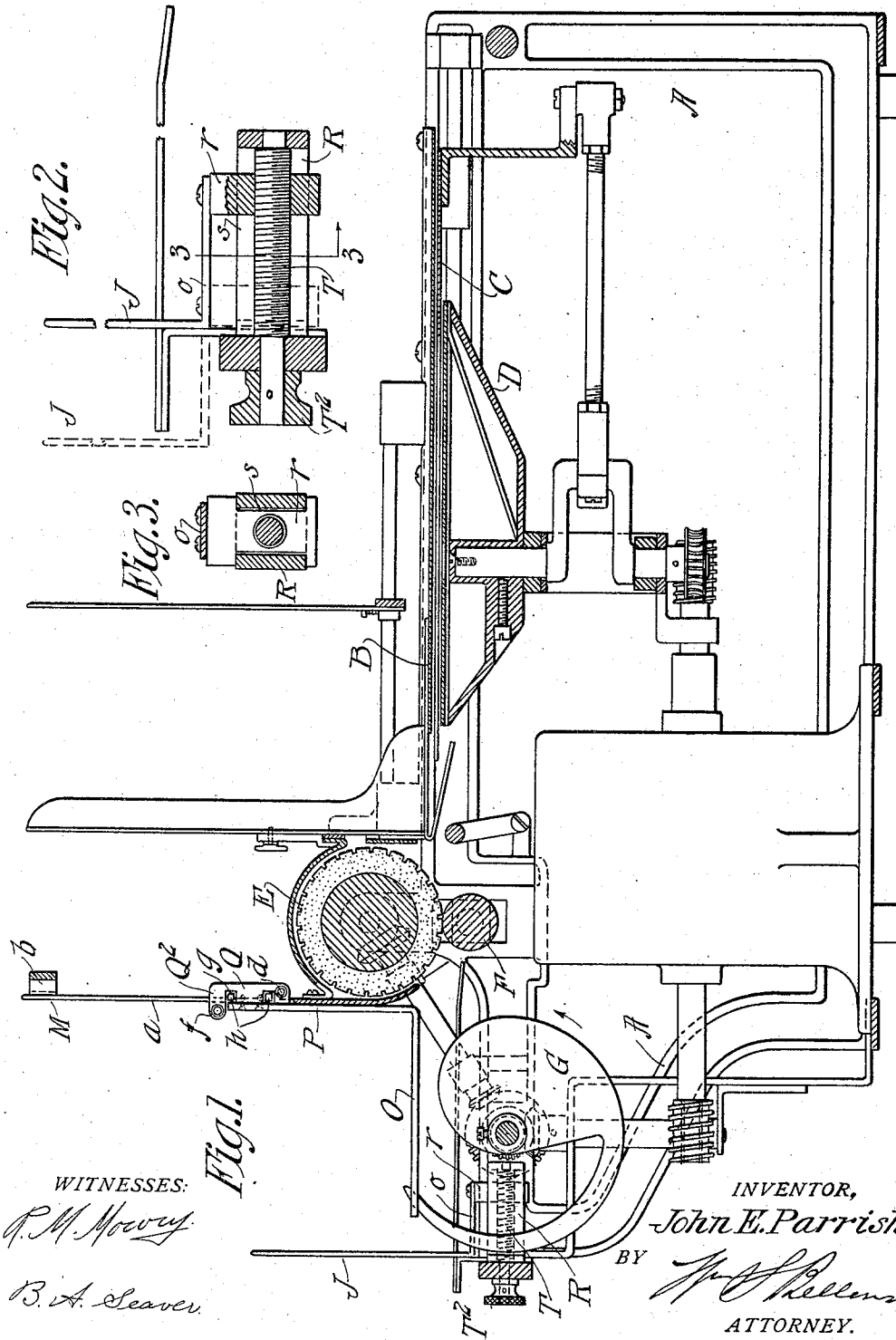


J. E. PARRISH.
 STACKING DEVICE FOR HORIZONTALLY FED FLAT ARTICLES.
 APPLICATION FILED OCT. 17, 1913.

1,183,761.

Patented May 16, 1916.

2 SHEETS—SHEET 1.



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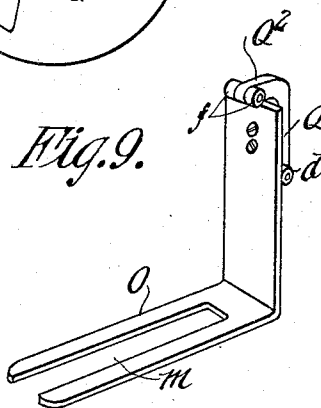
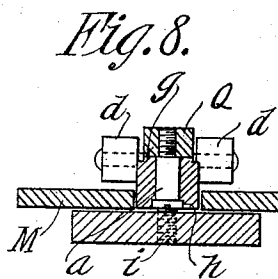
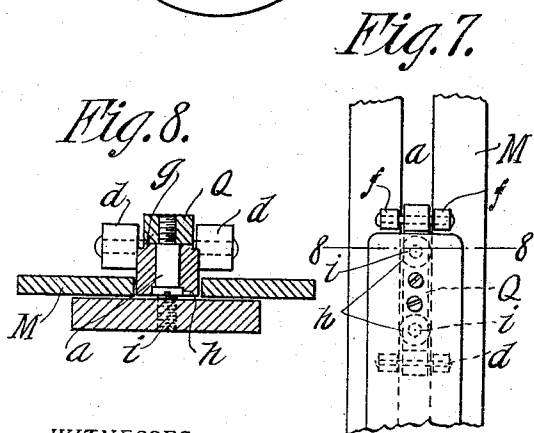
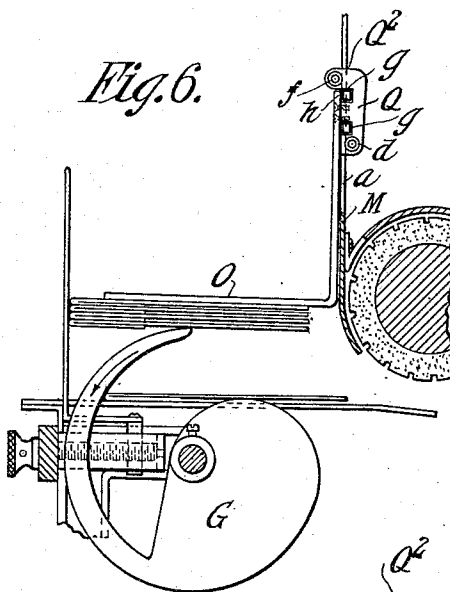
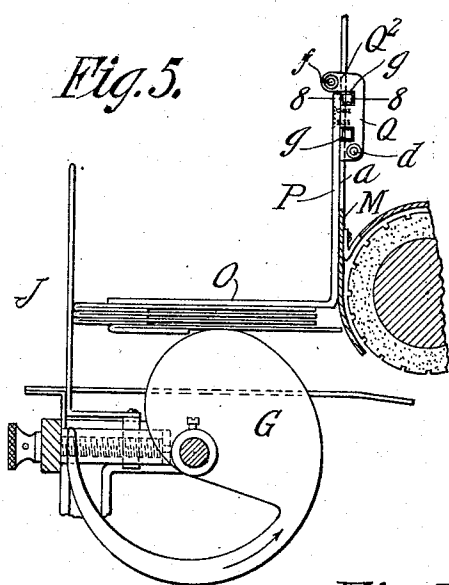
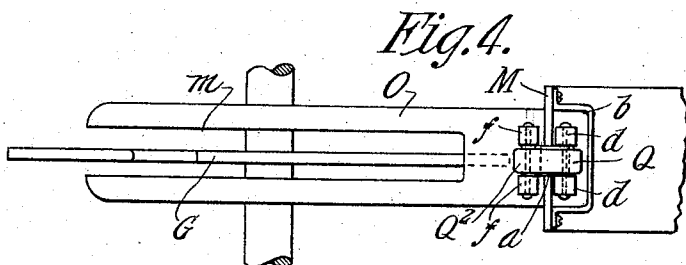
STACKING DEVICE FOR HORIZONTALLY FED FLAT ARTICLES.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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STACKING DEVICE FOR HORIZONTALLY-FED FLAT ARTICLES.

1,183,761.

Specification of Letters Patent.

Patented May 16, 1916.

Application filed October 17, 1913. Serial No. 795,749.

To all whom it may concern:

Be it known that I, JOHN E. PARRISH, a citizen of the United States of America, and resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Stacking Devices for Horizontally-Fed Flat Articles, of which the following is a full, clear, and exact description.

This invention relates to improvements comprised in a stacking mechanism of a machine in which flat articles are successively horizontally fed to a given position and accumulated into a pile or stack, each of the articles being brought to and forming part of the stack, being supplied to the latter at the bottom thereof.

The improvements in the stacking device have been employed in, or as a part of, an envelop sealing machine, but the use thereof is not necessarily limited to such a machine, but is applicable on other descriptions of machine.

The improvement in part especially pertains to a compression bar or member which gravitatively bears upon the top of the stack of envelops, or other articles, and recedes upwardly as the stack under accumulation becomes higher. The particular features of improvement in the compression bar reside in the provision of a vertical extension which is slidable in relation to a stationary upright member, and which extension has axially horizontal rollers adapted for rolling bearing on the front and rear faces of said upright member at different points in the height of the latter whereby the tendency for cramping or binding between the slidably engaged parts, due to the slight swinging motion and leverage action of the compression bar will be provided against by the rollers peculiarly relatively arranged and located to such end.

In conjunction with the compression bar or device further rollers are additionally and peculiarly employed for coaction with the upright member on which the device is vertically engaged for further increasing the ease and certainty of its receding action in the upward direction.

The improvement also in part especially pertains to the provision in the stacking device of a vertical gage stop which is horizontally adjustable as occasion may require

to adapt the stacking frame for the reception of envelops or pieces of varying sizes, the novelty therein particularly residing in the means for effecting the adjusting movements of the gage stop and for constraining or guiding the movable supporting member of such stop in its movements.

The invention is described in conjunction with the accompanying drawings and is set forth in the claims.

In the drawings: Figure 1 is a sectional elevation of an envelop sealing machine at the left hand portion of which the stacking devices including the present improvements are represented. Fig. 2 is a vertical sectional view on a larger scale through the improved adjustable gage stop. Fig. 3 is a cross section on line 3—3, Fig. 2. Fig. 4 is a plan view of the compression bar and the upright member with which it coacts. Figs. 5 and 6 are sectional elevations with parts of the feeding and stacking devices of the machine shown in somewhat different operative relations, and showing the stack topping member or compression bar as in employment in relation thereto. Fig. 7 is a partial face view of the device as the same would be seen if looking to the rightward in Figs. 4 to 6; Fig. 8 is a horizontal cross sectional view on a larger scale taken on the line 8—8, Fig. 7; and Fig. 9 is a perspective view of the compression bar, its vertical extension and the roller carrying bracket of the lever.

In the drawings, A represents generally the frame work of an envelop sealing machine, at the left hand end of which, herein referred to as the forward end; the stacking devices are provided. Briefly, the envelops are supported, in a pile, on a horizontal plate B, being restrained against displacement. The envelops are by a horizontal feed plate C, after the flaps thereof are moistened by the revoluble moistener head D, pushed one after another between the press rolls E and F where they are engaged and further carried by the duplicated revoluble members G which advance them to the upright gage stop J and also impart elevating movements thereto.

M represents an upright understood as located at the central longitudinal line of the machine just forward of the pressure rolls suitably supported, and advantageously

made of comparatively thin, though rigid plate or sheet metal and having a vertical slot *a* therein. The said slot preferably opens to the upper end of the upright member M; but the separated upper portions of such member are reinforced by the rigid metallic strap *b*.

O represents the horizontal compression member which is to bear upon the top of the stack as rendered apparent in Figs. 5 and 6. This bar O has a right angular, vertical extension P disposed alongside of the rear face of the upright member M, and it has affixed on the forward side thereof a block or bracket Q which extends through the slot *a* and beyond the forward face of the upright member M; and this block or bracket is provided with an angular extension Q² adapted to project oppositely, that is rearwardly for a suitable distance beyond the rear face of the upright member.

The bracket at its portion which is forward relatively to the upright slotted member M has the pair of rollers *d d* carried on the single axle pin therefor; and the bracket extension Q² carries on the transverse axle pin tightly driven therethrough the pair of rollers *f f* located to the rearward of the upright member M, but in such proximity to the rear face of such member that the rollers *f f* may have rolling engagements on such rear face.

The pressure of the envelop exerted, relatively to the horizontal bar O, has a tendency to swing such bar, as a lever to a slight inclination forwardly and upwardly; but this slight swinging effect is ineffective to cause a cramping or binding of the bar extension in its engagement with the slotted upright M for the reason that roller bearings *d* are operable against the rear face of the upright, and roller bearings *f* are operable against the front face of the upright, and at a higher point. Provision is also made whereby clamping or binding is prevented in case any force is exerted to tilt or swing the horizontal compression bar O transversely, and the same will be now described.

The bracket Q in its side which adjoins the vertical extension or shank P of the compression bar is made with recesses *g g*, one higher than another, in which axially horizontal rollers *h* are located, the same being carried on axle studs *i* therefor, screw threaded end portions of which are connected into the portions of the bracket forward of the recesses *g*. A considerable portion of the length of each screw is cylindrical, or plain, and the head at its forward end is let into a countersink in the centrally bored roller,—reference being especially directed to Fig. 8. The pair of rollers *h h* are diametrically slightly less than the width of the slot *a* in the upright, so that the opposite edges of both rollers will not simultaneously

touch on the opposite edges of the slots, but if the appliance O, P, is bodily crowded in a direction toward one side of the slot *a*, both rollers will bear on a single edge of the slot; but if such appliance is transversely tilted the lower roller will bear against one edge of the slot and the upper roller will bear against the opposite edge of the slot,—they always being effective to prevent any binding of the bracket in the slot, it, of course, being taken note of that the rollers are diametrically greater than the thickness of the bracket.

The horizontal compression bar O is formed with an aperture or slot *m* therein as shown in Figs. 4 and 9, thereby leaving space for occupancy of one of the revoluble members G comprised in the feeding and stacking mechanism. The vertical gage stop J has an angular foot extension *o* which has a supporting connection on a block *r*, which block in turn has a supporting and also a slidable engagement with a horizontal bar R which is arranged lengthwise of the machine and which has the channel *s* therein forming the guide for the block.

T represents a screw shaft extending centrally through the channel in the bar and with a screw engagement through the block; and this shaft as clearly seen in Fig. 2, is so mounted that it is incapable of endwise motion but it has a knob or handle T² on its forward end by means of which it may be conveniently turned to effect the adjustment in a forward or rearward direction of the gage stop J. The dotted lines in Fig. 2 indicate the changed position of the gage stop J and the movable supporting block therefor.

I claim:—

1. In a stacking device, in combination, an upright member, having a vertical slot and a horizontal compression bar provided with a vertical extension disposed along one side of said upright member, and having affixed thereto a bracket extending through the slot, and horizontal rollers carried at different heights by said bracket, and adapted for rolling bearings respectively on the front and rear of said upright slotted member.

2. In a stacking mechanism, in combination, an upright member, and a horizontal compression bar provided with a vertical extension having horizontal rollers adapted for rolling bearings on the front and rear faces of said upright member at different points in the height of the latter, and having horizontal rollers at different heights for edgewise bearings on the upright member at right angles to the facewise bearings by the first named rolls.

3. In a stacking device, in combination, an upright member, having a vertical slot and a horizontal compression bar provided with a vertical extension disposed along one

side of said upright member, and having affixed thereto a bracket extending through the slot, horizontal rollers carried at different heights by said bracket, and adapted for rolling bearings respectively on the front and rear faces of said upright slotted member, and horizontal rollers carried by said bracket, at different heights thereon, but with their axes at right angles to those of the first named rollers, and adapted for rolling bearings on the edges of said slot.

4. In a stacking device, in combination, an upright member, having a vertical slot opening to its upper end, a horizontal compression bar provided with a vertical extension disposed along one side of said upright member, and having affixed on one side thereof a bracket adapted to extend through the slot, and beyond one face of the upright and provided with an angular extension adapted to extend beyond the opposite face of the upright member, horizontal rollers, carried by said bracket at one point in the height thereof, and rollers, carried by said angular bracket extension, and adapted for rolling bearings respectively on the front and rear faces of said upright slotted member.

5. In a stacking device, in combination, an upright member, having a vertical slot opening to its upper end, and a horizontal compression bar provided with a vertical extension disposed along one side of said upright member, and having affixed on one side thereof a bracket adapted to extend through the slot, and beyond one face of the upright and provided with an angular extension adapted to extend beyond the opposite face of the upright member, said bracket also having recesses within its side which adjoins the vertical extension, horizontal rollers, carried by said bracket at one point in the height thereof, and rollers, carried by said angular bracket extension, said rollers

being adapted for rolling bearings respectively on the front and rear faces of said upright slotted member, and rollers in said recesses having studs screw connected with said bracket, and forming the bearing supports for such latter named rollers, and which rollers are adapted for rolling engagements with the margins of said slot.

6. In a stacking device the combination with a stacking frame comprising a vertical gage stop which is horizontally adjustable and a stationary upright member, of means for feeding flat pieces to a position under said frame, supporting and elevating means for said pieces and a horizontal compression bar adapted to gravitatively bear upon the top of the stack and provided with a vertical extension having horizontal rollers located for rolling bearings on opposite sides of said upright member at different points in the height thereof.

7. In a stacking device the combination with a stacking frame comprising a stationary upright member, of means for feeding flat pieces to a position under said frame, supporting and elevating means for said pieces, a horizontal compression bar adapted to gravitatively bear upon the top of the stack and provided with a vertical extension having horizontal rollers located for rolling bearings on opposite sides of said upright member at different points in the height thereof, and a vertical gage or stop for the fed pieces, a block by which it is carried, a rotative screw engaged through said block, means for preventing endwise movement of the screw, and means with which said block has a sliding engagement.

Signed by me at Springfield, Mass., in presence of two subscribing witnesses.

JOHN E. PARRISH.

Witnesses:

G. R. DRISCOLL,
WM. S. BELLOWES.

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