Dec. 31, 1940. P. C. DE SAVE 2,226,807

MACHINE FOR COLOR PRINTING

Filed Nov. 10, 1939

Fig. 1.

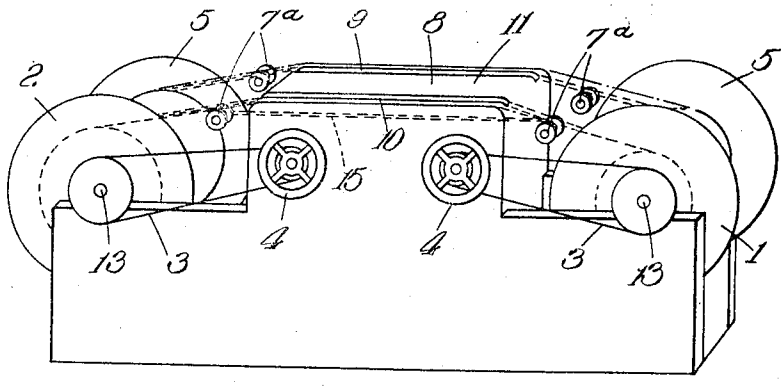


Fig. 2.

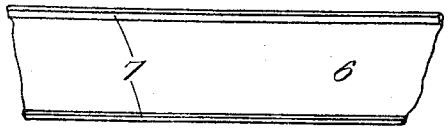
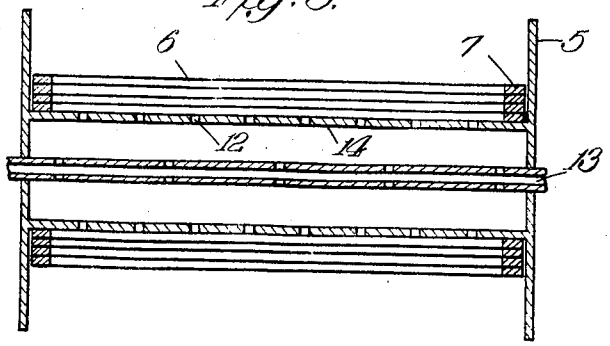


Fig. 3.



Inventor:
Paul Clifford de Save,
By Porter, Pierce & Schaffler,
Attorneys.

Patented Dec. 31, 1940 2,226,807

UNITED STATES PATENT OFFICE

2,226,807

MACHINE FOR COLOR PRINTING

Paul Clifford de Save, Redhill, England, assignor to Printing Processes Limited, London, England, a British company

Application November 10, 1939, Serial No. 303,893
In Great Britain November 4, 1938

4 Claims. (Cl. 101—420)

This invention relates to machines for color printing, particularly machines for printing colors on continuous lengths of textile fabric or on paper or transparent material of a cellulose nature.

Continuous lengths of fabric are now commonly hand printed on long trestles or tables, the printing being done by means of a stencil or silk screen by hand.

Machines are however known in which conveyor bands are used to receive the fabric to be printed, and after the printing has taken place the band is moved on and is festooned or otherwise draped around a drying chamber for a period of time sufficient to enable the color or printing ink to dry. This however necessitates large premises for comparatively little output and makes the production of textiles or other fabrics printed in this way costly.

It is the object of this invention to provide a machine which will enable hand printing with a screen or stencil to be carried out in smaller premises and with more convenience.

A machine made in accordance with this invention includes printing mechanism or a printing table and means for passing each portion of a length of fabric to be printed past such mechanism or table and is characterised by the provision of a belt or conveyor to carry the textile to be printed, which belt is provided on a portion or portions of its surface not normally used to carry the textile, with one or more spacers whereby the belt with its attendant fabric can be rolled on a drum or closely folded without the wet surface of the printed fabric coming into contact with any portion of the belt.

The invention is applicable to rotary printing machinery and in fact all kinds of machinery in which a continuous length of fabric is to be printed but by way of example a simple form of hand operated silk screen apparatus embodying the characteristic belt and spacers will be described and illustrated in part diagrammatically in the accompanying drawing.

Referring to the accompanying drawing:

Figure 1 is a diagrammatic view of a printing table and attendant drums for use with the silk screen process;

Figure 2 is an underside perspective view of a portion of conveyor fitted with the characteristic spacers, and

Figure 3 is a cross sectional elevation of one drum through the spindle thereof.

The apparatus shown diagrammatically in Figure 1 comprises batching rollers 1 and 2 having means by which they may be manually rotated, comprising pulley belts 3 and hand wheels 4. The batching rollers have wide flanges 5 and the conveyor belt or band 6 is adapted to be wound upon each of these rollers in turn passing from one to the other in either direction. In passing from one batching roller to the other the conveyor band 6 passes over the printing table 8 in the usual way and is laterally positioned thereon by stationary or rotating guides (not shown).

In use, prior to the conveyor bands being rolled on to the batching rollers 1 and 2 the fabric to be printed is adhesively affixed thereto.

The conveyor band 6 has spacers 7 along each side of its entire length. These spacers comprise strips of linoleum, rubber or other similar somewhat flexible material approximately ⅛" in thickness and ½" in width. They may be fixed to the sides of the conveyor belt 6 either continuously along the length or only intermittently or alternatively they may be entirely free, being kept in their proper position relative to the conveyor band by guides such as 7a.

The conveyor band 6 is composed of stiff material such as stiff paper, light cardboard, rubberised duck or sheeting, cork lino or any other suitable fabric. The printing table 8 is provided with two grooves 9 and 10 of sufficient width to receive the spacers 7 so that the conveyor band 6 may lie flat upon the central portion 11 of the printing table 8.

In an alternative construction the printing table is made only of a sufficient width that it fits between the spacers 7 7 of each side of the conveyor band 6.

Alternatively if the spacers are not fixed to the conveyor band the spacers may pass under or through the table 8 as shown in dotted lines.

Before the fabric has been printed it is, of course, comparatively unimportant as to whether the fabric touches the band 6 on the surface to be printed or not, but after printing, when the printing ink or colors are wet and the fabric is moved off the table 8 and wound around the drums 1 or 2 it is of the utmost importance that the wet surface shall not be allowed to come into contact with the underside or other portion of the band 6 when rolled on the drum.

By providing the spacing strips 7 on each side of the fabric this is achieved since owing to the curvature of the band over the drum no sagging of the belt between the spacers is possible.

The drums 1 and 2 are each made with perforations 12 both in the spindle 13 and in their circumference 14 so that dry and if necessary warm air can be either blown through the spindle or drawn out therethrough. It will be seen that the perforations 12 will make a continuous passage with the inside of the first wind of the conveyor band on the drums and thereafter a spiral passage is formed until the outside of the wind of the conveyor band and fabric is reached.

A convenient arrangement for drying is the provision of dry air ducts (not shown) below the printing table 8 leading to the batching drums 1 and 2 and a reduced pressure may then be caused in the spindles 13 of the drums causing dry air to be drawn through the fabric.

I claim:

1. A machine for printing, comprising printing mechanism, a belt for conveying a strip of the material to be printed through the printing mechanism, spacers associated with said belt, and means associated with said printing mechanism for guiding the belt and said spacers past the printing mechanism in fixed relation thereto and to each other.

2. A machine for printing as defined in claim 1 in which the spacers are secured to the belt.

3. A machine for printing as defined in claim 1 in which said spacers are free of said belt.

4. A machine for printing as defined in claim 1 in which said spacers are free of said belt and in which said means for guiding the belt and spacers in fixed relation includes means for physically separating the belt and spacers in the region of said printing mechanism.

PAUL CLIFFORD DE SAVE.