March 19, 1946. F. E. D'HUMY 2,396,833

SECRET TELEGRAPH RECEIVING BLANK

Filed May 13, 1944

FIG. 1

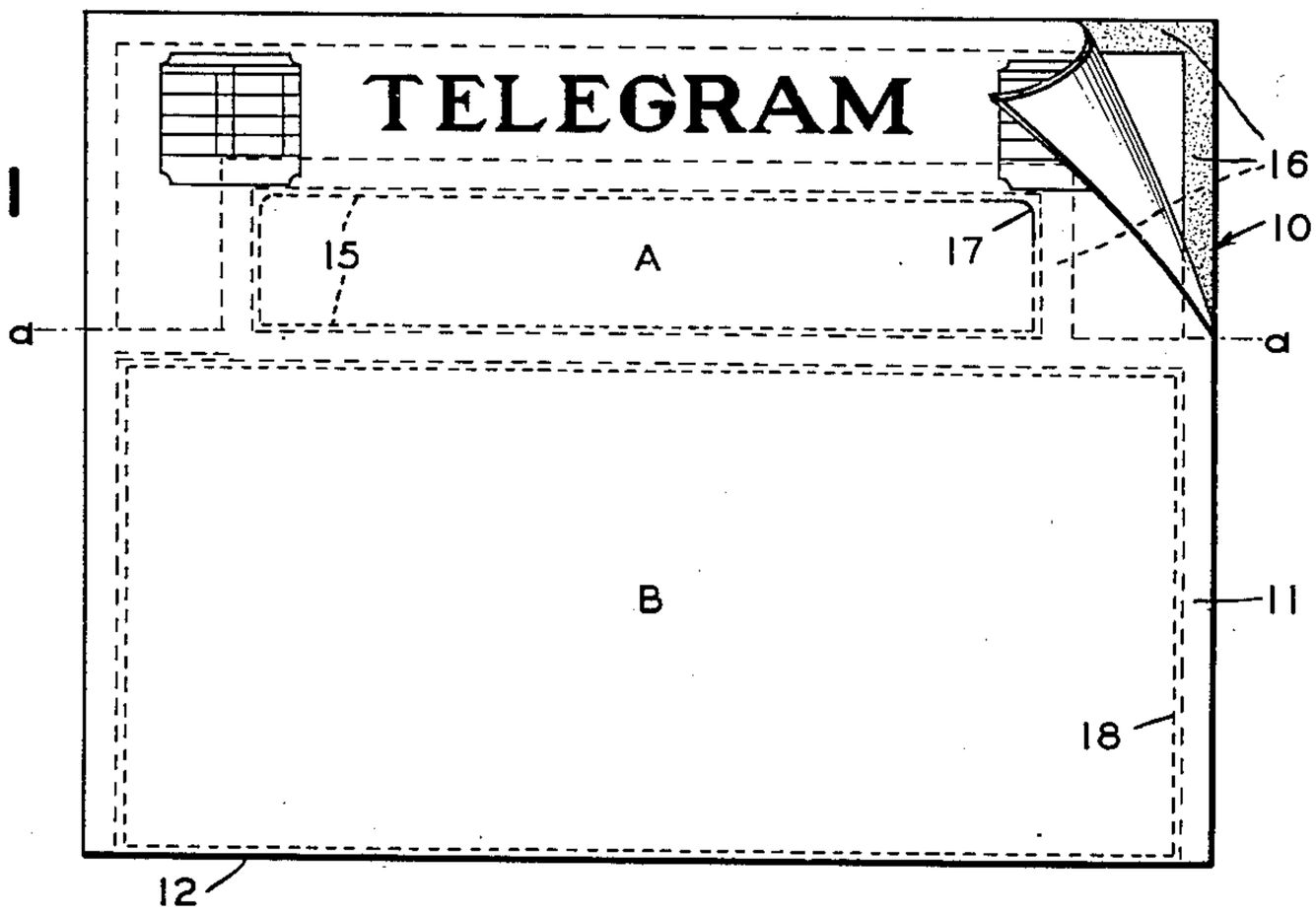
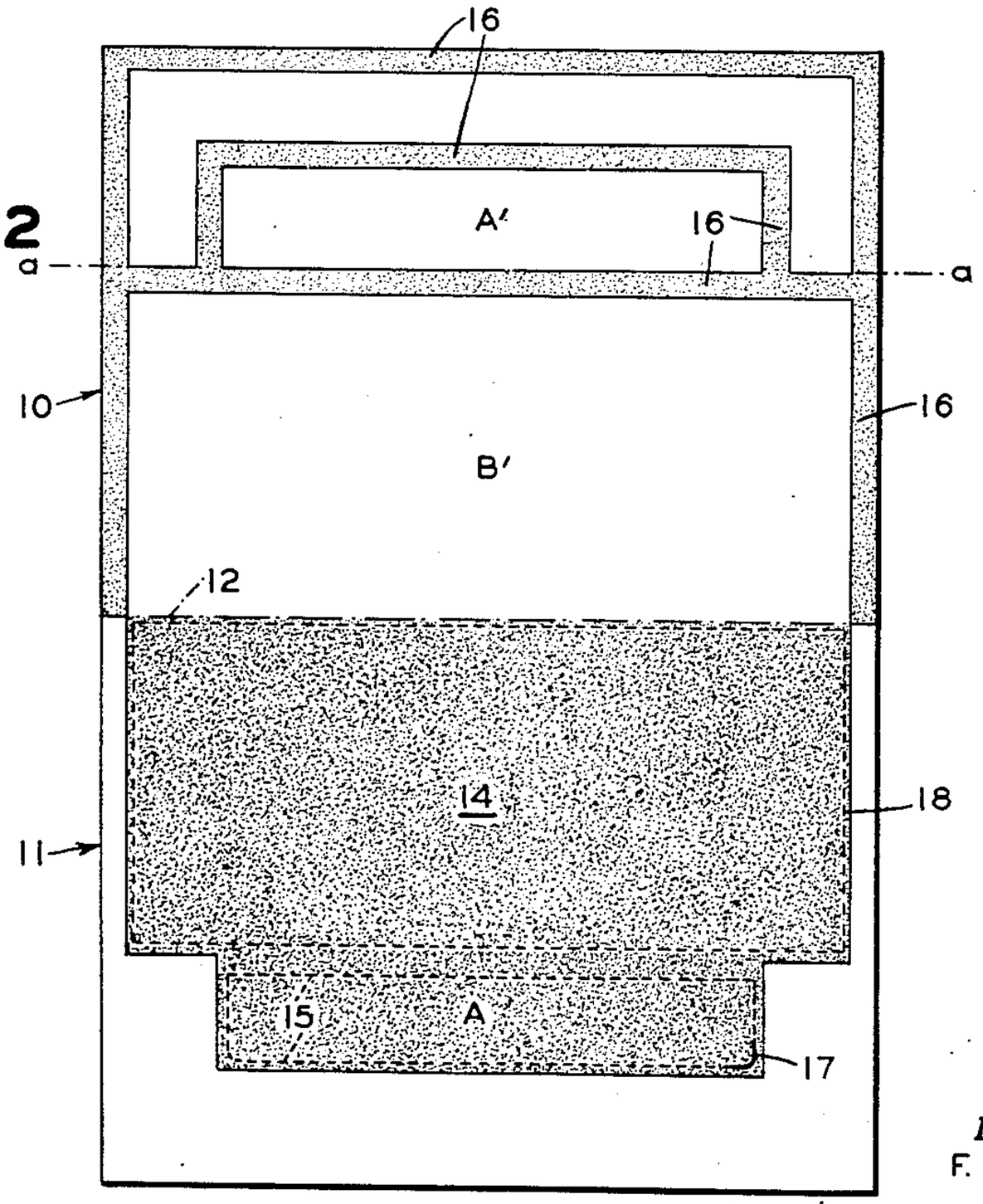


FIG. 2



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SECRET TELEGRAPH RECEIVING BLANK

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10 Claims. (Cl. 282—22)

This invention relates to a secret telegraph receiving blank in which the body of the message on the blank is effectively concealed from unauthorized persons handling or delivering the same, notwithstanding that the message may be recorded on the blank by means of conventional receiving telegraph apparatus.

It is desirable and often quite important to prevent the contents of telegraph messages from being read by unauthorized parties. This is especially true in time of war when military secrets and confidential information in regard to war orders, shipments, materials, troop movements, production and manufacturing data and the like are in certain cases available to perusal by messengers and others who handle and deliver telegrams. Due to rapidly changing personnel, it is difficult to investigate adequately the background and loyalty of all persons who may handle telegrams, and under these conditions it is possible that disloyal parties or enemy agents may surreptitiously obtain important information without being discovered for a considerable period of time.

In addition to minimizing the likelihood of inadvertent disclosure of secret military information, the invention is particularly applicable to the automatic transmission and reception of telegrams, particularly by facsimile transmitting and recording apparatus. Also, the reception and delivery of facsimile telegrams at branch telegraph offices, office building branches, and small agencies, involves special problems. It is desirable that telegrams received at such places should not have to be placed in envelopes, thereby saving appreciable time and expense and causing the telegrams to be delivered in better condition. Heretofore the folding and insertion of telegrams within envelopes was regarded as necessary to provide the desired privacy of communication.

In a manner similar to that proposed for office buildings, the delivery of telegrams in residential areas which cannot support full-fledged telegraph offices may be effected in many instances through the medium of a secondary branch office. Such a secondary office may be manned by two or more messengers, the office being equipped with automatic receiving and transmitting facsimile units, so that no expert training in the transmission or reception of messages would be required. Facsimile transmitters and receivers also are destined for small agencies, such as housewife agencies and drugstores. Heretofore automatic receivers for such type of service were not feasible because the housewife and other unauthorized persons were able to read the received telegrams. The same combination of transmitter and receiver may also be employed in serving large apartment houses which have doorkeeper attendants or others who are on duty during all hours of the day, and telegrams received by such attendants may be delivered to the apartments by him. In each of these cases it is desirable that the step of manually enveloping messages be eliminated, while at the same time keeping the messages strictly confidential.

An object of the invention is a secret telegraph receiving blank in which the body of the message may be recorded on the blank by telegraph receiving apparatus in such manner that the blank need not be enclosed in an envelope, while causing the message to be concealed from persons who handle or deliver the telegrams at the receiving end.

Another object of the invention is a telegraph facsimile recording message blank in which facsimile recording of the body of the message may automatically be effected without being visible to unauthorized persons.

A further object is a secret telegraph receiving blank in which a portion of the blank conceals the body of the message recorded thereon during the recording operation and which prevents unauthorized access to the message during subsequent handling and delivery thereof.

Still another object is a secret receiving blank of the character disclosed which may be used with well-known types of recorders such as those heretofore employed for recording on conventional receiving telegraph blanks.

Additional objects and advantages will be apparent from the following detailed description of an illustrative embodiment of the invention, taken in connection with the accompanying drawing, in which:

Fig. 1 is a front view of a receiving telegraph blank embodying the principles of the invention, with the upper right hand corner of the face of the blank turned back in order to show more clearly its composite structure; and

Fig. 2 is a plan view, on a slightly smaller scale than Fig. 1, of the composite blank during the process of forming the same.

Referring to the drawing, the blank shown in Fig. 1 has the general appearance of an ordinary telegraph receiving blank and comprises a composite paper blank of superposed sheets, such as an under sheet 10 and a top sheet 11. The blanks may be formed either from long superposed strips secured together and the individual

blank subsequently severed from the strip, or each composite blank may separately be formed by folding a larger sheet in half along the dotted line 12 to form the two sheets 10 and 11.

In preparing the blank in accordance with one embodiment, as seen in Fig. 2, the top sheet 11 of the blank has applied to its inner surface a thin layer or coating 14 of suitable marking or transfer material, for example, carbon, such as employed in commercial carbon paper. The edges and certain other portions of the sheets are secured together in any suitable manner, as by gummed areas 16, to give the composite blank of Fig. 1. The inner surface of the top sheet 11 contains a small rectangular coated area or section A, by means of which the address portion of the message is recorded on section A' of the inner surface of sheet 10, and a larger coated area 14 for recording the body of the message, it being understood that the address usually is transmitted so that it will be received in the address section. This section, by reason of the perforated line 15 and the cut tab portion 17, may readily be removed from sheet 11, whereupon the receiving operator, attendant or agent who takes the message from the recorder may read the address appearing in the area A' for purposes of delivery to the addressee. The body of the message, however, which is recorded on the area B' of the inner surface of the bottom sheet 10, cannot be read because it is covered by the top sheet 11 which is secured to the bottom sheet 10 in the manner described. The address and body of the message may be received by a facsimile recording device, employing a percussion stylus, of any suitable type known in the art, for example, as shown in Patent No. 2,260,862, the address and body of the message being received and recorded by the successive impacts of the stylus on the top or front surfaces A and B of the composite message blank. Any such writing or recordation will be imprinted on the inner surfaces A' and B' of the bottom sheet by the carbon or other marking layer 14.

Upon receiving a telegram, the receiving attendant, agent or other person may remove the perforated portion A to observe the address and have it delivered, and still be unable to read or know the contents of the telegram. Upon receiving the telegram, the addressee cuts or tears the two sheets 10 and 11 apart or opens them with a paper knife as one would open an envelope, and finds the message on the inner surface of the bottom sheet. To facilitate this, the paper may be perforated along the folding line 12 and, if desired, along the binding line 18 to facilitate the separation of the two sheets by the addressee.

Instead of employing a detachable section A in order to enable the receiving operator, agent or messenger to read the address, the two sheets 10 and 11 may be secured at their side edges only up to the line *a—a* in Fig. 1, so that the upper portion of the outer sheet 11 may be turned back, as indicated in the drawing, to enable the address to be read for delivery purposes. In this case it will be appreciated that the adhesive strip 16 on any one blank need extend upwardly no further than the line *a—a*.

An alternative form of marking material may be a stylographic wax coating, for example, such as disclosed in Patent No. 1,726,126. In this case the portions A' and B' of the inner surface of the under sheet 10 have applied thereto a thin layer of wax or equivalent material of a color different from that of the paper; preferably the paper will have a darker color than the applied layer of wax. The impacts produced by the percussion recording stylus on the outer surface of the top sheet 11 will suffice to so deform or remove the layer in the marked areas that the inner surface of the sheet 10 will have delineated thereon the address and body of the message. It will be understood that in this embodiment the marking layer 14 is omitted from the top sheet 11. If desired, the address section A of sheet 11 may comprise a window of Cellophane or other transparent material so that the address delineated by the stylographic coating may be read through the transparent window without the necessity of tearing out this section or turning down the upper portion of sheet 11.

When a blank having either a transfer or deformable marking material of the character hereinbefore set forth is employed, the recordation of the message may also be effected by known types of telegraph printers in which typewheels or typebars are struck against the outer surface of the top sheet of the composite delivery blank, and these have sufficient force to cause transfer of marking material or make an impression in a stylographic coating such that the inner surface of the bottom sheet 10 will bear the typewritten recorded message, without the same being visible on the fact of the message blank. In such case it will be appreciated that the typewriter ribbon usually employed with such printers will be removed or disabled to prevent visible marking on the outer surface of the blank, at least when the body of the message is being received.

The marking material used may be one in which the percussion type of recording is unnecessary, as in the case of pyrosensitive and electrosensitive marking films or coatings on the inner surface of sheet 10, various kinds of which coatings are known in the art. Preferably, an electrosensitive marking material is employed, for example, as disclosed in Patents Nos. 2,251,742, 2,294,146, 2,294,147 and 2,294,149. When pyrosensitive recording films or layers are employed, these may be marked by styli which apply to the blank oscillatory signaling currents, such that either by conduction or condenser effect heating currents or forces are caused to be applied to the marking coating and generate sufficient heat to produce the marking effects. Also, when an electrosensitive marking material is employed, this may likewise be marked either by current conduction or condenser displacement currents or electrostatic effects which are set up in the marking coating. In this case the under strip or sheet 10 may be impregnated with or have embodied therein a conductive substance so that the sheet will have good conductivity. In accordance with the above-mentioned Patent No. 2,294,146, finely divided carbon, silver or aluminum may be dispersed homogeneously throughout the sheet 10 or, as disclosed in the aforesaid Patent 2,251,742, the sheet may be made conductive by means of an electrolyte. Preferably, suitable conduction is obtained by means of finely divided carbon, and the marking coating is composed principally of a thin layer of lead thiosulphate applied to the conductive layer. In this case it will be desirable to employ a black or dark colored strip or sheet 11 so that, if any of the carbon particles are forced to the outer surface of the sheet 11 during recording, no marking effect will be observed on the surface. In each of the cases where an electrosensitive recording blank is employed, it is desirable that a very thin sheet 11 be employed, so long as it is

sufficiently opaque to conceal the message, in order to reduce the electrical resistance of this portion of the recording blank and thereby enable lower signaling voltages and lower frequencies to be employed for recording purposes. The upper sheet 11 also may be conductive to some extent by any of the methods above referred to, although it should have sufficient resistance so as not to prevent a desired concentration of the marking currents which should be confined to the small elemental areas of the sheet 10 which are to be marked.

Various known types of facsimile recorders may be employed with the foregoing blanks, for example, as disclosed in Patents Nos. 2,255,868 and 2,315,361. Also, the recording blanks may comprise a continuous strip or web composed of superposed sheets 10 and 11 which is fed from a supply roll, and in which after recording is effected the strip is severed at appropriate intervals and the severed blanks are delivered to the receiving attendant in the manner disclosed in Patent No. 2,283,944. It will be understood that the blanks are severed so that the top or upper portion, and the bottom and side edges, of each blank will remain affixed together by the adhesive portions 16 or other suitable means which will not interfere with the proper feeding, recordation and delivery operations.

In all of the foregoing embodiments of the invention it will be appreciated that the message may be received without making available to anyone at the receiving end the contents thereof, with the exception of the name and address of the addressee. It will further be appreciated that such a receiving blank does not have to be folded and placed in an envelope to insure that its contents will be kept confidential. By reason of this fact it makes little difference whether the telegrams are taken from the facsimile recorder by skilled or unskilled persons, and in all events the confidential nature of the message is preserved.

The strips or sheets 10 and 11 may each be made of comparatively thin paper or other suitable material, and if a suitable adhesive, for example, a polyvinyl alcohol, is employed the thickness of the composite strip or blank is not required to be substantially greater than that of the ordinary telegraph blank heretofore employed, and is not so thick as to interfere with the normal functions of the recorder on which the message is received.

The invention is also applicable to telegraph tape, or narrow strip, recording by applying transfer material to the inner surface of the top strip, or a marking substance to the inner surface of the bottom strip, in the manner hereinbefore described. In this case the strips need only be secured, as by an adhesive, at their edges, and the portion of the top strip in the address space may be torn off to read the name and address of the addressee without revealing the contents of the message. Preferably, the space reserved for the address is so indicated, as by marks or perforated transverse lines on the top tape, and if desired the superposed tapes may also be secured by adhesive areas extending transversely across the tapes at these points. For brevity in the claims, the word "sheet" and the word "blank" each is employed in a generic sense, wherever applicable, to include both wide and narrow tapes, strips or layers of paper or equivalent material suitable for the purposes of the invention.

It will be appreciated that the embodiments herein disclosed will suggest various other modifications and uses to those versed in the art, without departing from the principles of the invention. The embodiments disclosed, therefore, are to be regarded as illustrative of the principles of the invention, which is not to be limited except as indicated by the scope of the appended claims.

What is claimed is:

1. A secret telegraph receiving message blank for use with a telegraph recorder which applies marking forces to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, one of said sheets being treated with a marking material of such character that the marking forces exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of one of the sheets without recording the message on the outer surface of said blank.

2. A secret telegraph receiving message blank for use with a telegraph recorder which applies marking forces to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to enable the address portion to be read for purposes of delivery to the addressee and to conceal the inner surfaces of the sheets contained within the said portion for receiving the body of the message, one of said sheets being treated with a marking material of such character that the marking forces exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of one of the sheets without recording the message on the outer surface of said blank.

3. A secret telegraph receiving message blank for use with a telegraph recorder which applies percussive marking impacts to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, the inner surface of one of said sheets having a thin layer of a marking material of such character that the marking impacts exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of one of the sheets without recording the message on the outer surface of said blank.

4. A secret telegraph receiving message blank for use with a telegraph recorder which applies percussive marking impacts to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets be-

ing sealed together by the aforesaid means so as to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, the top one of said sheets having on its inner surface a thin layer of a transfer material of such character that the marking impacts exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of the under sheet without recording the message on the outer surface of said blank.

5. A secret telegraph receiving message blank for use with a telegraph recorder which applies percussive marking impacts to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, the under sheet having on its inner surface a thin layer of a marking material of such character that the marking impacts exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on said inner surface of the under sheet without recording the message on the outer surface of said blank.

6. A secret facsimile telegraph receiving message blank for use with a telegraph recorder which scans and applies electrical marking forces to selected elemental areas of the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, one of said sheets being treated with an electrosensitive marking material of such character that the electrical marking forces applied by the telegraph recorder to the outer surface of the blank will produce a legible facsimile recording of the body of the message on the inner surface of said treated sheet without recording the message on the outer surface of said blank.

7. A secret facsimile telegraph receiving message blank for use with a telegraph recorder which scans and applies electrical marking forces to selected elemental areas of the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to conceal at least the inner surfaces thereof contained within said area for receiving the body of the message, the inner surface of one of said sheets having a conducting layer coextensive with said portion for receiving the body of the message and a layer of an electrosensitive marking material of such character applied to said conducting layer that the electrical marking forces applied by the telegraph recorder to the outer surface of the blank will act on said marking material to produce a legible facsimile recording of the body of the message on said inner coated surface of the sheet without recording the message on the outer surface of said blank.

8. A secret telegraph receiving message blank for use with a telegraph recorder which applies marking forces to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means at their outer edge portions and at portions intermediate their outer edge portions to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, one of said sheets being treated with a marking material of such character that the marking forces exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of one of the sheets without recording the message on the outer surface of said blank.

9. A secret telegraph receiving message blank for use with a telegraph recorder which applies marking forces to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means comprising an adhesive for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by said adhesive at their outer edge portions and at portions intermediate the outer edge portions to conceal at least the inner surfaces thereof contained within said portion for receiving the body of the message, one of said sheets being treated with a marking material of such character that the marking forces exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of one of the sheets without recording the message on the outer surface of said blank.

10. A secret telegraph receiving message blank for use with a telegraph recorder which applies marking forces to the outer surface of a blank in accordance with signals received by the recorder, said blank comprising two superposed sheets, the composite blank having means for defining one portion of the blank for receiving the address and another portion of the blank for receiving the body of the message, said sheets being sealed together by the aforesaid means so as to enable the address portion to be read for purposes of delivery to the addressee and to conceal the inner surfaces of the sheets contained within the said portion for receiving the body of the message, one of said sheets being treated with a marking material of such character that the marking forces exerted by the telegraph recorder on the outer surface of the blank will produce a legible recording of the body of the message on the inner surface of one of the sheets without recording the message on the outer surface of said blank, one of said sheets having a readily removable section in said portion for receiving the address of the message to facilitate disclosure of the address.

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