(No Model.)

DE WITT A. DEVENDORF & F. F. BURTCH.

BROOM SCRAPING OR CLEANING MACHINE.

No. 505,754. Patented Sept. 26, 1893.

Fig: 1.

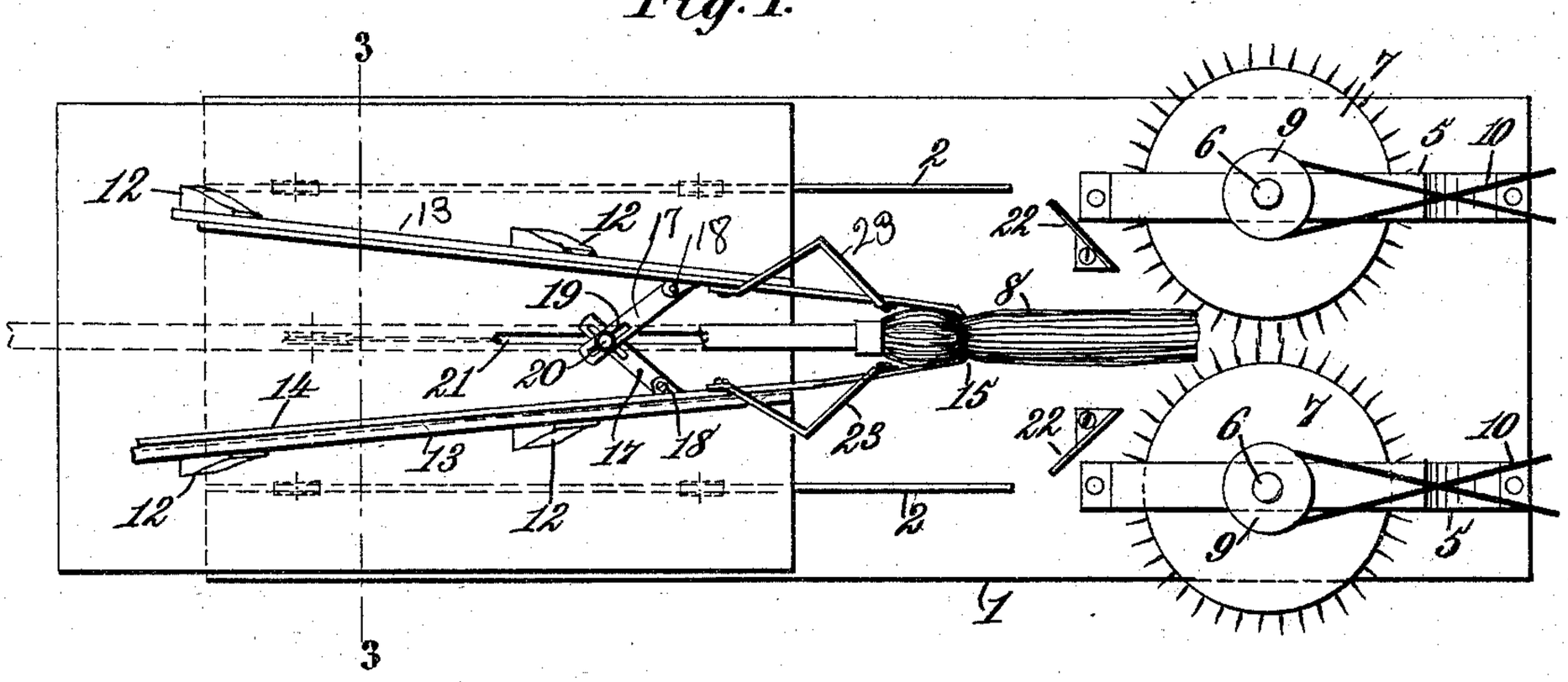

Fig: 2.

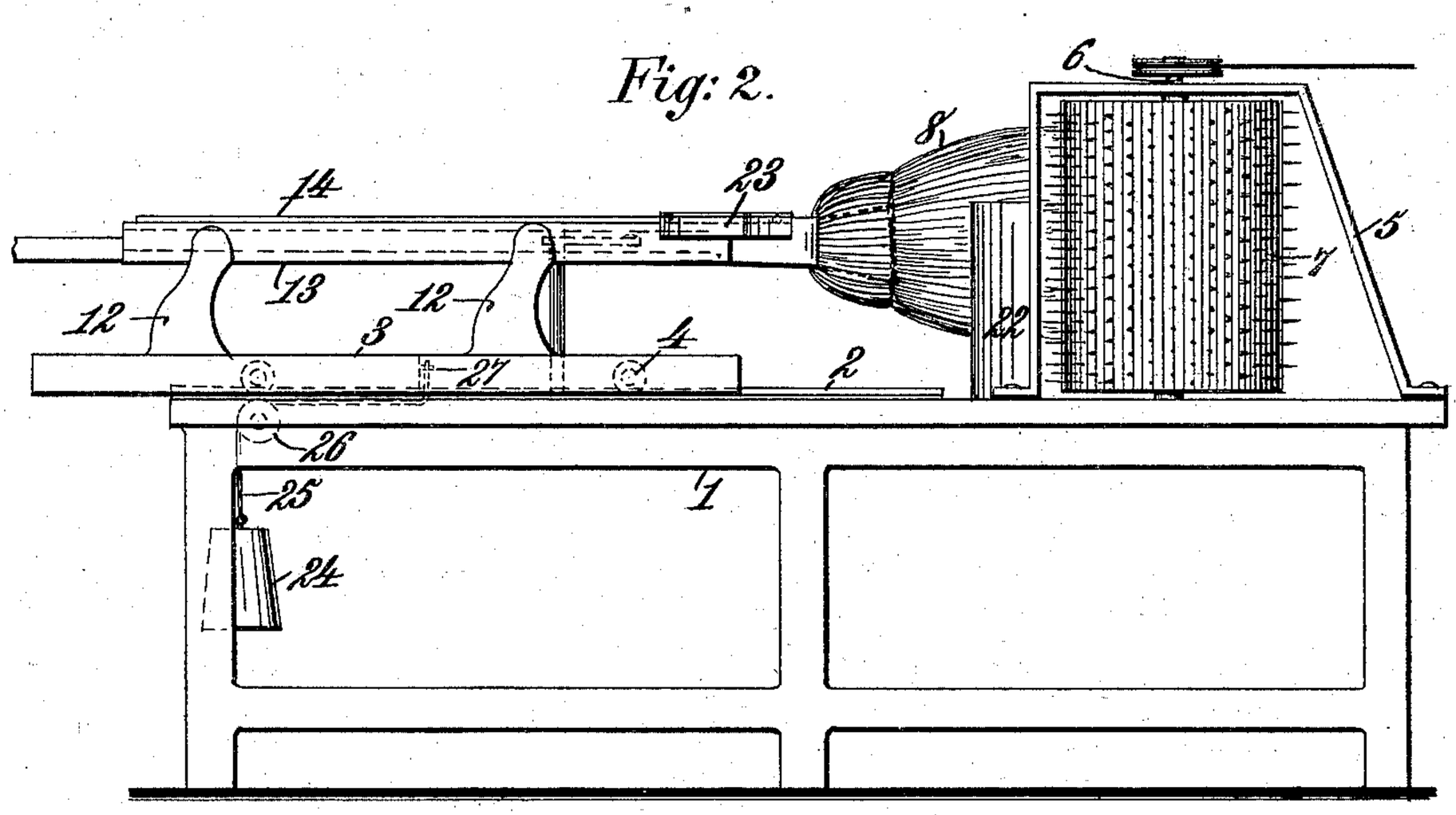

Fig: 3.

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BROOM SCRAPING OR CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 505,754, dated September 26, 1893.

Application filed June 17, 1893. Serial No. 478,022. (No model.)

To all whom it may concern:

Be it known that we, DE WITT A. DEVENDORF and FRANK F. BURTCH, citizens of the United States, residing at Fort Hunter, in the county of Montgomery and State of New York, have invented new and useful Improvements in Broom Scraping or Cleaning Machines, of which the following is a specification.

This invention has for its object to provide new and improved mechanism for scraping or cleaning seed from the broom corn of brooms to improve their appearance and place the brooms in the best condition for the market after they have been sewed or stitched and fastened to or provided with handles or stocks.

The invention also has for its objects to provide novel means for holding and presenting the sewed or stitched broom to the rotary toothed cylinders; and to provide devices for stopping the feed movement of the brooms between the cylinders at the proper time, to prevent the cylinders from cutting the twine or other material used in sewing the brooms.

To accomplish all these objects, the invention consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a plan view of a broom scraping or cleaning machine constructed in accordance with our invention. Fig. 2 is a side elevation of the same; and Fig. 3 is a detail transverse sectional view, taken on the line 3—3, Fig. 1.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a stationary frame work, which may be of any suitable construction, and is provided with a horizontal track way composed of parallel rails 2, on which is adapted to reciprocate a horizontal table 3, having anti-friction rollers 4 resting upon the rails.

The stationary frame work is provided at one end portion with brackets or bearings 5 to support the upper ends of vertical shafts 6 having attached toothed cylinders 7, the lower ends of the vertical shafts being suitably mounted in bearings on the stationary frame work. The toothed peripheries of the cylinders are arranged in juxtaposition to each other in such manner that when a sewed or stitched broom 8 is passed between the cylinders, the teeth thereof will operate to scrape or clean the seed from the broom corn to improve the appearance of the broom, and place it in good condition for the market. The cylinders are rotated through the medium of any suitable driving mechanism, but in the example illustrated this is accomplished by providing the upper ends of the vertical shafts 6 with pulleys 9 engaged with and driven by belts 10 which are caused to travel by a motor or devices not necessary to illustrate.

The movable or reciprocating table 3 is provided with metallic or other suitable brackets or supports 12, a pair of these brackets being arranged at each side of the median line of the table, and to each pair of brackets is attached a horizontal guide 13, having on its inner side a lengthwise movable clamping bar 14, provided at its extremity with a clamping jaw 15, suitably constructed to engage the broom without danger of cutting the straws. The brackets or supports 12 are so arranged that the guides 13 converge toward the rotary toothed cylinders, and the clamping bars 14 have a dovetail connection 16, Fig. 3, with the guides, so that if the clamping bars 14 be moved longitudinally away from the toothed cylinders, the clamping jaws 15 are caused to separate, for the purpose of receiving the broom, and then by sliding the clamping bars longitudinally toward the toothed cylinders, the clamping jaws 15 are caused to clamp and hold the broom to pass the latter between the cylinders. The clamping bars 14 are connected so that they move longitudinally in unison through the medium of levers 17, pivoted respectively to the clamping bars, as at 18, and having their opposite ends slotted, as at 19, and arranged one upon the other, so that a bolt 20 can pass

through the slotted portions of the levers and enter and be guided by a longitudinal slot 21 in the reciprocating table.

To limit the feed movement of the broom between the rotary toothed cylinders, I provide a suitable stop, which, as here shown, is composed of inclined plates 22 arranged vertically in juxtaposition to the toothed cylinders, and against which lateral projections 23, on the clamping bars 14 are adapted to abut when the broom has passed between the cylinders to the desired extent for cleaning the broom up to the point where the clamping jaws clamp the same, while preventing the toothed cylinders cutting the twine or other material used in sewing the broom.

The clamping bars, with their clamping jaws, constitute a broom holder for holding and presenting the sewed or stitched broom to the action of the toothed cylinders. This holder is carried by the table 3, which is adapted to reciprocate horizontally; and, obviously, if the table be moved toward the toothed cylinders, when a broom is engaged with the holder, the broom will be fed between the toothed cylinders for the scraping and cleaning action thereof. If the table be moved in the opposite direction the broom will be withdrawn from between the rollers, and then the broom can be removed from the holder.

To accomplish the removal of the broom it is only necessary to slide the clamping bars 14 on the guides 13 in a direction away from the toothed cylinders, which will cause the clamping jaws 15 to separate and thereby release the broom.

When the table 3 has been moved to feed the broom between the toothed cylinders, and it is desired to withdraw the broom from the action of the latter, it is desirable to provide means for automatically moving the table rearward or away from the cylinders; and to accomplish this we provide a weight 24 attached to one end of a cable 25 which passes over a supporting guide 26 on the stationary frame work 1, and is connected with the table, as at 27, so that whenever the table is released, after having been moved toward the toothed cylinders, the table is automatically moved rearward or away from the toothed cylinders, as will be obvious. By arranging the rotary toothed cylinders in the manner described and shown both sides of the broom are simultaneously operated upon, and the brooms can be rapidly and efficiently scraped or cleaned to free them from seed after they have been sewed or stitched and fastened to or provided with handles or stocks.

Having thus described our invention, what we claim is—

1. The combination of a pair of rotary scraping or cleaning cylinders provided with teeth and co-operating to scrape or clean a broom, a reciprocating broom holder for holding the broom and moving it between the two cylinders, and a stop interposed between the cylinders and the broom holder for limiting the feed movement of the broom between the cylinders, substantially as described.

2. The combination of a pair of rotary scraping or cleaning cylinders provided with teeth and arranged in juxtaposition to each other to scrape or clean a broom, a movable broom holder provided with a broom clamp for clamping the broom and feeding it between the two cylinders, and a stop for limiting the feed movement of the broom between the cylinders, substantially as described.

3. The combination of a pair of rotary co-operating scraping or cleaning cylinders arranged in juxtaposition to each other and between which the broom is fed, a movable table having a pair of broom clamping jaws movable toward and from each other and between which the broom is clamped to feed it between the two cylinders, and means for limiting the feed movement of the broom between the cylinders, substantially as described.

4. The combination of a pair of rotary co-operating scraping or cleaning cylinders arranged in juxtaposition to each other and between which the broom is fed, a movable table having a pair of clamping bars provided with jaws to clamp the broom, and a stop consisting of projections on the clamping bars, and plates arranged near the cylinders for limiting the feed movement of the broom, substantially as described.

5. The combination with rotary or cleaning cylinders, of a frame-work having a track, a reciprocating table movable on the track, and having converging guides, and clamps mounted on the guides for clamping a broom while it is moved to and from the action of the cylinders, substantially as described.

6. The combination with rotary scraping or cleaning cylinders, of a reciprocating table having converging guides, clamps mounted on the guides for clamping a broom while it is moved to and from the action of the cylinders, and a stop for limiting the feed movement of the broom between the cylinders, substantially as described.

7. The combination with a frame-work having a track, of a reciprocating table movable on the track, converging guides carried by the table, clamping bars movable on the guides, and provided with clamping jaws for holding the broom, and connections between the clamping bars, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

DE WITT A. DEVENDORF.
FRANK F. BURTCH.

Witnesses:
J. B. COLE,
JAMES FINLAN.