

T. HAWLEY.
BUNDLING MACHINE.
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985,895.

Patented Mar. 7, 1911.

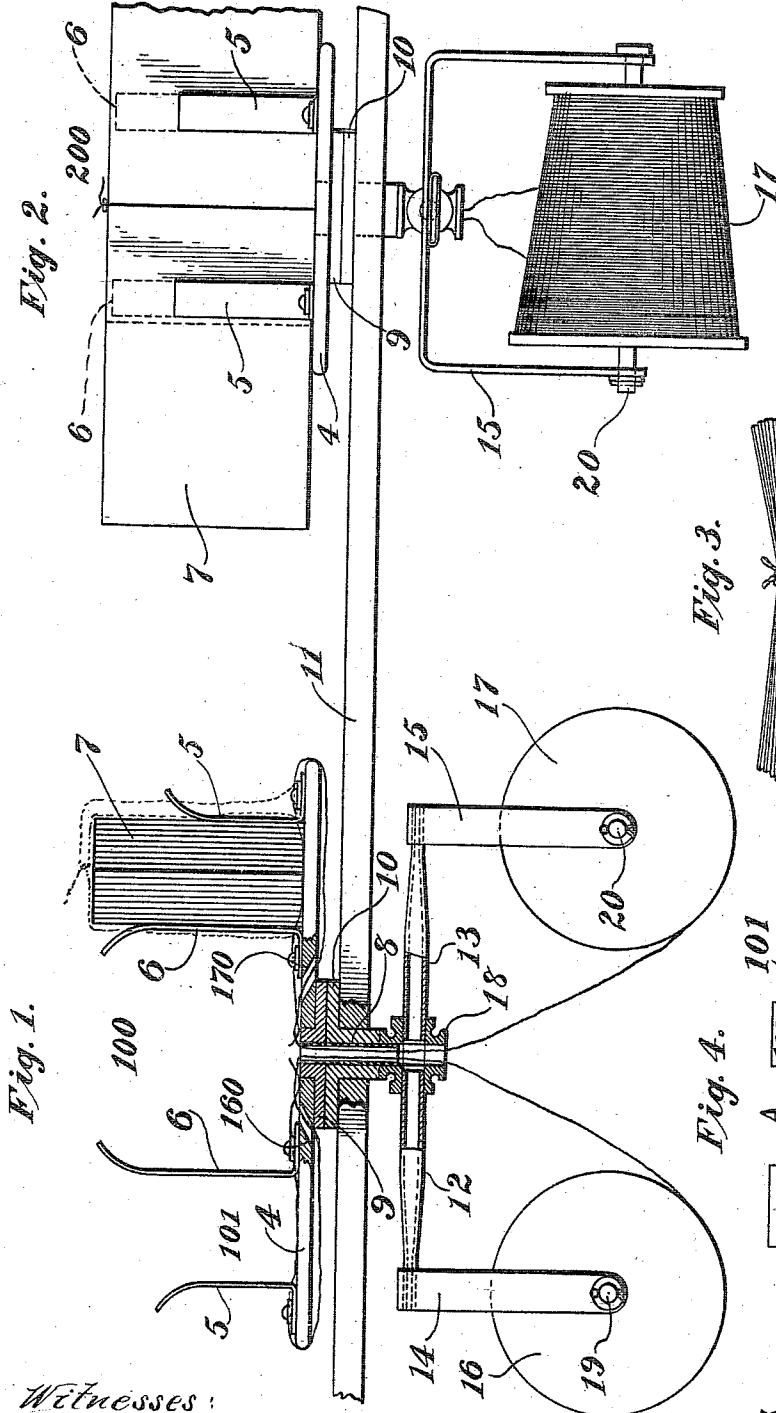


Fig. 2.

Fig. 1.

Fig. 3.

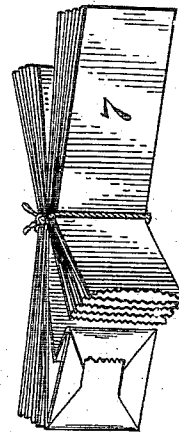
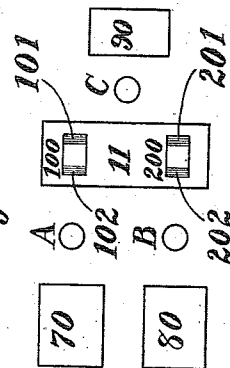


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

THEODORE HAWLEY, OF RUMFORD, MAINE, ASSIGNOR TO CONTINENTAL PAPER BAG COMPANY, A CORPORATION OF MAINE.

BUNDLING-MACHINE.

985,895.

Specification of Letters Patent.

Patented Mar. 7, 1911.

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To all whom it may concern:

Be it known that I, THEODORE HAWLEY, a citizen of the United States, and a resident of Rumford, in the county of Oxford and State of Maine, have invented certain new and useful Improvements in Bundling-Machines, of which the following is a specification.

This invention relates to bundling machines and especially to that class thereof adapted for use in bundling and tying up or banding manufactures of paper such as envelopes, bags and other articles.

In the drawings accompanying this specification is illustrated one embodiment and which may be the preferred embodiment of my improvements.

Therein Figure 1 is a side elevation, partly in section of my improved machine. Fig. 2 is an end elevation thereof. Fig. 3 represents a bundle of paper bags after being bundled and tied in my improved machine. Fig. 4 is a diagrammatic plan view of one arrangement of my improved machine in use.

The speed of modern envelop and bag machines is so high that difficulty is experienced in economically caring for the product after it has been delivered by the machine. In the case of bag machines and particularly of that class of such machines for making the more elaborate types of bags such for instance as the commonly called "self opening square" bags, a careful inspection of the product is required before that product is bundled and tied. At one time when such machines were run at a somewhat slower speed than at present one tender could gather, inspect, bundle and tie by hand the product of one machine. Recently however the speed of such machines has been so increased that it is beyond the ability of one tender to care for the product, while not affording work enough to keep two tenders occupied. Furthermore the use of three tenders for two machines was found impracticable because while the tenders who gathered and inspected could attend to their part with ease, the tender who bundled and tied was constantly overworked.

The object of the present device is to facilitate the work of bundling and tying and thus more evenly divide the complete job of machine tending.

To these ends my improved machine comprises a revoluble table 4 preferably rectan-

gular in shape and having upstanding therefrom sets of bag holding clips or posts 5, 5, 6, 6. As shown each set comprises two clips 5 and two clips 6 and said sets are arranged relatively near the ends respectively of said table 4. Posts 5, near the ends of said table are preferably shorter than posts 6 so that the bags as 7 may be conveniently placed in position therebetween, by a tender at one end of said table 4.

Table 4 is fixed about midway its length to the upper part of tubular shaft 8 by means of plate 9. Said tubular shaft 8 is mounted for rotation in flanged sleeve 10 supported in table 11. Fixed to the lower end of shaft 8 are arms 12, 13 terminating in any suitable supporting means as yokes 14, 15 for spools of twine, tape, banding paper or other suitable bundle fastening material as 16. As herein illustrated a cross connection 18 is screwed onto the lower end of tubular shaft 8 and tubular arms 12, 13 are screwed into the side openings of said cross connection. Tubular arms 12, 13 are flattened at their outer ends and riveted midway of yokes 14, 15; spools 16, 17 are pivotally supported for free revolution on pins 19, 20 supported in the lower ends of said yokes, all respectively. By these arrangements spools 16, 17 are caused to revolve about a vertical axis coincident with tubular shaft 8 when table 4 is revolved and said spools always maintain a fixed relation to said table.

The free end of the twine from spool 16 is led upwardly through tubular shaft 8 then downwardly through hole 160 in table 4 and upwardly over the adjacent end of said table and laid inwardly between posts 5, 5 and 6, 6 toward the center of said table 4 in position to be folded upwardly around a bundle of bags placed in position between posts 5, 5, 6, 6. The free end of the twine from spool 17 is similarly threaded through shaft 8, hole 170 and over the opposite end of table 4.

In practice I preferably use two or more of my improved machines as a gang. If two are used they are located relatively near each other as illustrated for instance on table 11 in Figs. 1 and 2 and more fully in the diagrammatic view of Fig. 4. For operating two of my improved machines three operatives A, B and C may be economically employed. In this case table 11

would be placed conveniently near two paper bag machines or other machines as 70, 80 whose product it was desired to care for, and two of the operatives A and B would be stationed opposite each machine as 100, 200 and between said machines and the bag machines all respectively. The third operative would be stationed on the far side of table 11 at C. Thereupon one opera-
 10 tor as A takes two successive handfuls or bunches of bags say of 50 each from the delivery box of bag machine 70, inspects them, removes any imperfect bags replaces them with good bags, arranges the two
 15 bunches end for end (see Fig. 3) and places them between clips 5, 5, 6, 6 as at 7 Fig. 1 and in position 102 of Fig. 4. Said opera-
 20 tor A then swings table 4 on its axis and said bundle 7 is revolved to position 101 Fig. 4. Operator C then wraps and ties the twine about the bundle as shown in dotted lines Fig. 1 and lifts the tied bundle (see Fig. 3) from between clips 5, 5, 6, 6 and deposits it in a truck or other receptacle
 25 as 90. In the meantime operator B has been taking bags from the bag machine 80, inspecting them, arranging them in position 202 in machine 200, and then swinging table 4 of said machine 180 degrees thus
 30 shifting the bunch of bags into position 201 for operator C to tie and discharge as already described in connection with machine 100. Thus operator A serves bag machine 70 and bundling machine 100, operator B
 35 serves bag machine 80 and bundling machine 200 and operator C serves alternately bundling machines 100 and 200 and delivers the product therefrom. If desired table 4 may be supplied with one or more addi-
 40 tional sets of bag holding clips and corresponding spools of twine. Also said spools may be supported above table 4 with equal effect and other modifications may be made within the spirit and scope of my inven-
 45 tion.

I claim:—

1. In a bundling machine the combina-

tion of a horizontal table having a tubular shaft extending downwardly therefrom said shaft revolubly mounted in a fixed sup- 50 port and tying material below said table carried by said tubular shaft.

2. In a bundling machine the combina- tion of a horizontal table having a shaft extending downwardly therefrom, said shaft 55 revolubly mounted in a fixed support, a bracket fixed to the lower part of said shaft, a spool of tying material carried by said bracket and a passage upward through the shaft and table for said tying material. 60

3. In a bundling machine the combina- tion of a horizontal table having a shaft fixed thereto and extending downwardly therefrom, means for revolubly supporting said shaft, means on the table for holding 65 a plurality of bundles, means supported by the lower portion of said shaft and revoluble therewith for supporting a plurality of spools of tying material and a passage up- ward through said shaft and table for said 70 tying material.

4. In a bundling machine the combina- tion of a revoluble table, means therebelow supported thereby and revoluble therewith 75 for carrying tying material and an axial passage upward therethrough for said tying material.

5. In a bundling machine the combina- tion of a table revoluble on a vertical axis, means below the table, supported therefrom 80 and revoluble therewith for carrying tying material, an axial passage upward there- through to the face of said table for said tying material and one or more holes through said table for the passage of said 85 tying material.

Signed this 29th day of October 1909 at Rumford, Maine before two subscribing witnesses.

THEODORE HAWLEY.

Witnesses:

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HARRY S. JACKSON.