purposes set forth.

4. The combination, substantially as hereinbefore described, of the shell-bosses B, having independent linings f, the stationary supporting-arbor A and fixed saddle C, the lower rolls L, journal-supports E, and weighting devices, for the purpose set forth.

5. A roll or shell for roving and spinning machines, formed with a bearing-cavity at one end and a solid or closed end at the other, in combination with a supporting-arbor and the lower drawing-rolls, the roll-supporting bearings, and weighting devices employed in a spinning or roving machine, for the purposes set forth.

6. A hollow arbor having a centrally-located oiling-hole, in combination with rolls having a closed end fitting over the ends of said arbor and revoluble thereon, substantially as set forth.

7. A hollow arbor having conical bearings, in combination with a pair of bosses, each provided with a correspondingly-conical cavity at one end and a supporting hub or bearing at the other end, substantially as shown and described.

Witness our hands this 6th day of July, A. D. 1883.

EDGAR J. CARROLL.
ELBERT H. CARROLL.
WILLIAM T. CARROLL.

Witnesses:

CHAS. H. BURLEIGH,
GEORGE E. BOUVIER.