

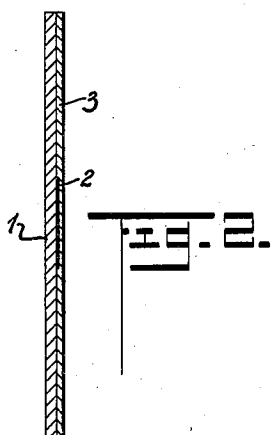
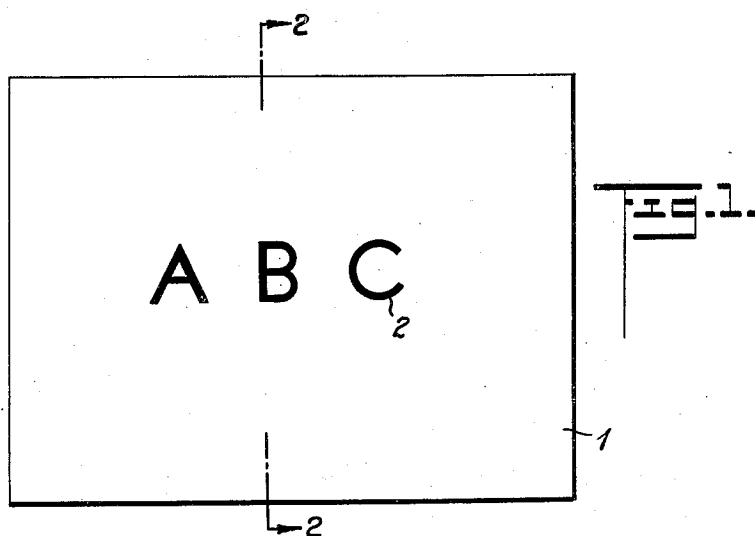
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S. S. HIMMELL

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SAFETY PAPER

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Samuel S. Himmell

INVENTOR.

BY *Mock & Burr*

ATTORNEYS.

UNITED STATES PATENT OFFICE

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SAFETY PAPER

Samuel S. Himmell, New York, N. Y.

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1 Claim. (Cl. 91-67.95)

My invention relates to a new and improved safety paper.

One of the objects of my invention is to provide a coated safety paper having a suitable identifying mark directly printed upon the base paper, said identifying mark being covered by a suitable coating. This coating is of the type upon which an outside printed impression can be made. Hence a suitable identifying or safety mark can be directly printed upon the base paper and the name, trade-mark and the like of the manufacturer can be printed upon the exterior surface of the surface coating of the base paper.

While I have referred to a safety paper, it is to be understood that the safety paper may form either all or a part of a carton or container of any kind.

According to the present invention the base stock of paper may be light impermeable, either due to the thickness or to the structure of the paper. Hence the paper stock can be made of any desired thickness, which is suitable for making cardboard containers for holding bottles of medicine and the like. Likewise the paper stock can be made sufficiently thick so that it is suitable for the manufacture of tickets and the like.

According to the present invention the surface coating is made of material whose light permeability is increased when the same is moistened so that the protective marking is either absolutely or relatively invisible, until the surface coating is moistened. Said protective marking may be slightly visible as long as the coating is dry, but when the coating is moistened, said protective marking stands out prominently.

Another advantage of the present invention is that the surface coating dries rapidly so that the protective marking then becomes either absolutely invisible or is only slightly visible.

Other objects of my invention will be set forth in the following description and drawing which illustrates 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 front elevation illustrating the improved safety paper.

Fig. 2 is a sectional view on the line 2-2 of Fig. 1.

The base stock of the paper is designated by the reference numeral 1. Said base stock may be of any type and of any suitable thickness, and its thickness may be as high as 50 points. This

paper is absolutely opaque and it remains opaque even when its surface is moistened.

This base stock 1 may be suitably treated so that the protective marking 2 can be clearly printed, watermarked, embossed or otherwise impressed thereon. I prefer to print the protective marking upon the base stock so as to leave the surface of said stock as smooth as possible, so that the surface coating can be spread smoothly over the printed surface. The base stock 1 may be suitably sized so that a clear protective printed marking can be impressed thereon.

I do not wish to limit myself to any particular type of base stock as any suitable type of box board or the like can be utilized.

After the protective marking 2 has been impressed or printed upon the base stock, the printed surface of the base stock is covered with a coating which may have the following composition although I do not wish to restrict myself to the ingredients or proportions specified herein:—

	Percent
Clay	67
Satin white	18.2
Casein	13.8
Soda ash	1

The above proportions are by weight. From 8 to 30 pounds of said coating are applied to 500 sheets of the base stock or paper, each said sheet being 22 inches by 28 inches.

When a surface coating 3 of this type is dry, the protective marking 2 is either absolutely invisible, or only slightly visible. This depends upon the thickness of the surface coating 3. Likewise this depends upon the character of the protective marking because if the protective marking is made with dark or heavy ink, it is more readily visible than an impression which is made with a light colored ink. That is, if there is a sharp color contrast between the ink and the coating, then said protective marking is readily visible. If there is a sharp color contrast between the ink of the protective marking, and the outer coating 3, the thickness of said outer coating or coatings can be increased so that the protective marking 2 is only slightly visible or absolutely invisible. This can be regulated as desired.

When the protective coating 3 is slightly moistened with water, without moistening the base stock itself to any substantial extent, the protective marking 2 stands out prominently so that it is readily visible by reflected light. The effect of the moisture is to render said protective coating 3 relatively transparent so that the light

passes through the same and the light is reflected back by the surface of the base stock. In order to increase this effect the surface of the base stock may be white and have suitable reflecting powers. However, any color contrast may be provided between the marking 2 and the base stock 1, so that the difference in color renders the marking clearly visible, when the surface coating is moistened. However, the moistening of the enamel coating with water does not remove said enamel coating.

The color of the coating 3 is ordinarily white, but this color could be any suitable light color such as pink, light blue or the like.

The protective coating 3 dries rapidly as it requires only slight moistening for the purpose above described. When the protective coating 3 dries, the marking 2 becomes absolutely invisible or slightly visible, this being regulated in the manner above described.

Hence, when the coating 3 is dry, the protective marking may be sufficiently visible so that the mill can determine whether the protective marking has been properly printed upon the base stock.

The surface coating 3 is ink absorbent so that it can be directly printed upon.

It will be noted that the protective coating 3 is made of non-paper material. Since the operations of making a protective paper of this type can only be performed at a large mill, it is practically impossible to counterfeit said protective paper. The protective coating 3 can be applied to the base stock preferably while the base stock is unrolled from a suitable roll. The identifying mark can be printed at the end of the run when the base paper is being manufactured or after said base paper has been manufactured. For example, the base paper can be run through a printing press and it can then be run through a coating machine, which applies the coating 3. If desired, a printing machine can be attached to the coating machine so that the printing on

the base stock, and the subsequent coating thereof, is done in direct succession. The surface coating 3 is dried and calendered in the usual manner so that it can be printed upon. This surface coating or enamel 3 can be applied to the paper, while the paper is in roll form.

It will be noted that this surface enamel or coating contains more than 50% of opaque pigment material such as clay and satin white. Nevertheless this coating becomes sufficiently light permeable when it is moistened, in order to increase the visibility of the protective marking.

In order to define the action of the protective coating 3, when the same is dry, it may be stated that said protective coating 3 then "masks" the protective marking. In using the word "masks" in the claim, I intend to cover every type of paper in which the visibility of the protective marking is increased when the coating is moistened.

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:

An opaque safety paper comprising a base stock which has a light reflecting surface, said light reflecting surface having a protective marking thereon, said light reflecting surface having a coating thereon, said coating comprising a major proportion of clay and a minor proportion of casein, said surface coating being substantially light-impermeable when it is dry, so that the coating then substantially masks said protective marking, said surface coating being ink absorbent so that it can be printed upon, said surface coating becoming light-permeable when it is moistened with water so that the protective marking can then be viewed by reflected light through said moistened coating, said moistened coating being substantially non-removable by the action of water, said base stock being opaque.

SAMUEL S. HIMMELL.