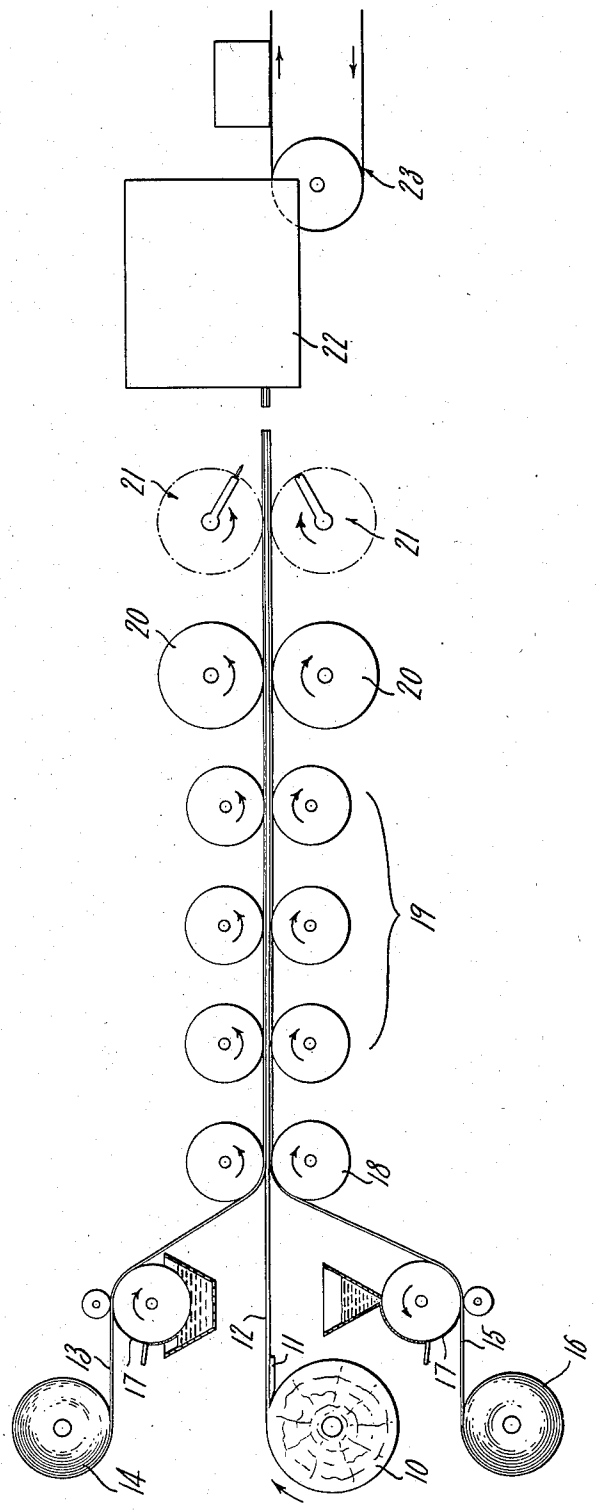
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PROCESS OF MAKING VENEER ARTICLES

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PROCESS OF MAKING VENEER ARTICLES

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My present invention relates to an improved method of making boxes or other articles of laminated paper and wood veneer.

Boxes of faced veneer, more particularly double-faced kraft veneer, have long been known, but my process is the first to be developed whereby these boxes can be commercially manufactured. Double-faced kraft veneer is a strong, rigid and light material made by adhering a sheet of heavy kraft paper to each surface of a sheet of thin veneer. The entire thickness of the resulting material is often less than one eighth of an inch, yet it may be successfully used to replace more expensive heavy boards such as are in common use.

Previously, kraft veneer boxes were made by forming them from blanks of previously manufactured or cured veneer boards. This process required not only large storage facilities for the veneer sheets and kraft veneer boards, but resulted in weak, defective boxes, which as a result caused the boxes to be rejected as a substitute for board boxes. It can be easily seen that the rigid dry sheets of kraft veneer could only be folded or formed into boxes after having been heavily scored or partially cut through. The heavy scoring or cutting so destroyed the natural strength of the sheet that the panels of the boxes would part at the least strain. Even if the walls of the box were folded up around the bottom panel in a manner to form curved edges, the bending would cause rupturing of the dry veneer fibers, and rupturing of the fibers of the outer ply of kraft paper. In many cases the plies of paper would part from the ply of veneer. An object of my invention is to form kraft veneer boxes or other articles whereby the material may be bent or folded along ordinary score lines, or along curved edges of radii as small as a quarter of an inch, without rupturing the fibers of the material or otherwise weakening the board.

My process is carried out by means of suitable machinery diagrammatically illustrated in the accompanying drawing. The illustration is intended to be schematic and obviously any well known type of machine may be utilized to perform its share of the process.

In the drawing:

The numeral **10** designates a log of freshly cut or "green" wood. "Green" wood is well known to those skilled in the art of making veneers, and the term means wood which may be cut thinly and formed into a flat sheet without cracking. The log may be turned and a thin sheet cut therefrom along a spiral by blade **11**, or may be otherwise cut to form thin sheets of wood veneer. In any event, a thin continuous ply **12**, or a series of abutting sheets, of green veneer is fed into the subsequent machines. A web **13** of suitable paper is fed from a source or roll **14** supported above the veneer, and a second web **15** of suitable paper is fed from a source or roll **16** supported below the veneer. Each web is supplied with a coating of adhesive by a suitable coating applier **17** and pressed into contact with the veneer by press rolls **18**. The resulting wet, continuous laminated sheet is fed forward between the rolls **19** of a labeling machine to have appropriate labels applied thereto. There may be a single set of rolls, or several, each of which may print or emboss; or perform both printing and embossing. Rapidly drying inks may be utilized which will dry before the paper becomes moistened by the adhesive. If embossing is desired, the moist webs and green wood will receive and retain impressions much better than a dry sheet. The sheet now passes between the dies **20** of a blank forming machine. These dies are preferably of the rotary type and may combine scoring, creasing and cutting means in a single set of rolls, or may consist of several sets of rolls each embodying one or more of said means. Preferably all of said means are embodied in a single roll so that exact registry of all lines may be attained and, if necessary, the dies may have pressure applied thereto so as to insure the proper cutting and/or scoring of the blank. The web now passes through a rotary, or other type, shear **21** which operates in a well known manner to sever a formed blank and rapidly eject it. The next station is a forming machine **22** which varies in construction and operation according to the type of box or article desired. The station may consist of one or several machines and may be automatically or manually operated to fold the blank and secure it in finished form. From the forming station the finished articles may be carried by a suitable conveyor **23** to a curing or storage place where the veneer is allowed to harden or cure.

By means of my process the bending or folding is accomplished without any deleterious effects to the double-faced kraft veneer. It is even possible that a certain amount of slipping between plies will occur and that fibers will be stretched or otherwise slightly distorted. But the actual drying of the adhesive and curing of the veneer takes place after the article is formed. Boxes made by my process can withstand blows and pressure that would crush and splinter the ordinary box.

While I have illustrated and described a process embodying my invention, it is obvious that variations will readily occur to those skilled in the art and I do not intend to be limited except by the scope of the following claims which are to be broadly construed.

I claim:

1. In the manufacture of cartons and the like which comprises adhering a facing sheet to green veneer to form a composite sheet, scoring and cutting said composite sheet to form carton blanks, folding said carton blanks into cartons and thereafter curing the veneer strip of said composite sheet.

2. In the manufacture of cartons and the like which comprises forming a continuous sheet of double faced green veneer, scoring and cutting said sheet to form blanks for cartons, folding said blanks into carton form, and thereafter curing said green veneer.

3. In a process of the class described comprising, in combination, the steps of cutting a strip of material from green wood, folding said strip into a carton while the wood is still in its green state, and thereafter curing said article.

4. In a process of the class described comprising, in combination, the steps of cutting a strip of green veneer from the green wood, forming said strip into an article forming blank, folding said blank into the desired article while said material is still in its green state, and thereafter curing said article.

5. In a process of the class described comprising, in combination, the step of cutting a strip of green veneer from green wood, scoring and cutting said strip to form a plurality of article forming blanks, forming each blank into the desired article while the veneer is still in its green state, and thereafter curing said article.

6. In a process of the class described comprising, in combination, the steps of cutting a strip of green veneer from green wood, forming said strip into an article forming blank, folding said blank into the desired article while the veneer is still in its green state, and thereafter curing said article.

7. In a process of the class described comprising, in combination, the steps of cutting a strip of green veneer from green wood, adhering a facing sheet to said strip, scoring and cutting said strip to form a plurality of carton blanks, forming each blank into a carton while the veneer is still in its green state, and thereafter curing said veneer.

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