

L. P. BROWN.
MACHINE FOR MAKING FILLERS.
APPLICATION FILED JAN. 9, 1911.

1,023,989.

Patented Apr. 23, 1912.

3 SHEETS—SHEET 1.

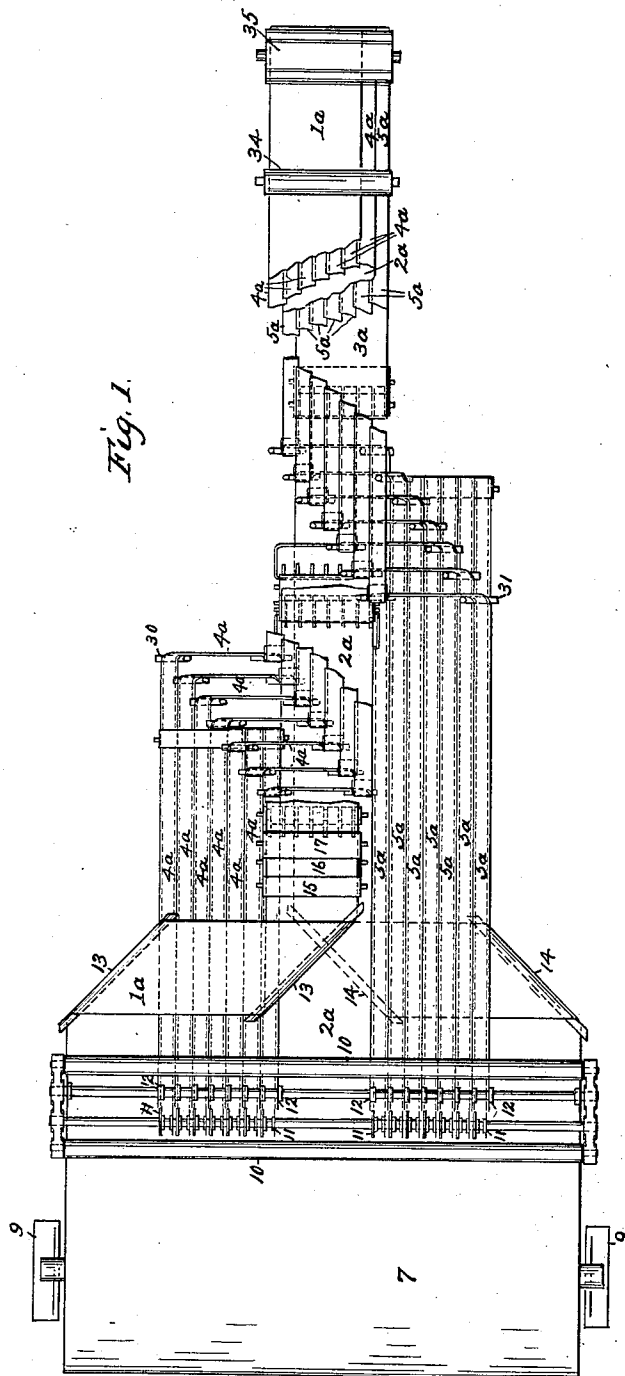


Fig. 1.

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By his Attorney
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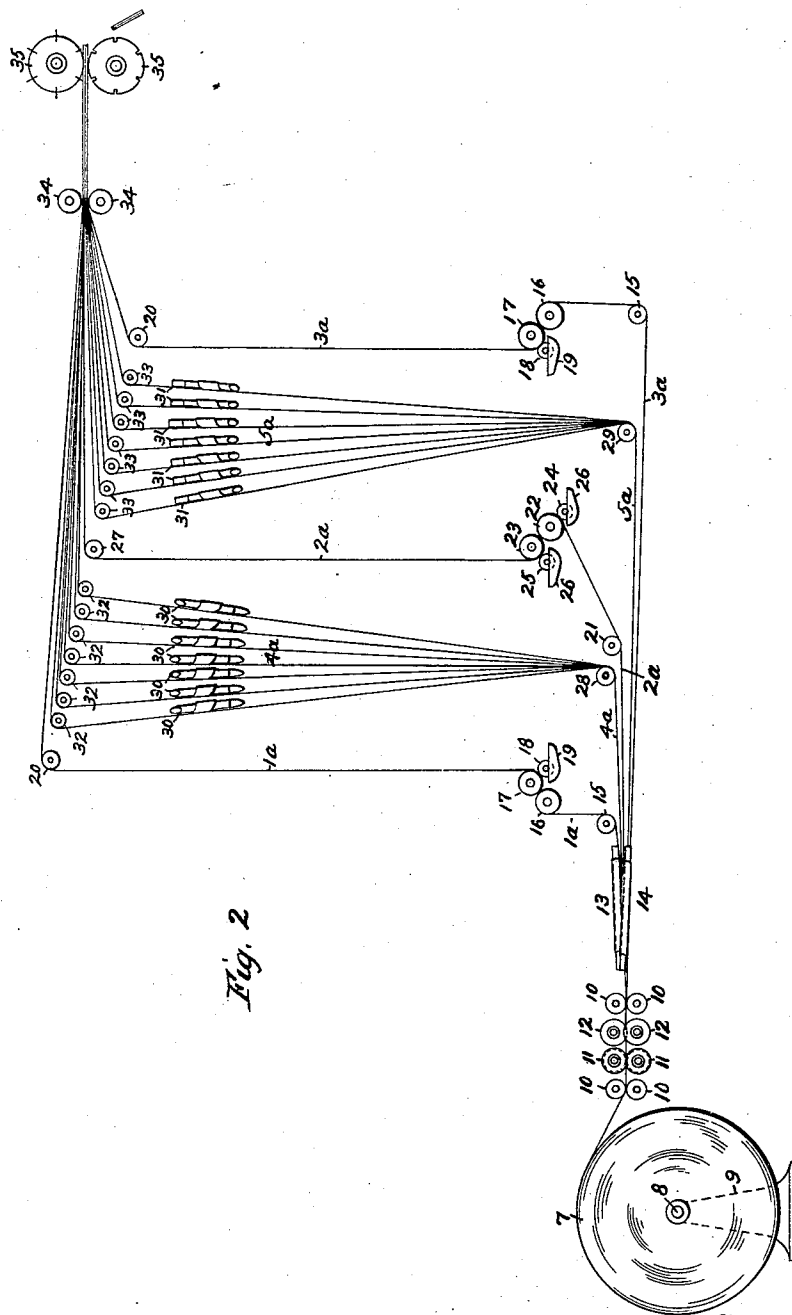


Fig. 2

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3 SHEETS—SHEET 3.

Fig. 4.

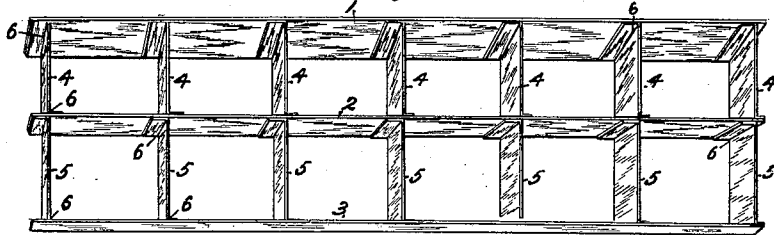


Fig. 5.

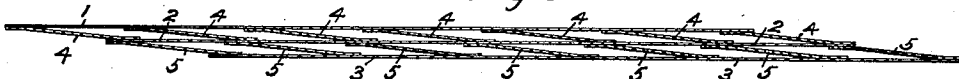
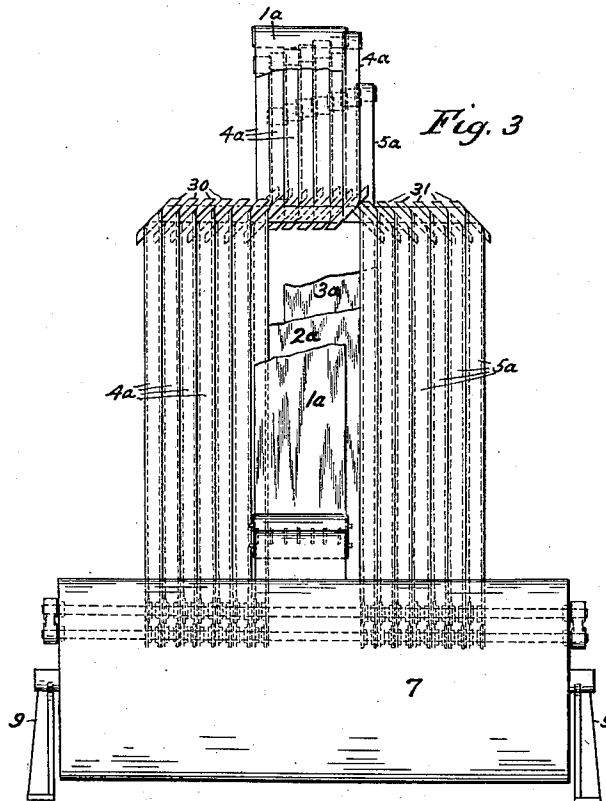


Fig. 3.



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UNITED STATES PATENT OFFICE.

LUTHER P. BROWN, OF RAMSEY, NEW JERSEY, ASSIGNOR TO LILLIE MAE BROWN.

MACHINE FOR MAKING FILLERS.

1,023,989.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed January 9, 1911. Serial No. 601,549.

To all whom it may concern:

Be it known that I, LUTHER P. BROWN, a citizen of the United States, and resident of Ramsey, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Machines for Making Fillers, of which the following is a specification.

The invention relates to machines for making fillers or cell-cases for cartons employed for separately packing articles of merchandise, and as herein disclosed is particularly adapted for use in connection with the collapsible carton for which Letters Patent No. 930,835, was granted to me on August 10, 1909.

The object of the invention is to provide means for the expeditious manufacture of the fillers from cardboard, or other suitable material, in a substantial manner and in such form that they may be folded or collapsed for convenience in shipping, and readily extended or opened up when required for use.

In describing the invention in detail, reference is had to the accompanying drawings, forming a part of this specification, wherein like characters of reference designate like parts throughout the several views, and in which:

Figure 1 is a ground plan of the machine embodying the invention, shown in part diagrammatically; Fig. 2, a side elevation of the same, similarly shown; Fig. 3, an end elevation of the machine; Fig. 4, a perspective view of an open filler; and Fig. 5, a transverse section of a partially collapsed filler.

Referring to Figs. 4 and 5 of the drawings, numerals 1, 2 and 3 designate the longitudinal members of the filler, to which are secured by glue the marginal ends of a series of transverse members 4 and 5, provided with transverse score lines 6 to facilitate the bending thereof for opening and collapsing the filler.

In the construction of the filler, the cardboard is supplied from a roll 7, supported in the usual manner upon a spindle 8, journaled in standards 9. Two pair of feeding-rolls 10 convey the material from the roll and pass it between the scoring or creasing-wheels 11 and the slitting-disks 12, the former longitudinally creasing the web, and the latter longitudinally severing it into strips of suitable widths, corresponding with the

lengths of the longitudinal and transverse members of the filler, the former members being indicated in the web by the comparatively wide widths 1^a, 2^a and 3^a, and the latter members by the narrow widths 4^a and 5^a.

The central web section 2^a passes centrally through the machine, and above and below this section are respectively collected the web sections 1^a and 3^a by means of the angle-bars 13 and 14, which laterally position their webs in overlapping relation with the central web, as associated approximately in the partially collapsed filler, shown in Fig. 5, and designated by numerals 1, 2 and 3. After passing over the angle-bars, webs 1^a and 3^a are led under the guiding-rolls 15 and between the feeding-rolls 16 and 17, the rolls 17 serving to receive the pressure from a plurality of glue-wheels 18, supplied with glue from the fountains 19. The glue-wheels 18 deposit upon the inner surfaces of the wide web-sections 1^a and 2^a a plurality of lines of glue corresponding in number with the several narrow web sections 4^a and 5^a. From the gluing devices these wide web sections are led over the guiding-rolls 20, which are provided with circumferential clearance grooves to escape the lines of glue applied to the web. In like manner the central web section 2^a is led under a guiding-roll 21, and between feeding-rolls 22 and 23, which also serve respectively to receive the pressure of the glue-wheels 24 and 25, mounted in the fountains 26. These two sets of glue-wheels apply upon the opposite surfaces of the central web lines of glue corresponding in number with the several narrow web sections, clearance grooves being likewise provided in the surface of rolls 23 for the lines of glue upon the adjacent web surface. From the double gluing device the central web is led over the guiding-roll 27, similarly provided with clearance grooves for the glue lines.

From the creasing-wheels 11 and slitting-disks 12 the double series of narrow webs 4^a and 5^a are led in straight lines respectively to the guiding-rolls 28 and 29 and thence to the angle-bars 30 and 31, which bars laterally position the series 4^a between the wide webs 1^a and 2^a and the series 5^a between the webs 2^a and 3^a. From the angle-bars the two series of narrow webs are respectively led over the guiding-rolls 32 and 33, which together with rolls 20 and 27 are suitably positioned to space the several webs com-

prising the filler somewhat apart and to guide the same to the pressure-rolls 34. The lateral relation of the several webs as they enter the pressure-rolls is indicated approximately by the transverse section of the partially collapsed filler, shown in Fig. 5, in which relation the lines of glue applied to the wide web sections 1^a, 2^a and 3^a coincide with the longitudinally creased margins of the narrow webs 4^a and 5^a, engaging the same between the outer edges and the crease line, and serving by the action of the pressure-rolls to securely unite the wide and narrow web sections.

From the pressure-rolls 34 the adhesively united webs are led to the cutting-rolls 35, which transversely sever the same into suitable lengths or sections corresponding to the required depth of filler, and deliver them from the machine in a flat or collapsed condition ready for shipment.

When required for use the fillers may be readily opened up into the form shown in Fig. 4, the opening and collapsing action being facilitated by the transverse score line 6, preferably disposed on the opposite surfaces of the transverse members 4 and 5 to secure the bending of the margins thereof in opposite directions. For effecting the corresponding score lines 6^a upon the opposite surfaces of the narrow web sections 4^a and 5^a which form these transverse members, each set of scoring-wheels 11 for the several webs comprise two pair of wheels, one wheel of each pair having a flat working face coacting in the usual manner with a wheel having a V-shaped face to slightly cut or compress the surface of the web and thereby permit the latter to readily bend away from or toward the opposite direction from the line of cut.

While the several devices in the machine have been herein diagrammatically shown, it will be understood that the rotating parts are to be suitably mounted in bearings and driven in the usual manner.

It will be obvious that with the above arrangement of parts, and with the travel of the several webs at an ordinary rate of speed, a very large quantity of fillers may be made in a comparatively short time.

It will furthermore be understood that by suitably arranging the several devices fillers of varying sizes and containing various numbers of compartments may be made.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In a filler-making machine, means for feeding and spacing a plurality of webs of cardboard to form longitudinal filler members, means for feeding and spacing a plurality of webs of cardboard between said longitudinal members to form transverse filler members, means for uniting the opposite web margins of the transverse members

to the opposite webs of the longitudinal members, and means for transversely severing the united webs into filler sections.

2. In a filler-making machine, means for feeding and spacing a plurality of webs of cardboard to form longitudinal filler members, means for feeding and spacing a plurality of webs of cardboard between said longitudinal members to form transverse filler members, means for longitudinally scoring the margins of the webs forming the transverse filler members, means for uniting the opposite web margins of the transverse members to the opposite webs of the longitudinal members, and means for transversely severing the united webs into filler sections.

3. In a filler-making machine, means for feeding and spacing a plurality of webs of cardboard to form longitudinal filler members, means for feeding and spacing a plurality of webs of cardboard between said longitudinal members to form transverse filler members, means for longitudinally scoring the margins of the webs forming the transverse filler members, means for applying a plurality of longitudinal lines of adhesive to the webs forming the longitudinal filler members, said adhesive lines corresponding in number and position with the margins of the webs forming the transverse filler members, compressing means for adhesively uniting the webs forming the longitudinal and transverse filler members, and means for transversely severing the united webs into filler sections.

4. In a filler-making machine, the combination of a spindle for supporting a roll of cardboard, means for feeding the web of cardboard from said roll, means for longitudinally severing the web into sections for forming longitudinal and transverse filler members, means for longitudinally scoring the margins of the webs forming the transverse filler members, means for associating the several web sections, and means for transversely severing the associated webs into filler sections.

5. In a filler-making machine, the combination of a spindle for supporting a roll of cardboard, means for feeding the web of cardboard from said roll, means for longitudinally severing the web into sections for forming longitudinal and transverse filler members, means for laterally spacing and uniting the several web sections, and means for transversely severing the united webs into filler sections.

6. In a filler-making machine, the combination of a spindle for supporting a roll of cardboard, means for feeding the web of cardboard from said roll and longitudinally severing it into sections to form longitudinal and transverse filler members, means including turning-bars and guiding-rolls

for laterally spacing and collecting said
longitudinally severed sections, means in-
cluding gluing devices and pressure-rolls
for uniting said severed sections, and means
5 for transversely severing the united webs
into filler sections.

Signed at Ramsey in the county of

Bergen and State of New Jersey this sev-
enth day of January A. D. 1911.

LUTHER P. BROWN.

Witnesses:

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