A. P. LONGDON.

BROOM BUNDLING MACHINE.

APPLICATION FILED DEC. 18, 1911.

1,037,781. Patented Sept. 3, 1912.

FIG. 1

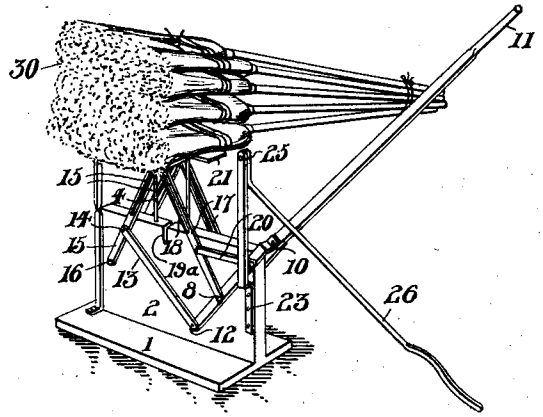



FIG. 2

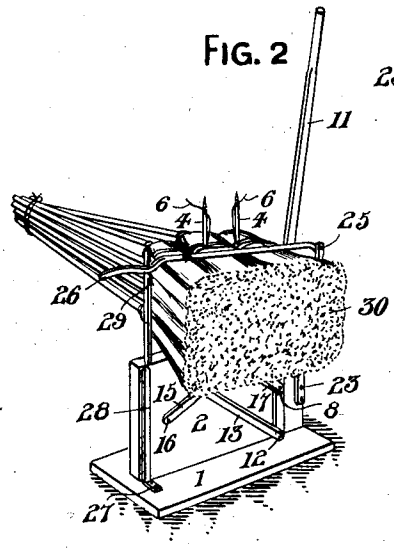
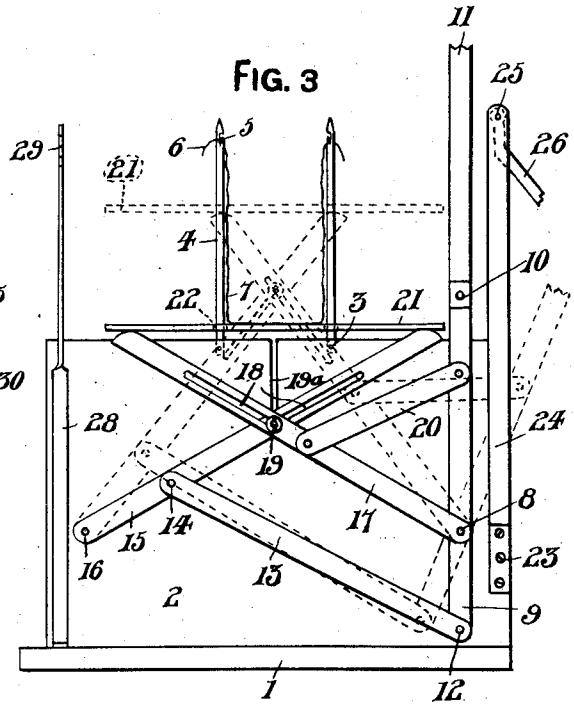



FIG. 3




WITNESSES

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# UNITED STATES PATENT OFFICE.

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## BROOM-BUNDLING MACHINE.

1,037,781. Specification of Letters Patent. Patented Sept. 3, 1912.

Application filed December 18, 1911. Serial No. 666,442.

*To all whom it may concern:*

Be it known that I, ALEXANDER P. LONGDON, a citizen of the United States of America, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Broom-Bundling Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a broom bundling machine, and the primary object of my invention is to provide a machine of that type commonly styled a "broom buncher," and employed for stitching or connecting together a plurality of brooms, whereby the brooms cannot become accidentally displaced during transportation or storage.

Another object of this invention is to provide a labor saving machine that can be advantageously used in a broom factory for assembling and packing brooms, the machine being constructed whereby it can be operated by a boy for performing the service heretofore requiring the labor of two men.

A further object of this invention is to provide a broom bunching machine consisting of comparatively few parts inexpensive to manufacture, and highly efficient for the purposes for which they are intended.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a perspective view of the broom bunching machine, showing brooms in position to be packed; Fig. 2 is a similar view showing the brooms packed and in position to be tied, and Fig. 3 is a front elevation of a portion of the machine, showing by dotted lines the mechanism for elevating a packed bundle of brooms.

The reference numeral 1 denotes a base plate rectangular in plan and this plate is provided with a central vertical wall or support 2. Mounted in the upper edge of the support 2 by pins 3 are the lower ends of vertical parallel needles 4, said needles having the upper ends thereof pointed and provided with open eyes or slots 5 to receive the end 6 of a binding or tying cord or string 7, said binding cord or string being arranged between the needles in a looped form, as best shown in Fig. 3.

Pivotally connected to the support 2, adjacent to one end thereof, by a transverse pin 8 is a yoke 9, said yoke having the upper end thereof connected, as at 10 to an operating lever 11. Pivotally connected to the lower end of the yoke 9 by pins 12 are arms 13, said arms having the opposite end thereof pivotally connected by pins 14, to platform levers 15. These platform levers have the lower ends thereof pivotally connected by a transverse pin 16 to the wall or support 2.

Pivotally mounted upon the pins 8 of the operating lever 11 are the lower ends of platform levers 17, said levers, together with the levers 15, having longitudinal slots 18 to receive a pin 19, slidably mounted in a slot 19ª provided therefor in the vertical wall or support 2. The platform levers 17 are pivotally connected by links 20 to the yoke 9, whereby when the operating lever 9 is moved, the platform levers 15 and 17 will be shifted in unison.

Resting upon the upper ends of the levers 15 and 17 is a platform 21, said platform having openings 22 providing clearance for the needles 4. This platform, as best shown in Figs. 1 and 2 of the drawing, is adapted to support brooms while said brooms are threaded or packed upon the needles 4, said needles extending through the straws of the brooms, whereby the brooms will be bound together.

Secured to one side of the wall or support 2, adjacent to the operating lever 11, by screws 23 or other fastening means, is the lower end of an upright 24. Pivotally attached to the upper end of the upright 24 by a pin 25 is a compression arm 26.

Secured to the plate 1, at the opposite end from the operating lever 11 and the upright 24, is a keeper 28, said keeper being secured to the base plate 1 by screws or other fastening means 27. The upper end of the keeper 28 has notches or teeth 29 adapted to receive the compression arm 26.

After the brooms, designated 30, have

been threaded upon the needles 4, as shown in Fig. 2 of the drawing, the compression arm 26 is swung over the brooms and the brooms compressed into a bundle or package, the free end of the compression arm 26 being held by the keeper 28. The ends of the tying or binding string or cord are then removed from the ends of the needles 5 and the ends of the cord or string tied together. The compression arm 26 can then be swung to an open position, and the operating lever 11 moved to elevate the platform 21, as best shown in Fig. 1 of the drawing, thereby removing the bundles of brooms from the needles 4, whereby the bundle can be easily removed from the machine. The platform 21 and the operating mechanism thereof constitute means for stripping the needles 4, after the brooms have been tied in the bundle or package formed.

The base plate 1 and the wall or support 2 can be made of wood and the remainder of the machine of light and durable metal.

It is thought that the operation and utility of the bundling machine will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof are susceptible to such variations as fall within the scope of the appended claims.

What I claim is:—

1. A broom bundling machine comprising a base plate, a vertical support carried thereby, needles carried by the upper edges of said support and adapted to receive brooms, a compression lever carried by said support for compressing said brooms to permit the bundling thereof, and means carried by said support for stripping said brooms from said needles.

2. A broom bundling machine comprising a support, needles carried thereby and adapted to receive brooms, a compression arm adapted to compress the brooms upon said needles, means adjacent to said support for holding said compression arm in a closed position whereby said brooms can be bundled, and means carried by said support for stripping said bundled brooms from said needles.

3. A broom bundling machine comprising a base plate, a support carried thereby, needles carried by the upper edges of said support and adapted to receive brooms, a compression arm supported by said support and adapted to be swung into engagement with said brooms for compressing said brooms, and means including a platform and an operating lever for stripping said needles of said bundled brooms.

4. A broom bundling machine comprising a base plate, a support carried thereby, needles carried by the upper edges of said support and adapted to receive brooms, an upright carried by said support, a compression arm pivotally supported by said upright and adapted to be swung into engagement with said brooms for compressing said brooms upon said needles to permit the bundling of the brooms, means carried by said base plate for holding said compression arm in a closed position, and means carried by said support for stripping said needles of said brooms after said compression arm has been released.

5. A broom bundling machine comprising a base plate, a support carried thereby, vertical parallel needles having the lower ends thereof mounted in said support and adapted to retain brooms, a pivoted compression arm arranged at one end of said support and adapted to be swung into engagement with the brooms for compressing the same upon said needles whereby the brooms may be bundled, a keeper carried by the opposite end of said support for holding said compression arm in a closed position during the tying of said brooms, and means including platform levers, a platform and an operating lever for stripping said needles of said brooms.

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

ALEXANDER P. LONGDON.

Witnesses:
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MAX H. SROLOVITZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."