

(No Model.)

J. G. GOLDTHWAITE.
ADJUSTING DEVICE FOR COMPRESSING ROLLS.

No. 454,402.

Patented June 16, 1891.

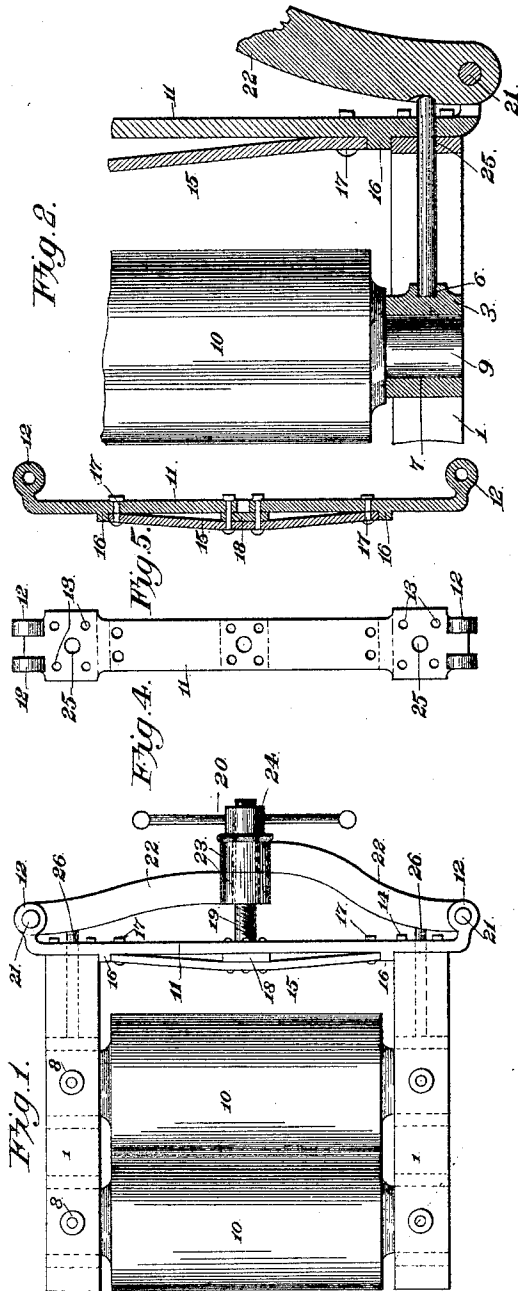
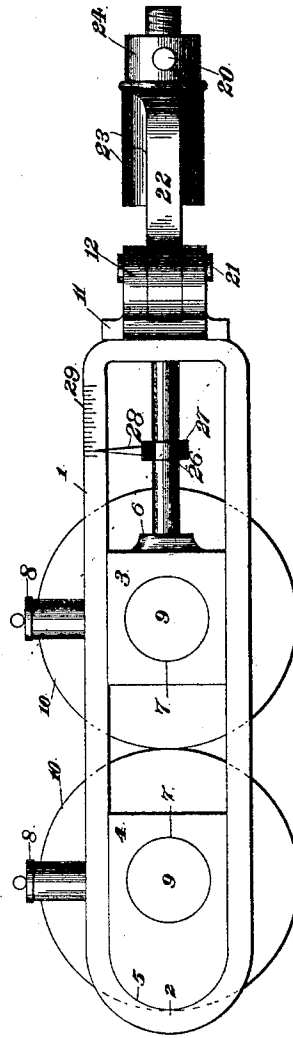


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ADJUSTING DEVICE FOR COMPRESSING-ROLLS.

SPECIFICATION forming part of Letters Patent No. 454,402, dated June 16, 1891.

Application filed March 21, 1891. Serial No. 385,863. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH G. GOLDTHWAITE, a citizen of the United States, residing at Galveston, in the county of Galveston and State of Texas, have invented a new and useful Adjusting Device for Compressing-Rolls, of which the following is a specification.

This invention relates to adjusting devices for that class of compressing-rolls employed for compressing into a continuous thin sheet cotton fiber; and the objects in view are to provide a simple and convenient means for binding the rolls in contact, and when so bound to prevent any undesired yielding.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a plan of a pair of rolls and means constructed in accordance with my invention for binding the same in contact. Fig. 2 is a horizontal section of one corner of the roll-supporting stirrup or frame, a roll, and the binding mechanism. Fig. 3 is a side elevation. Fig. 4 is a detail in plan of the yoke. Fig. 5 is a detail in section of the yoke.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a pair of opposite frames or stirrups, the rear ends of which are curved or semicircular in shape, as shown at 2. In each of the stirrups is mounted a pair of boxes 3 and 4, the latter being at the rear ends of the stirrups and curved, as at 5, at their rear ends to correspond with the curvature of the stirrups, while the former are provided at their front sides with sockets 6. Each box 40 has a bearing-opening 7, to which oil is fed by oil-cups 8, and in each pair of opposite bearings are mounted the trunnions or shafts 9 of a pair of metal rolls 10.

Securely bolted to the front ends of the stirrups is a transverse yoke-bar 11, the extremities of which occur slightly beyond the stirrups and are provided with perforated bearing-ears 12. Perforations 13 are formed near the ends of the yoke and through the same pass bolts 14 into the stirrups. The yoke is braced by a truss 15, located at the

inner side of the same and having its ends abutting against transversely-disposed stops or ribs 16, located upon the inner side of the yoke, to which latter it is riveted, as at 17. A bearing-block 18 is interposed between the center of the yoke and truss, and upon the same bears the inner end of a screw-threaded shaft 19, upon which is mounted a threaded nut or hub 24, having a hand-wheel or operating-bars 20.

Pivoted between the perforated lugs or ears 12 at the ends of the yoke, by means of a bolt 21, is a pair of inwardly-disposed curved levers 22, terminating at their inner ends in overlapping perforated heads 23, which loosely receive the screw-threaded shaft 19, and the outer one of which is borne upon by the hub or head 24, formed at the outer end of the threaded shaft 19. Through perforations 25 formed in the front ends of the stirrups is passed a pair of rearwardly-disposed bars or pins 26, the rear ends of which terminate and bear in the sockets 6 of the front pair of boxes 7.

A collar 27 is located upon one of the pins or bars 26, is screw-threaded to receive the same, and carries an indicating finger or pointer 28, designed to move over a scale 29 upon the edge of the adjacent stirrup.

The operation of the above device will be readily understood from the foregoing description, and may be briefly explained, as follows: It is necessary to have the rolls 10 run in contact their entire length, and to be supported in such contact against any back pressure caused by the substance or material passing therethrough, so that said material is formed into a thin continuous sheet or web. It will be observed that by operating the hand-wheel or handle 20 the hub or nut is rotated and the adjusting-levers 22 are forced in or relaxed in accordance with the direction of rotation of the hub or nut, and in this manner are the pins 26 either employed for forcing the rolls together or easing the same, as may be necessary. It will be observed that an immense pressure may be thus secured with but little exertion, and that when obtained the rolls will be maintained against any back-pressure and held immovable against separation. The yoke is strongly trussed,

and thus well adapted to sustain the strain placed thereon by the rear end of the screw.

An adjustment as above described I have found both powerful, economical, and practical, and possessing many advantages, as ease of operation, durability, &c.

It will be observed that as the levers 22 are operated also are the pins 26 moved accordingly, and by means of the pointer 28 the degree of pressure of the rolls may be indicated.

Having described my invention, what I claim is—

1. The combination, with the frames and boxes, a pair of which is movably mounted therein, of a pair of rolls, the shafts of which are journaled in the boxes, a pair of levers pivotally connected at corresponding ends of the frames, a threaded shaft passed through openings in the overlapping inner ends of the levers, a bearing-block for the inner end of the shaft, a hub or nut having a handle at the front end thereof, and connecting devices between the levers and the movable boxes, substantially as specified.

2. The combination, with the opposite stirrups, the opposite pairs of boxes mounted therein, and the opposite rolls mounted in the boxes, of the transverse yoke secured to the front ends of the stirrups and terminating at its ends in perforated bearing-ears, a pair of curved levers pivoted at their outer ends between the ears, overlapping each other at their inner ends and provided at said ends with enlarged perforations, a screw-threaded shaft mounted in the perforations and bearing upon the yoke, and a nut having a handle mounted thereon adapted for operating said nut, substantially as specified.

3. The combination, with the stirrups, the pairs of opposite boxes, and the two rolls journaled therein, one of said stirrups being provided with a scale, of a pair of levers pivoted at their outer ends upon the front ends of the stirrups and terminating at their inner overlapped ends in enlarged perforated heads, a screw-threaded shaft mounted in the perforated heads, pins connecting the levers with the front pair of boxes, which latter are movable, and a collar mounted on one of the pins and having a pointer moving over the scale, substantially as specified.

4. The combination, with the opposite stirrups, the opposite pair of boxes, one of which is movable, and the pair of opposite rolls having their shafts journaled in the boxes, the front pair of boxes being provided with sockets, of a transverse yoke bolted to the front ends of the stirrups terminating at its ends in forwardly-disposed pairs of perforated ears and provided upon its inner sides within the stirrups with transverse stops, a truss terminating against the stops and bolted to the yoke, a pair of curved levers pivoted at their outer ends between the ears and having their inner ends overlapping and perforated, the pins connected with the levers and terminating in the sockets of the boxes, and the nut having a handle for operating upon said shaft, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH G. GOLDTHWAITE.

Witnesses:

J. H. SIGGERS.

W. S. DUVALL.