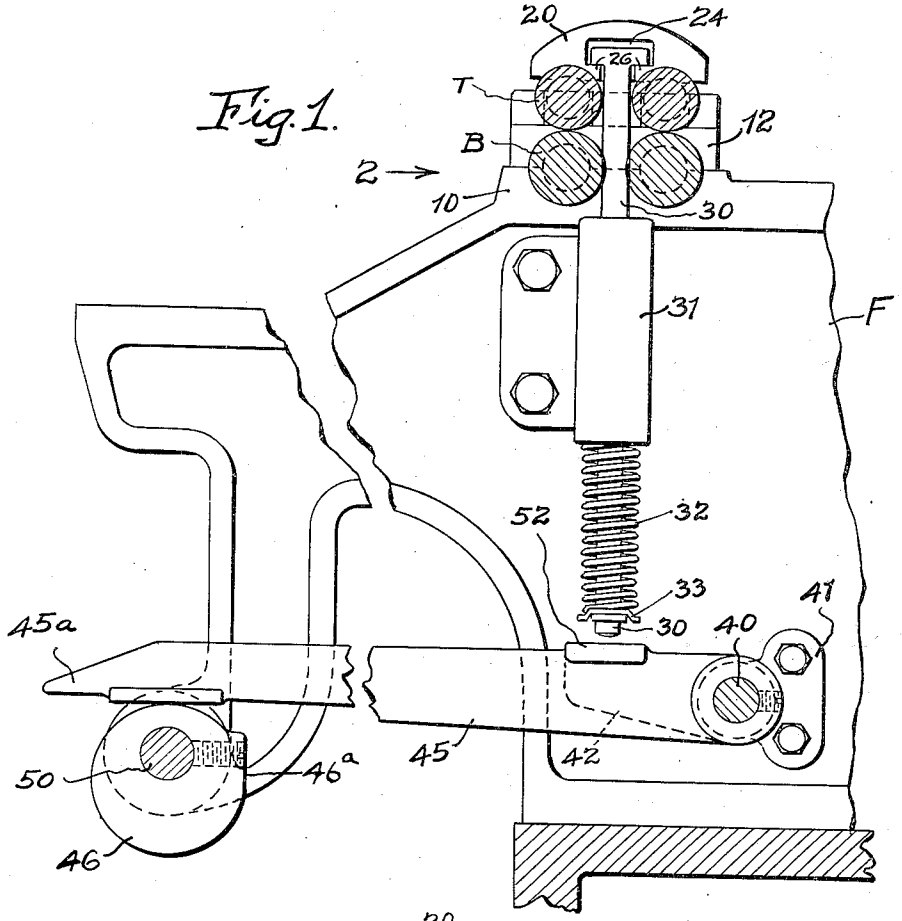
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ROLL TENSION DEVICE

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2 Sheets-Sheet 1

Fig. 1.



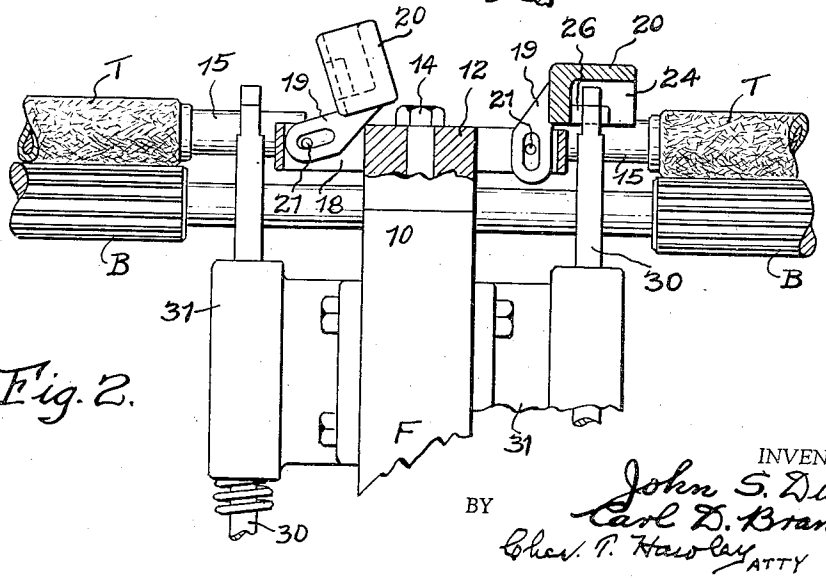


Fig. 2.

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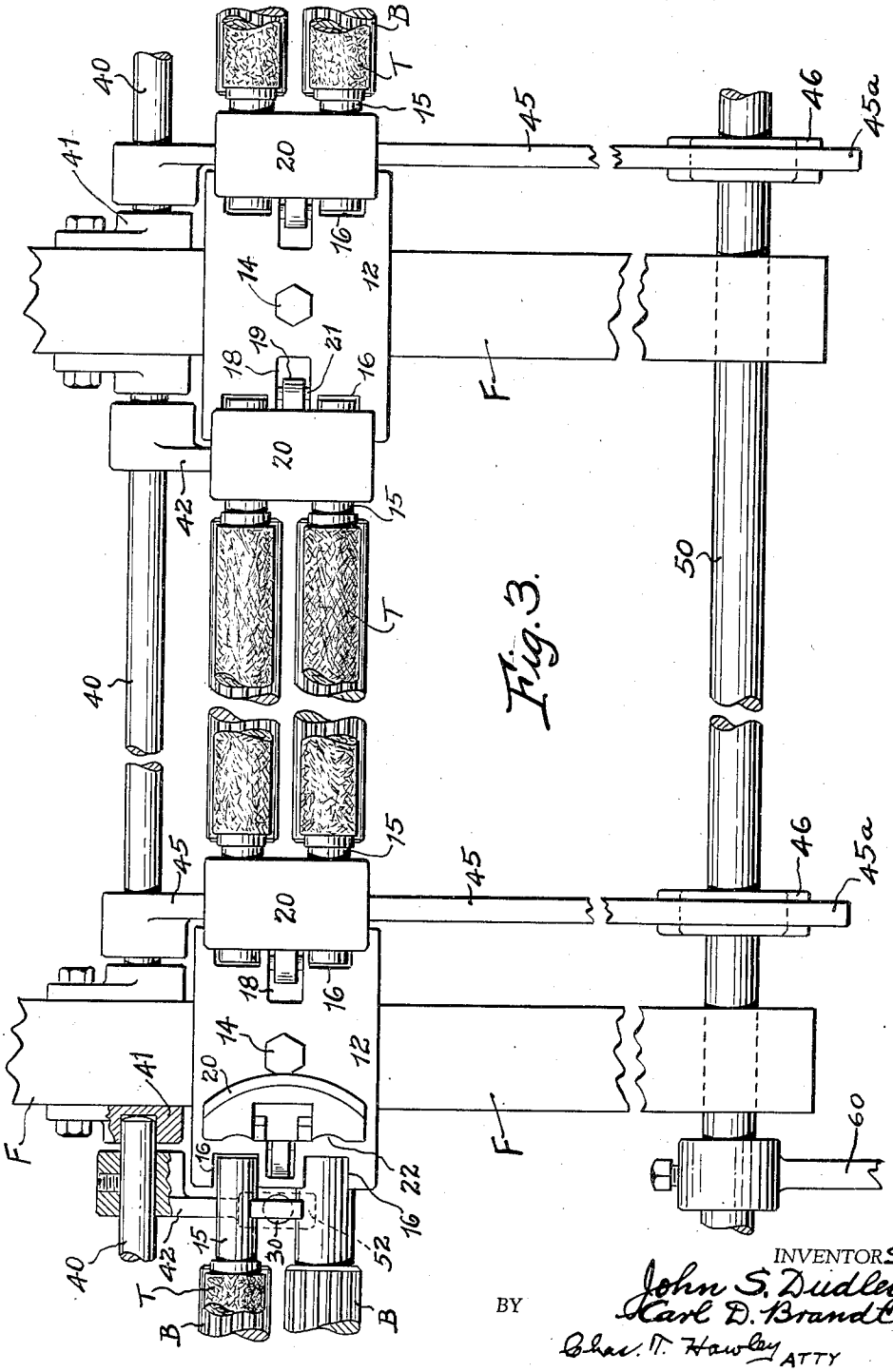


Fig. 3.

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UNITED STATES PATENT OFFICE

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ROLL TENSION DEVICE

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4 Claims. (Cl. 19—135)

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This invention relates to devices for applying tension to drawing rolls in textile machines, such as combers or roving frames.

It is the general object of the invention to provide improved devices for applying and releasing pressure on such rolls and for permitting easy and convenient removal of selected rolls.

A further object is to provide a construction by which any selected roll or pair of rolls may be removed or replaced without interference with the continued operation of the remaining rolls.

Our invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is an end elevation, partly in section, showing our improved construction;

Fig. 2 is a partial front elevation, partly in section, and looking in the direction of the arrow 2 in Fig. 1; and

Fig. 3 is a plan view of the invention, partly in section.

Referring to the drawings, we have shown portions of the frame F of a comber or other machine for drawing textile fibers. The machine is provided with the usual driven bottom rolls B and freely rotatable top rolls T. The bottom rolls B rotate in fixed bearing portions 10 on the frame F and are confined by caps 12 secured to the portions 10 by bolts 14.

The journal portions 15 of the top rolls T are loosely rotatable in vertical slots or recesses 16 in the ends of the fixed bearing caps 12. The ends of the caps 12 are also recessed at 18 to receive slotted arms 19 projecting downward from saddles 20. A pin 21 holds each saddle 20 from displacement and provides a lost-motion connection between the saddle 20 and the bearing cap 12. In Fig. 2, the right-hand saddle 20 is shown in operative position and the left-hand saddle 20 in inoperative position.

Each saddle 20 has front and rear bearing recesses 22 (Fig. 3) which rest upon journal portions 15 of the front and rear top rolls T. Between the recesses 22, a central recess 24 (Figs. 1 and 2) is provided, which has inwardly projecting flanges 26 adapted for engagement by the T-shaped head of a tension rod 30. The rod 30 is vertically slidable in a fixed bearing bracket 31 and is pressed downward by a coil spring 32 mounted between the lower end of the bracket 31 and a washer 33 secured to the lower end of the rod 30.

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When the parts are in the position shown in Fig. 1 and at the right in Fig. 2, the tension rod 30 applies a strong downward pressure through the saddle 20 to the journal portions 15 of the adjacent top rolls T.

Short shafts 40 (Fig. 3) are mounted in bearing blocks 41 bolted to the sides of the frame members F. Each shaft 40 is provided with a short arm 42 underlying the tension rod 30 at the right end of a pair of top rolls T, and each rod 40 is similarly provided with a long arm or lever 45 underlying the tension rod 30 at the left-hand end of the same pair of top rolls.

The front end 45a of the long arm or lever 45 extends over a cam 46 on a shaft 50 extending continuously lengthwise of the machine. Step portions 52 (Fig. 1) on the arms 42 and 45 directly underlie the rods 30 and with slight normal clearance.

If it is desired to release a pair of top rolls, the operator grasps the front end 45a of the long arm 45 and swings the arm upward to raise the tension rods 30 against the pressure of the springs 32. After the rods 30 have been raised, the saddles 20 may be swung back out of operative position as shown at the left in Fig. 2, after which the rolls T may be easily removed or replaced. It will be noted, however, that the tension on all other pairs of top rolls remains in operative effect.

If, however, it is desired to relieve the tension on all of the top rolls in the machine, the shaft 50 and cams 46 are rotated to raise all of the arms 45 and associated arms 42, thus raising all of the tension rods 30 and relieving the tension on all of the top rolls in the machine. Such action is desirable to relieve the pressure on the rolls when the machine is stopped for a considerable period, as at the end of the working day.

For this purpose the arms 45 need be raised only far enough to relieve the spring tension and the cams 46 are so designed. When in raised position, the ends of the arms 45 rest on flat surfaces 46a of reduced radius on the cams 46 and thus hold the cams from return movement. An arm 60 may be provided for turning the shaft 50 to rotate the cams 46.

From the foregoing description, it will be evident that we have provided very simple and efficient tension devices by which the tension on selected rolls or on a full equipment of rolls may be conveniently released.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed, otherwise than

as set forth in the claims, but what we claim is:

1. In a textile machine having driven bottom drafting rolls and separate sets of associated and freely rotatable top rolls, in combination, fixed bearing caps between said sets of top rolls, a separate saddle for applying pressure to each end of each set of top rolls, said saddles being swingable to operative and inoperative positions relative to said top rolls, about separate axes in said bearing caps, which axes are spaced longitudinally of said drafting rolls and extend transversely thereof, and tension rods detachably connected to said saddles and effective to apply pressure through said saddles to said top rolls.

2. The combination in a textile machine as set forth in claim 1, in which the bearing cap has vertical recesses and in which each saddle has a portion extending into one of said recesses and has a pin-and-slot connection to said cap in said recess.

3. The combination in a textile machine as set forth in claim 1, in which the tension rods have T-shaped heads and in which the saddles are provided with spaced flanges for engagement by said T-shaped heads.

4. The combination in a textile machine as set forth in claim 1, in which the means is provided to lift said rods and thereby relieve the tension on said saddles and permit swinging movement thereof to inoperative position.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
640,786	Mathewson	Jan. 9, 1900
1,218,659	Houghton	Mar. 13, 1917
2,072,452	Hughes	Mar. 2, 1937
2,350,789	Marzoli	June 6, 1944
2,425,264	Noguera	Aug. 5, 1947

FOREIGN PATENTS

Number	Country	Date
2,526	Great Britain	1902