(No Model.)

J. WEIL.

MACHINE FOR FASTENING CORNERS OF PASTEBOARD BOXES WITH METAL CLIPS.

No. 458,510. Patented Aug. 25, 1891.

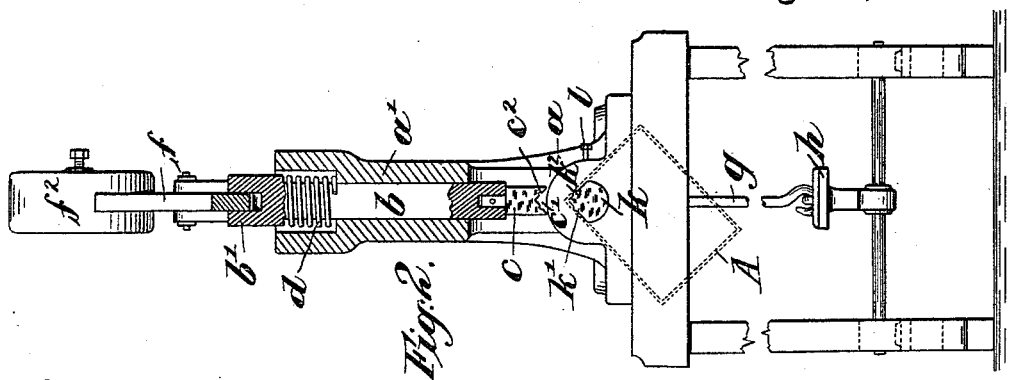

Fig. 2.

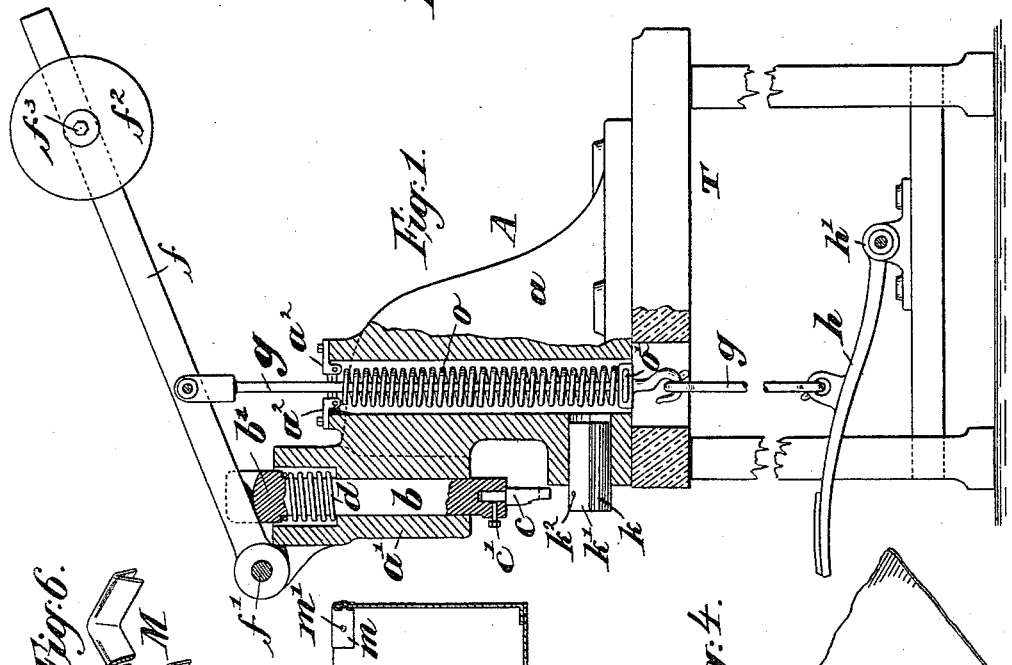

Fig. 1.

Fig. 6.

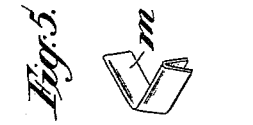

Fig. 5.

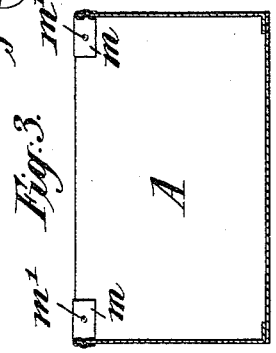

Fig. 3.

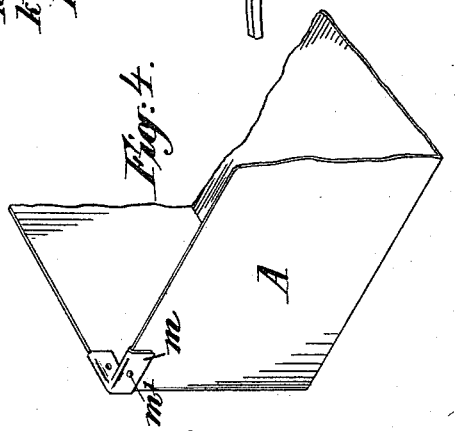

Fig. 4.

Witnesses:
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By his Attorney.

UNITED STATES PATENT OFFICE.

JOSEF WEIL, OF WEINHAUS, NEAR VIENNA, AUSTRIA-HUNGARY.

MACHINE FOR FASTENING CORNERS OF PASTEBOARD BOXES WITH METAL CLIPS.

SPECIFICATION forming part of Letters Patent No. 458,510, dated August 25, 1891.

Application filed March 18, 1891. Serial No. 385,522. (No model.)

To all whom it may concern:

Be it known that I, JOSEF WEIL, manufacturer, a subject of the Emperor of Austria, residing at Weinhaus, near Vienna, in the Province of Lower Austria, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Machines for Fastening the Corners of Paper or Pasteboard Boxes and the Like by Means of Metallic Angles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The invention relates to the manufacture of boxes, and has for its object to provide means whereby the meeting edges of the walls of such boxes may be securely fastened together and strengthened.

The invention consists in means for fastening together the meeting edges of the walls of boxes constructed of a light material—as, for instance, paper or pasteboard boxes or boxes constructed of thin veneer—as will now be fully described, and shown in the accompanying drawings, in which—

Figure 1 is a sectional side elevation, and Fig. 2 a like front elevation, of a machine for fastening together and strengthening the meeting edges of the walls of boxes or the corners thereof. Fig. 3 is a vertical longitudinal section of a box having its upper corners secured by means of a metallic fastener. Fig. 4 is a perspective view of part of a box, showing the fastener applied to one corner thereof, and Figs. 5 and 6 are like views of two forms of metallic fasteners.

Like symbols indicate like parts wherever such may occur in the above figures of drawings.

The co-operating devices of the machine are supported from a suitable table T, on the cross-braces b^6 of which are secured bearings h' for a foot-lever h, that is connected by a link g' to a rod g, pivoted to a lever f, that carries a weight f^2, adjustable on said lever by means of a set-bolt f^3. The lever f is fulcrumed at f' to a tubular overhanging arm a' of the machine-frame A, which is bolted to table T, and said tubular overhanging arm serves as a bearing for a plunger-bar b, whose upper enlarged end or head b' is forked, said forked end straddling the lever f. A spring d on plunger-bar b in the upper enlarged portion of the tubular bearing exerts its power to lift the plunger-bar into its normal position when depressed by the lever f through the medium of the foot-lever h. A spring o on the connecting-rod g, having its ends attached to said rod at its lower end and to ears a^2 at the upper end of the cylindrical opening formed in the machine-frame A, through which the connecting-rod g passes, serves to lift the lever into its normal position after being depressed by the foot-lever h and the latter again released, so that after each downward movement of the lever and plunger they are again returned to their normal positions by the springs d and o.

Below the plunger-bar bearing the machine-frame is provided with a horizontal opening that in cross-section corresponds with the like section of an anvil k, one half of which is or may be semi-cylindrical and the other prismatic, as shown at k', Figs. 1 and 2, so as to conform to the angles of a box. The anvil has upon each of its inclined faces a projecting boss or teat k^2, and said anvil is adjustable in its bearing by means of a set-screw l, so that fasteners of different widths may be applied. The plunger-bar b has its lower end socketed, and in said socket is seated a plunger c and secured in position by means of a set screw or bolt c'. The plunger c has a V-shaped recess in its lower face corresponding with the prism-shaped portion of the anvil k, and in each of the inclined faces of said recess is formed a concavity c^2, that is entered by the bosses or teats k^2 of the anvil or that register therewith whenever the plunger is brought down onto the said anvil.

The fasteners m are substantially V-shaped in section and right angular. They are constructed of sheet metal and in their application to the corners of a box they are placed in proper position. The box is then placed upon the anvil K, so that the fastening will have bearing thereon, as shown in dotted lines in Fig. 2, and the plunger depressed, whereby the fastener is not only firmly appressed to the intervening material but the

metallic fastener is indented on one side and caused to bulge on the other side of the material, securely grasping the latter in the indentations and securely locking the fastener thereto. The metallic fasteners *m* not only securely fasten the walls of the box at the corners, but also strengthen the box materially.

If desired, the upper edges of both ends or sides of a box may be provided with a metallic binding by means of a fastener M of suitable construction and shown in Fig. 6, or the upper edges of all four sides may be so bound, if desired, and as will be readily understood.

It will be understood that the concavities c^2 in the plunger may be formed in the anvil and the plunger provided with teats k^2 for the purpose stated.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for fastening together and strengthening the corners of boxes, the combination, with an anvil having a substantially V-shaped operating-face provided with bosses or teats, of a plunger provided with a V-shaped recess adapted to fit the operative face of the anvil and with concavities adapted to register with the bosses or teats on the anvil, a pressure-lever having bearing on the plunger, a spring acting on the plunger to move the same upwardly, a foot-lever connected with the pressure-lever, and a spring operating on the last-named lever to move the same upwardly, for the purpose set forth.

2. In a machine for fastening together and strengthening the corners of boxes, the combination, with the anvil *k*, adjustable in its bearings, the plunger *b*, provided with a forked head *b'*, and a spring operating on said plunger to move the same upwardly, of the lever *f*, carrying an adjustable weight f^2 and having bearings in the forked head of the plunger, the foot-lever *h*, the rod *g*, link *g'*, connecting said foot-lever with lever *f*, and a spring operating to move the last-named lever upwardly, as described, for the purpose set forth.

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

JOSEF WEIL.

Witnesses:
A. SCHLESSING,
W. B. MURPHY.