

(No Model.)

E. DIXON.

SADDLE FOR TOP ROLLS OF SPINNING MACHINES.

No. 354,400.

Patented Dec. 14, 1886.

Fig. 1.

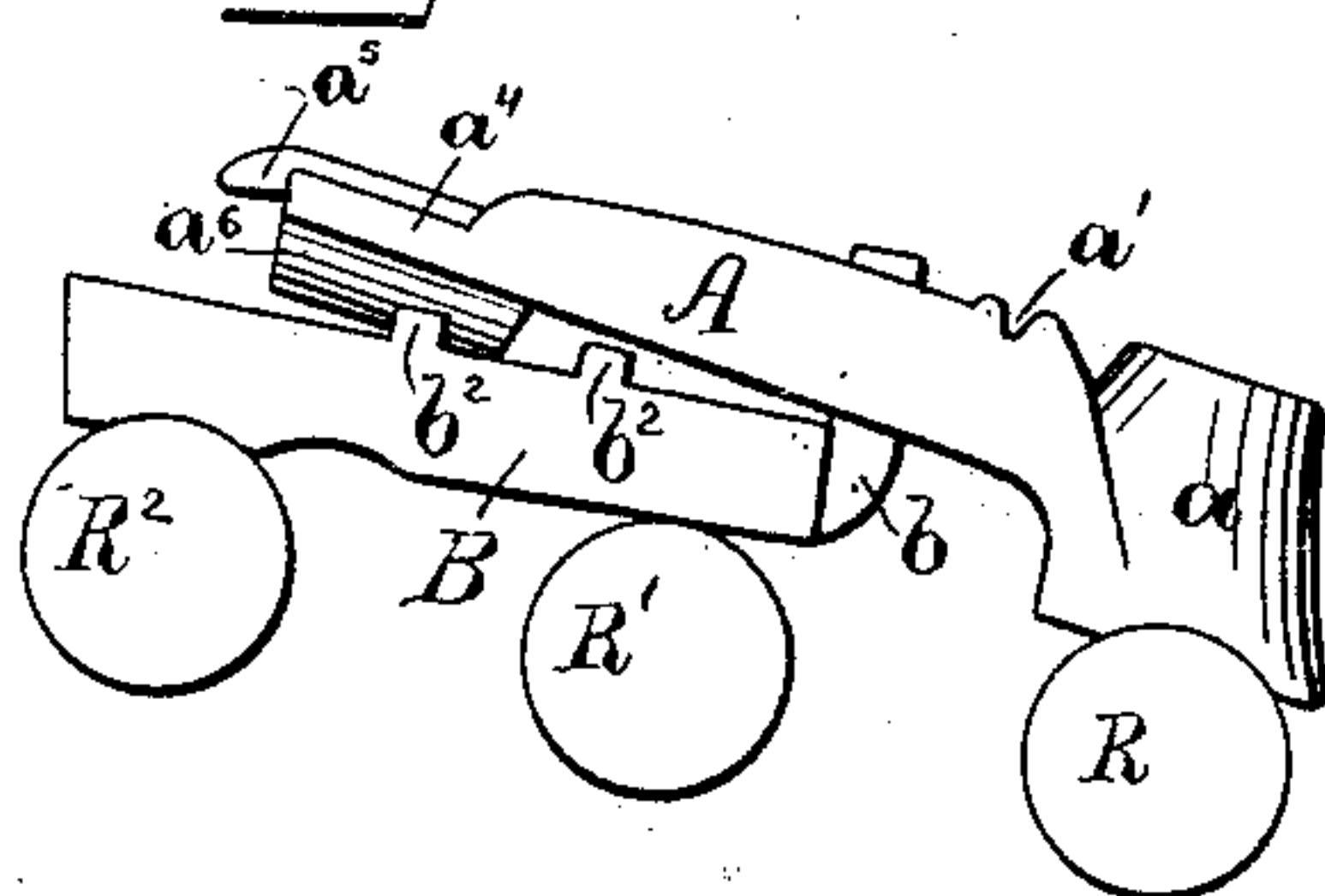


Fig. 2.

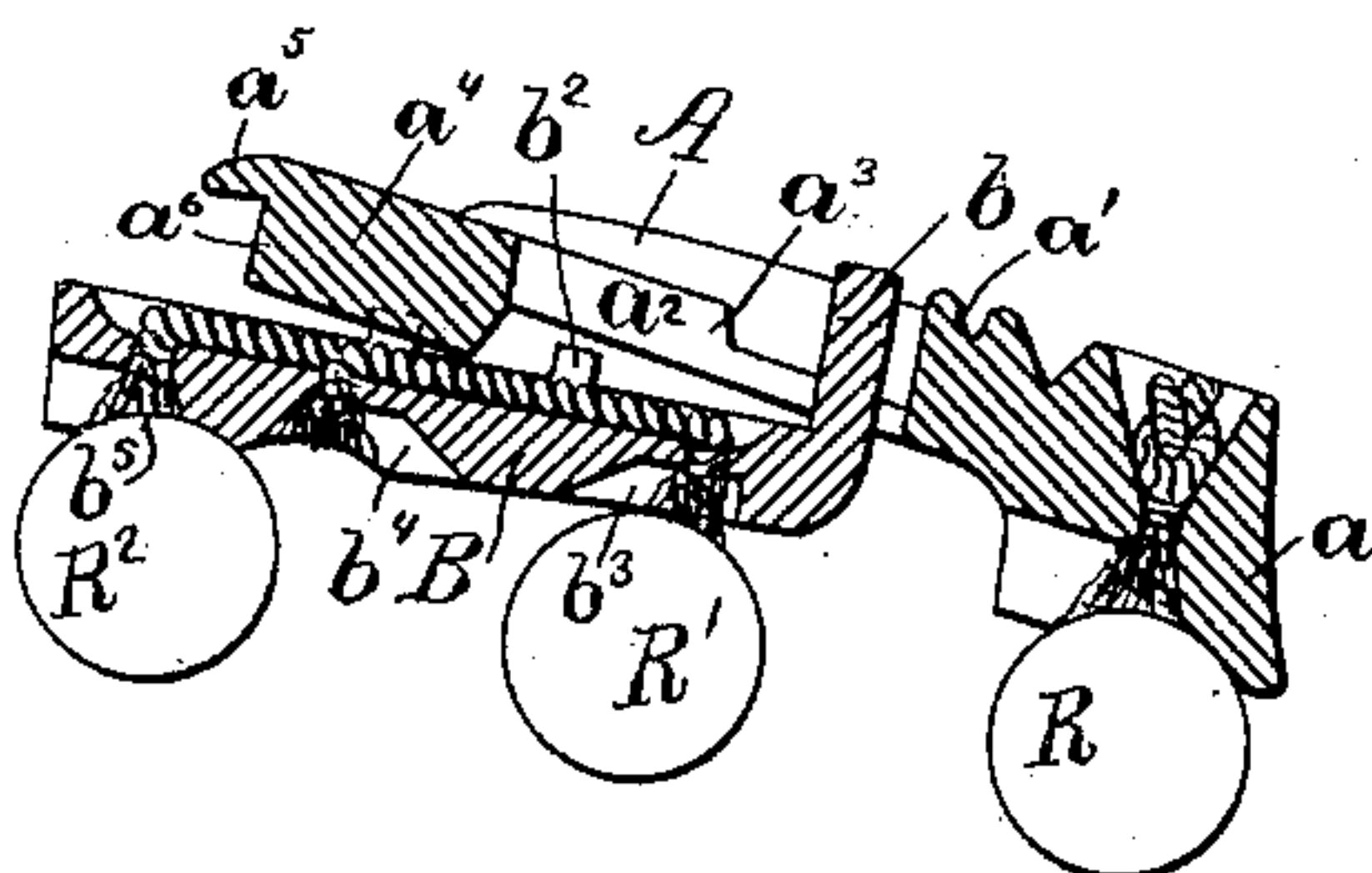


Fig. 3.

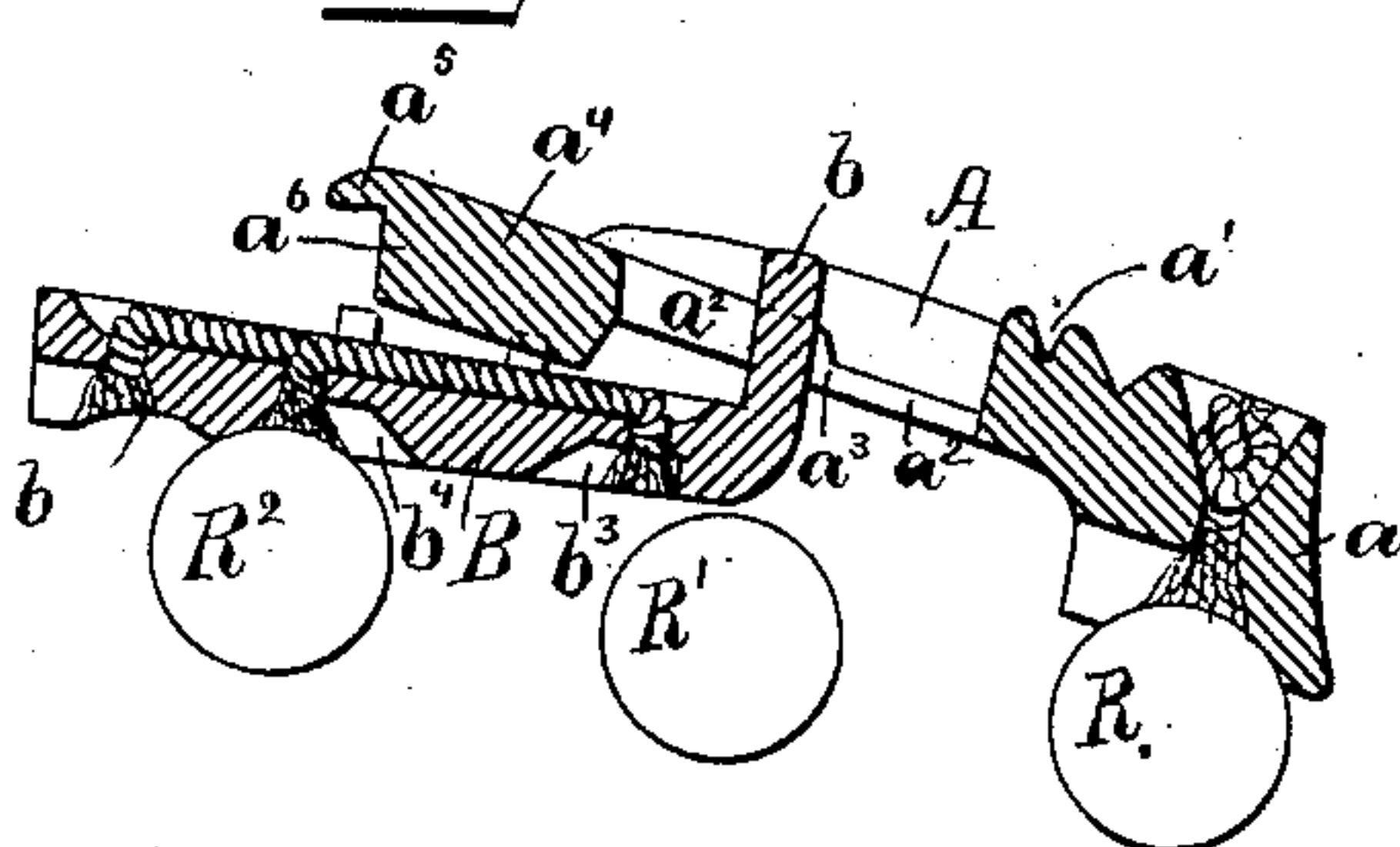


Fig. 4.

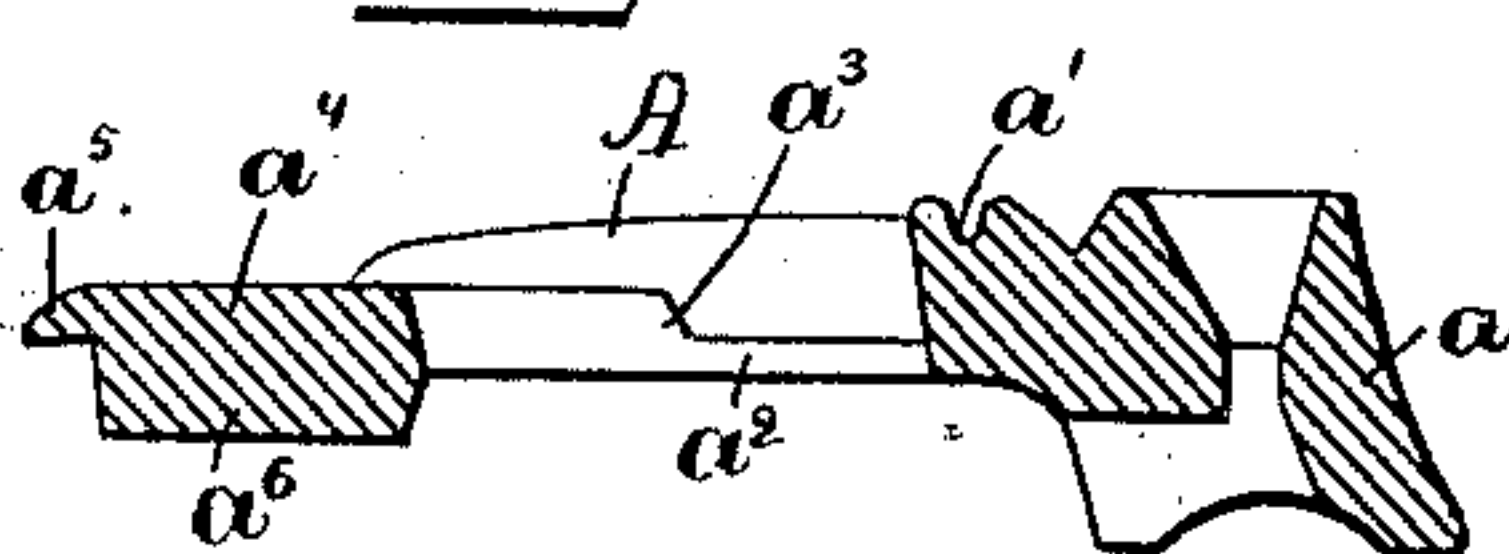
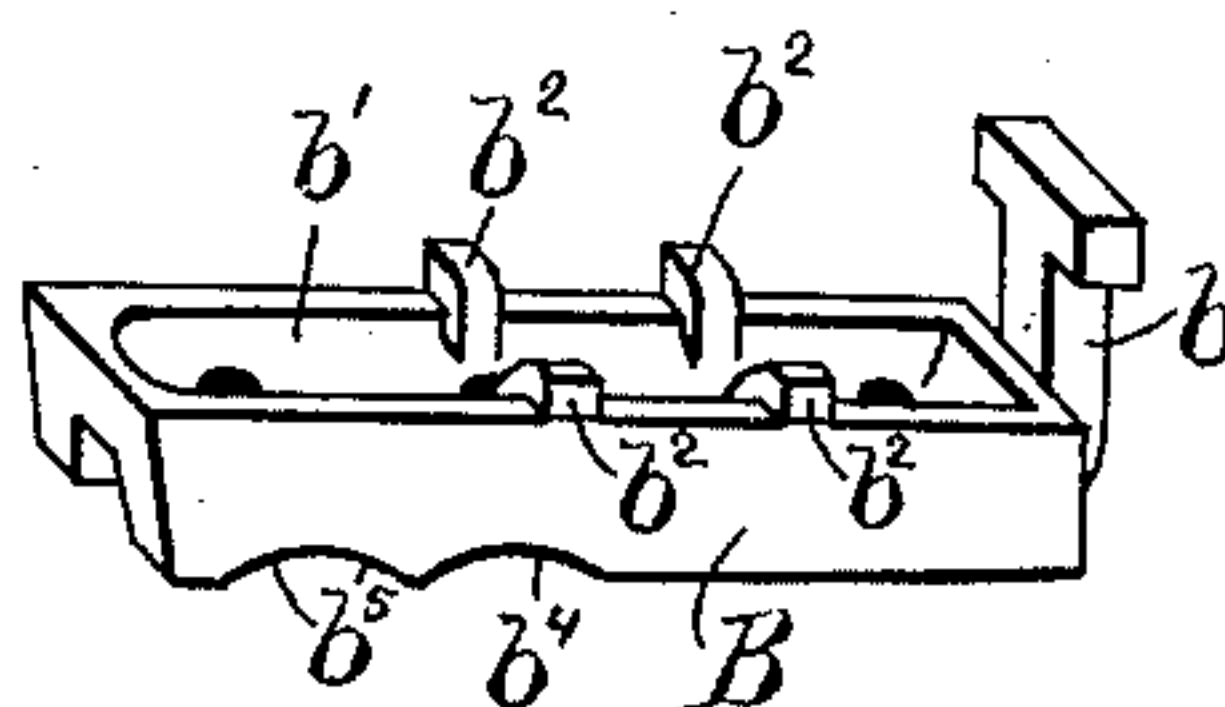


Fig. 5.



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EZRA DIXON, OF BRISTOL, RHODE ISLAND.

SADDLE FOR TOP ROLLS OF SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 354,400, dated December 14, 1886.

Application filed July 7, 1884. Serial No. 136,984. (No model.)

To all whom it may concern:

Be it known that I, EZRA DIXON, of Bristol, in the county of Bristol and State of Rhode Island, have invented certain new and useful
5 Improvements in Saddles for Top Rolls of Spinning-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

10 My invention relates to that class of devices which are arranged to rest upon the top rolls in drawing and spinning frames for the purpose of holding the top rolls down upon the lower rolls; and the object of my invention is
15 to produce a saddle which shall be capable of extension, so as to rest only on the front and back rolls, leaving the middle roll free, and also of contraction, so as to rest upon both the front
20 and back and middle rolls, and which may be adjusted to long and short staples without removal from the rolls.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

My invention also further consists in certain peculiar and novel details of construction, the purpose of which is to facilitate the manipulation and operation of the saddle.

30 In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings; in which—

Figure 1 is a side elevation of my improved
35 saddle in contracted condition. Fig. 2 is a longitudinal section of the same. Fig. 3 is a longitudinal section of my improved saddle in extended condition. Fig. 4 is a longitudinal section of the upper member of the saddle.
40 Fig. 5 is a perspective view of the lower member of the saddle.

In drawing long staple only the front and rear drawing-rolls are used, while in drawing short staple all three of the rolls are brought
45 into use; consequently, when long staple is to be drawn, it is desirable that the middle roll should be left free from the pressure of the saddle. On the other hand, when short staple is to be drawn, the middle roll should be acted
50 upon by the saddle, and inasmuch as frequent changes occur in the character of the staple to be drawn, it is of the highest importance that

the consequent readjustments of the saddles should be speedily accomplished. The necessary adjustments of the saddles, consequent
55 upon the drawing of long and short staples, necessitate the removal of the saddles in many cases, which results in much loss of time and in the expenditure of labor, both of which effects are highly objectionable.

60 An important advantage of my present invention is that these objections are completely avoided, and the adjustments of the saddles are made easily and quickly and without removing the saddles from the rolls.

65 In the accompanying drawings, A designates the upper, and B the lower, member of my improved saddle.

The upper member, A, is of oblong rectangular form, and carries at its outer end an
70 enlargement, *a*, which is hollow, so as to contain a suitable quantity of lubricant. From the bottom of the cavity in the enlargement *a* extends a channel which opens at its lower end into the top of a curved depression
75 formed in the under side of the enlargement *a*, and constituting a bearing for the member A upon the front roll. Upon the upper side of the member A, just back of the enlargement *a*, is formed a V-shaped notch, *a'*,
80 which receives the stirrup by which the saddle-weight is suspended from the upper member, A. The central portion of the upper member is formed with an elongated opening, as shown in Figs. 2, 3, and 4, and upon each of the
85 longer sides of this opening is formed a rail, *a²*, which is divided at its center by a step, *a³*, into an upper and a lower portion, the lower portion lying in front of the upper portion, as shown in the figures just referred to. The rear
90 end of the opening is bounded by a solid portion, *a⁴*, of the member-body, and at the rear end of the portion *a⁴* is formed a spur or projection, *a⁵*. The under side of the solid portion *a⁴* is formed with the convex portion *a⁶*, which
95 extends longitudinally of the member A. The upper member, with its several parts above described, the purposes of which will be stated hereinafter, is formed, preferably, of a single integral casting, as is shown in the drawings.
100 The lower member, B, is formed at its front end with an upwardly-extending projection, *b*, the upper end of which is formed with a T end or head, as shown in Fig. 5. On its up-

per side the member B is formed with a channel or depression, b' , which is designed to receive a suitable quantity of lubricant. At about the middle of each of the longer sides of this channel are formed two inwardly-extending studs, $b^2 b^2$, while from the bottom of the depression b' extend three channels which open respectively into the tops of three curved depressions, $b^3 b^4 b^5$, which are formed on the under side of the member B, and constitute the bearings for said member upon the middle and back rolls.

The member B, with its several parts above described, constitutes, preferably, a single integral casting.

In order that the operation of the device may be fully understood, let it be supposed that R , R' , R^2 in Figs. 1, 2, and 3 represent, respectively, the front, middle, and back rolls. The lower member, B, is connected to the upper member, A, by inserting the upper end of the projection b through the central opening of the member A, from beneath the latter. This insertion is accomplished by placing the member B at right angles to the member A, and then passing the projection b upward into the central opening, after which the member B is turned into alignment with the member A, whereby the cross or T head of the projection b rests upon the rails a^2 , the width of the T-head being greater than the distance between the rails, and slightly less than the distance between the inner faces of the sides which carry said rails. The two members will now be securely connected by the T-head. When short staple is to be drawn, the saddle is placed in contracted condition, as is shown in Figs. 1 and 2—that is to say, the upper member is carried along upon the under member till the projection b of the latter rests nearly or quite against the front end of the central opening of the former. In this condition of the saddle the convex portion a^6 of the upper member rests on the two rearmost studs, $b^2 b^2$, of the member B, and consequently said portion does not rest upon the wicking in the channel b' . It will also be seen that in this contracted condition of the saddle the front end of the upper member rests by its curved bearing on the front top roll, R , while the lower member rests by its curved bearings b^3 and b^4 , respectively, on the middle roll, R' , and the rear roll, R^2 . In this position the lower member is caused to press upon both the middle and back rolls by the weight (not shown) which depends from the notch a of the upper member, A, and this position of the lower member is permitted by reason of the T-head of the projection B being over the lower portions of the rails a^2 . Now, supposing the saddle to have been operating in its contracted condition, and that it is desired to draw long staple, in this event, as before stated, it is necessary that the middle roll, R' , be freed from the pressure of the lower member. This is accomplished by placing the finger, or a suit-

able edged implement, under the spur a^5 , and thus raising the rear end of the member A, after which the lower member is drawn back till its projection b , or, more correctly, the T-head of said projection, is over the upper portions of the rails a^2 , and in this condition, in which the saddle is said to be "extended," the convex portion a^6 of the upper member rests upon the two forward projections, $b^2 b^2$, while the lower member rests only upon the back roll, R' , by the bearing b^4 . The relative position of the portion a^6 to the studs $b^2 b^2$, and the relative position of the projection b to the upper portions of the rails a^2 , are such that the front end of the lower member is held in raised position, and consequently does not touch the middle roll, R' , while at the same time the weight suspended from the member A presses the rear end of the member B upon the rear roll, R^2 . When short staple is to be drawn again, the finger, or the edged implement, is applied beneath the spur a^5 , as before, the rear end of the member A is raised and the member B is pushed forward to the position originally described. These movements of the members are accomplished without removing the saddle from the rolls, and are done with the utmost ease and rapidity, thereby saving time and labor.

I have shown the members as provided with the usual wicking, which is placed in the receptacles for the lubricant and passed through their channels to the bearings. It will be seen that the convex portion a^6 will never rest upon the wicking, but will always rest and move upon the studs b^2 , and thus remain always above the wicking.

I am aware of the heretofore-employed construction of a top-roll saddle made of two parts which are adjustable on their lengths relatively to each other, and whereby the saddle-bearing for the middle roll may be rested on said roll or elevated thereabove, while the saddle-bearings for the respective end rolls remain practically normal, or unchanged in position, in order to place the pressure upon or take the pressure off the said middle roll, and I therefore disclaim such a construction in a saddle; but,

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with an upper member provided at the front end with a bearing for the front roll, of a lower member connected with and sliding under said upper member and provided upon the under side with three bearings or depressions, of which the inner bearing is for the middle roll and the central and outer bearings are both for the back roll, all constructed substantially as described, whereby the members may be relatively adjusted, and the inner and outer bearings of said lower member may rest upon the middle and back rolls, respectively, or the lower member may be moved to shift the bearings for the back roll from the outer said bearing to the

center bearing and the middle roll be cleared by said lower member, substantially as and for the purpose herein set forth.

2. The combination, with an upper member 5 provided with a bearing for the front roll and having a longitudinal opening formed in the body thereof, of a lower member provided with a series of bearings for the back and middle rolls and having a projection for interlocking with and sliding in said opening 10 in the upper member, substantially as described, whereby the upper member may rest upon the front roll, and the lower member may either rest upon both the back and middle 15 rolls at once, or may be slid to shift its bearing for the back roll, and may then only rest on the back roll, substantially as and for the purpose herein set forth.

3. The combination, with the upper member 20 provided at its front end with a bearing for the front roll and at its rear end with a convex bearing, and also provided with a central opening having a divided rail upon each of its longer sides, of a lower member provided at its front end with a T-headed projection to engage with the divided rail, and 25 having a central depression formed with studs on its longer sides to receive the convex bearing, and with bearings for the middle and top 30 rolls, substantially as described.

4. The combination, with the upper member, A, provided with a bearing for the front roll and formed with a longitudinal opening 35 therein, of the lower member, B, provided with three bearings, of which the inner one is

for the middle roll and the central and outer bearings are both for the back roll, said member B provided with a projection working and sliding in said opening in the member A, substantially as described, whereby the bearing 40 of member A may always rest upon the front roll, and the bearings of member B may either rest upon the back and middle rolls, respectively, as described, or the member B may be slid to shift its bearings for the back roll and 45 may then clear the middle roll and rest only upon the back roll, all substantially as and for the purpose herein set forth.

5. The combination, with the member A, having the enlargement *a*, with the bearing at 50 its base, the opening, with the rails *a*², the convex portion *a*⁶, and the spur *a*⁵, of the member B, having the T-headed projection *b*, the depression *b*¹, the studs *b*², and the bearings *b*³ *b*⁴ *b*⁵, as specified. 55

6. The combination, with the member A, having the enlargement *a*, with the bearing at 60 its base, the notch *a*¹, the opening, with the rails *a*², and the body *a*⁴, with the convex portion *a*⁶ and spur *a*⁵, of the member B, having the T-headed projection *b*, the depression *b*¹, with the studs *b*², and the bearings *b*³ *b*⁴ *b*⁵, substantially as specified.

In witness whereof I have hereunto set my hand.

EZRA DIXON.

Witnesses:

J. A. MILLER, Jr.

M. F. BLIGH,