Dec. 24, 1940. W. J. CHAMPION ET AL 2,225,736

PRINTING PLATE WITH SMUDGEPROOF EDGES

Filed Feb. 28, 1938

Fig. 1.

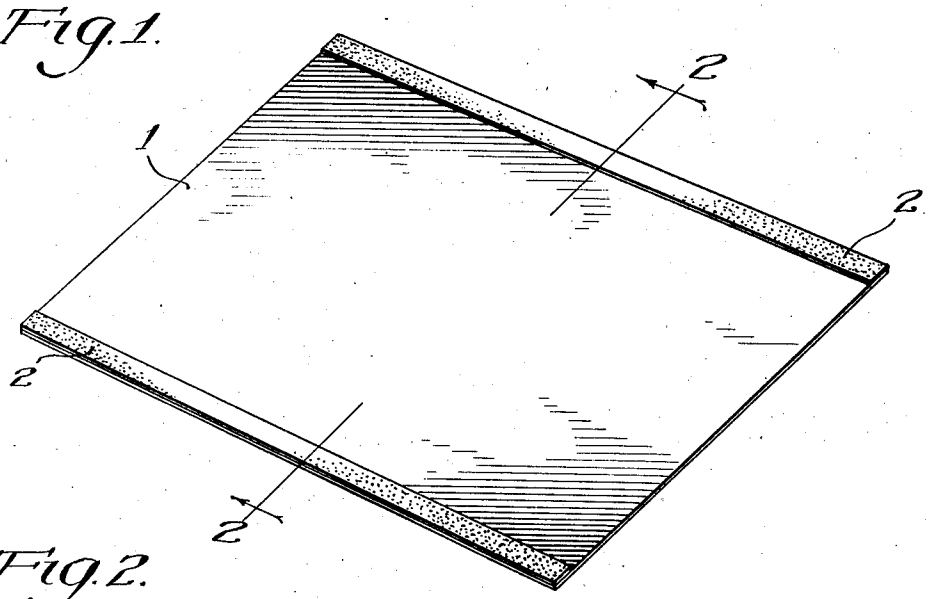
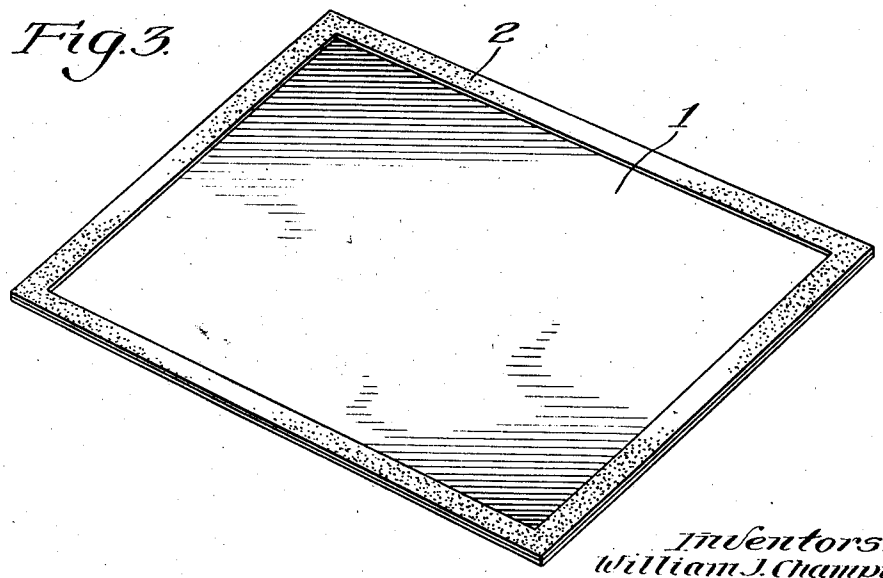


Fig. 2.



Fig. 3.



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PRINTING PLATE WITH SMUDGEPROOF EDGES

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2 Claims. (Cl. 41—41.5)

This invention relates to printing plates, and more particularly to thin, flexible planographic printing plates adapted to be placed in a typewriter for the reception of impressions.

Planographic printing plates are generally grained or otherwise treated to make their surfaces capable of retaining a uniform film of water. The surface of planograph printing plates in its dry state, however, is receptive to oil inks and to other oily or greasy materials applied by pressure. Therefore, when the planographic plate is handled, as by placing it in or removing it from the typewriter, the edges of the plate are very apt to receive grease impressions. These grease impressions remain during the subsequent moistening and inking of the plate. Being repellent to water and oil ink absorbent they become inked. Thus copies made from the plates show ink impressions of the grease prints and have an unattractive appearance.

An object of this invention is to provide a printing plate, the edges of which can be touched freely with hands and greasy materials without danger of smudging.

Other objects and advantages of the invention will become apparent as the following detailed description progresses, reference being had to the accompanying drawing, in which

Fig. 1 is a perspective view of the planograph plate embodying the invention.

Fig. 2 is a sectional view of the plate of Fig. 1 taken along line 2—2.

Fig. 3 is a perspective view of a modified form of planograph plate which constitutes another embodiment of the invention.

Referring to Figs. 1 and 2 wherein a preferred form of the invention is embodied, the reference character 1 designates generally a printing plate which is smudge proofed along its lateral margins with a material 2 which is grease repellent, at least to the extent that grease impressions will not remain on it during the operation of applying water and ink just prior to the printing of copies.

In Fig. 4 another embodiment of the invention is illustrated in which a printing plate 1*a* has similar grease repellent coatings 2*a* along all of the edges thereof.

The smudgeproof coating 2 or 2*a* may be attained by the application of a reagent which forms a water soluble or hydrophilic combination with the material of the printing plate or which covers it with a water soluble film or film of a hydrophile colloidal nature.

In a preferred embodiment of the invention a thin flexible 8½ x 11" aluminum plate is coated with an aqueous solution of sodium silicate along the margin so as to form a protective film extending toward the center of the plate for about ½ inch from the outer edge of the plate.

In another embodiment of the invention a thin zinc plate is given a margin coating of dilute sulphuric acid. This sulphuric acid reacts with the zinc surface to form a film of zinc sulphate, which is water absorbent and grease repellent in the normal hydrated condition.

Marginal protective coatings on zinc or aluminum may also be made by applying solutions of nitric acid, phosphoric acid, sodium hydroxide, triethanol amine, monopotassium phosphate, trisodium phosphate or sodium carbonate. Evaporation of the solvent by means known to the art will leave a very thin protective coating of a water soluble or hydrophilic nature.

Likewise, gum arabic, gelatin, casein and other water absorbent, grease repellent colloids may be used to form a protective smudgeproof margin on metallic or other type of printing plates. Such colloidal substances may be used alone or in combination with any of the above mentioned materials.

Usually, we prefer to apply these materials in 5 to 10% solution but wide variations are permissible in this regard.

While the preferred embodiment of the invention has been shown and described, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims in which it is the intention to claim all novelty inherent in the invention as broadly as possible in view of the prior art.

We claim:

1. A thin flexible printing plate, adapted to be placed in a typewriter, having a smudgeproof marginal coating comprising sodium silicate, the entire non-marginal portion being normally oil-ink receptive.

2. A planographic printing plate comprising a thin flexible aluminum sheet having a margin protected with a thin adhering layer of sodium silicate, the entire non-marginal portion being normally oil-ink receptive.

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