

No. 770,648.

PATENTED SEPT. 20, 1904

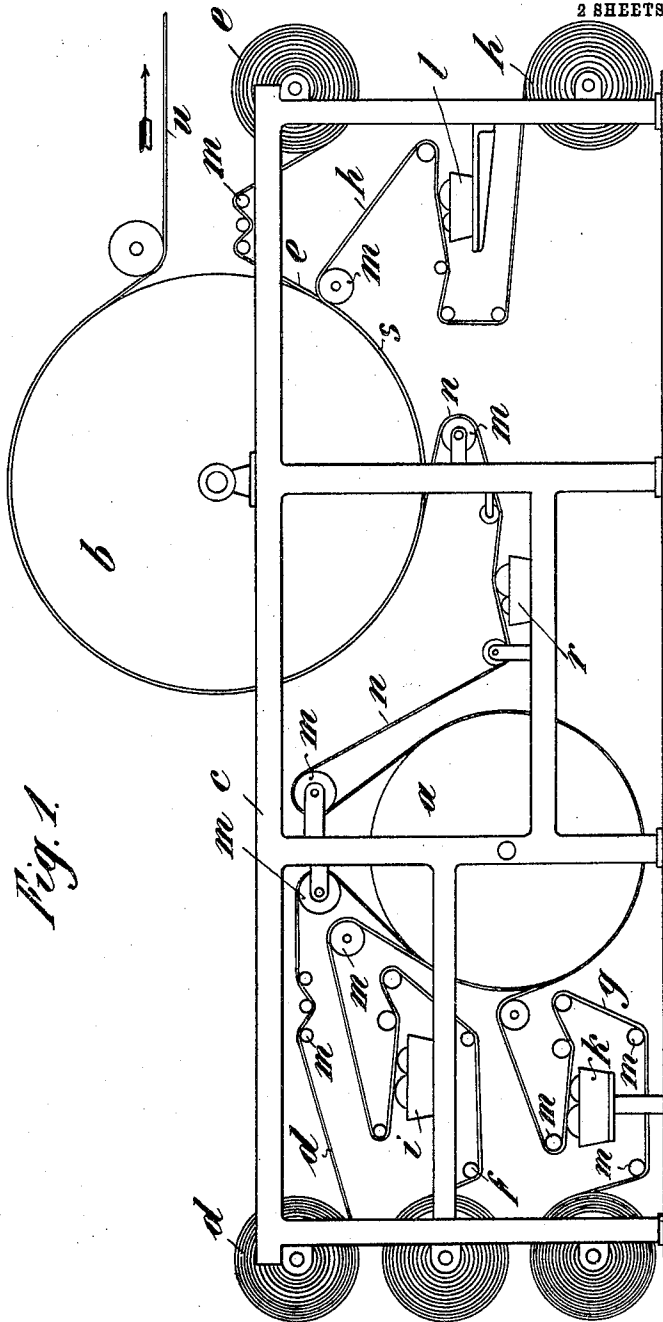
E. OESER.

PROCESS OF MANUFACTURING FACED CARDBOARD.

APPLICATION FILED JUNE 4, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:  
J. Green  
W. R. Hammond

Inventor:  
Ernest Oeser  
by *Knights* Atty.

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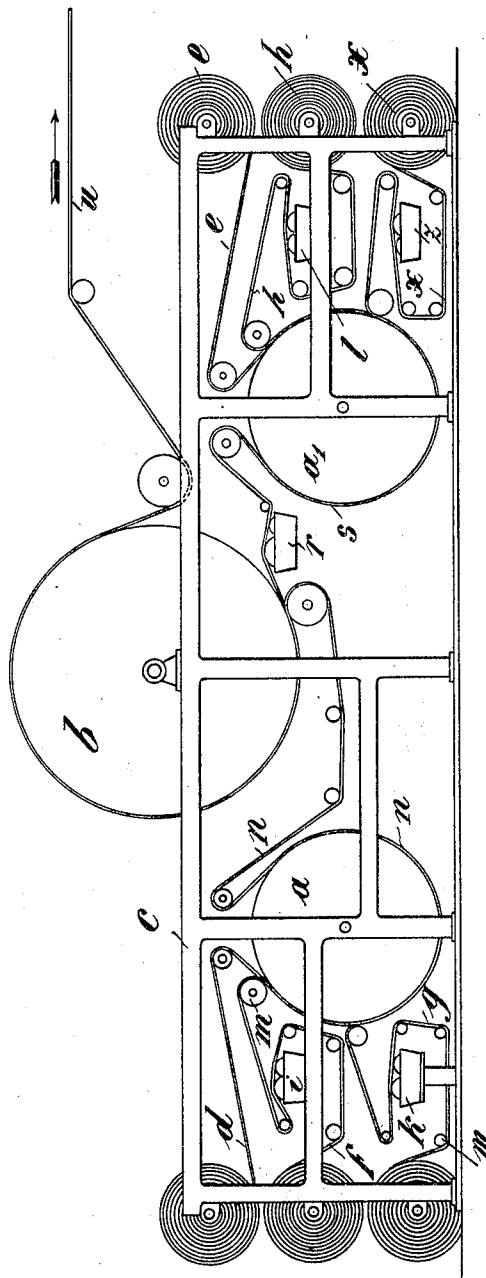
PROCESS OF MANUFACTURING FACED CARDBOARD.

APPLICATION FILED JUNE 4, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ERNST OESER, OF SCHÖNEBERG, NEAR BERLIN, GERMANY.

## PROCESS OF MANUFACTURING FACED CARDBOARD.

SPECIFICATION forming part of Letters Patent No. 770,648, dated September 20, 1904.

Application filed June 4, 1903. Serial No. 160,020. (No specimens.)

*To all whom it may concern:*

Be it known that I, ERNST OESER, manufacturer, a subject of the Emperor of Germany, residing at 19 Bahnstrasse, Schöneberg, near Berlin, Germany, have invented certain new and useful Improvements in the Process of Manufacturing Faced Cardboard and the Like, of which the following is a specification.

This invention relates to improvements in the process for manufacturing faced cardboard and the like.

In the manufacture of cardboard or carton-paper with cover-sheets on both surfaces it is usual to apply the said cover-sheets at the beginning or end and to provide them with adhesive for fastening them. This method is suitable where the cover-sheets are sufficiently thick and where appearance is a secondary consideration; but if the cover-sheets are thin and possibly colored the known method cannot be used, because the moisture of the adhesive substance penetrates the cover-sheets, which it soils and causes to expand to such an extent that it becomes practically impossible to manufacture the cardboard without creases.

The object of the present invention is to remove these disadvantages and to allow of manufacturing cardboard with thin and, if desired, colored cover-sheets on both sides by first-uniting the sheets in groups to form two or more webs provided with cover-sheets and thereupon uniting the said webs to form cardboard without pasting the cover-sheets. Both the webs with cover-sheets and those which may serve as filling or body sheets can be made to pass over a heating-cylinder or over separate heating-cylinders.

In the annexed drawings various forms of apparatus for performing the method described are shown as examples.

In the form of construction shown in Figure 1, *a* and *b* are the two heating-cylinders over which the pasted paper sheets or webs pass. The cylinders are mounted in the frame *c*. *d* and *e* are the cover-sheets. *f*, *g*, and *h* are filling or body sheets. The filling-sheets *f* and *g* are provided with adhesive by the devices *i* and *k*. The filling-sheet *h* receives its adhesive from the device *l*. The paper webs or sheets or webs are guided by suitable rollers

*m*. As shown in Fig. 1, the sheet or web *n*, consisting of the cover-sheet *d* and the two filling-sheets *f* and *g*, passes over the heating-roller *a* and is provided with adhesive on its under or reverse surface by the device *r* after passing over the said heating-cylinder. The sheet or web *s*, consisting of the cover-sheet *e* and the filling-sheet *h*, passes over the heating-cylinder *b*, where it is united to the band *n*, which has adhesive on its under surface, as aforesaid, so that the finished cardboard *u* is produced. The cover-sheets do not, therefore, come into contact with the adhesive material until the moment at which they are united with the other sheets, and since they immediately afterward pass over a heating cylinder or cylinders the adhesive material cannot have injurious effect on their texture or color.

In the form of the apparatus shown in Fig. 2 six paper sheets are united instead of five. In this case the paper sheet or web *n*, consisting of the cover-sheet *d* and the filling-sheets *f*, *g*, passes over the heating-cylinder *a*, and the sheet or web *s*, consisting of the cover-sheet *e* and the filling-sheets *h* and *x*, passes over the heating-cylinder *a'* and is provided with adhesive on its under or reverse surface by the device *r*. Both the sheet or web *n* and *s* pass over the heating-cylinder *b* for the purpose of being intimately connected together and dried, and they leave the said cylinder in the form of a finished cardboard *u*. No pasting or gluing of the cover-sheets *d* and *e* takes place, and the said sheets do not come into contact with the adhesive material until at the moment at which they are united with the other sheets. It is obvious that a pasting device *z* can be provided for the sheet *x*.

It will be seen from these two examples that an indefinite number of paper sheets can be united to form the cardboard and that they can be guided in any suitable manner without altering the principle of the invention. It will be understood that single-faced cardboard may be manufactured in accordance with the above-described process by simply omitting one of the facing-sheets.

I do not intend that my invention shall be restricted to the manufacture of double-faced

cardboard, but desire it to be understood that both double-faced and single-faced cardboard made in accordance with the above-described process are within the scope of my invention.

5 I claim—

1. The process of making faced cardboard, which consists in uniting a plurality of filling or body sheets or webs to one another to form separate groups, providing one or two of said groups with a facing-sheet, then uniting said groups to form the cardboard with the facing sheet or sheets outward.

2. The herein-described process of making faced cardboard, which consists in first applying a facing sheet or web to one side of each of two body sheets or webs, then uniting the faced sheets or webs with other body sheets or webs, the faced sheets or webs being arranged to form the outer layers of the cardboard, and having their faced surfaces outward.

3. The herein-described process of making faced cardboard, which consists in first forming

ing a plurality of separate layers for the body of the cardboard, each of said layers being formed of one or more sheets or webs, applying a facing sheet or web to one side of two of said separate layers, then uniting said layers to form the cardboard, with the facing-sheets outward.

4. The herein-described process of making faced cardboard, which consists in applying an adhesive to one side of each of two body sheets or webs, applying a facing-sheet to the prepared sides of said webs, subjecting said webs to a drying influence, then uniting said faced sheets or webs with their faced surfaces outward to form a cardboard.

The foregoing specification signed at Berlin this 25th day of May, 1903.

ERNST OESER.

In presence of—

HENRY HASPER,  
WOLDEMAR HAUPT.