

Oct. 6, 1925.

1,556,499

H. DEUTSCH

RECORDING DEVICE

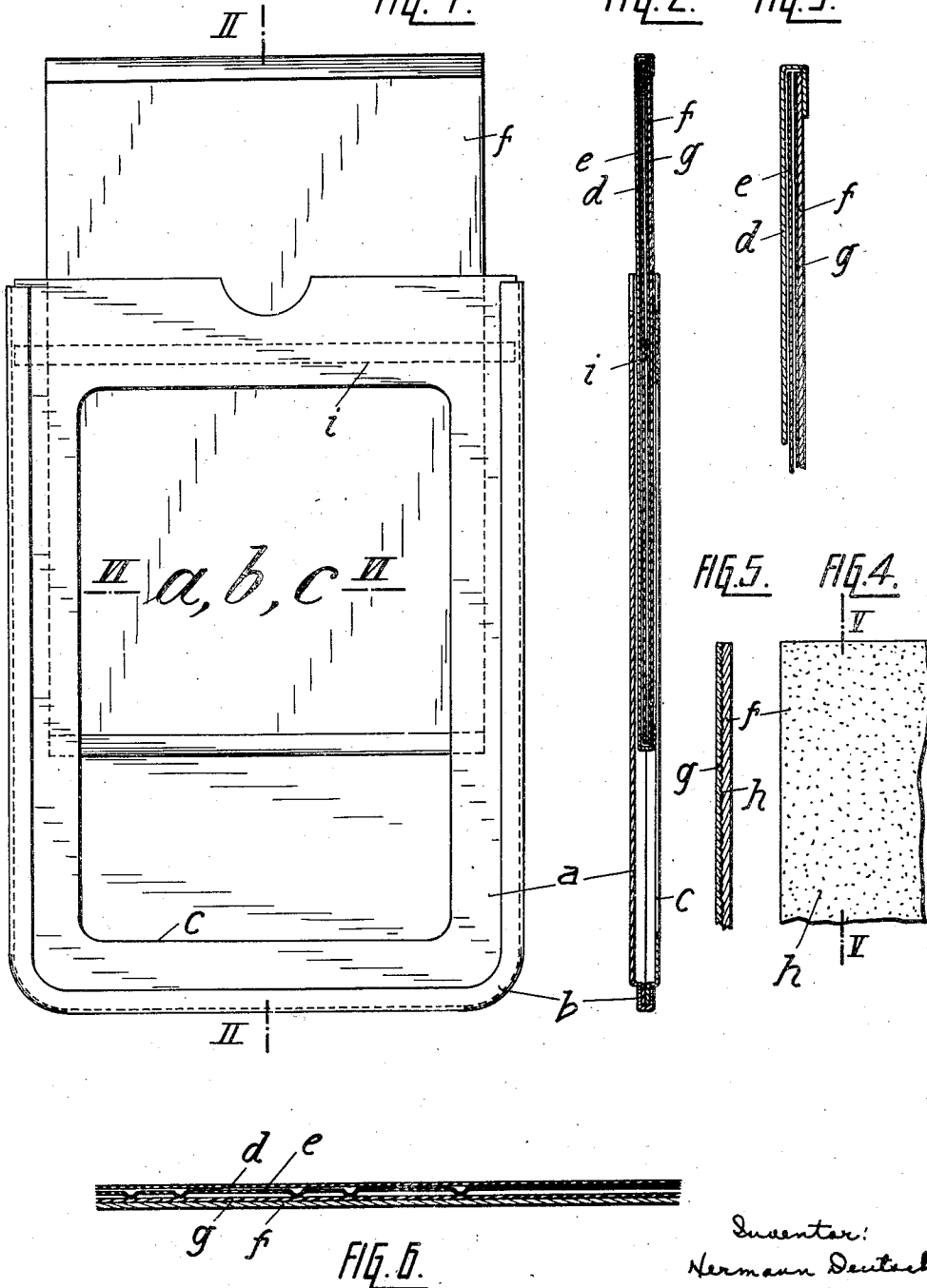
Filed June 9, 1924

2 Sheets-Sheet 1

FIG. 1.

FIG. 2.

FIG. 3.



Inventor:
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Attorneys

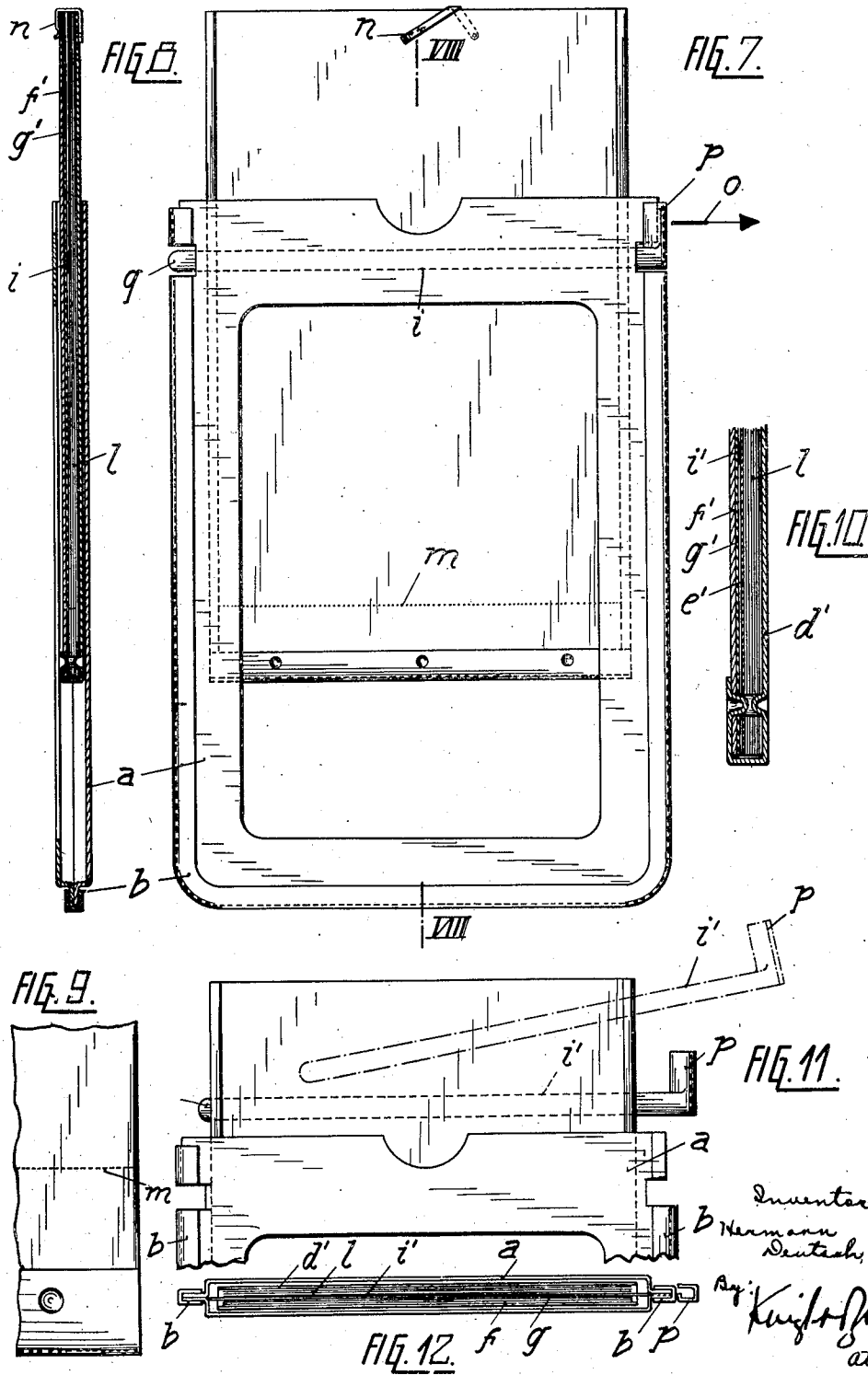
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE.

HERMANN DEUTSCH, OF BERLIN-LICHTERFELDE, GERMANY.

RECORDING DEVICE.

Application filed June 9, 1924. Serial No. 718,985.

To all whom it may concern:

Be it known that I, HERMANN DEUTSCH, a citizen of Germany, residing at 11 Marienplatz, Berlin-Lichterfelde, Germany, have invented certain new and useful Improvements in Recording Devices, of which the following is a specification.

This invention relates to recording devices and particularly to devices of this kind in the form of a tablet.

The object of the invention is to produce a recording device of exceedingly simple construction and great simplicity in use. The recording device in accordance with the present invention comprises a diaphanous sheet with an adhesive back arranged above a sheet of material such as paper which is so thin and flexible that when a pointed instrument is passed over the transparent sheet above it and a slight pressure is applied the flexible sheet, whose color differs from that of the top sheet, is raised by the top sheet at the points or lines where pressure has been applied. In other words the lower differently colored sheet adheres to the top adhesive backed sheet at the places where the top sheet has been pressed against it and becomes visible at these parts through the top diaphanous sheet. Thus, if a pointed instrument is passed over the top sheet the line described by the said instrument will appear through the diaphanous sheet. The marks or records thus produced disappear when the parts of the bottom sheet that adhere to their adhesive backed top transparent sheet are separated from the latter by any suitable means.

The top or writing sheet consists of diaphanous elastic material such as celluloid, cello (acetyl cellulose), hardened gelatine or the like whose properties are such that the substance of the adhesive layer with which its back surface is covered does not penetrate to the top surface of the diaphanous sheet. The adhesive layer may consist of a thin coating of diaphanous substance such as paraffin, wax or the like.

The bottom sheet whose color differs from that of the top sheet is preferably placed upon a raised base as for example a metal base plate.

By constructing the recording device in this manner it is possible to provide that when records are made by writing or draw-

ing on the top surface of the writing sheet permanent copies are produced on ordinary paper. To this end a sheet of copying paper such as carbon paper is placed beneath the said flexible colored or dark sheet and beneath the copying paper the sheet is placed upon which the permanent record or copy is to be produced.

The invention is shown in the drawing in which two ways of carrying it out are illustrated by way of example.

Fig. 1 is a top view of a recording device in the form of a thin case with enclosed sheets somewhat like a plate holder of a photographic camera, in which the writing or records produced by pressing the top or writing sheet against the sheet beneath it is obliterated by an obliterating member placed between the two said sheets.

Fig. 2 is a section on the line II—II of Fig. 1.

Fig. 3 is a fragmentary section through the writing plate on an enlarged scale.

Fig. 4 is a rear view of a fragment of the back surface of the writing sheet on an enlarged scale.

Fig. 5 is a section of Fig. 4 on the line V—V.

Fig. 6 is a section on the line VI—VI of Fig. 1 on an enlarged scale. This figure shows how the lower colored or dark sheet is raised at the parts where the pointed instrument is raised by the top diaphanous elastic sheet at the parts where pressure is applied to the latter by a suitable instrument such as a pointed stick.

Fig. 7 is a front view of a modified writing tablet according to the invention.

Fig. 8 is a section on the line VIII—VIII of Fig. 7.

Fig. 9 is a front view of a fragment of the writing sheet of Fig. 7 on an enlarged scale.

Fig. 10 is a view on an enlarged scale of a part of the section according to Fig. 8.

Fig. 11 is a view of the top portion of the writing tablet with the writing plate partly drawn out and the transverse separating member indicated in two positions so as to illustrate the manner in which a new writing plate is inserted in the case of the tablet and Fig. 12 is a top view of Fig. 11.

The tablet comprises a thin casing α which

is preferably strengthened by a sheet metal border *b* and whose one wall or side has a large opening or window *c*. The writing plate consists of a ground plate *d* of sheet metal, a thin black or colored paper sheet *e* which forms the first effective part of the perpetual writing tablet, and the writing surface or sheet proper *f* superimposed upon the colored paper sheet *e*. The writing sheet *f* may consist of cello or celluloid with a smooth surface. The rear surface of the writing sheet *f* is coated with a plastic or adhesive layer *g* which may consist of transparent paraffin, wax or the like. To enable the paraffin layer to cling more readily to the rear surface of the cello or celluloid sheet *f*, this surface *h* is roughened as illustrated in Fig. 4 before the adhesive layer *g* is spread over the same. The tablet is in condition for use when the plate is inserted in the case *a*. Marks are produced on the tablet by passing the point of a style or the like over the surface *f* exposed behind the window *c*.

When the point of a pointed instrument is passed over the top diaphanous elastic writing sheet *f* while applying pressure the lines of the sheet *f* along which the point is drawn are pressed against the different colored paper sheet *e* and go back to their normal position or rise again when the pressure ceases and in so doing raise the different colored paper sheet *e* with them as indicated in Fig. 6. The paper sheet then becomes visible at the lines where it adheres to the adhesive back of the writing sheet *f*. To obliterate the record thus produced it is only necessary to separate the adhering parts of the sheet *e* from the adhesive back of the sheet *f* by any suitable means when the recording device consists merely of the tablet *d*, *f*, *g*, this may be performed by merely raising the sheet *f* with its adhesive back *g* from the different colored paper sheet *e*. But in the device illustrated the separation of the plastic-backed sheet *f*, *g* from the paper sheet *e* is effected by means of a transverse strip *i* made of card-board or metal and stretched parallel to the top edge of the case *a* between the side edges of the case *a* so as to lie above the paper sheet *e*. Hence, when the writing plate is drawn out of the case *a* as indicated in Fig. 1 the position of the separating strip *i* is shifted relatively to the paper sheet *e* so that the parts of the plastic-backed sheet *f*, *g* that have been caused to adhere to the paper sheet *e*, are separated from the latter and the writing, drawing or other marks are thus obliterated.

In the modification shown in Figs. 7-12 the writing plate is arranged in a thin case *a* provided with an obliterating member or separating strip *i'* and it is also provided with a ground plate *d'* of sheet metal as in

the device shown in Fig. 2. Arranged on the metal ground plate *d'* however is a thin block or writing pad *l* which comprises a number of writing sheets perforated along the line *m*. Arranged above the writing pad *l* is a sheet of dark or colored copying paper or carbon paper *e'* which forms the first effective part of the perpetual writing tablet. Superimposed upon the carbon paper *e'* is a plastic-backed writing sheet, the upper surface *f'* consisting of celluloid or cello and the plastic back *g'* consisting of transparent paraffin, wax or the like. The plastic-backed sheet forms the second effective part of the perpetual writing tablet.

The pad *l*, carbon paper *e'* and the plastic backed sheet *f'*, *g'* may be held together at the top edge of the writing plate by a clip *n*. When the writing surface *f'* in this type of tablet is written on, there is produced, in addition to the immediately erasible record, a permanent copy on the topmost sheet of the writing pad *l*. When the writing plate is then drawn out of the case *a* for the purpose of erasing the writing or drawing produced on the plastic-backed sheet, the latter *f'*, *g'* and the sheet of carbon paper *e'* may be bent away from the pad *l* and the topmost sheet of the latter can be detached at the perforated line *m*. When the writing plate is then slid back into the case *a* the next permanent record will be produced on the next sheet of the writing pad.

To enable the writing plate to be entirely removed from the case *a* whenever a new pad *l*, and if necessary, a new sheet of carbon paper *e*, is to be inserted, the obliterating member or transverse strip *i'* is arranged to be removed laterally from the case in the direction of the arrow *o*. When the member *i'* has been thus removed the writing plate can be entirely removed from the case. The obliterating strip *i'* has a handle *p* at its right end, this handle being shaped so as to form a part of the sheet metal border *b* when the strip is in its operative position.

When a new writing plate is to be introduced into the case the greater part of the obliterating strip *i'* is inserted between the plastic-backed sheet *f'*, *g'* and the carbon paper *e'* as shown in Fig. 11. Then the writing plate is placed into its final position in the case *a* and then the obliterating strip is shifted into the final position indicated in Fig. 6 in which the front end *q* passes through a slot in the sheet metal border *b* at the left edge of the case. The handle *p* of the obliterating strip *i'* then embraces the two walls of the case *a* as shown in Fig. 7 and the writing tablet is then ready for renewed use.

In the claims the words "resistive" is intended to mean: not liable to be worn or

injured by the style or instrument used in writing or producing other records on the plastic-backed diaphanous sheet.

I claim:—

5 1. Recording device comprising a diaphanous writing sheet of resistive elastic material with a rear layer of adhesive substance, and a second sheet differing in color from the writing sheet and placed beneath the latter, said second sheet being thin and flexible so that when the point of a pointed instrument, that imparts no color to the writing sheet, is passed over the latter the parts of the second sheet, against which the elastic writing sheet is pressed by said instrument, adhere to the writing sheet and are raised by the same when the pressure of said instrument ceases.

20 2. Recording device comprising a base, a sheet of thin flexible material on said base, and a diaphanous resistive writing sheet of elastic material with an adhesive rear surface for cleaving to and raising parts of the thin flexible sheet against which it has been pressed.

3. Recording device comprising a base, a sheet of thin flexible material on said base, a diaphanous resistive writing sheet of elastic material with an adhesive rear surface for cleaving to and raising parts of the thin flexible sheet against which it has been pressed, and a member for separating the cleaving parts of said rear surface from said thin flexible sheet.

35 4. Recording device comprising a base, a sheet of thin flexible material on said base, a diaphanous resistive writing sheet of elastic material with an adhesive rear surface for cleaving to and raising parts of the thin flexible sheet against which it has been pressed, a member for separating the cleaving parts of said rear surface from said thin flexible sheet, the thin flexible sheet consisting of copying paper and a block of detachable leaves beneath the copying paper.

45 5. Recording device comprising a base, a flexible sheet on the base and a second diaphanous resistive-elastic sheet above the flexible sheet with an adhesive layer on its back surface, the diaphanous sheet with its rear adhesive layer being adapted to be raised from the flexible sheet and the color of the flexible sheet differing from that of the diaphanous sheet.

55 6. Recording device comprising a base, a flexible sheet on the base and a second diaphanous resistive sheet above the flexible sheet with an adhesive diaphanous layer on its back surface, the diaphanous sheet with its adhesive layer being adapted to be raised

from the flexible sheet and the color of the flexible sheet differing from that of the diaphanous sheet.

7. Recording device comprising a base, a flexible sheet on the base, and a second diaphanous celluloid sheet above the flexible sheet with an adhesive diaphanous layer on its back surface, the diaphanous sheet with its adhesive layer being adapted to be raised from the flexible sheet and the color of the flexible sheet differing from that of the diaphanous sheet.

8. Recording device comprising a base, a flexible sheet on the base and a second diaphanous sheet above the flexible sheet with an adhesive diaphanous layer on its back surface, said back surface being roughened so as to result in a better cleavage of the adhesive layer, the diaphanous sheet with its adhesive layer being adapted to be raised from the flexible sheet and the color of the flexible sheet differing from that of the diaphanous sheet.

9. Recording device comprising a non-impressible base, a flexible sheet on the base and a second diaphanous sheet above the flexible sheet with an adhesive layer on its back surface, the diaphanous sheet with its adhesive layer being adapted to be raised from the flexible sheet and the color of the flexible sheet differing from that of the diaphanous sheet.

10. Recording device comprising a base, a flexible sheet on the base and a second diaphanous sheet above the flexible sheet with an adhesive diaphanous layer on its back surface, the diaphanous sheet with its adhesive layer being adapted to be raised from the flexible sheet, and the back of the flexible sheet being coated with material that is transferable to another sheet and capable of producing a mark thereon.

11. Recording device comprising a base, a flexible sheet on the base and a second diaphanous sheet above the flexible sheet with an adhesive diaphanous layer on its back surface, the diaphanous sheet with its adhesive layer being adapted to be raised from the flexible sheet, and the flexible sheet consisting of carbon copying paper.

12. Recording device comprising a base, a block of detachable writing sheets on said base, a sheet of copying paper on said block, and a diaphanous sheet above the copying paper provided with a substratum of diaphanous adhesive material, the diaphanous sheet with its substratum being adapted to be raised from the copying paper.

In testimony whereof I affix my signature.

HERMANN DEUTSCH,