(Specimens.)

F. NOWLAN.

SAFETY PAPER FOR CHECKS AND OTHER DOCUMENTS OF VALUE.

No. 301,455. Patented July 1, 1884.

Fig. 1.

Fig. 2.

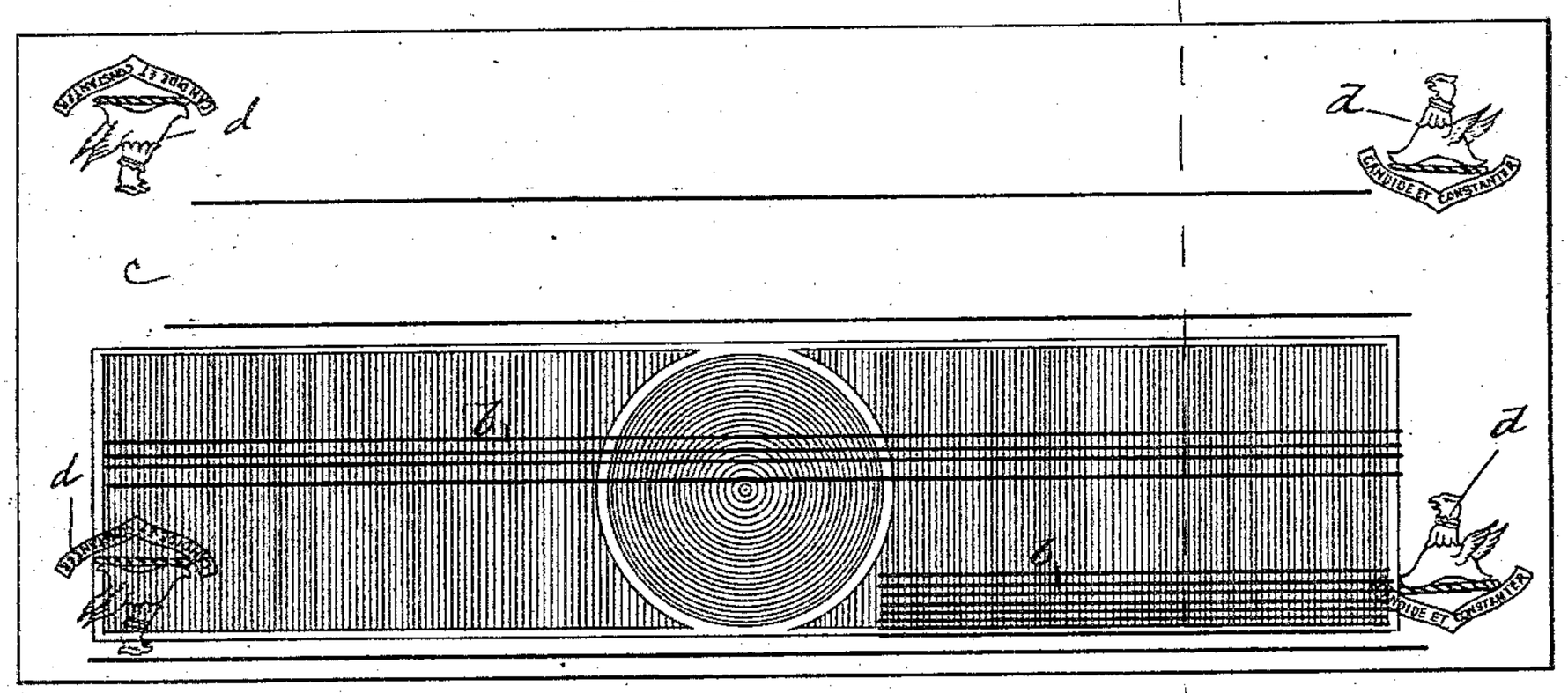

Fig. 3.

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FRANCIS NOWLAN, OF LONDON, ENGLAND.

SAFETY-PAPER FOR CHECKS AND OTHER DOCUMENTS OF VALUE.

SPECIFICATION forming part of Letters Patent No. 301,455, dated July 1, 1884.

Application filed December 26, 1883. (Specimens.) Patented in France January 15, 1884, No. 143,732; in Belgium January 16, 1884, No. 63,853; in Luxemburg January 16, 1884, No. 351; in Germany January 23, 1884, No. 16,595, and in Spain April 15, 1884. No. 3,923.

To all whom it may concern:

Be it known that I, FRANCIS NOWLAN, of London, England, at present residing at Paris, in France, have invented certain new and useful Improvements in Safety-Paper for Checks and other Documents of Value; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to improvements in the production of safety-paper for checks, bills, and other documents of value, which improvements consist in modifications of a certain check or safety paper invented by me in the year 1881.

My said original invention was based on the principle of printing the necessary lettering and ground on face of check or other form partly in permanent and partly in alterable pigments, (or one of these,) and cementing over the whole a sheet of transparent covering-paper. This invention, while affording absolute protection against alteration, was found in practice to offer certain disadvantages, among which may be mentioned, first, the hazy aspect of the printed matter seen through the thin covering-paper; secondly, insufficient penetration of the writing-ink into the substance of the check through the said covering-paper and its cementing medium; thirdly, induration of the tell-tale pigments-lines or other device by their direct contact with the cement, and consequently decrease in the rapidity and extent of their blurring action in presence of the altering-liquid. These and other minor defects inherent to my original invention are obviated by the means hereinafter described, which may be applied to any of the "chemical" papers now in use. It has been proved that such chemically-prepared papers afford in themselves no adequate security against alteration, but when used in combination with my present improvements they become absolutely unfalsifiable.

In the accompanying drawings, illustrative of my invention, in the several figures of which the same parts are similarly designated, Figure 1 is a face view of a check; Fig. 2, a back view of the same; and Fig. 3, a conventional enlarged cross-section in the plane of line *x x*, Fig. 2.

In the execution of my said improvements I proceed as follows, operating, as example, on one of the known "chemical-check" forms: Along the back of such a check form, and in a position corresponding with the sum-space *a* in front, I rule or otherwise deposit a series of lines (or other device, *b*) in any indelible pigment having a soluble vehicle—say, for instance, finely-ground carbon or Indian red mixed to the required consistency in an aqueous mucilage. The ruling or other apparatus employed for applying such lines must be capable of depositing on the paper such a quantity of pigment as will insure visible flowing when exposed to the ink-destroying liquids applied to writing on the face of the check. Simple surface printing or ruling would not carry sufficient pigment to produce this effect with certainty. Over the back of the check thus treated I cement a thin sheet of water-proof paper, *c*, the adhesive *e*, Fig. 3, employed for this purpose being so distributed by blocks, rollers, or otherwise as to avoid contact with the pigment-lines. In other words, the plain surfaces only will be joined together, leaving uncemented the parts corresponding to the pigment-lines, which, adhering only by their own mucilage, constitute a series of reservoirs or ducts, into which the liquid used for altering the writing on face of the check must necessarily percolate and accumulate in contact with said lines, its escape being barred by the water-proof paper backing. As a precaution against separation of the superposed papers, the compound sheet may be embossed over any required portions of its surface—say, for instance, round its borders or at its corners, as at *d*. Any liquid applied to face of a check prepared as above for the purpose of removing the writing thereon must first, while destroying this writing, give rise to visible reaction on the chemicals contained in the paper. To eliminate the traces of this reaction a prolonged application of appropriate liquids becomes necessary, and before such liquids can possibly produce their specific effect they pene-

trate into and collect in the above-mentioned duct-spaces, from whence, as already stated, their escape is barred by the impervious paper backing. Once there, they commence and continue to exercise a solvent action on the pigment-lines, which, being thus broken up, produce a constantly-increasing blur between the superposed sheets, beyond reach of removal by any chemical or other means.

I am aware that inks of different nature are commonly employed for printing the ground and lettering of so-called "safety-checks," and that it has even been proposed to make bank note and check forms of two sheets of thin paper cemented together by gutta-percha, india-rubber, and other like materials; but these processes have only an apparent analogy with my present improvements, as I will now explain. No surface printing or ruling, whatever may be the number of different inks employed, can have sufficient body to produce a blurring irremovable by careful manipulation. The interposition of an impervious cement over the entire juxtaposed surfaces of two sheets of paper, while providing, as originally contemplated, against the splitting or photographing of a bank note or check, would facilitate, instead of obstructing, the removal of writing-ink from the face, and is totally different from my process, of which an essential particularity is to leave free from cement the parts of the juxtaposed surfaces corresponding with an inclosed pigment, so as to provide for the free flowing of the latter in presence of liquids. I therefore lay no claim to simple surface-printing in inks of different nature on one or both sides of a check; nor do I claim a safety-paper composed of superposed sheets cemented together over their whole surface; but

What I do claim, and desire to protect by Letters Patent, is—

An improved safety-paper for checks and other documents of value, composed as follows: first, of an upper sheet of ordinary chemical paper bearing on the required portions of its under side thickly-charged lines or other devices of unalterable pigment in a soluble vehicle, and, secondly, in combination therewith, a backing of thin water-proof paper so cemented as to leave free from cement the parts thereof corresponding with the pigment-lines, the object and effect of such partial cementing being to provide a series of collecting-ducts for the liquid used for removing writing from face of the document, the whole substantially as and for the purposes herein set forth.

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