(No Model.)

G. A. METCALF.

SADDLE FOR TOP ROLLS OF SPINNING MACHINES.

No. 394,124. Patented Dec. 4, 1888.

Fig. 1.

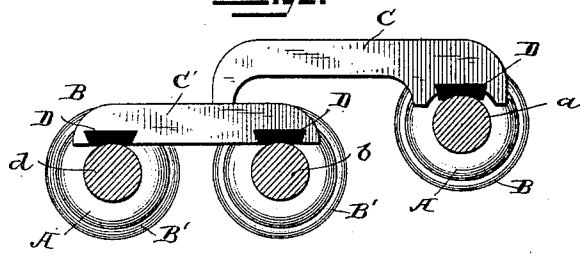


Fig. 2.

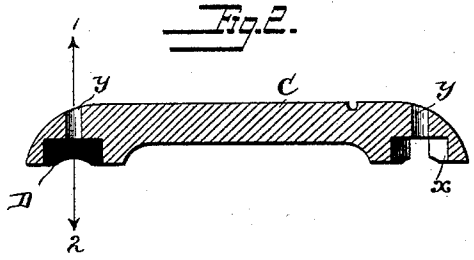


Fig. 3.

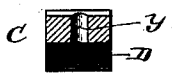
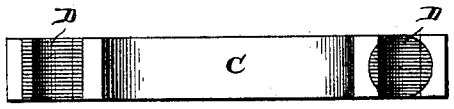


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE A. METCALF, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR TO AMERICUS WELCH AND JOSEPH GILBERT, OF BLACKSTONE, MASSACHUSETTS, AND JOSEPH J. HULBERT, HENRY S. TURNER, GEORGE M. WELLS, AND ISRAEL B. PHILIPS, OF WOONSOCKET, RHODE ISLAND.

SADDLE FOR TOP ROLLS OF SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 394,124, dated December 4, 1888.

Application filed January 28, 1888. Serial No. 262,209. (No model.) Patented in England February 13, 1888, No. 2,175; in France February 21, 1888, No. 188,875, and in Belgium February 22, 1888, No. 80,737.

To all whom it may concern:

Be it known that I, GEORGE A. METCALF, a citizen of the United States, and a resident of Woonsocket, county of Providence, and State of Rhode Island, have invented certain new and useful Improvements in Saddles for Top Rolls of Spinning-Machines, of which the following is a specification.

My invention relates to the saddles of top or drawing rolls of spinning-machines of that class for which I have received British Letters Patent No. 2,175, dated February 13, 1888; French Patent No. 188,875, February 21, 1888, and Belgian Patent No. 80,737, February 22, 1888; and it consists in providing such saddles with bearing-blocks of plumbago, or mainly of plumbago, projecting or arranged to constitute the sole bearing-faces for the journals of the top rolls, and also in providing the said saddles with sockets to receive the said blocks and with openings arranged to permit the ready withdrawal of said blocks when they have to be renewed, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a cross-section of a set of top rolls, showing the saddles resting thereon. Fig. 2 is a longitudinal section of a saddle with sockets and recesses for the reception and ready dislodgment of the bearing-blocks. Fig. 3 is a transverse section on the line 1 2, Fig. 2. Fig. 4 is an inverted plan view of the saddle, Fig. 2.

Heretofore where the saddle-bearings for top rolls of spinning-machines have been lubricated by means of oil or other fluid or semi-fluid lubricating materials it has been found almost impossible to prevent the injury to the yarn by the spreading of the lubricant, which also invariably finds its way to the surface of the rolls and injures the covering of the latter. These results and the defects in the drawing which also result should the bearings become dry, as will occasionally happen, have caused many efforts to be made with the view of securing a proper bearing without the use of a lubricant of such a character as must be supplied from time to time, or which is capable of flowing to the rolls or of being deposited upon the yarn. For instance, rawhide, impregnated wood, metal bearings having recesses for lubricants, and various other means have been used or attempted to be used for such purposes; but, so far as I am aware, no bearing has yet been devised capable of prolonged use or available under heavy pressure without the employment of a removable lubricant, such as tallow, oil, powdered plumbago, or other substance liable to injure the yarn or the rolls, or both. To overcome these objections, as well as to secure other advantages, I make the roll-bearing in the form of a hard block of plumbago or plumbago composition secured to or supported by the saddle, with its face projecting beyond the saddle in such manner as to constitute the sole bearing for the journal of the top roll.

An arrangement of rolls and saddles is shown in Fig. 1, in which A is the top roll, having the usual covering, B, of india-rubber or other elastic material. C is one of the saddles, provided at one end with a bearing, D, projecting beyond the face of the saddle and bearing upon the journal *a* of the top roll, while the opposite end of the saddle C bears upon the top of the saddle C′, having its bearings upon the journals *b d* of the rolls B′ B′, the saddle C′ also having plumbago blocks D inserted therein to constitute the bearing for the journals.

The blocks D are preferably of plumbago cut to the proper shape and fitted in a recess or socket, *x*, in the under side of the yoke, which socket extends nearly or completely across the yoke, so that practically no portion of the latter will constitute a bearing-face or bear upon the journal in consequence of the wearing away of the bearing-block. These blocks may be circular, as shown at the right in Fig. 4, or oblong, as shown at the left in said figure.

As the blocks wear away it is necessary to replace them from time to time, and to avoid the necessity of removing the yokes from the

machine and boring out the bearing-blocks I make perforations or openings *y* leading from the top of the yoke to each socket *x*, through which perforation a suitable tool may be introduced to drive the block D out of the socket.

The plumbago blocks have proved in practice to be capable of extended use without the employment of any other lubricating material whatever. As the said blocks are hard and solid, they do not wear away like soft compositions, so as to produce a powder capable of injuring the yarn. They do not cut the journals, and can be readily inserted and replaced when wanted.

If desired, the blocks may be inserted in dovetailed sockets, as shown in connection with the saddles in Fig. 1, in which case they may be removed by driving them laterally from their sockets. I prefer, however, the arrangement before described, and illustrated in the other figures.

I claim—

1. A saddle for the top roll of a spinning-machine, provided with a socket to which is adapted a detachable block of plumbago constituting the sole bearing of the top-roll journal, substantially as set forth.

2. The saddle for the top roll of a spinning-machine, provided with a socket holding a hard block of plumbago, and with a perforation, *y*, from the top of the saddle to the said socket, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE A. METCALF.

Witnesses:
CHARLES E. FOSTER,
J. S. BARKER.