

(No Model.)

F. A. FLATHER.

STRIPPING MECHANISM FOR CARDING MACHINES.

No. 548,249.

Patented Oct. 22, 1895.

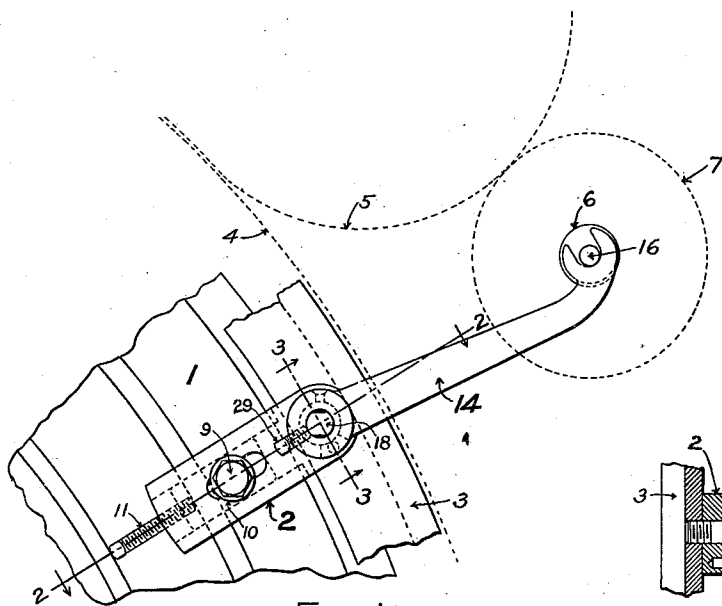


FIG. 1.

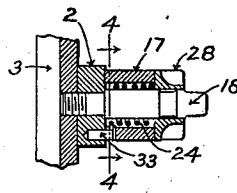


FIG. 3.

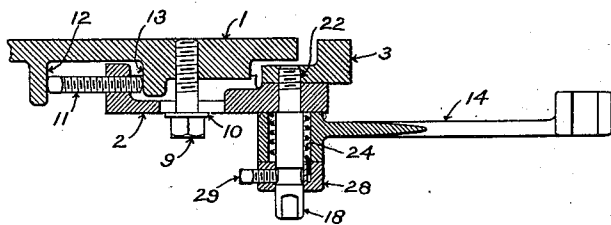


FIG. 2.

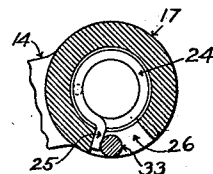


FIG. 4.

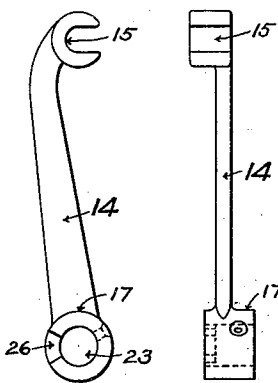


FIG. 9.

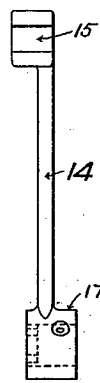


FIG. 10.

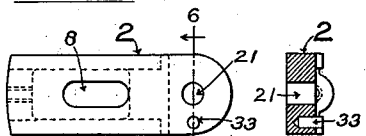


FIG. 5.

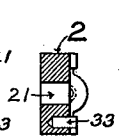


FIG. 6.

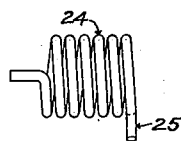


FIG. 14.

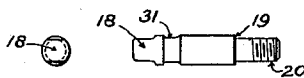


FIG. 8.

FIG. 7.

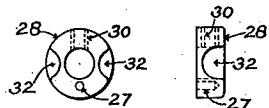


FIG. 11.

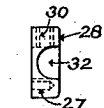


FIG. 12.

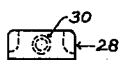


FIG. 13.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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LOWELL MACHINE SHOP, OF SAME PLACE.

STRIPPING MECHANISM FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 548,249, dated October 22, 1895.

Application filed July 19, 1895. Serial No. 556,471. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. FLATHER, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Stripping Mechanisms for Carding - Engines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention is designed as an improvement upon the stripping mechanism of United States Letters Patent No. 430,200, granted June 17, 1890, to James Thomson, Jr.; and it consists in certain novel features of construction and new and improved combinations of parts, which first will be described with reference to the accompanying drawings, and afterward will be more particularly pointed out and distinctly defined in the claims at the close hereof.

In the accompanying drawings, Figure 1 is a view showing in side elevation certain of the parts of a traveling-flat carding-engine with my invention applied thereto. Fig. 2 is a view in cross-section on the plane which is indicated by the dotted line 2 2 in Fig. 1, looking in the direction which is indicated by the arrows at the ends of such line. Fig. 3 is a view in cross-section on the plane which is indicated by the line 3 3 in Fig. 1, looking in the direction which is indicated by the arrows at the ends of such line. Fig. 4 is a view in cross-section on the plane which is indicated by the dotted line 4 4 in Fig. 3, looking in the direction which is indicated by the arrows at the ends of such line. Fig. 5 is a view in elevation of the supporting-bracket which is described hereinafter. Fig. 6 is a view in cross-section on the plane which is indicated by the dotted line 6 6 in Fig. 5, looking in the direction which is indicated by the arrows at the ends of such line. Fig. 7 is a view in elevation of the stud, which is referred to hereinafter; and Fig. 8 is an end view thereof. Figs. 9 and 10 are views of the supporting-lever, which is described hereinafter. Figs. 11, 12, and 13 are views of the collar which is applied to the outer end of the stud aforesaid. Fig. 14 is a view of the spring which

is employed in connection with the supporting-lever aforesaid.

1 in the drawings designates part of the main bend of a carding-engine. 2 is a supporting-bracket which is mounted upon the said main bend.

3 is one of the so-called "supplementary" bends, which in practice are used for supporting the cover-plates (not shown) that incase the main cylinder between the flats and the doffer.

4 is a dotted curved line indicating the surface of the card-clothing upon the main cylinder.

5 is a dotted curved line indicating the surface of the traveling flats.

6 is the stripping-roll.

7 is the lap wound upon the stripping-roll 6 and composed of strippings from the traveling flats.

As usual, the supporting-bracket 2 is provided with means to enable it to be adjusted radially relatively to the main cylinder, it having a slot 8 formed lengthwise thereof.

9 is a bolt, which is passed through the slot 8 and has its threaded end fitted to a threaded hole in the main bend 1, the said bolt having a washer 10 between the under side of its head and the supporting-bracket and serving to clamp the said supporting-bracket to the said main bend in the position into which it is adjusted.

11 is the adjusting-screw for the said supporting-bracket, its threaded stem passing through a threaded hole in a flange of the supporting-bracket. The said adjusting-screw is placed between the flanges 12 and 13, that are formed on the main bend 1, as usual.

The foregoing parts are all common to traveling-flat carding-engines as heretofore made and used and are or may be as usual.

At 14 is one of the supporting-levers for the stripping-roll, it being formed at the free extremity thereof with a bearing 15, in which is received the journal 16 of the corresponding end of the stripping-roll, as heretofore. A similar lever has been employed at each end of the stripping-roll in prior constructions. 17 is the hub of the said supporting-lever.

18 is the stud which, in accordance with my invention, I utilize as a means of connecting together the supplementary bend and its supporting-bracket, and also as a support for the supporting-lever and the spring which is connected therewith. At and near one end, as shown in Fig. 7, this stud is reduced in diameter for a short distance, leaving a shoulder 19, the said reduced portion being screw-threaded for a part of its length, as at 20, at the end of the stud. The reduced portion of the stud 18 is passed through a plain hole 21, which is formed in the supporting-bracket 2, as shown clearly in Figs. 2 and 3, (see also Figs. 5 and 6,) while the threaded portion thereof is caused to enter a threaded hole 22, which is provided in the supplementary bend 3, as shown clearly in Figs. 2 and 3. The stud 18 is turned in said threaded hole 22 in the supplementary bend 3 until the shoulder 19 on said stud has been caused to take firm bearing against the outer surface of the supporting-bracket 2. As will be apparent, the supplementary bend 3 thus is secured to the supporting-bracket 2 in a manner to enable it to be supported thereby.

Upon the portion of the stud 18 which projects beyond the supporting-bracket 2 the hub 17 of the supporting-lever 14 is fitted, the eye 23 of the said hub being sufficiently large in diameter to accommodate also the spiral spring 24, which is slipped upon the said projecting portion of the stud. One end 25 of this spring projects outwardly into a recess 26, that is formed in one side of the hub 17, and bears against or engages with one wall of such recess. The other end of the spring enters a hole 27, that is formed in one side of a collar 28, which latter is mounted upon the outer end of the stud and secured in place by a clamping-screw 29, the said clamping-screw being fitted to a threaded radial hole 30 in the said collar and bearing by its inner end against the exterior of the stud 18. The portion of the said stud 18 which is surrounded by the collar 28 is reduced in diameter slightly, as at 31, (see Figs. 2 and 7,) throughout so much of the length of the stud as is liable to come in contact with the set-screw 29, by which the collar is retained in position upon the stud. Set-screws bruise the studs upon which their points bear. By removing a portion of the surface of the stud 18, as just described, the bruises will be made upon the portion that has a reduced diameter and will not interfere with the ready removal of the collar, lever, or spring from the stud or the application of such parts thereto.

As will be apparent when fixed in its place, the collar 28 prevents the supporting-lever 14 from having movement longitudinally on the stud 18.

The spring 24 acts with a tendency to press the free end of the supporting-lever 14 upwardly, so as to maintain the surface of the stripping-roll 6 or of the lap of strippings which is wound thereon in contact with the

surfaces of the traveling flats. The contact of the said lap with the surfaces of the traveling flats is indicated by the touching of the dotted lines 5 and 7 in Fig. 1. By loosening the clamping-screw 29, making rotary adjustment of the collar 28 upon the stud 18, and afterward tightening up the said clamping-screw again, the tension of the spring 24 may be regulated as desired. To assist in adjusting the collar it may be formed with opposite flutings or recesses 32 32 or equivalent thumb-pieces to receive the thumb and finger of the operator, or any other provision for assisting in turning the same may be made.

For the purpose of determining the limit of the upward movement of the supporting-lever 14, which is produced by the spring 24 when the stripping-roll 6 is removed from its place, I provide stop devices, as follows: A small stop-pin 33, Figs. 3, 4, 5, and 6, is inserted into a hole, which is formed in the supporting-bracket 2 adjacent to the hole 21, the end of such pin projecting a short distance from the outer side of the said supporting-bracket. This projecting end of the pin enters the recess 26 in the side of the hub 17 of the supporting-lever, the said recess being of sufficient extent, measured circumferentially of the hub, to permit the desired amount of movement of the supporting-lever. One side wall of the said recess brings up against the pin 33 in the movement of the supporting-lever, which is produced by the action of the spring 24 after the removal of the stripping-roll 6, and thereby arrests such movement, so as to prevent the outer or free end of the supporting-lever from passing too far by the line 5, which latter, as hereinbefore noted, indicates the surface of the traveling flats. By thus arresting the movement of the supporting-lever before its outer or free end has passed too far beyond the said surface it is made more convenient for the attendant to reinsert the stripping-roll after it has been removed and relieved of the accumulation of flat-stripping, which has become wound thereupon, than it would be if the stop devices were not employed. Fig. 4 shows clearly the manner in which both the stop-pin 33 and the end 25 of spring 24 project into the recess 26. The form of recess 26 which is shown in the drawings is conveniently produced, it requiring only the removal of a sector from the side of the hub. It may be otherwise formed and produced, as will be obvious.

I claim as my invention—

1. The combination with the main bend, the supporting-bracket attached thereto, and the supplementary-bend, of the stud, passing through the supporting-bracket, having a shoulder to bear against the outer side of the supporting-bracket, and also having the screw-threaded end which is fitted to the supplementary-bend, whereby to secure the supplementary-bend to the supporting-bracket, the stripper-supporting-lever having a hub which is passed over the stud, the spring sur-

rounding the stud and having one end thereof engaged with one of the fixed parts and the other end engaged with the hub, and the stripping roll, substantially as described.

- 5 2. The combination with the main bend, the supporting-bracket attached thereto, and the supplementary-bend, of the stud passing through the supporting-bracket, having a shoulder to bear against the outer side of the
10 supporting-bracket, and also having the screw-threaded end which is fitted to the supplementary-bend, whereby to secure the supplementary-bend to the supporting bracket, stripper-supporting-lever having a hub which

is passed over the stud, the spring surround- 15
ing the stud and having one end thereof engaged with one of the fixed parts and the other end engaged with the hub, the stop-pin projecting from the supporting-bracket into a recess in the side of the hub, and the strip- 20
ping-roll, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

FREDERICK A. FLATHER.

Witnesses:

SAML. G. STEPHENS,
MARY CAVERLY.