(No Model.)

J. SULLIVAN.

COMPRESSION ROLL FOR SLASHERS.

No. 578,951. Patented Mar. 16, 1897.

Fig. 1.

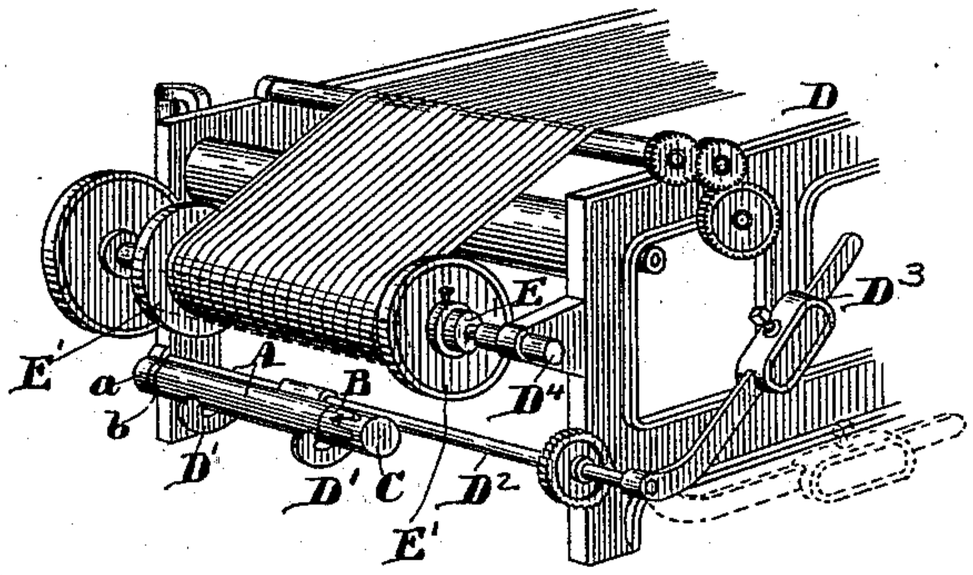


Fig. 2.

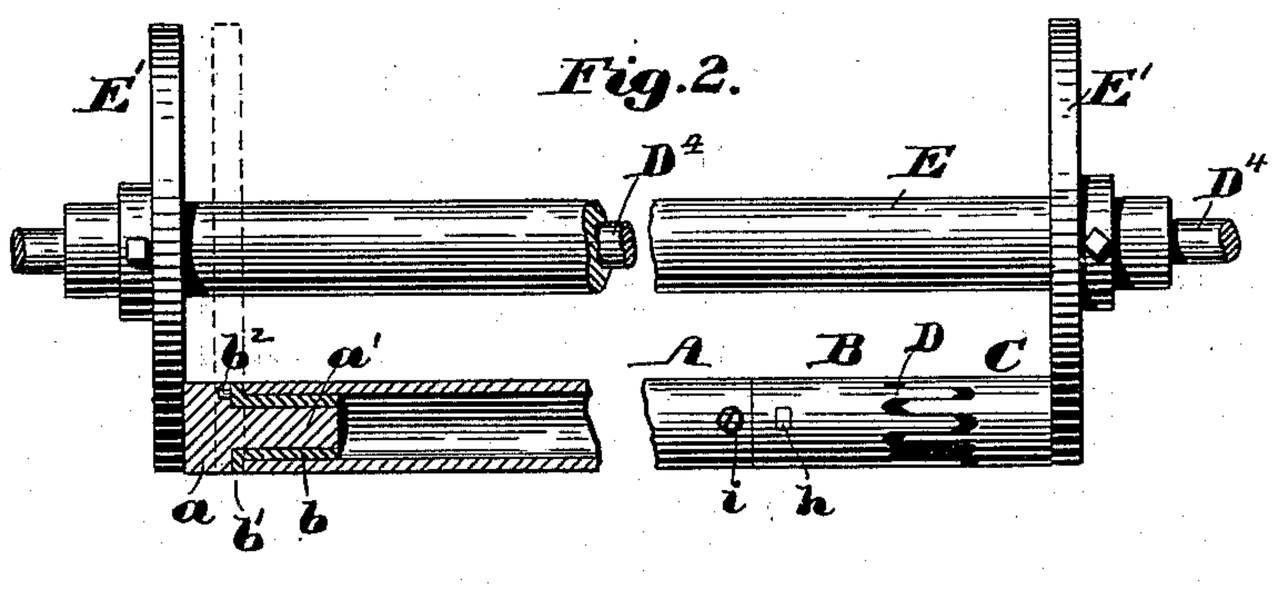


Fig. 3.

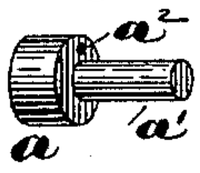


Fig. 5.

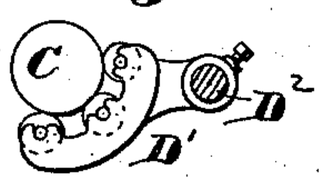


Fig. 4.

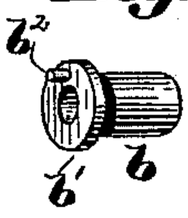
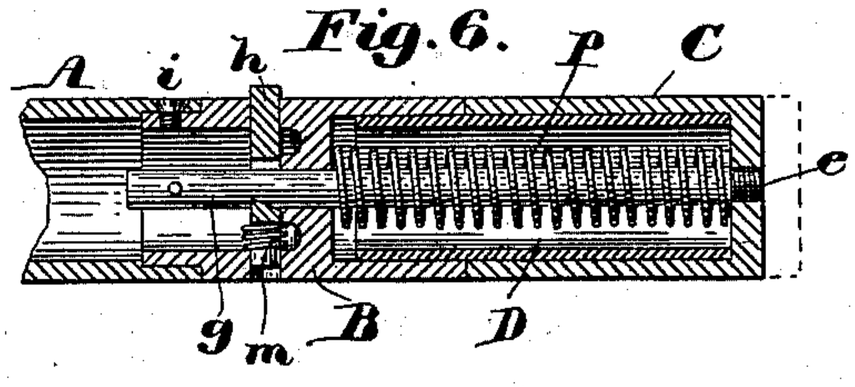


Fig. 6.



Witnesses:
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A.C. Harwood

Inventor:
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by Crosby Gregory Attys.

UNITED STATES PATENT OFFICE.

JOHN SULLIVAN, OF FALL RIVER, MASSACHUSETTS.

COMPRESSION-ROLL FOR SLASHERS.

SPECIFICATION forming part of Letters Patent No. 578,951, dated March 16, 1897.

Application filed November 17, 1896. Serial No. 612,408. (No model.)

To all whom it may concern:

Be it known that I, JOHN SULLIVAN, of Fall River, in the county of Bristol and State of Massachusetts, have invented an Improvement in Compression-Rolls for Slashers, Dressers, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In winding yarn onto a warp-beam it is necessary that the yarn be acted upon uniformly throughout the entire length of the beam or else the tension on the individual warp-threads when mounted in the loom will vary and injure the cloth.

Prior to this invention a compression-roll has had applied to it at one end a two-part extensible section, a spring contained in the extensible section causing the ends of the compression-roll to bear against the inner ends of the heads of the warp-beam. This device works well, but the extent to which the roll may be extended in the direction of its length is limited. In practice the width of the warp wound onto the warp-beam varies frequently, and sometimes the heads of the beam are not separated sufficiently, and in such case a beam having its heads separated for the proper distance is provided. Frequently it is desired to make adjustments of the heads on the beam, and a compression-roll having an extension such as referred to will not practically adapt itself to the new position of the heads, and a new and longer compression-roll has to be provided.

In this my invention I have improved the compression-roll referred to by combining with its open end a detachable plug having a head, said head being of greater or less thickness, according to the extra increase in length required for the roll over its usual limits of extension.

Figure 1 in perspective shows one end of a slasher-frame and its warp-beam, together with my improved compression-roll in its inoperative position; Fig. 2, an enlarged detail showing the beam with its head adjusted and the roll in working position. Fig. 3 shows the plug removed. Fig. 4 shows a plug-holder. Fig. 5 shows the roll-carrier and roll on it, and Fig. 6 is a sectional detail of the extensible end of the roll.

The slasher-frame D, the roll-carrier D′, the shaft D^2, to which it is attached, its weighted lever D^3, and the journal D^4 of the warp-beam are and may be all as usual.

The barrel E of the warp-beam is fixed on the journal B^3, and the heads E′ of the beam are made adjustable on the said barrel to thus compensate for taking a warp of greater or less width, according to the fabric to be made from the warp.

The compression-roll is composed of a hollow body A, having pinned to it a two-part end piece B C, the inner ends of the pieces B C being forked to interlock. A rod *c* is connected with the head of the part C and extended into an inner head of the part B and surrounded by a spring *p* to thus keep the forks of the parts B and C sufficiently separated to keep both ends of the roll pressed against the inner sides of the beam-heads.

The roll A and its two-part spring-separated end B C are the same as represented by like letters in United States Patent No. 342,613, dated May 25, 1886. The spring-separated end is limited in its capacity, for should the part C be moved outwardly on the part B to any appreciable extent holes are left where the prongs retire from the slots, into which holes the yarn bulges and at that point is not as evenly and closely laid upon the beam. In my efforts to adapt this roll to a wider range of work I have combined with the opposite end of the roll A a removable plug *a*, it being shown as a head having a shank *a′*, the shank preferably entering a hole in a bushing *b*, driven or fitted closely into the hollow roll, said bushing having a head *b′* and a pin b^2, the latter entering a hole a^2 in the head when the shank *a′* is put into the hole in the bushing, the said pin restraining the plug from rotation. The insertion of the bushing into the open end of the roll and providing the bushing with a pin enables the employment of a hollow roll of less thickness, and therefore of lighter weight, than were the bushing omitted.

The bushing strengthens the end of the tube, and while the pin might be inserted in

the end of the tube it is not so practical or easy of construction as to force the bushing, its hole being true, to receive the shank tightly into the tube.

A number of plugs will accompany a roll, and, as the heads of the plugs vary in thickness, a plug of the desired thickness may be readily added to the roll to adapt it to any desired separation of beam-heads and width of warp to be wound.

The roll having the spring-separated end section and the plug is adaptable to any desired width of beam.

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

1. A compression-roll composed of a hollow shell a spring-separated end piece at one end thereof, and a removable plug at the other end of said roll and forming part of the bearing-surface of said roll, to operate, substantially as described.

2. A compression-roll, presenting a hollow shell, a bushing therein having a pin, and a detachable plug having an enlarged head and a shank, the said shank entering the hole in said bushing leaving the head of the plug of the same diameter as the roll exposed at the end of the roll, it serving as a bearing-surface, substantially as described.

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

JOHN SULLIVAN.

Witnesses:
DOMINIK COSTELLAM,
DENNIS V. SULLIVAN.