R. SCHLEICHER, T. S. HAMILTON & J. A. MOORE.

BOX STITCHING MACHINE.

APPLICATION FILED OCT. 15, 1914.

1,170,002.

Patented Feb. 1, 1916.

2 SHEETS—SHEET 1.

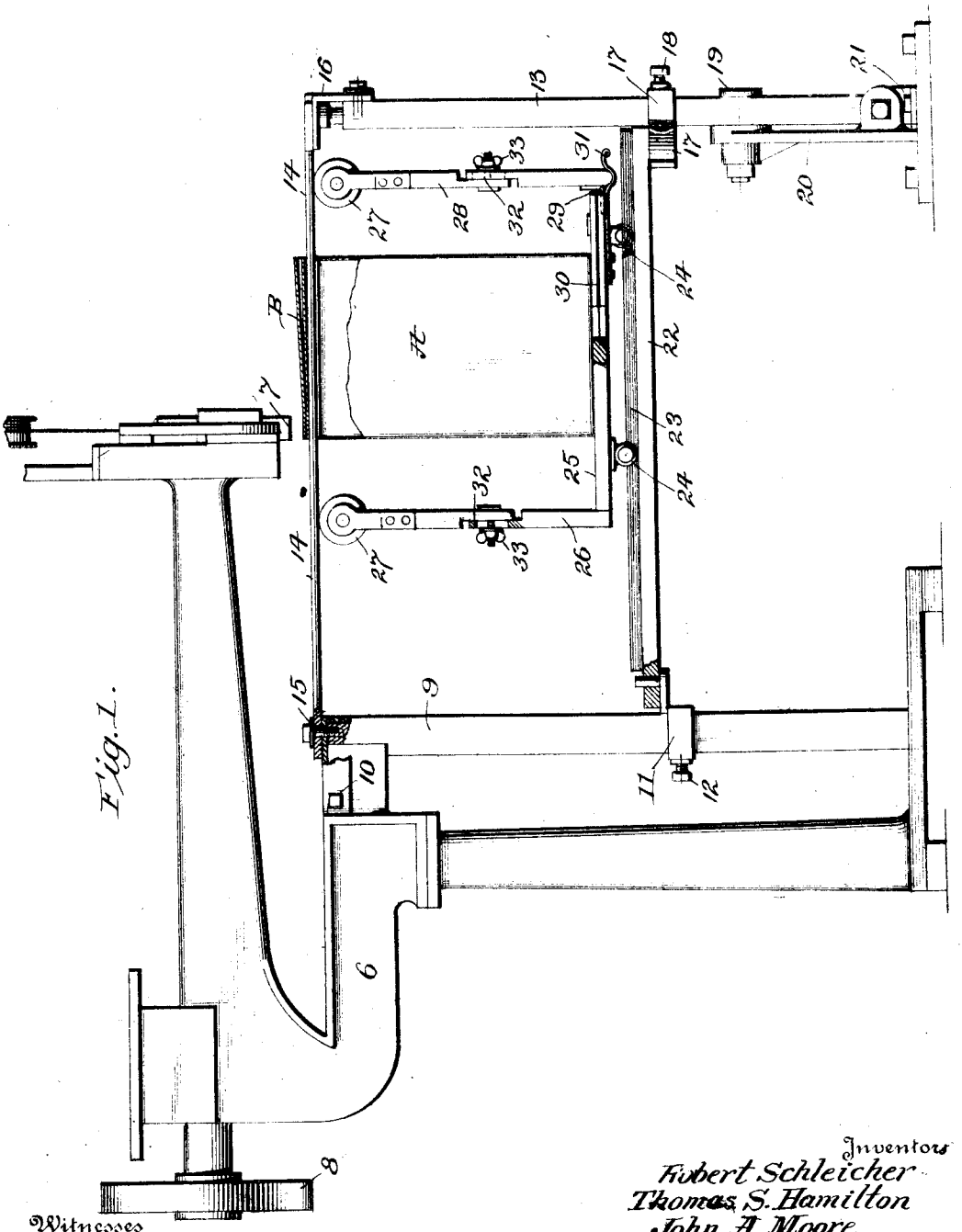

Fig. 1.

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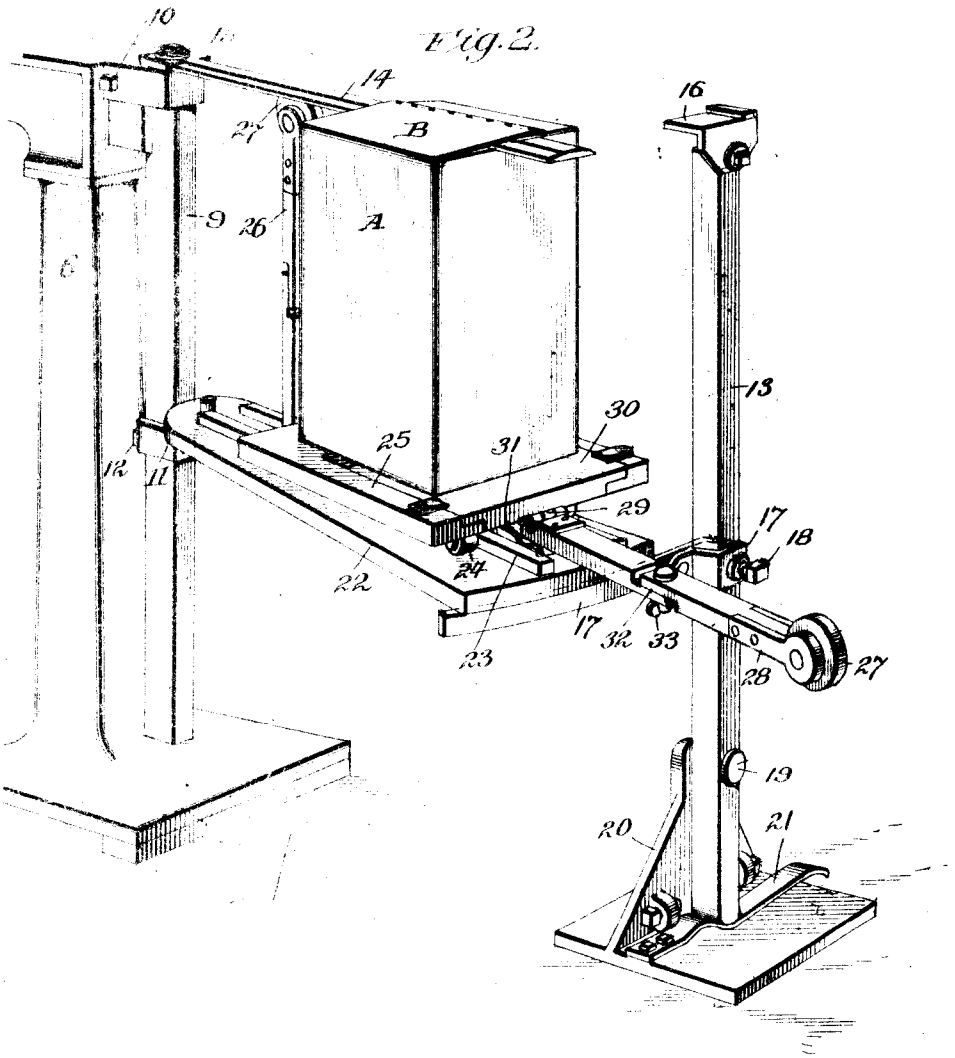
2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT SCHLEICHER, THOMAS S. HAMILTON, AND JOHN A. MOORE, OF LOUISVILLE, KENTUCKY, ASSIGNORS TO MENGEL BOX COMPANY, OF LOUISVILLE, KENTUCKY, A CORPORATION OF NEW JERSEY.

BOX-STITCHING MACHINE.

1,170,002. Specification of Letters Patent. Patented Feb. 1, 1916.

Application filed October 15, 1914. Serial No. 866,823.

To all whom it may concern:

Be it known that we, ROBERT SCHLEICHER, THOMAS S. HAMILTON, and JOHN A. MOORE, citizens of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Box-Stitching Machines, of which the following is a specification.

This invention relates to stapling machines and particularly to a machine intended to staple together the flaps of filled containers such as the large fiber-board boxes now going into extensive use.

Broadly considered the invention contemplates the use with a standard type of stapling head, of a special adjustable supporting frame provided with a bar anvil and package carrying truck. This truck or carriage is adjustable to receive different sized packages and is adapted to traverse the package along the bar anvil during the stapling of the end flaps thereof.

One embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a side elevation of the complete device showing it in the position for stapling the flaps of a box, certain parts being broken away for clearness; and Fig. 2 is a perspective view, omitting the stapling head and showing the parts in the position for removing a stapled box.

In the drawings 6 is the main frame of the stitching or stapling head, 7 is the stapling head proper and 8 is the drive wheel by which power is applied. An auxiliary upright 9 is provided bolted at 10 to the frame 6 and carrying a vertically adjustable hinge bracket 11 held by a clamp-screw 12. A second upright 13 spaced from the upright 9 is provided to carry the outer end of the bar anvil 14 which is hinged at 15 to frame 6 and rests at its other end on a bearer casting 16. The upright 13 also carries a vertically adjustable bracket 17 held by a clamp-screw 18. For a purpose not connected with the present invention, the upright 13 is shown pivotally mounted at 19 on a base casting 20 being held in a vertical position by a spring catch 21. It maintains this vertical position throughout the operation of the device as herein outlined. The bracket 17 is arc shaped as shown and supports the outer end of a guide frame 22 which is hinged at its inner end on the bracket 11. The guide frame 22 carries guide ways 23 which direct the rollers 24 of a truck 25 intended to support the package during the stapling operation. The truck 25 has a rigid upright 26 which carries a roller 27 at its upper end, intended to bear on and support the anvil 14 close to one side of a package A carried by the truck 25. A second upright 28 having likewise a roller 27 is mounted at the other end of the truck 25 for a similar purpose, but the upright 28 is hinged at 29 to a sliding extension board 30, so that it may be adjusted to packages of different widths. The upright 28 is latched in its vertical position by a spring catch 31. Both uprights 26 and 28 are vertically adjustable at 32 by means of clamp screws 33 to accommodate packages of different heights.

In the operation of the device the brackets 11 and 17 are adjusted according to the height of the package A to be sealed, so that when the package is on the truck 25 the anvil 14 will be directly on the top of the package. The uprights 26 and 28 are then set to support the anvil 14 as close as possible to the box. After these adjustments are made, the anvil 14 being swung to one side and the upright 28 swung down, a package is placed on the truck 25. The upright 28 is latched in its vertical position and the anvil 14 swung to place. The flaps B of the box A are then folded down over anvil 14 and the stitching or stapling head is brought into action, the truck 25 being moved along to carry the package past said head. When the stitching is completed the frame 22 is swung to the position shown in Fig. 2 and the arm 28 is swung down. The sealed package B is then drawn off the projecting end of the anvil 14.

Various modifications of the device are possible and such are contemplated.

We use the term "stitching head" in the claims to include generally all devices for stitching, or stapling, or inserting metallic or other fasteners, the particular form of this mechanism being immaterial.

Having thus described our invention, what what we claim is:—

1. The combination with a stitching head of a bar anvil against which said head is

adapted to act; means for supporting a package and guiding the same along said anvil; and an auxiliary support for said anvil movable with the supporting means for said package.

2. The combination with a stitching head, of a bar anvil hinged at one end; a fixed support for the free end of said anvil; a package supporting carriage; and a movable guide for said carriage adapted in one position to guide said carriage past said head while holding a package in proper relation to said anvil, and in another position to permit a stitched package to be withdrawn over the end of said anvil clear of said fixed support.

3. The combination with a stitching head, of a bar anvil hinged at one end; a fixed support for the free end of said anvil; a package supporting carriage; an auxiliary support for said anvil carried by said carriage; and a movable guide for said carriage adapted in one position to guide said carriage past said head while holding a package in proper relation to said anvil, and in another position to permit a stitched package to be withdrawn over the end of said anvil clear of said fixed support.

4. The combination with a stitching head of a bar anvil against which said head is adapted to act; a carriage adapted to carry a package to be stitched; supporting guides for said carriage arranged to support and guide it in the general direction of the length of said anvil; and an auxiliary support for said anvil carried by said carriage.

5. The combination with a stitching head of a bar anvil against which said head is adapted to act; a carriage adapted to carry a package to be stitched; supporting guides for said carriage arranged to support and guide it in the general direction of the length of said anvil; and a pair of auxiliary supports for said anvil mounted on said carriage at opposite ends thereof.

6. The combination with a stitching head of a bar anvil against which said head is adapted to act; a carriage adapted to carry a package to be stitched; supporting guides for said carriage arranged to support and guide it in the general direction of the length of said anvil; a pair of auxiliary supports for said anvil, mounted on said carriage at opposite ends thereof; and means for adjusting said auxiliary supports toward and from each other.

7. The combination with a stitching head of a bar anvil against which said head is adapted to act; a carriage adapted to carry a package to be stitched; supporting guides for said carriage arranged to support and guide it in the general direction of the length of said anvil; a pair of auxiliary supports for said anvil, mounted on said carriage at opposite ends thereof; and means for adjusting the height and spacing of said auxiliary supports to accommodate packages of different sizes.

8. The combination with a stitching head of a bar anvil hinged at one end; a fixed support for the free end of said anvil; a package-carrying carriage; a pair of auxiliary supports for said anvil mounted on said carriage at opposite ends thereof; means for adjusting the height and spacing of said auxiliary supports to accommodate packages of different sizes; and a movable guide for said carriage adapted in one position to guide said carriage past said head while holding a package in proper relation to said anvil, and in another position to permit a stitched package to be withdrawn over the end of said anvil clear of said fixed support.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ROBERT SCHLEICHER.
THOMAS S. HAMILTON.
JOHN A. MOORE.

Witnesses:
H. O. ROBERTS,
M. C. MENGEL.