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SAFETY PAPER

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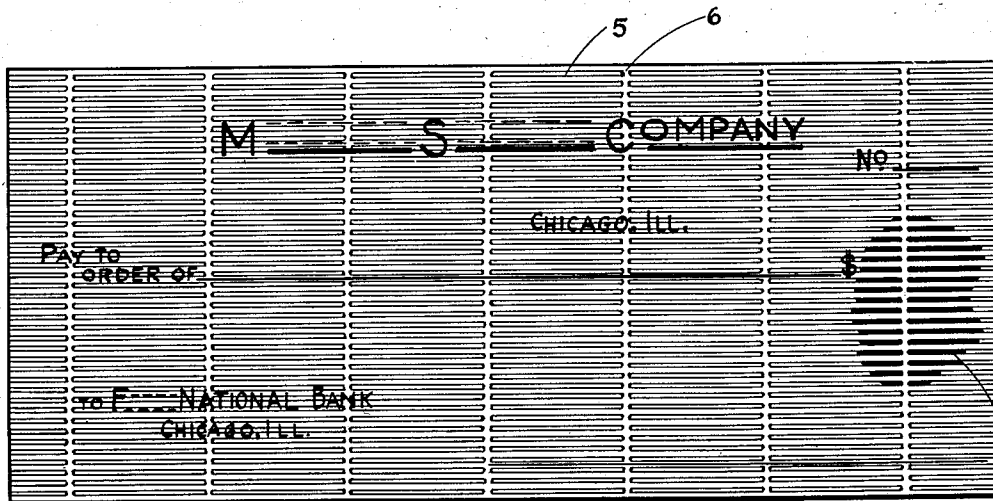


FIG. 1

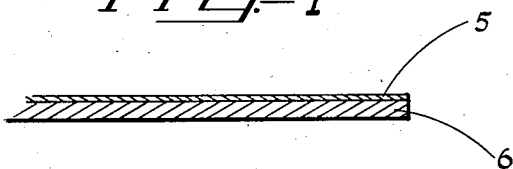


FIG. 2

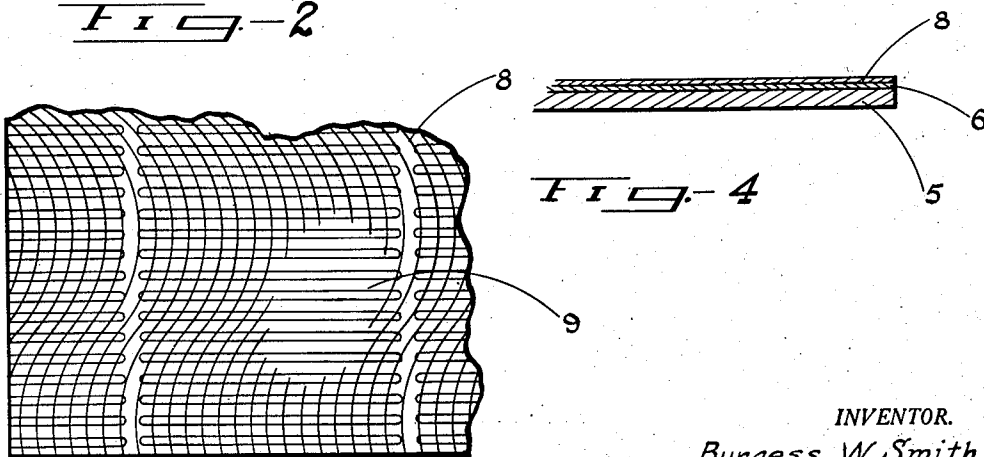


FIG. 3

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## SAFETY PAPER.

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This invention relates to safety paper for checks, drafts, certificates and other instruments, one object of the invention being to supply an effective safety paper of pleasing appearance and relatively simple nature capable of being manufactured at a low cost. A further object is to afford a paper having the above advantages and capable in addition of being made up in relatively light tint or color, or practically white, and having the appearance of "laid" paper or similar paper of relatively fine quality.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a view of a check made of safety paper embodying the present invention and showing the result of an attempted erasure.

Figure 2 is an enlarged sectional view of the same.

Figure 3 is an enlarged fragmentary view of a modification, and

Figure 4 is a sectional view of the modification of Figure 3.

Similar reference numerals throughout the several views indicate the same parts.

This invention comprises a safety paper of a simple nature inexpensive to manufacture in which an effective protective feature or marking is applied in such a way as to at the same time simulate the appearance of "laid" or other high grade paper, so that the protective marking is thus not only disguised but also serves to enhance the appearance of the paper. This protective marking is accomplished by the use of sensitive ink, preferably of an initially light tint or color, which however reacts sharply with chemical eradicating means such as the bleaching agents well known in the art, to thereby produce a conspicuous change or deepening of color in striking contrast with the normal appearance of the paper adjacent the portion to which the eradicator is applied.

The present invention may be carried out in various ways by applying the sensitive ink so as to simulate various natural charac-

teristics of paper in common use. Thus a comparatively fine grade of paper known as "laid" paper bears the line marks of the screen on which it is formed when hand made by the action of the dandy roll in process of manufacture on the usual paper machine, such lining resembling a water mark in that the paper is somewhat reduced in thickness at the portions bearing the lines. This natural paper appearance may be very closely simulated by printing similar lining on the paper with ink slightly darker in tint or color than the latter, as shown at 5, Figures 1 and 2, on a check form 6.

It has been found that such ink may be readily made with an ingredient rendering it sensitive to the action of chemical eradicators, such as commonly used, so that the application of such eradicators for the purpose of altering matter written on the paper, in reaction with the ink, quickly develops a different or deeper color in the printed lining and the lines are made to appear conspicuously as illustrated at the portion 7 of the paper surface to which the eradicator has been applied. Such alteration of the appearance of the paper at once calls attention to the attempted alteration, particularly because of the resemblance of the lines to the conventional cancelling lines commonly drawn through matter which it is intended to strike out. Such appearance of crossed out matter on the check thus calls attention to the latter for investigation of its validity.

The ink employed in producing the above effect is preferably of an indelible but sensitive character and may be formed with the desired characteristics by incorporating a number of ingredients, such, for example, as manganese ferrocyanide, tolidine hydrochloride, benzidine sulphate and other substantially colorless substances adapted to react with and develop a comparatively deep stain under the application of the common eradicating or bleaching chemicals. Such an ingredient may be employed, in conjunction with any other means for producing the desired initial tint, in an oil varnish or other vehicle as well understood in the art, the finished ink having, as already stated, a slightly deeper color than that of the paper

to which it is applied, in order to produce the "laid" paper appearance particularly desirable because of its similarity to paper of fine quality.

5 Any suitable paper stock may be printed as described above, a paper being preferably employed having a satisfactory writing surface adapted to present when finished the pleasing appearance of laid paper. It is obvious also that various other natural paper characteristics or appearances may be simulated in the same manner, as, for example, the water marks with which paper is frequently formed and the mottled appearance 10 of the relatively rough shagreen or charcoal sketch paper may be effectively simulated by the application of the sensitive ink in the form of stippling.

When an attempt is made to alter matter 20 written on instruments formed as above described, by the application of the ordinary chemical eradicators, the reaction of the latter with the sensitive ink of the paper at once causes the latter to develop a conspicuous stain contrasting with adjacent surface portions to thereby disclose the attempted alteration and warn against the validity of the instrument. The paper may be cheaply produced by a single printing impression with 30 a sensitive ink. If desired additional matter may be printed on the surface of the paper, such for example as an overall pattern 8, Figures 3 and 4, of suitable character adapted to be removed when it is attempted 35 to make an erasure by abrasive treatment of the paper as illustrated at 9, Figure 3, to thereby afford additional protection against alteration in that manner also. Paper having the chemically sensitive marking 40 5 described and also a marking such as the pattern 8 lightly printed with a relatively nonpenetrating ink, is effectively protected against attempts to erase either by chemical means or by abrasion, and is at the same 45 time given the pleasing appearance of paper of fine texture.

I claim as my invention:

1. A safety paper having marked thereon with sensitive ink a pattern arranged to 50 initially simulate the natural appearance of a paper and adapted to be conspicuously deepened in color by reaction with chemical ink eradicators to serve as a warning of attempted erasure.

2. A safety paper having printed thereon a pattern adapted to simulate the natural appearance of a paper, in ink initially of a substantially colorless character adapted to

react with and to be rendered conspicuously visible by chemical eradicating means applied to the paper for making an erasure. 60

3. A safety paper printed with a pattern adapted to simulate natural surface inequalities of a paper characteristic of a process of manufacture, said pattern being printed in sensitive ink adapted to react with and to be conspicuously deepened in color by chemical ink eradicators applied to the paper and to thereby serve as a warning of alteration. 65

4. A safety paper having a parallel-line pattern printed thereon to simulate the appearance of "laid" paper, said pattern being printed in sensitive ink adapted to react with and to be conspicuously deepened in color by chemical ink eradicating means, and to thereby serve as a warning of alteration. 70 75

5. As an article of manufacture, a check made of safety paper printed with a pattern simulating the natural appearance of a paper produced in process of manufacture, said pattern being printed in sensitive ink adapted to react with and to be conspicuously deepened in color by ink eradicating chemicals and to thereby afford warning of alteration. 80 85

6. As an article of manufacture, a check made of safety paper having a parallel-line pattern thereon to simulate the appearance of "laid" paper and in sensitive ink of an initially substantially colorless character adapted to be conspicuously deepened in color by the action of chemical ink eradicators to thereby serve as a warning of alteration. 90

7. A safety paper having marked thereon with sensitive ink a pattern arranged to initially simulate the natural appearance of a paper and adapted to be conspicuously deepened in color by reaction with chemical ink eradicators, and having marked thereon also an additional pattern adapted to be removed by abrasive treatment of the paper to afford warning of attempted erasure of matter written on the paper. 95 100

8. As an article of manufacture, a check made of safety paper printed with a pattern simulating a natural appearance of a paper produced in process of manufacture and in sensitive ink of an initially substantially colorless character adapted to be conspicuously deepened in color by reaction with chemical ink eradicators, and printed also with a visible pattern adapted to be removed by abrasive treatment of the paper, to afford warning of attempted erasure of matter written on the check. 105 110

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