This invention is an apparatus for dispensing film sheets which are used for wrapping hamburgers, sandwiches, or other products which must be hand wrapped quickly. The film sheets are stacked and stapled at least one corner with cooperating slits cut in the film near the staple. The sheets can be easily and rapidly torn from the stack with the remaining film held firmly by the staple so that film fragments do not contaminate the product. A dispensing tray is provided which further secures the stack of film sheets. Products can be wrapped by placing them on the top sheet of film and lapping the corners over the product so the sheet is torn from the staple thereby wrapping the product as the sheets are dispensed.
FILM SHEET DISPENSING

FIELD OF THE INVENTION
This invention relates to wrapping material for ready-to-eat food products or the like and to a method and apparatus for dispensing same.

BACKGROUND OF THE INVENTION
In the quick-service food industry, which today is typically a nationally franchised operation, the wrapping of items such as hamburgers, sandwiches, hot dogs, and the like, is done by hand as the respective item is cooked and prepared. The most common wrapping material is paper which is stacked in bundles of 500 or more sheets and each bundle is overwrapped with Kraft paper. In use the paper bundles are torn open so that the top sheet is exposed and the finger grip of the wrapper is relied upon to manually draw one sheet at a time from the bundle. As an alternative, paper sheets are also prepared in a roll and torn off as needed, but this is not as satisfactory a dispensing means as the individual sheets will not reliably tear along the perforation lines and often the wrapper must use two hands to tear a sheet from a roll.

While paper is quite satisfactory in a number of instances, plastic film is becoming to be a quite desirable alternative as it is liquid proof thus preventing mustards, catsup, sauces, etc., from soaking through the wrapping material. Furthermore, plastic film retains moisture and heat so that the wrapped product will not dry out and cool off rapidly; and, in addition, the plastic film, has a bright, clean, crisp appearance. However, problems occur in the rapid dispensing of plastic sheets, e.g. in order to be usable the film has to have low surface friction so that it will slide readily off the top of a stack; but, if the film is not held down, the individual sheets can be easily blown off the stack or a number of sheets will slide off with very slight disturbance. Accordingly, it is one object of the present invention to provide a stack of film and means for dispensing same which will remain stable while sheets are being withdrawn from the stack.

Another problem in dispensing film sheets is that more than one sheet can be withdrawn at a time. Accordingly, it is another object of the present invention to provide a stack of film sheets and method of dispensing same which prevents the withdrawal of more than one sheet at a time.

Still another problem in dispensing sheets of film is that the film fragments, particularly the portion of the film used to anchor each sheet to the stack, will become dislodged from its anchoring position and contaminate the food product being wrapped. Accordingly, it is an object of the present invention to prevent the contamination of the product being wrapped by film fragments.

The above enumerated and other objects are accomplished by the present invention which is described in detail under the following headings of Summary, Description of the Drawings, and Preferred Embodiment.

SUMMARY OF THE INVENTION
In its broadest aspect, the present invention comprises a stack of sheets of thermoplastic film having a staple located adjacent to an edge of the stack which secures the sheets of the stack. A slit is provided in each of the sheets in the stack with the slit being positioned adjacent to the staple and on the side of the staple opposite the edge of the stack. When the thumb or fingers are slid from the stack edge across the staple and slit and in contact with the surface of the top sheet, only the top sheet of film will tear and release from the stack.

In a narrower aspect, the present invention includes the foregoing described stack of sheets, but the slit in each sheet is curved and the staple secures the sheets to a relatively rigid backing member.

In a still narrower aspect, the sheets in the above described stack have at least one corner and the staple is located adjacent said corner. The slit in each of the sheets in said stack is on the side of the staple away from the corner. Preferably, the staple is arranged so its horizontal longitudinal axis is perpendicular to the bisector of the corner and the slit is approximately a semi-circle. Auxiliary slits may be provided in the edges of the film adjacent said corner. In one embodiment, the film sheets are squares and staples and slits are provided in two opposed corners. In another embodiment a dispensing tray is provided to further secure the film sheets.

The stacked sheets can be any of the well-known thermoplastic materials such as polymers of ethylene, propylene, vinylidene chloride, vinyl chloride, etc., or homopolymers, copolymers, block or graft polymers of any of the foregoing.

A preferred material for the sheets is cross-linked polyethylene with a thickness between 50 and 60 mils.

DESCRIPTION OF THE DRAWINGS
In the drawings which form a part of this disclosure and which are attached hereto:

FIG. 1 is a top plan view of one embodiment of the subject invention showing a stack of square sheets having staples in diagonally opposed corners;

FIG. 2 is a top plan view of another embodiment of the present invention showing a stack of square sheets having a staple in one corner adjacent an edge of the stack;

FIG. 3 is a side elevation view looking from the left-hand side of FIG. 2 and showing a full stack of sheets;

FIG. 4 is the same view as shown in FIG. 3 but with a portion of the film sheets having been dispensed;

FIG. 5 is a fragmentary top plan view of one corner of a stack of sheets showing the auxiliary slits and preferred dimensions;

FIG. 6 shows a hinged dispenser tray which may be used in conjunction with the stack of film sheets of the subject invention; and

FIG. 7 shows the hinged dispenser tray of FIG. 6 with the hinge being rotated downwardly to put the tray in its loading position.

PREFERRED EMBODIMENT
Figs. 1 and 2 show top plan views of stacks of sheets according to the present invention. In FIG. 1, stack of film 1 is held in diagonally opposed corners by staples 3 and circular slits 4 are located on the side of the staple away from the corner. Side cuts or auxiliary slits 5 are provided adjacent the corners to make each film sheet more readily tearable or dispensable.
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In FIG. 2, the stack of film sheets 1 is held only by staples 3 in one corner. Again, a semi-circular slit 4 is placed on the side of the staple which is away from the corner. FIGS. 3 and 4 show the side view of the stack shown in FIG. 2. In FIG. 3, the stack 1 is a full stack and in the drawing of FIG. 3 side cuts or auxiliary slits 5 are shown which are not shown in FIG. 2. In FIG. 4 a portion of the individual film sheets 2 has been removed so that the retained column of anchoring corners 7 or film fragments is clearly shown. The staple 3 passes through all of the anchoring corners 7 and securely holds them to backing board 6. For greatest security, a relatively stiff backing member 6 as shown in FIGS. 3 and 4 is provided and may be made from cardboard, fiberglass, or synthetic plastic material.

In FIG. 5, a fragmentary top plan view of a stack of film sheets 2 is shown and the critical dimensions are illustrated. The horizontal portion of staple 3 is aligned so that its longitudinal axis is perpendicular to the bisector of the angle formed by the corner. Preferably, the bisector of a corner would also bisect the staple, thus making the placement of the staple within the corner symmetrical. Slit 4 is approximately semi-circular extending from a point adjacent one end of staple 3 to a point adjacent the opposite end of staple 3. The slit 4 is, of course, located on the side of the staple which is away from the corner. For optimum dispensing, it has been found that dimensions A—B, C—D, and E—F are critical. The dimension A—B is the distance from the end of the slit 4 to the nearest edge of the film sheet 2, the dimension C—D is the distance along the edge from the end of the slit 4 to the nearest adjacent auxiliary slit 5; and the dimension E—F is the width of the auxiliary slit 5. When 54 to 60 mil cross-linked polyethylene sheets in a stack of 500 sheets are used, the distance A—B was found to be preferably between three-eighths inch and five-eighths inch with the staple 3 located 1 inch from a corner measured along the bisector of the corner. It has also been found that the dimension E—F should be equal to or somewhat greater than the dimension A—B. In the presently described configuration, the dimension C—D is approximately one-fourth inch. The semi-circular slit 4 is located approximately three-sixteenths inch beyond the staple measured along the bisector of the corner.

Slit 4 can be straight, but it has been found that if it is curved the film will tear with less effort and tear more reliably.

In one embodiment of a method for wrapping a product such as a hamburger, hot dog, sandwich, or the like, it is placed approximately in the center of a film sheet 2 of stack 1 as shown in FIG. 1. The fingers of one hand are moved across one corner and staple and slid on the top sheet of film toward the product whereby the film sheet 2 is severed from the staple 3 and then that corner of the sheet is laid over the product. The operation is repeated for the diagonally opposed corner and that portion of the film sheet is laid over the product. The two remaining corners are then folded over the product to complete the wrapping process. The staples 3 serve to hold the anchoring fragments of film securely in place.

In another embodiment of a wrapping method the product is placed on the top sheet of a stack 1 of film as shown in FIG. 2 and the lower right, lower left and upper right corners of the top sheet are folded over the top of the product. The thus partially wrapped product is then lifted and rotated or flipped over by first lowering the side of the product nearest the staple 3 and continuing to rotate the product without moving it towards the staple. This action will easily snap the film 2 at slit 4 from the staple 3, leaving the product upside down but with all four corners of the top sheet lapped over the top of the product.

FIGS. 6 and 7 show a dispensing tray 10 holding a stack of film sheets 2, said stack having a configuration such as that shown in FIG. 2 except that auxiliary slits 5 are shown. The dispenser has two end walls which terminate in horizontal flanges 11 and side walls which have a fixed portion 12 and a hinged portion 16. Hinge 13 connects the fixed portion 12 with the hinged portion 16 and the hinge may be of a flexible, non-skid material such as a strip of neoprene. Additional strips 14 and 15 of neoprene are provided on the bottom of the dispensing tray 10 so that it will not slide on a table surface. In order to load the dispenser, it may be placed on the edge of a table so that the fixed portion 16 can drop down as shown in FIG. 7 whereby a stack of film sheets can be loaded into the tray. Thereafter, the hinged portion 16 may be rotated upwardly so that the tray 10 is in the position shown in FIG. 6 and is ready for use. In this configuration, the hand of the wrapper is moved from the corner of the film across the staple 3 and slit 4 and slid across the surface of the sheet of film 2 thus severing the sheet so that it can be easily withdrawn from the tray 10.

The present invention is workable for any stack of film sheets wherein a staple is placed adjacent an edge of a stack of sheets and the slit is placed in the sheets on the side of the staple away from the edge. Other securing means may be substituted for the staple such as a pin, bolt, or nail, but a multi-prong securing means such as a staple provides the most stable stack. The slit is preferably curved and partially circumscribes or partially encloses the securing means. The invention has its greatest advantage when it is used in a polygonal shaped sheet of film having a corner in which the securing means and slit can be symmetrically arranged, i.e. the securing means and slit are bisected by a bisector of the corner angle. In addition, the film sheets which are preferably used will generally have an anti-block agent either incorporated in the film composition itself or applied to the surface of the film so that one surface will readily slide over adjacent surfaces. Such anti-block or slip agents are well known in the art of making thermoplastic films.

We claim:

1. A dispensible wrapping material comprising:
   a. a stack of rectangularly shaped sheets of thermoplastic film;
   b. two staples securing said sheets in said stack, said staples being located in diagonally opposed corners of said sheets;
   c. two semi-circular slits in each sheet in said stack, each of said slits being located adjacent to one of said staples and each slit being on the side of the respective staple which is away from the respective corner; and,
   d. auxiliary slits in each of said sheets said auxiliary slits being perpendicular to the edges of said sheets, there being one slit adjacent to each end of said each semi-circular slit.

2. The dispensible wrapping material of claim 1 wherein the thermoplastic sheets are cross-linked poly-
5. The dispensable wrapping material of claim 2 wherein said sheets are square.
4. The dispensable wrapping material of claim 3 wherein the distance from the end of each semi-circular slit to the nearest edge of a respective sheet is between three-eighths and five-eighths inch.
5. The dispensable wrapping material of claim 4 wherein the staple is located approximately one inch from its respective corner, said distance being measured along the perpendicular bisector of the angle of said corner.

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