(No Model.) 2 Sheets—Sheet 1.

A. C. GETTEN.

MECHANISM FOR BUNDLING PAPER BAGS OR OTHER ARTICLES.

No. 427,849. Patented May 13, 1890.

Fig. 1.

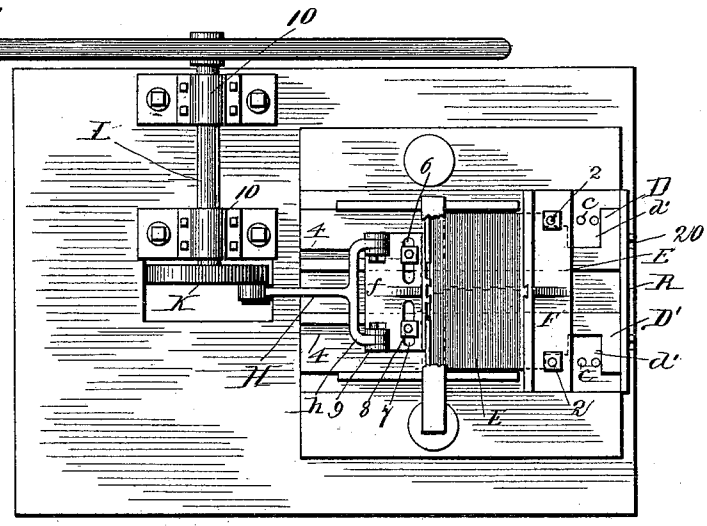


Fig. 2.

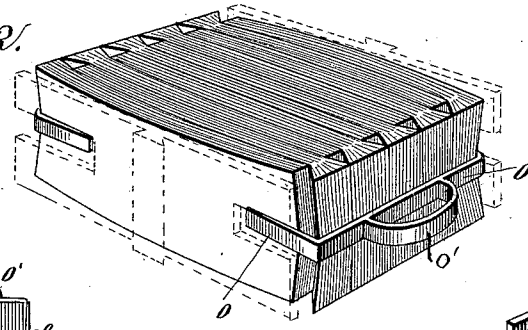


Fig. 3.

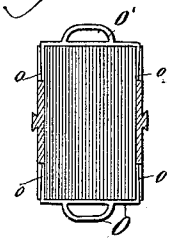


Fig. 5.

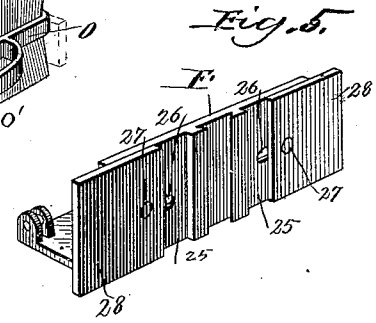


Fig. 4.

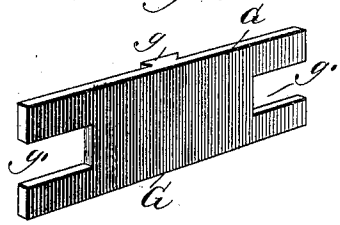
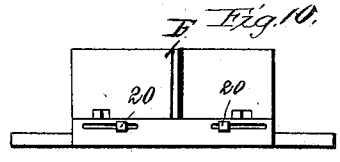


Fig. 10.



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(No Model.) 2 Sheets—Sheet 2.

A. C. GETTEN.

MECHANISM FOR BUNDLING PAPER BAGS OR OTHER ARTICLES.

No. 427,849. Patented May 13, 1890.

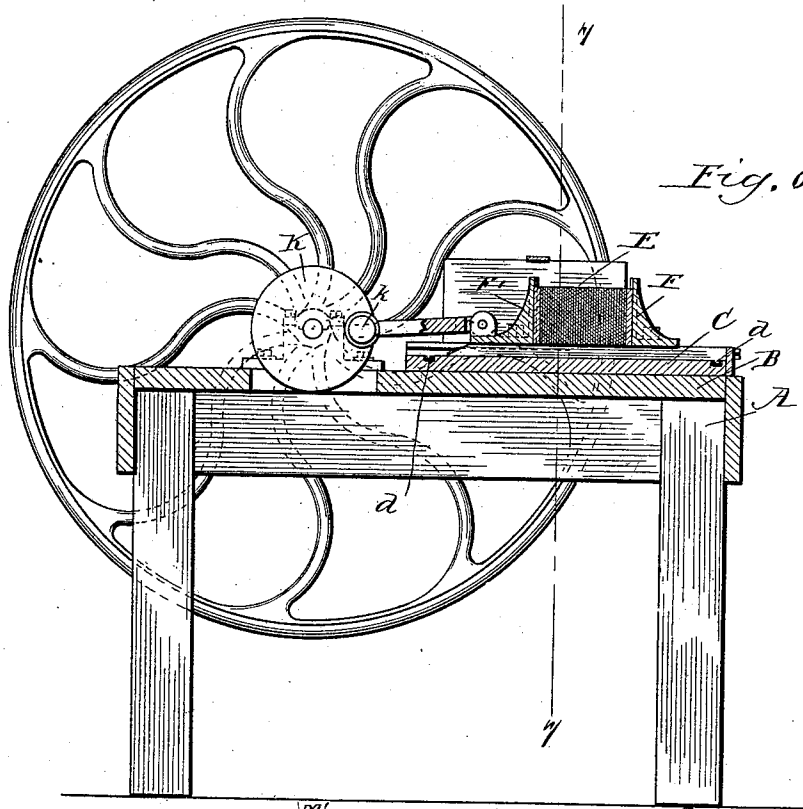


Fig. 6.

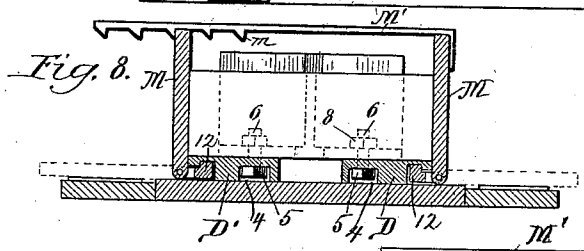


Fig. 8.

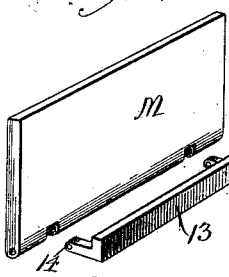


Fig. 9.

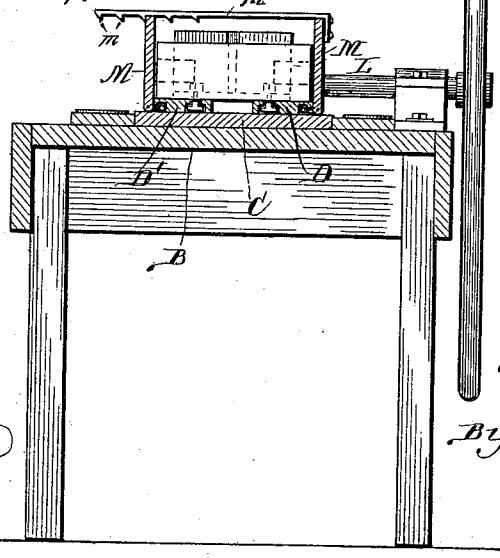


Fig. 7.

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UNITED STATES PATENT OFFICE.

ALBERT C. GETTEN, OF CHICAGO, ILLINOIS.

MECHANISM FOR BUNDLING PAPER BAGS OR OTHER ARTICLES.

SPECIFICATION forming part of Letters Patent No. 427,849, dated May 13, 1890.

Application filed July 1, 1889. Serial No. 316,191. (No model.)

To all whom it may concern:

Be it known that I, ALBERT C. GETTEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mechanism for Bundling Paper Bags or other Articles, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention has for its object to provide improved mechanism whereby paper bags or other articles after being assembled together may be compressed into compact bundles, and to provide means whereby such bundles can be securely held in compressed position until the paper wrapper or other retaining device is applied thereto. This object of invention I have accomplished by the novel features of construction hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is an enlarged detail view showing a bundle of bags and the devices for retaining them in compressed condition during the operation of applying the wrapper thereto. Fig. 3 is a detail plan view of a bundle of bags, showing the holders applied thereto, and showing also in horizontal section the presser-plates of the machine. Fig. 4 is an enlarged perspective view of one of the presser-plates. Fig. 5 is a detail perspective view of the head-block and adjusting-wings. Fig. 6 is a view in central vertical section through Fig. 1. Fig. 7 is a view in vertical transverse section on line 7 7 of Fig. 6. Fig. 8 is an enlarged detail view of a portion of the machine on line 7 7 of Fig. 6. Fig. 9 is a perspective view of one of the striker-plates and the means for connecting it to the machine. Fig. 10 is a view in elevation of the tail-block F, the plate R, and the base-plate C.

A designates the main frame of the machine, upon the bed B of which is set a base-plate C, although, if desired, this base-plate may be omitted and its function be performed by the bed B of the machine. Upon the base-plate C rest the guide-plates D and D′, whereon the bags E will rest during the pressing operation, these guide-plates being preferably provided on their under sides adjacent their ends with suitable ribs *d*, that enter corresponding transverse grooves formed in the face of the base-plate C. In a plate R, affixed to the end of the base-plate C, are formed the slots *r*, through which extend the set-screws 20, that enter threaded perforations in the guide-plates D and D′, and serve to clamp these plates to the plate R when they have been adjusted to proper position for any particular size of bags.

Each of the guide-plates D and D′ is provided with a cut-away space *d*′, through which will extend a bolt 2, that passes through the base portion of the tail-block F, (see Fig. 1,) and also through the holes *c* of the base-plate C, and the upper ends of these bolts are provided with suitable jam-nuts 3, whereby the tail-block F can be firmly clamped to the base-plate C and to the guide-plates D and D′ when these plates have been brought to the proper relative position. The guide-plates D and D′ are also provided each with a longitudinal groove 4, within which will fit the head end 5 of the bolt 6, the grooves being, preferably, of dovetailed shape to securely retain the heads of the bolts therein. These bolts 6 pass upward through the slots 7, formed in the head-blocks F′, and are provided with the nuts 8, by the adjustment of which the head-block can be retained in proper position with respect to the guide-plates D and D′. The tail-block F and the head-block F′ are provided each with a groove, preferably of dovetailed shape, to receive the correspondingly dovetailed rib or fin *g* of the presser-plate G, my purpose in thus connecting the presser-plates G to the head and tail blocks being to enable the presser-plates to be removed when desired, and yet to be held in secure connection with the head and tail blocks during the operation of the machine.

The tail-block F is by preference fixed, as shown, to the base-plate C of the machine; but the head-block F′ is sustained in a manner free to reciprocate, and, in order to effect the reciprocation of the head-block F′, I prefer to connect to this head-block a pitman H, that may be driven by a suitable crank-pin *k* from the disk K, that is carried by the operating-

shaft L. By preference the pitman H is connected to the head-block F′ by means of the arms *h*, that are pivoted, as at 9, to suitable lugs that project from the base of the head-block F′, although it is obvious that any suitable mechanism may be employed instead of that shown for effecting the movement of the head-block. The shaft L, whereby the reciprocation of the head-block F′ is effected, is journaled in suitable bearings 10, and is provided at its end with the hand-wheel L′, or other convenient means whereby a rotation or partial rotation of the shaft may be secured in order to produce the desired movement of the head-block F′.

My purpose in employing separate guide-plates D and D′ and in adjustably sustaining these guide-plates is to enable the guide-plates to be moved nearer together or farther apart, according to the lengths of the bags that are to be bundled. Thus, for example, if comparatively short bags are to be bundled, the guide-plates D and D′ will be brought close together, as seen in Fig. 1 of the drawings, and by setting the set-screws 20 the plates D and D′ will be securely held in proper relative position. This setting of the guide-plates D and D′ is readily permitted by the slots 7 of the head-block F′, through which extend the bolts 6. When it is desired to bundle bags of greater or less length, it is only necessary to loosen the jam-nuts 3 and 8 and the set-screws 20 and move the guide-plates D and D′ to a proper distance apart upon the bed-plate C.

Each of the guide-plates D and D′ is preferably furnished upon its under side with a groove 12, within which will fit, in a manner permitting longitudinal movement, the angular plate 13, to which is hinged, as at 14, an evener-plate M, although it is obvious that these evener-plates M may be attached to the plates D and D′ in any other convenient manner. The purpose of the evener-plates M is to permit the ends of the bags to be brought in exact alignment after they have been placed upon the press, and it is plain that if the evener-plates be brought to the vertical position shown in Figs. 1, 6, and 7 after the bags have been placed upon the machine they will force the ends of the bags into proper alignment. By preference a clamping-bar M′ will be attached to one of the evener-plates M, and will be provided with teeth *m* to engage with the opposite plate, the purpose of the bar being to hold the evener-plates during the pressing operation and prevent the ends of the bags getting out of alignment. My purpose in detachably connecting the presser-plates G to the head and tail blocks is to permit these plates to be replaced by others of proper size when it is desired to use the machine for bundling bags of larger or smaller size. Plainly, however, when the machine is to be used for one size of bags only, the parts need not be made adjustable, as hereinbefore described. By preference the head-block F′ is cut away on its face, as at 25, and is provided with the slots 26, through which will pass set-screws 27, that serve to hold upon the head-block the laterally-adjustable wings 28, as seen in Fig. 5 of the drawings. As the head-block F′ is made of the length equal to the shortest bags to be bundled, I prefer to employ the laterally-adjustable wings 28, in order to brace the outer ends of the presser-plate G, that is attached to the head-block, when the machine is used for bundling very long bags.

From the construction of parts as thus far defined it will be seen that if a quantity of bags be placed upon the guide-plates D and D′ and a partial rotation be given to the hand-wheel L′ the head-block F′ will be forced to the position seen in Figs. 1 and 6, and the mass of bags will be tightly compressed between the presser-plates G, attached, respectively, to the head and tail blocks. Before the compression of the bags is effected, however, the evener-plates M will be forced to a vertical position, thereby striking the ends of the bags and bringing them into proper alignment. When the mass of bags has been rightly compressed, they will be removed from the machine in compressed form by the improved construction of holders next to be described. These holders consist each of a metal bar O, having its ends *o* bent inward, and having also a suitable handle *o′* attached thereto. In order to permit the holders O to be placed upon the bags while they are still within the press, I provide each of the presser-plates G with a slot or cut-away space *g′* at each end, the slots *g′* being of a depth sufficient to readily admit the ends of the holders as they are placed over the compressed ends of the bags.

In the operation of my improved machine, after the bags have been placed upon the guide-plates D and D′ and have had their ends brought into proper alignment by means of the evener-plates M and have been compressed, as above described, the holders will be placed over the ends of the bags, as seen in Figs. 2 and 3. The hand-wheel L′ will then be reversed in such manner as to cause the head-block F′ to recede, after which the holders O, and with them the bundle of bags, will be removed from the press, and can be wrapped with paper or otherwise bundled, as desired. My usual practice is to take the bundle of bags while held in a tightly-compressed condition by the holders O and place around this bundle a paper wrapper, the ends of which will be securely pasted, after which the holders O may be withdrawn from the ends of the bags. It will be observed that the tail-block F is made considerably broader than the head-block F′, the reason for this construction being that the tail-block need not be of such size as to pass between the evener-plates M, whereas the head-block F′ in the preferred construction shown will pass between these evener-plates.

When it is desired to bundle very long bags, the adjustable wings 28 will be extended outwardly, so as to afford a firm backing for the presser-plate G, attached to the head-block. My purpose in connecting the tail-block F to the base-plate in such manner that it can be adjusted thereon is to enable this plate to be set forward or backward, as desired, according to the size of the bundle that is to be made. Thus, for example, when very large bags are to be bundled, the tail-block F will be set very near the edge of the base-plate, and when very small bags are to be bundled it will be moved correspondingly toward the center of the machine. My purpose in making the evener-plates M longitudinally adjustable is to enable these plates to be set in proper position to strike the ends of all the bags when they are placed upon the machine—in other words, to insure that the evener-plates shall come in proper position with respect to the tail-block F under all conditions of operation.

It is obvious that the details of construction above set out may be varied within wide limits without departing from the spirit of my invention—as, for example, any other convenient mechanism may be used instead of that shown for operating the head-block, and the precise construction of presser-plates may be modified, or, indeed, if desired, the presser-plates may be omitted and suitable slots corresponding to the slots g' may be formed in the head and tail blocks F′ and F to permit the holders O to be placed over the ends of the bags. For the reasons stated above, however, I regard the use of the detachable presser-plates as desirable.

By my improved mechanism a simple and effective means is secured whereby the mass of bags and other articles—such, for example, as sheets of paper, cards, &c.—can be tightly compressed, and while in compressed condition can be securely wrapped, so that in storage or shipment they will occupy much less space than would be possible if the compression of the bags were effected by hand. Moreover, by a head-block the movements of which are exact and positive, each bundle will be found to be of uniform size, whereas when the bundling is effected by hand the sizes of the bundles are found in practice to vary materially. So, also, certain features of my invention may be employed without its adoption as an entirety. Thus, for example, the holder can be used with any suitable form of device for compressing the bags so long as provision is made whereby the holders can be inserted over the ends of the bags when in compressed condition.

While I have illustrated my invention as adapted to machines more particularly designed for bundling paper bags, it is obvious that it can be used for bundling other articles—such, for example, as sheets of paper, card-board, or the like—and I do not wish, therefore, to be understood as restricting the invention in any wise to its use for paper bags alone.

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

1. In a bundling-machine, the combination, with suitable parts for compressing the bags or other articles, said parts having spaces to admit the holders, of holders having rigid arms or portions adapted to retain the bags or other articles in compressed condition after their withdrawal from the press, substantially as described.

2. In a bundling-machine, the combination, with suitable parts for compressing the bags or other articles, said parts having spaces at their ends to admit the holders, of holders for retaining the bags or other articles in compressed condition, said holders having inwardly-extended ends, whereby the bags or other articles will be temporarily held after their removal from the press, substantially as described.

3. In a bundling-machine, the combination of a head-block, a tail-block, and one or more presser-plates extending across said plates and detachably connected to said head and tail blocks, substantially as described.

4. In a bundling-machine, the combination of a head-block, a tail-block, and presser-plates having cut-away spaces at their ends, substantially as described.

5. In a bundling-machine, the combination of a fixed tail-block, a movable head-block, and a presser-plate detachably connected to said movable head-block and provided with spaces at its ends to admit suitable holders, substantially as described.

6. In a bundling machine, the combination of a tail-block, a movable head-block, a presser-plate detachably connected to said head-block, and laterally-adjustable wings on said head-block, substantially as described.

7. In a bundling-machine, the combination, with suitable head and tail blocks, between which the bags or other articles will be compressed, of laterally-adjustable guide-plates whereon said bags or other articles will rest, substantially as described.

8. In a bundling-machine, the combination, with a suitable bed-plate, of a tail-block adjustably sustained upon said bed-plate, a movable head-block, and means for reciprocating said head-block, substantially as and for the purposes set forth.

9. In a bundling-machine, the combination, with suitable head and tail blocks for compressing the bags or other articles, of movable evener-plates extending in the direction of the travel of the head-block and adapted to be forced against the ends of the bags or other articles for aligning the same, substantially as described.

10. In a bundling-machine, the combination, with head and tail blocks for compressing the bags or other articles, of laterally-adjustable guide-plates whereon said bags or articles

will rest and laterally-adjustable evener-plates for aligning the ends of the bags or other articles, substantially as described.

11. In a bundling-machine, the combination, with the head and tail blocks for compressing the bags or other articles, of the longitudinally-adjustable evener-plates for aligning the ends of the bags or articles, substantially as described.

12. In a bundling-machine, the combination, with the head and tail blocks for compressing the bags or other articles, of the hinged evener-plates adapted to be forced against the ends of the bags or other articles, substantially as described.

13. The holders O, for retaining the bags or other articles in compressed condition, said holders being provided with inwardly-extended ends *o* and with suitable means whereby the holders may be grasped, substantially as described.

14. In a bundling-machine, the combination, with the head and tail blocks for compressing the bags or other articles, of the evener-plates for aligning the ends of the bags or articles and a suitable clamping device for holding said evener-plates in vertical position during the compressing operation, substantially as described.

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