Oct. 6, 1931. S. S. HIMMELL 1,825,796

SAFETY PAPER

Filed Sept. 18, 1930

Fig. 1

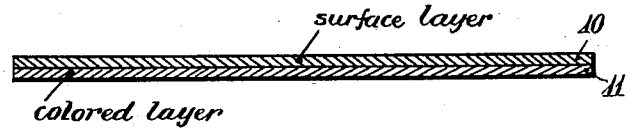


Fig. 2

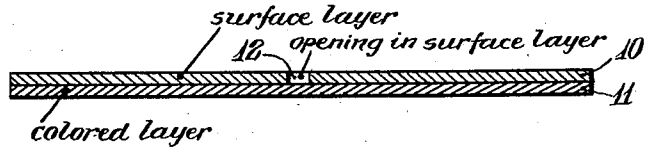
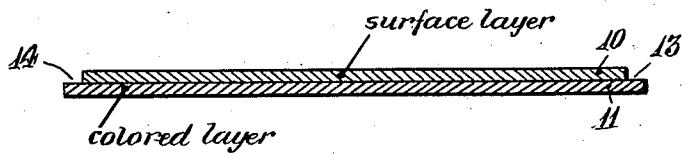


Fig. 3



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UNITED STATES PATENT OFFICE

SAMUEL S. HIMMELL, OF NEW YORK, N. Y.

SAFETY PAPER

Application filed September 18, 1930. Serial No. 482,691.

My invention relates to a new and improved paper.

One of the objects of my invention is to provide a new and improved safety paper which can be manufactured at low cost and which can be used in printing tickets, wrappers, labels, cartons, etc. so as to minimize or eliminate the danger of counterfeiting.

Another object of my invention is to provide a safety paper having a white or colored base portion, which is coated on one or both sides thereof, in order to provide a surface or surface layer on one or both sides thereof, so that printed matter may be impressed on one or both said surface layers.

Another object of my invention is to provide a paper of the type described in which the surface coating is discontinuous or in which the paper is so made, as to enable the purchaser to observe the color of the paper base or centre.

Another object of my invention is to provide a safety paper comprising a centre layer, which is preferably colored and which is coated on both sides, so that the colored layer is only visible at the edge of a strip of such paper, or when such paper is torn.

Other objects of my invention will be set forth in the following description and drawings which illustrate a preferred embodiment thereof, it being understood that the above general statement of the objects of my invention is intended merely to generally explain the same and not to limit it in any manner.

Fig. 1 is a diagrammatic sectional view.

Fig. 2 is a top view showing how the surface coating is made discontinuous.

Fig. 3 shows a different embodiment of the invention.

Safety papers of various types have been heretofore proposed, in order to make counterfeiting difficult or impossible. However, these safety papers have been relatively expensive, so that they were not available for use in large quantities by manufacturers of pharmaceutical and toilet preparations, whose wrappers, cartons, labels, and the like, have been extensively counterfeited, in recent years.

According to my invention, a safety paper can be made in large quantities and at a very low cost so that it is not necessary to employ expensive lithographic processes in order to make a wrapper which will be difficult to counterfeit. If a ticket, or wrapper, or carton is made from the improved safety paper, it is possible for the ordinary person to readily detect a counterfeit article.

As shown is the drawings, the improved safety paper comprises a base portion or base layer 11 which is made in any suitable manner. This base portion or layer can be colored so that it has any of the primary colors, or any desired intermediate shade or color. This can be done cheaply during the manufacture of the paper. The paper base portion can be suitably sized or coated in order to provide a surface or surfaces whose color may be different from the color of the paper base portion.

After the paper base portion or layer, suitably colored, has been manufactured, it is provided with a surface coating or layer 10 of any well known type, so that the said surface coating or layer can be directly printed upon. A surface coating or layer of this type can be made from casein, whiting, china clay, and satin white. In another well known coating, the casein is replaced by starch. The base portion can have two surface layers 10 on opposite sides thereof. As an additional precaution, the surface layer or layers can include material which yields a fine powder when the surface coating is rubbed, or when a sheet of the safety paper is folded, and two portions of the coating are rubbed together.

It has been proposed to make a safety paper by cementing two sheets of paper to each other, the inner or adjacent surfaces of said sheets of paper having printing thereon.

However, such paper could be readily counterfeited and it is a great advantage of my invention that the surface coating is made of non-paper material, so that it must be applied to the base layer of paper at a mill which must have facilities that cannot be secured by a counterfeiter.

The desired printed matter can be directly impressed upon the surface layer.

Since paper of this type can only be manufactured by a relatively small number of mills, the manufacturers of toilet preparations, drugs, etc., can readily arrange with the mills for the use of a distinctive color or colors in the base layer of the safety paper they desire, and it would be impossible for an unauthorized person to secure the safety paper in this particular color, or to manufacture the paper independently of the relatively small number of mills who are equipped to make this product.

The improved paper can be used for making cartons, wrappers, labels, or the like, and the consumer will therefore be able to detect counterfeiting, because the counterfeit paper will not have the distinctive color in the paper base portion. If this paper base portion is coated or sized so as to provide a contrasting color upon one face thereof, the genuine paper can be immediately recognized, and this can also be done if the paper base portion is coated or sized on both sides thereof.

The white or colored rear or central layer of the paper can also be suitably identified as by impressing a water-mark, by having some identifying mark, such as the name of the manufacturer printed thereon before the surface layer is applied thereto, and in any other desired manner. The colored paper which is used as the base of the improved safety paper, can be printed in rolls at the mill, and the name of the manufacturer or other suitable identifying marking can be printed upon the roll of paper at the mill. Since paper can only be coated when it is in the form of a roll, it would be impossible for a counterfeiter to print upon the white or colored base portion of the paper and to then coat it. The base portion of the paper can be made of white paper, if desired, and this white base portion can also be printed upon or be otherwise suitably identified while it is in the form of a roll. The surface coating can be formed so as to make the same translucent, so that the name of the manufacturer or other identifying marking which is directly printed upon the paper underneath the outer coating or coatings can be detected without tearing the safety paper. It is well known that a water mark is practically invisible, unless the paper is held up to the light so that light passes through it. The advantage of using a translucent surface coating is that the outside printing can be directly performed upon the said surface coating. In addition the said surface coating masks the water mark or other identifying mark upon the layer of paper, so that the water mark or other identifying mark is sufficiently invisible for commercial purposes unless it is viewed by transmitted light. Hence, when the trade mark or the like is printed upon the outside coating, the identifying mark which is underneath the coating is not visible, unless the label or the like is viewed by transmitted light. For example, the coating which receives the outside printing may be on that side of the paper which is opposite to the side which receives the inner printed identifying mark. The side of the paper which has the inner printed identifying mark may have an additional coating or colored layer to mask the inner identifying mark, unless it is viewed by transmitted light. This is an important advantage because the commercial value of the paper would be diminished if the identifying mark were visible by reflected light. I prefer to use a printed identifying mark, although I do not exclude the use of a water mark, because a printed mark does not affect the surface of the paper like a water mark. Hence, the use of a printed mark makes it possible to secure a smooth coating. It is clear that the roll of paper can be led through a printing machine in the form of a web, and that the printed web of paper can then be passed through a coating machine so that both operations are completed at the mill.

As shown in Fig. 2, the outer surface layer can be perforated so as to render the rear or centre white or colored layer visible without viewing the paper by transmitted light. This is especially convenient if the safety paper is used for making labels, as these labels are ordinarily pasted to the bottle, package, or the like. The safety paper can therefore be provided with the usual layer of adhesive at the rear surface of the colored layer, and the white or colored base layer of paper can be suitably treated in the well known manner so that it can take up a layer of adhesive. The coating which is to receive the layer of adhesive can be unfinished or rough, so that it can take up the adhesive more readily. The improved labels thus manufactured can be perforated, so that the consumer can observe the distinctive color of the paper at the edges of the perforations. Likewise, if the outer surface layer which receives the printing is opaque, this outer layer can be provided with openings of any desired shape or pattern, in order to render the colored paper layer visible. The safety paper can thus be treated after the labels or the like are printed, and this can be readily done by suitable machinery which is attached to the printing press. If a label is made from the improved safety paper, a portion of the label would be provided with perforations so that this portion can be readily separated from the body of the label, and this portion to be separated can be free from adhesive, so that this test portion can be readily separated from the body of the label. This enables the customer to see if

the central portion of the label, or the rear surface thereof, has the proper color.

Likewise, as shown in Fig. 3, the strip or sheet of paper which is used for printing the wrapper, label, carton, or the like, can be slighty tapered or shaped so that the colored layer extends laterally beyond the edges of the surface layer. The colored rear layer is therefore visible even when the rear surface thereof is pasted to a bottle, or the like. The color of the impervious surface layer is preferably white, although I do not wish to the restricted to this color.

If the paper (colored or white) has a film of adhesive on one side thereof, the base layer is coated on both sides, but only one of these coatings can be printed upon. It is not absolutely necessary, if two coatings are used, to have the central layer colored. If the base layer has two coatings which can be printed upon, one of these coatings may have an adhesive layer thereon. The adhesive layer or film may be of the usual type used on labels, stamps, etc. If desired, one or both of the surface coatings can be colored, so that a two-color effect or a three-color effect can be secured. If a surface coating is colored, it can be printed upon by means of ink of a contrasting color.

While I prefer to use a surface coating or layer for the paper base, it would not be departing from the invention if the surface of the paper were treated so that it could be printed upon, without using any surface layer or coating. The purpose of the surface layer or coating is to enable printing upon paper after it is manufactured.

I have shown a preferred embodiment of my invention, but it is clear that numerous changes and omissions can be made without departing from its spirit.

I claim:

1. A safety paper comprising a paper layer having an identifying marking, said paper layer having a surface coating of non-paper material which constitutes a surface layer which covers said marking, the outer surface of said surface layer being adapted to be printed upon, said surface coating being light-permeable, so that said identifying marking is visible.

2. A paper comprising a paper layer having an identifying marking, said paper layer having a surface coating of non-paper material which constitutes a surface layer for said paper, the outer surface of said coating being adapted to be printed upon, said surface coating being sufficiently light-permeable so that the identifying marking can be viewed by transmitted light, said surface coating serving to mask the identifying marking so that said identifying marking is substantially invisible unless it is viewed by transmitted light.

3. A paper comprising a paper layer having a printed identifying marking, said paper layer having a surface coating of non-paper material which constitutes a surface layer for said paper, the outer surface of said coating being adapted to be printed upon, said surface coating being sufficiently light-permeable so that the printed identifying marking can be viewed by transmitted light, said surface coating serving to mask the printed identifying marking so that said identifying marking is substantially invisible unless it is viewed by transmitted light.

In testimony whereof I affix my signature.

SAMUEL S. HIMMELL.