

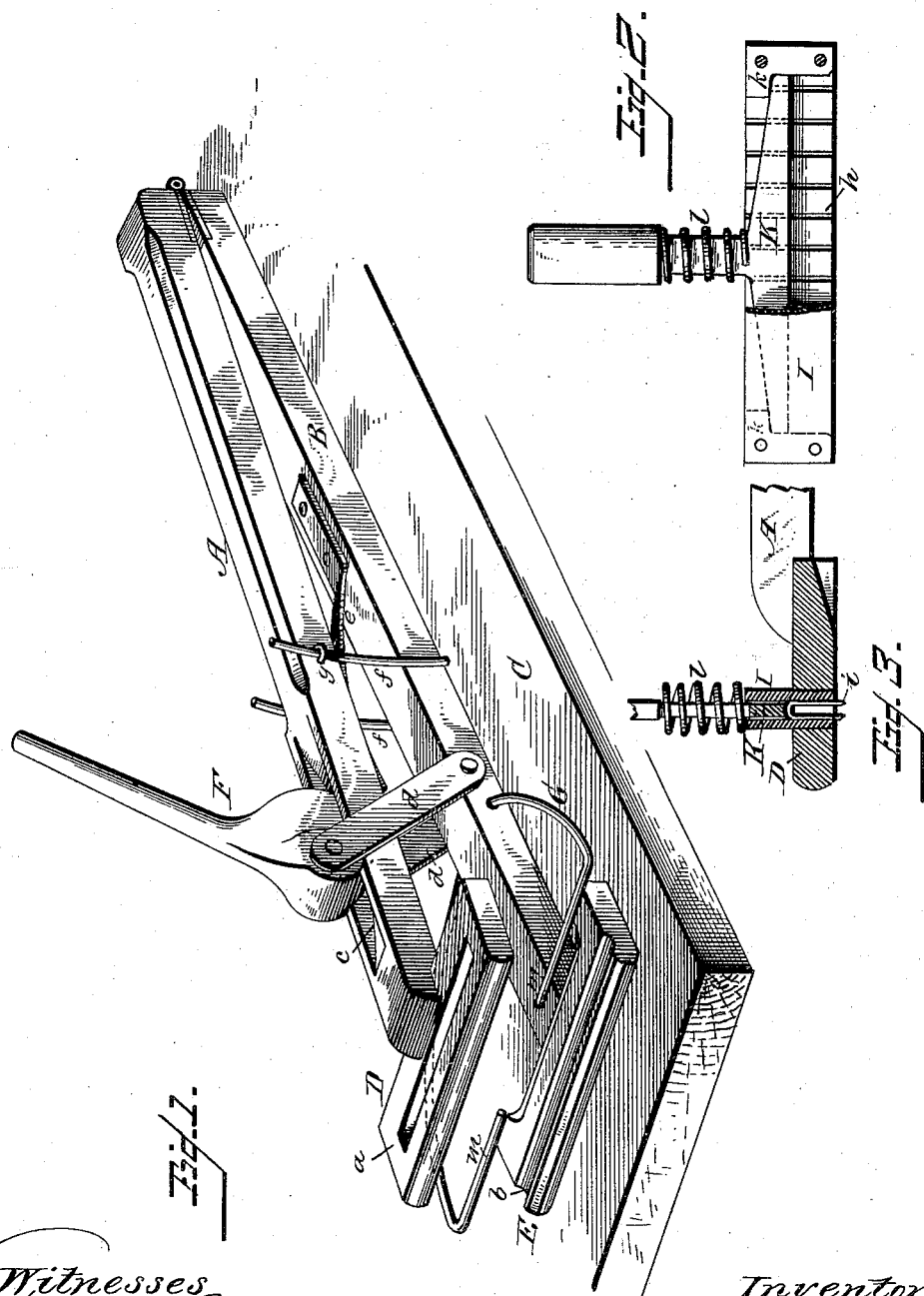
(No Model.)

G. H. BALDWIN.

BROOM MACHINE.

No. 343,977.

Patented June 22, 1886.



Witnesses
Wm. H. Baldwin
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Inventor.
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UNITED STATES PATENT OFFICE.

GEORGE H. BALDWIN, OF GRAND SUMMIT, KANSAS.

BROOM-MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,977, dated June 22, 1886.

Application filed December 8, 1885. Serial No. 185,071. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BALDWIN, a citizen of the United States, residing at Grand Summit, in the county of Cowley and State of Kansas, have invented certain new and useful Improvements in Broom-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a perspective view of my improved clamp; Fig. 2, a front elevation, partly in broken section, of the staple-driving device; and Fig. 3, a detail view, partly in section, showing the staple-driving device in position in the slotted jaw of the clamp and the staple in position to be driven.

The present invention has relation to that class of broom-machines provided with means for compressing the broom into a flat form for the purpose of stapling; and the object thereof is to improve the construction, whereby the stapling of the broom is greatly facilitated and the machine simplified and rendered more certain in driving and clinching the staples, and the machine, as a whole, capable of being manufactured at a comparatively small cost, to bring it within the reach of those requiring the same. These objects I attain by the construction substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A B represent, respectively, the upper and lower arms of a clamp, the lower one being stationary and secured to a suitable base or support, C. The upper arm, A, of the clamp at one end is hinged to the arm B, and at the opposite end has a transversely-slotted jaw, D, and the lower arm a transversely-grooved jaw, E, the slot *a* and groove *b* being on the same vertical plane when the two jaws are together upon the broom. The upper arm of the clamp, which is movable, is operated by a cam-lever, F, the cam thereof working in a guide-mortise, *e*, in said arm, and connected to the lower arm by links *d*, pivoted thereto and to the sides of the cam, as shown. After the arm A, with its jaw, has been pressed down, by means of the cam-lever above described, and

released it is thrown back to its normal position by a suitable spring, *e*, one end thereof secured to the lower arm and the opposite or free end of the spring bearing against the under side of the upper arm.

The arm A is guided in its movement by the guide-rods *f* and staples *g*, and the arm B has suitably connected to it a spring-gage, G, which projects from the sides of the arm and is bent so as to have its ends *m* extend inwardly over the jaw E.

The arms A B may be variously modified, also its attachments, and any preferred means may be employed for operating the upper one of the arms. Any changes coming within ordinary mechanical skill I reserve the right to make without departing from the principle of my invention.

When the broom leaves the winding-machine, there is a series of bands of wire or twine around it, equal in number to the seams required, and when placed in the machine in position to drive the staples it is of course necessary that the band, in connection with the staples which are to constitute the seam, should stop exactly opposite and over the center of groove *b* in the jaw E, and in attaining this object I have provided the gage G.

It should be understood that when the broom is placed between the jaws D E it is of cylindrical shape, or round, being held in such shape by the bands of wire or twine encircling it. Now, these bands are movable on the broom, that they may be adjusted in the proper place to be secured by stapling, which is accomplished by the extremities of the ends *m* of the gage G catching over the band when the broom is placed in position, and bringing the band directly in line with the groove *b*.

As previously stated, the broom is round when first placed between the jaws of the clamp, and when the upper jaw is brought down on the broom it flattens it, and consequently increases in width by expanding laterally. To allow of this expansion of the broom the gage is made yielding, so that when the broom expands the ends *m* will be forced out laterally to give space between them for the increased width of the broom when compressed by the upper jaw of the clamp.

When a broom is placed between the jaws

of the clamp, the ends of the spring-gage are pulled out laterally by the operator, and the extremities of said ends placed below the band on the broom, so as to catch over it.

5 The staple-driving device consists of the casing I and plunger or punch K, the same working in and guided by the casing. The interior sides of the casing I have a suitable number of vertical grooves, *h*, arranged oppo-
10 site each other, to receive the wire staples *i*, the grooves retaining them in position while being driven, guide and retain the sides of the staples vertically while being clinched on the concave surface formed by the groove *b*
15 of the jaw E, thereby preventing the natural inclination of the staples while being clinched from bending sidewise or backward, and admitting perfect work being done. The vertical grooves *h* may be of any suitable size and
20 number to adapt them to the size of the staple used, as well as the number employed to form the seam in stapling brooms of different sizes and also whisks.

The punch K is held within the casing by
25 stops *k* at the ends thereof, a coiled spring, *l*, around the shank of the punch, forcing the latter back in position, to be again used to drive the staples after a new set has been placed in the groove *h*.

After the staple-driving device has been 30 supplied with staples the same is introduced through the slot *a* of the jaw B, and the broom placed on the jaw E, which serves the purpose of an anvil. As the punch K is forced down on the staples, they are driven through 35 the broom until the ends strike the groove *b*, which turns the points back around the band, thereby making a perfect fastening.

Having now fully described my invention, what I claim as new, and desire to secure by 40 Letters Patent, is—

In a broom-machine, the combination, with a suitable staple-driving device, of a clamp consisting of a stationary and a movable arm provided, respectively, with grooved and 45 slotted jaws, and means for operating them, and a spring-gage having inwardly-bent ends extending over the groove in the lower jaw, and operating substantially as and for the purpose set forth.

In testimony that I claim the above I have 50 hereunto subscribed my name in the presence of two witnesses.

GEORGE H. BALDWIN.

Witnesses:

WELCOME B. WIMER,
HENRY KIRKPATRICK.