

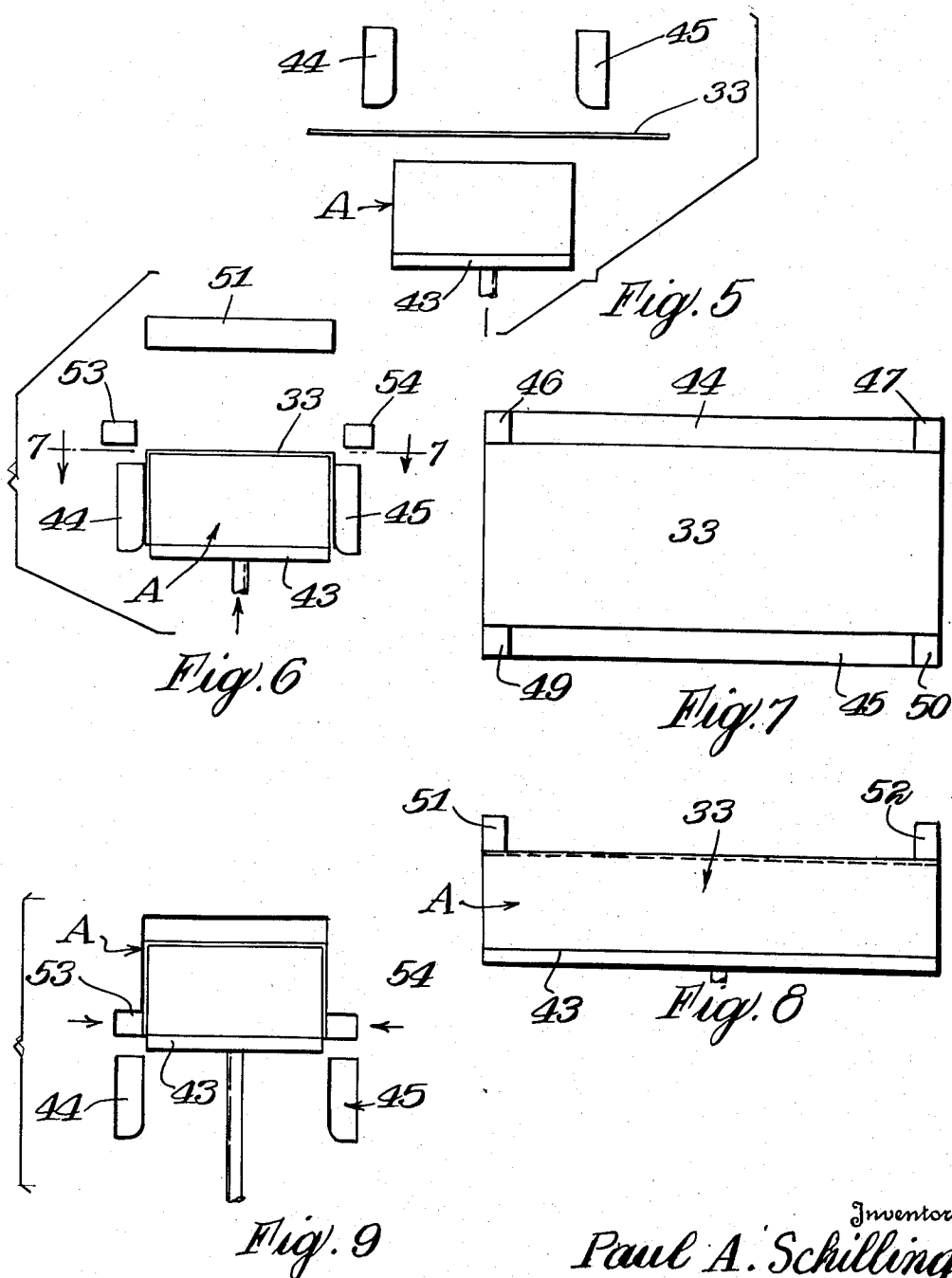
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COVERED TRAY

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2 Sheets-Sheet 2



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COVERED TRAY

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My invention relates to an improvement in cartons and deals more particularly with a carton closure and method of attaching the same.

For numerous years cartons have been formed in the nature of trays for containing foodstuffs and the like, and the carton and goods contained therein are then wrapped in a transparent wrapping sheet. As a result the goods are supported in display position and at the same time are enclosed.

While such packages have many desirable characteristics, they usually have the disadvantage that an expensive and complicated wrapping machine is required for sealing the goods. Such a wrapped carton also uses more wrapping material than is necessary to close the carton. In some instances cartons have been provided with transparent windows and transparent panels, but such cartons can not be filled as easily as certain other types of constructions.

It is the object of the present invention to provide a carton which comprises a tray like body in which the goods to be packaged may be placed and in covering the package with a sheet of cellophane which is heat sealed to the walls of the carton. As a result the tray may be filled in a convenient manner and may be quickly and easily closed without the necessity of wrapping the entire package.

A feature of the present invention lies in the provision of a tray having an open side such as an open top, and in applying a sheet of transparent material over this open top and heat sealing the edges thereof to the walls of the carton.

A further feature of the present invention lies in the provision of a tray having flaps or flanges foldable to overlie a small portion of the top of the carton near each end thereof and in sealing a sheet of transparent material to these opposed flaps and to a pair of carton side walls to enclose the package contents.

A feature of the present invention lies in the provision of a carton having a base and encircling side walls, in providing opposed flaps extending inwardly from two opposed side walls, and in anchoring a sheet of transparent sealing material to these inwardly extending flaps and to the remaining side walls of the carton. As a result the sheet of covering material need only extend the length of the package and need only be of sufficient width to extend over the top of the package and along at least portions of opposed side walls.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

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In the drawings forming a part of my specification:

Figure 1 is a plan view of a blank of which a typical carton may be formed.

Figure 2 is a perspective view of a carton in sealed condition thereof.

Figure 3 is a longitudinal sectional view through the carton shown in Figure 2.

Figure 4 is a sectional view through the carton of Figure 3.

Figure 5 is a diagrammatic view showing the carton before the covering sheet is applied thereto with the covering sheet positioned above the same.

Figure 6 is a diagrammatic view showing the manner in which the covering sheet may be folded over the sides of the carton and secured thereto.

Figure 7 is a plan view of the carton on the line 7—7 of Figure 6 showing one type of heat sealing means used for sealing the covering member to the carton.

Figure 8 is a side elevational view of the carton in position against the top sealing members.

Figure 9 is a diagrammatic view showing the manner in which the side edges of the covering member may be sealed.

The carton A illustrated in the drawings is only illustrative of one type of carton which may be used to accomplish the desired result. The carton A includes a bottom panel 10 having side wall panels 11 and 12 foldably connected thereto along fold lines 13 and 14. The bottom panel 10 is likewise connected to carton end walls 15 and 16 along substantially parallel fold lines 17 and 19 respectively. Locking tabs 20 and 21 are foldably connected to the end wall panel 15 along extensions of the fold lines 13 and 14. Similar locking flaps 22 and 23 are foldably connected to the end wall panel 16 along extensions of the fold lines 13 and 14. These locking tabs 20, 21, 22, and 23 are engageable in corresponding slots 24, 25, 26, and 27 in the side walls 11 and 12. Flaps or flanges 29 and 30 are foldably connected to the upper edges of the end walls 15 and 16 along parallel fold lines 31 and 32.

When the blank illustrated in Figure 1 is erected, a carton is formed having a flat bottom panel and rectangularly arranged side and end walls. The flaps 29 and 30 usually extend in coplanar relation to the end walls 15 and 16 to which they are attached, making these end walls somewhat higher than the side walls during the filling of the carton or tray.

A carton or tray of the general type illustrated has been found extremely desirable for containing

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many different types of merchandise and have been lately found of unusual importance in containing bakery goods. Such bakery goods may be placed in the trays in uncooked condition and the goods may be actually baked while in the paper trays, thus eliminating considerable of the work and time ordinarily required in removing the bakery goods from their original receptacles and packing them in different types of receptacles.

After the goods have been placed within the carton or tray and are ready for the sealing operation the flaps 29 and 30 are folded into substantially parallel relation to the base panel 10 extending over portions of the contents of the package. A sheet of heat sealable material, which is preferably transparent in form is next placed over the carton and the edges of this sheet 31 are folded to overlie the side walls 11 and 12 of the carton. The covering sheet is heat sealed to the flaps 29 and 30, to the side walls 11 and 12, and to the locking flaps 20, 21, 22, and 23, partially overlying the side walls. Alternatively, the locking panels may be provided on the side walls and the covering sheet 33 may be heat sealed only to the flaps 29 and 30, and the side walls 11 and 12.

When the carton is constructed as illustrated in Figure 1 of the drawings, the general areas to which the sheet 33 is heat sealed are illustrated by the shaded areas appearing in this figure. Shaded areas 34 and 35 are shown adjacent the fold lines 31 and 32 connecting the flaps or flanges 29 and 30 to the end walls of the carton. Right angular shade areas 36, 37, 38, and 40 are provided on the locking flaps 20, 21, 22, and 23, respectively. Shaded areas 41, and 42 are likewise shown on the side walls 11 and 12 near the fold lines 13 and 14. Thus it will be seen that the sheet 33 is marginally heat sealed about its entire periphery to the flaps 29 and 30 and the walls of the carton.

Obviously the tray illustrated in Figure 1 of the drawings is only one of a number of types of trays which would be suitable for my purpose. It is only essential that the tray be provided with a bottom wall and encircling side walls, and flaps or flanges extending inwardly from two opposed walls. There are some advantages in having the locking flaps or overlapping flaps of the tray overlying the end walls of the carton rather than the side walls thereof as the covering sheet 33 will obviously seal more readily to a flat surface.

The carton thus described has several advantages over most such cartons. In the first place the covering sheet need only be the length of the carton and may actually be slightly shorter than the carton as it is sealed at opposite ends to the flaps 29 and 30. The sealing area is shown closely adjacent the fold lines 31 and 32 as sealing pressure may more readily be applied at these areas. Furthermore, the carton may be enclosed after the natural filling operation without the use of complicated machinery. The sheets may be heat sealed to the carton walls with a minimum of difficulty.

In Figures 5 through 9 of the drawings I disclose diagrammatically one method by which the covering sheet may be secured to the carton. The carton A is shown in place upon a plunger 43 which is designed to elevate the carton. A sheet 33 of covering material of a heat sealable type is positioned by any suitable means above the carton A. The plunger 43 is elevated forcing the carton between the pair of folding members 44 and 45. These members fold the sheet 33 to overlie parts of the side walls of the carton A as

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illustrated in Figure 6 of the drawings. Thus as the carton is plunged between the folding members 44 and 45 the sheet is folded into covering position.

As indicated in Figure 7 of the drawings the folding members 44 and 45 may incorporate heat sealing bars which rub against the covering sheet 33 and seal the sheet to the walls of the carton at either end thereof. The folding bar 44 may incorporate a pair of spaced heat sealing 46 and 47 at opposite ends thereof which engage against the side walls of the carton and form parts of the seal, as for example along the vertical part of the areas 36 and 39. The folding member 45 may similarly incorporate heat sealing bars 49 and 50 which engage the opposite side of the carton and urge the covering sheet 33 against the carton and seal it thereto along portions of the areas 37 and 40. The remainder of the folding members 44 and 45 may be of a relatively less heat conductive material or may be heat insulated from the bars 46, 47, 49, and 50.

The plunger 43 may then if desired, elevate the carton A into engagement with heat sealing bars 51 and 52 which press against the top portion of the covering sheet and seal this sheet against the flaps 29 and 30 to form the heat sealed areas 31 and 32. The plunger presses the carton against these heat sealing bars closely adjacent the fold lines 31 and 32 so that the pressure may be withstood by the side walls of the carton. Laterally reciprocable heat sealing bars 53 and 54 may move inwardly toward the lower edges of the covering sheet 33 to seal the covering sheet against the side walls of the carton. If the side walls are continuous and smooth from one end to the other of the carton, the pressing surface of these bars may be similarly shaped. However, if locking tongues are provided which overlie portions of the side walls of the carton, the sealing plates or bars 53 and 54 may be off-set to compensate for this fact. The bars press the covering member against the side walls of the carton forming a seal along the areas 41 and 42.

If it is desired the entire side walls of the carton may be subjected to heat sealing plates as the carton moves upwardly. In other words, the whole members 44 and 45 may be heated and pressure may be applied throughout the entire area of the side walls of the carton to form a seal therebetween. In this event the covering sheet need not extend to the bottom of the carton, but need only extend partly down the side walls of the carton from the top thereof. The use of auxiliary sealing plates 53 and 54 has, however, been found desirable as the seal thus produced is closely adjacent the lower end of the carton and the remainder of the downwardly folded edges of the cover sheet are not subjected to high temperature.

In accordance with the patent statutes, I have described the principles of construction and operation of my carton closure and method of attaching the same, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A carton including a tray comprising a rectangular bottom panel and four right angularly arranged side walls connected thereto, means connecting said walls to hold said side walls in rectangular relation, a pair of flaps foldably

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connected to the upper edges of two opposed of said side walls and coextensive therewith, said flaps being bent inwardly into a plane parallel with the bottom panel, and a covering sheet sealed to the outer surfaces of said flaps and extending beyond the side edges thereof, said covering sheet being rectangular and substantially coextensive in length to the remaining two opposed side walls, the width of the covering sheet being substantially equal to the total of the width of the carton top and the height of both said remaining side walls, said covering sheet extending down over said remaining side walls and marginally sealed to the outer surfaces along the bottom and end edges thereof, the seal between said covering sheet and said flaps and remaining opposed side walls providing a continuous seal about substantially the entire periphery of said covering sheet.

2. The structure defined in claim 1 and in which the means connecting the side walls comprises locking flaps on the first named opposed side walls overlying portions of the remaining opposed

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side walls and interlocked therewith, and in which the seal along the bottom edges and end edges of the remaining opposed side walls connects the locking flaps to the covering sheet.

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