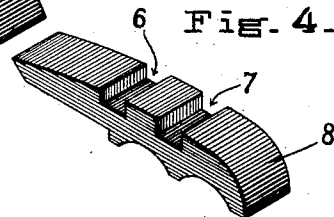
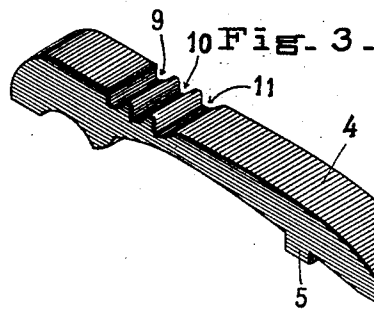
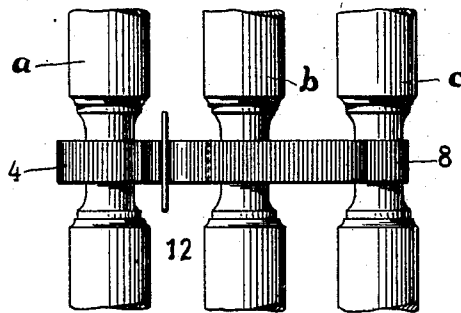
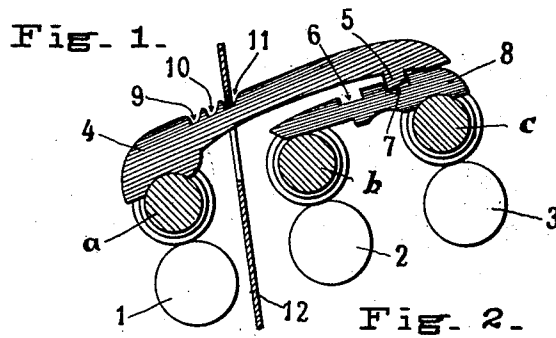


L. S. BACHE.
TOP ROLL SADDLE.
APPLICATION FILED JUNE 17, 1914.

1,246,841.

Patented Nov. 20, 1917.



WITNESSES
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TOP-ROLL SADDLE.

1,246,841.

Specification of Letters Patent. Patented Nov. 20, 1917.

Application filed June 17, 1914. Serial No. 845,663.

To all whom it may concern:

Be it known that I, LEIGH S. BACHE, a citizen of the United States, and a resident of Boundbrook, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Top-Roll Saddles, of which the following is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

The invention relates to saddle bearings or to the so-called saddle which is employed to secure the proper tension effects between the top rolls of a spinning frame.

There are many forms of saddles in common use for the rolls of a spinning frame and so far as known, those generally employed in practice are of a form which are provided with oil chambers and oil-distributing pads or wicks to provide the requisite lubrication where they bear upon the rolls.

Such devices of necessity, are very liable to throw oil, no matter how carefully they are attended to and even if the lubricant is not thrown off upon the goods, a gudgeon is soon formed which soils the covers of the rolls and makes them unfit for use until recovered with fresh leather or similar material.

Furthermore, such devices are not made fully adjustable for a varying number of rolls and if provided with adjustments they do not readily adapt themselves when adjusted to the exact and proper tension which is so essential to proper operation of the rolls.

It is the principal object of the present invention to provide a saddle made in two parts, which may have a free movement with reference to each other and to the rolls upon which they rest and to provide for certain fixed adjustments of said saddle parts.

It is a further object of the invention to provide for a reduction of friction to the minimum degree and avoid heating of the bearings. The degree of tension of the two saddle parts with reference to their respective rolls may be varied to suit any requirement whether many or few rolls are employed.

In carrying out the invention I employ two saddle parts; one of which may well be

termed a top saddle part and the other a bottom saddle part. The bottom part is provided with transverse grooves or recesses which may be engaged by a bar or tongue arranged transversely of the top member.

The top member, through its bearing upon the bottom member, impresses the required tension to the rolls controlled by the bottom member and the tension devices of the top member may be adjusted with reference thereto, in order to give the requisite tension upon all the rolls when the saddle parts are adjusted relatively to each other.

Referring to the drawings:

Figure 1 is a view in side elevation, the rolls being cut in section and no tension weight being shown upon the stirrup.

Fig. 2 is a top plan view of the saddle and rolls; said rolls being broken off short of their end bearings.

Fig. 3 is a perspective view of the top member of the saddle.

Fig. 4 is a similar view of the bottom member.

The features of adjustability and simplicity of the herein described saddle may be employed in many forms and types of saddles, and in saddles formed from various materials either entirely of metal or of a composite structure such as metal with bearing inserts of a different material.

I prefer however to use a material which will obviate all oil throwing and soiling and which will provide perfect lubrication between the saddle parts and the saddle and rolls upon which the saddle rests.

It has been found that by using a perfectly homogeneous material of a lubricating character that all these above recited advantages are attained and that a saddle of extremely long life results.

Very excellent results have been attained by utilizing a wood or fiber treated as explained in my prior Patents No. 1,076,941 issued Oct. 28, 1913, and No. 1,077,252 issued Nov. 4, 1913, by which the wood or fiber is impregnated through and through so that every portion of the saddle becomes a lubricating bearing surface.

I have found however that under the high speeds and heavy duty imposed upon a saddle that wood or fiber impregnated through and through with graphite and lubricating

waxes of high melting point, give the most perfect results.

In the drawings, *a*, *b* and *c* represent the upper and 1, 2 and 3 the lower rolls of a set; the saddle resting upon the upper rolls which have a free movement in their frame so that they may be pressed with greater or less tension upon the lower rolls 1, 2, 3.

Upon the roll *a* rests the top saddle member 4 of the saddle. This top member is provided with a transverse bar or inter-engaging projection 5, which enters and rests upon the bottom of one or the other of the transverse grooves 6, 7 of the bottom saddle member 8.

The bottom saddle member has suitably formed bearing surfaces upon its under side to engage the rolls *b*, *c* and may be adjusted with reference to the top member and said rolls. It is well known that in certain classes of work more rolls are used than in others and this provision for longitudinal adjustment of the top and bottom parts makes any desired combination of rolls possible.

The top member is provided upon its upper face with a series of grooves or notches 9, 10, 11 which may be arranged in any desired number. In either of these notches there is hung a stirrup 12 to the lower end of which is attached a weight, spring or any well known form of tensioning device.

The position of the stirrup upon the top member and the relative adjustments of the top and bottom members determines the degree and application of the pressure or tension of the rolls of the upper set with reference to the rolls of the lower set.

It will be noted that the lower portion of the bar 5 of the top member is somewhat beveled so that there is in effect a knife edge or line bearing between the top and bottom members. This is not an essential but reduces surface contact and gives a more delicate distribution of the tensioning forces upon the various rolls and parts.

By providing a homogeneous lubricating material for both the top and bottom members it is at once apparent that all contacting parts are perfectly lubricated and that there is a minimum of friction throughout the structure.

Furthermore, there is uniformity in the co-efficient of expansion which precludes the possibility of throwing the parts out of even the finest and most delicate adjustments.

There is no heating as the initial friction draws a sufficient film of lubricant upon the bearing parts which perfectly lubricates and prevents further rise in temperature (to dangerous or destroying points) and thus prevents all wear. A saddle of the type defined is practically indestructible although it may be renewed in whole or in part at a minimum cost. It is free from dirt and will

not soil the rolls as the lubricant does not flow in sufficient quantities to work back upon the roll coverings or fly from the bearings.

The exact forms of top and bottom parts may be modified to suit the requirements of any design of spinning frame and the number of roll bearing surfaces and stirrup notches, as well as the number of transverse slots, in the bottom member may be varied to suit the exigencies of any particular case.

I do not claim herein specifically the method or process of treating wood or fiber with graphite and lubricating materials, nor do I claim broadly herein, a two part saddle having a free longitudinal adjustment of its parts, as such matter is to be made the subject of other applications.

What I claim as my invention and desire to secure by Letters Patent is:

1. A saddle for spinning frames comprising a top and bottom saddle member of solid homogeneous material, said top member having an inter-engaging projection extending from its under side, and arranged transversely from side to side thereof, said bottom member having a plurality of transverse openings having continuous sides either of which openings is arranged to receive the transverse inter-engaging projection of the top member, whereby the saddle members may be adjusted into either one of two positions with reference to each other.

2. A saddle for spinning frames comprising a top and bottom saddle member of solid homogeneous material, each provided with bearing surfaces for respective rolls of the spinning frame, transversely formed receiving grooves having continuous sides arranged in the upper surface of the bottom saddle, a transversely arranged inter-engaging projection extending from the under side of the top saddle member, and arranged transversely from side to side thereof, and a plurality of stirrup grooves upon the top member, whereby said parts may be adjusted with reference to the rolls with an adjusted tension.

3. A saddle for spinning frames comprising an upper and a lower saddle member of solid homogeneous material, a transverse inter-engaging projection on the lower side of the upper saddle member extending from side to side thereof, transverse receiving grooves for said inter-engaging projection in the upper side of the lower saddle member, said grooves having continuous sides, and said transverse inter-engaging projection of the upper saddle member having its lower end beveled to provide substantially a knife edge engagement with the bottom of the grooves of the lower member when resting therein.

4. A saddle for spinning frames comprising a top and a bottom saddle member, both of said members of a homogeneous fibrous

self-lubricating material, said upper saddle having a transverse inter-engaging projection on its under side, extending from side to side thereof, said lower saddle member having transverse grooves from side to side thereof to receive the transverse engaging member of the upper saddle part, and means for adjustably applying a tension device to the parts and their respective rolls.

LEIGH S. BACHE.

Witnesses:

W. F. JENNINGS,
KATE BRENNER.

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