June 19, 1951 W. T. GOLLWITZER 2,557,652

PRINTING AND IDENTIFICATION DEVICE

Filed Oct. 8, 1947

Fig. 1.

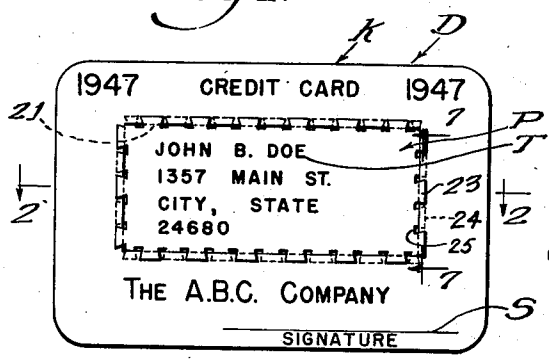


Fig. 3.

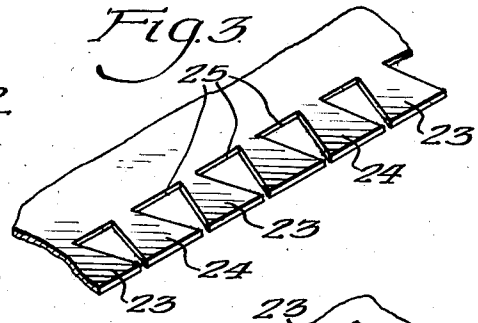


Fig. 4.

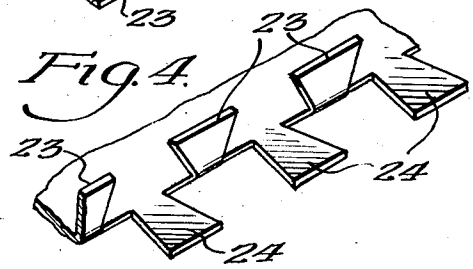


Fig. 2.

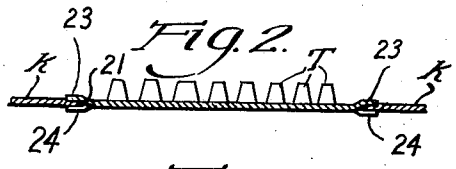


Fig. 8.

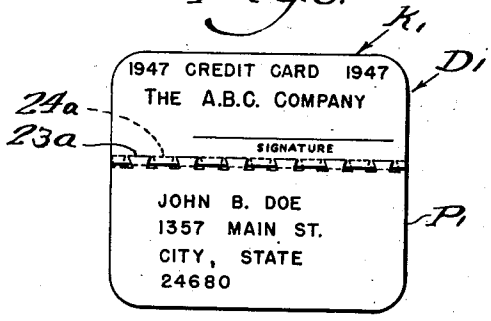


Fig. 5.

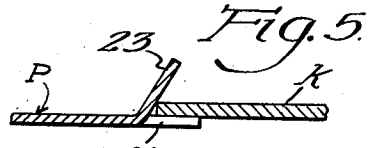


Fig. 6.

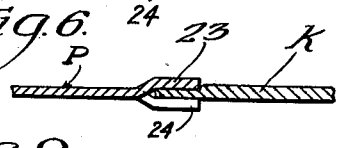


Fig. 9.

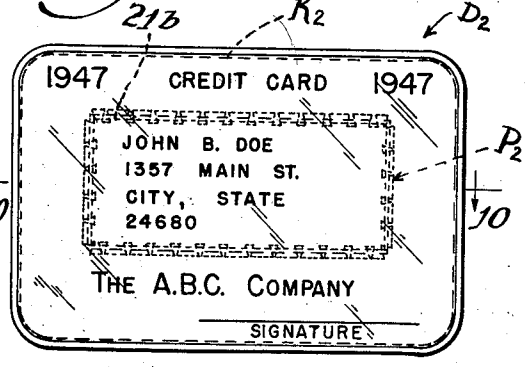


Fig. 10.

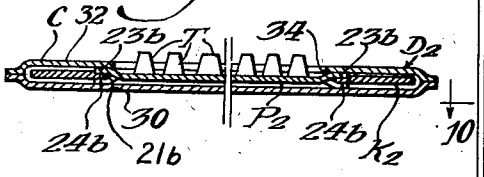
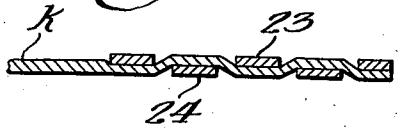


Fig. 7.



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UNITED STATES PATENT OFFICE

2,557,652

PRINTING AND IDENTIFICATION DEVICE

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Application October 8, 1947, Serial No. 778,540

6 Claims. (Cl. 101—369)

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This invention relates to printing devices of the kind from which data, such as a name and address may be printed to insure accuracy in preparing business instruments and the like in connection with business transactions entailing, for example, the extension of credit pursuant to data borne by the printing devices.

Many institutions, such as, for example, department stores, commercial airlines, railroads, automobile service companies, and the like, which have a relatively large number of customers and sometimes also outlets or business places scattered over a wide area have adopted the practice of furnishing reliable customers with a means of identification, commonly referred to as a credit card, entitling that customer to make purchases on credit at any one of the places of business of that company.

Certain of such cards heretofore used for this purpose have comprised nothing more than a single element card having the name and address of the applicant together with other identifying data appearing thereon, and when these cards are used, the name, address and other data must be copied from the card in making a record of each transaction. However, my invention is primarily concerned with another type of identification card, which comprises a printing device from which the name and address of the customer and other related data necessary to make an identification record for each transaction may be directly printed.

In credit cards of this latter character it is desirable that the card comprise identification means as well as printing means, and it is a primary object of my invention to afford a printing device which is well adapted to be used as a credit card and which embodies an identification member and a printing member associated with each other, and fastened together, in a novel and expeditious manner.

An object ancillary to the foregoing is to construct a printing device of the aforesaid type in such a manner that a strong union is effected between the identification member and the printing member.

A further object of my invention is to enable a printing device of the aforesaid type to be constructed which has a relatively smooth exterior surface.

Another object is to construct a printing device embodying an identification member and a printing member wherein the identification member and the printing member may be attached together in a novel manner along the peripheral edge of the printing member.

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An object ancillary to the foregoing is to provide a printing device wherein the interconnection of the identification member and the printing member is effected in such a manner that a strong union therebetween may be afforded by interconnection of one edge portion of the printing member to the identification member.

In many instances it is desirable that a carrier be provided for the identification member which will protect it from mutilation, it being especially important that such a carrier be provided when the credit card is to be carried on the person of the customer or is subject to frequent and, perhaps, careless handling. In this connection it is a further object of my invention to associate a printing member with an identification member in such a manner that a carrier member may be provided which will cover the identification member and protect it from mutilation.

A further object is to provide a printing device of a type well adapted to be used as a credit card which can be economically produced commercially and is practical and efficient in use.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment and the principles thereof and what I now consider to be the best mode in which I have contemplated applying those principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

Fig. 1 is a front elevational view of a printing device embodying the principles of my invention;

Fig. 2 is a sectional view taken substantially along the line 2—2 in Fig. 1;

Fig. 3 is a detail perspective view of an edge portion of the printing member shown in Fig. 1 as it appears, previous to having been adapted to receive an identification member;

Fig. 4 is a detail perpective view similar to Fig. 3 showing the edge portion thereof as it appears after having been adapted to receive an identification member;

Fig. 5 is a detail sectional view showing the edge portions of a printing member and an identification member in position relative to each other at one stage in the assembly thereof;

Fig. 6 is an enlarged detail view of one edge portion of the printing member and identification member shown in Fig. 2;

Fig. 7 is a sectional view taken substantially along the line 7—7 in Fig. 1;

Fig. 8 is a front elevational view of a printing device embodying a modified form of my invention;

Fig. 9 is a front elevational view of a printing device embodying another modified form of my invention; and

Fig. 10 is a sectional view taken substantially along the line 10—10 in Fig. 9.

The form of my invention shown in Figs. 1 to 7, inclusive, to illustrate a preferred form of my invention, comprises a printing device D adapted to be used as a credit-card and embodying an identification member K and a printing member P.

The identification member K comprises a card which is adapted to carry the necessary identification data, such as, for example, the name of the company issuing the credit-card, the year in which the credit-card is valid, and the signature of the customer to whom the credit-card is issued. The particular information or data impressed on the identification card K will, of course, vary with the business institutions issuing the credit-card. The card K has a recess 21 formed therein for a purpose which will be discussed in greater detail presently.

It is desirable that a device of the character to which this invention pertains embody means from which a printed impression may be made of certain data, such as, for example, the name and address of the customer, so as to insure against error in making out invoices, and the like, involved in business transactions in which the credit-card is used. To this end, in the present instance, a metallic printing plate P is provided which has type characters T embossed thereon to appear in relief on one face and in intaglio on the other.

In the form of my invention shown in the drawing the type characters T are so embossed in the printing plate P that the portions thereof which appear in intaglio may be read in an ordinary manner. It is not essential that the type characters be embossed in this manner and, if desired, they may be so embossed that the portions appearing in relief may be read in an ordinary manner. However, when the type characters are embossed in the manner shown in the drawings, the device will be inserted in a suitable printing machine in such a way that a sheet, on which an impression is to be made, is positioned on one side of a suitable inking medium, such as an ink ribbon, and the printing plate is disposed on the other side thereof so that when pressure is applied to squeeze the ink ribbon between the sheet and the type characters T, an impression will be made on the sheet. If a plurality of sheets are to be printed in each impressing operation, suitable carbon paper may be arranged between the plurality of sheets, in a manner well known to the art, with the coated surface of the carbon paper disposed toward the sheet to be printed and away from the type characters T so that an impression which may be read in the usual manner will be made as a result of the application of pressure.

The printing plate P, which comprises the printing member of my novel printing device, is complementary in shape to the recess 21 in the card K and has flange members or tabs 23 and 24 formed in the peripheral edge portion thereof. As is best seen in Fig. 1 the tabs 23 and 24 are formed on all four sides of the printing plate P of the printing device D shown in Figs. 1 to 7, inclusive, the tabs 23 and 24 being alternately formed therein, for a purpose which will be discussed in greater detail presently. The printing plate P is preferably made of relatively thin gauge sheet metal and may be formed by a suitable stamping operation, the tabs 23 and 24 being formed during this operation. In the formation of the tabs 23 and 24 a substantially trapezoidal-shaped space 25 is formed between adjacent tabs 23 and 24. These spaces serve a specific purpose in the construction and operation of my invention which will be discussed in greater detail presently.

Upon completion of the stamping operation wherein the printing plate P is formed, the tabs 23 and 24 on all four edge portions of the printing plate lie in substantially the same plane in the manner shown in Fig. 3. However, upon completion of the aforesaid stamping operation, and in preparation for assembly of the identification member K with the printing plate P, the tabs 23 will be bent upwardly at an oblique angle away from the tabs 24 as shown in Fig. 4.

In assembling a printing device D, for use as a credit-card, such as that shown in Fig. 1 of the drawings, an identification card K, bearing identifying data, such as, for example the name of the company issuing the card and the period of time for which the card is valid, is signed by the customer to whom the credit-card is to be issued, the signature appearing at an appropriate place on the identification card such as the line S on the card K shown in Fig. 1. A printing plate P is embossed with appropriate data, identifying the customer, such as the name and address of the customer and the serial number assigned thereto. The tabs 23 are then bent upwardly at an oblique angle to the tabs 24, as shown in Fig. 4, and the printing plate P is then positioned in the recess 21 in the identification card K, with the outwardly bent tabs 23 projecting therethrough. The outline of the printing plate P is somewhat larger than the outline of the opening 21 in the identification card K so that when the printing plate P is mounted in the opening 21 in the aforesaid manner the tabs 24 overlap that portion of the card K defining the opening 21 as shown in Fig. 5.

After the card K has been positioned on the printing plate P in the aforesaid manner, the tabs 23 may be pressed downwardly by a suitable stamping or pressing operation into the position shown in Figs. 2 and 6, in which position that portion of the identification card K surrounding the opening 21 is gripped between the tabs 23 and 24. In pressing the tabs 23 downwardly in this manner, sufficient pressure is used on the tabs 23 and the tabs 24, that the peripheral edge portion of the card K is compressed and otherwise deformed between the flanges 23 and 24, as best shown in Fig. 7. This compression of the peripheral edge portion of the card K between the tabs causes somewhat of an outward flow or outward expansion of the thus compressed peripheral edge portions into the trapezoidal-shaped spaces 25 between the tabs 23 and 24. The trapezoidal shape of the spaces 25 has been found to be important for two reasons, one of which is that when the spaces are so shaped the aforesaid flow or outward expansion of the compressed portions of the card K causes relatively little or no bulging of the card; and, secondly, because the spaces 25 are narrower at their outer edge portion than they

are at their inner edge portion, the flow of the compressed portions of the card K thereinto forms an interlocking engagement between the outer peripheral edge portion of the printing plate P and the edge portion of the card K which strongly resists separation from pulling thereon.

It will be noted that as best shown in Figs. 2 and 6 when a printing device is formed in the aforesaid manner, a relatively smooth union is effected between the printing plate P and the card K so that no undesirable projections are afforded thereon.

In the form of my invention shown in Fig. 8, a printing device D_1 comprising an identification member K_1 and a printing member P_1 is shown wherein the identification member or card K_1 and the printing member or printing plate P_1 are attached together along only one edge portion thereof. This attachment between the one edge portion of the card member K_1 and the printing plate P_1 is effected in the same manner in which the four sides of the printing plate P is attached to the card member K in the form of my invention shown in Figs. 1 to 7, inclusive, as heretofore discussed, tabs *23a* and *24a* being formed along the one edge portion of the printing plate P_1, and gripping the one edge portion of the identification card K_1 therebetween in the aforesaid manner.

In Figs. 9 and 10 another modified form of my invention is shown which comprises a printing device D_2 embodying an identification member K_2 and a printing member P_2 mounted in a carrier C.

The identification member or card K_2 and the printing plate P_2 are substantially identical to the card K and printing plate P shown in Figs. 1 to 7, and are attached together by tabs *23b* and *24b* which are identical to, and operate in the same manner as, the tabs **23** and **24** previously discussed. However, it will be noted that in addition thereto, the identification card K_2 and the printing plate P_2 are mounted in a carrier C.

The carrier C comprises a front wall or layer **30** and a rear wall or layer **32** which preferably are made of suitable transparent thermo-plastic material, such as, for example, polyvinyl acetate-chloride, and should have sufficient rigidity to be self-sustaining. The two walls **30** and **32** are substantially complementary in outline to each other, the front wall **30** being continuous in form and the rear wall **32** having a substantially rectangular-shaped recess **34** formed therein. The outline of the recess **34** in the rear wall member **32** of the carrier C is somewhat smaller than the outline of the recess *21b* in the card K_2 and, when the card K_2 is properly positioned in relation to the rear wall **32** of the carrier C, with the openings *21b* and **34** substantially in alignment with each other, that portion of the rear wall **32**, defining the recess **34**, overlaps the outer peripheral edge portion of the printing plate P_2, as it is best seen in Fig. 10.

The outer edge portion of the front wall **30** and the rear wall **32** may be secured together exteriorly of the peripheral edge of the card member K_2 by applying heat and pressure to the wall members **30** and **32** by means of two compression members applied on opposite faces of the printing device, namely, on the outside surfaces or faces of the front and rear wall members **30** and **32**, in a manner well-known to the art, to thereby squeeze and bond the marginal edge portions of the wall members **30** and **32** together.

The type characters T on the printing plate P_2 project outwardly through the recess **34** in the rear wall **32** so that the printing device D_2 may be used to print data, such as the name and address of a customer, in the same manner heretofore discussed with respect to the form of my invention shown in Figs. 1 to 7, inclusive.

When my novel printing device D_2 is assembled in the aforesaid manner the front wall **30** completely covers one face of both the identification card K_2 and the printing plate P_2, and the rear wall **32** completely covers the other face of the identification card K_2 and also extends across the peripheral edge portion of the other face of the printing plate P_2. Thus it will be seen that the carrier C forms a relatively close fitting supporting member which assists the tabs *23b* and *24b* in holding the printing plate P_2 and the identification card K_2 together, to thereby afford an exceptionally strong printing device.

Furthermore, it will be seen that the carrier C forms a complete covering for the identification card K_2 which effectively protects the card K_2 from soiling and from mutilation.

Thus it will be seen that in the form of my invention shown in Figs. 9 and 10, I have provided a novel printing device; which is well adapted to be used as a credit-card or other form of identification card; from which a name and address, or other identifying data, may be directly printed in making out invoices or other records of business transactions, and the like; which embodies a printing member and an identification member connected together in a novel and expeditious manner; and wherein the identification member is mounted in a carrier which forms a practical cover therefor and effectively protects the identification member from soiling and from mutilation.

From the foregoing it will be apparent that I have provided a novel printing device which is well adapted to be used as a credit card, or the like, and wherein the identification member and a printing member are connected together by a strong union, which may be readily effected in a practical and efficient manner.

Also it will be noted that I have provided a printing device of the aforesaid type which can be readily and economically constructed and affords both a practical identification member and a practical printing member.

Thus, while I have illustrated and described the preferred embodiments of my invention, it is to be understood that these are capable of variation and modification and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. A printing device comprising an identification member, and a printing member having a plurality of tabs positioned along a peripheral edge portion thereof in spaced relation one to the other and having slots between adjacent ones thereof, a marginal portion of said identification part extending into said slots, said tabs extending alternately on opposite sides of said marginal portion of the identification member and gripping said marginal portion to thereby deform said marginal portion and press parts thereof into said slots, said tabs being disposed in a substantially common plane when said marginal portion is deformed as aforesaid.

2. A printing device comprising a printing member having a plurality of tabs positioned along the peripheral edge portion thereof, ad-

jacent tabs being separated from each other by trapezoidal-shaped spaces, and an identification member having a portion thereof positioned between alternate tabs on said printing member and connected thereby to said printing member, said alternate tabs gripping said portion of said identification member therebetween to thereby deform said portion of said identification member and press a part thereof into said trapezoidal-shaped spaces.

3. A printing device comprising a printing plate having a plurality of tabs positioned along the peripheral edge portion thereof, tabs adjacent each other being separated from each other by trapezoidal-shaped openings in said printing plate, said openings having the longer parallel side thereof positioned closer to the center of said printing plate than the shorter parallel side thereof, and an identification card having a portion thereof positioned between alternate tabs on said printing plate and connected thereby to said printing plate, said alternate tabs extending sufficiently close to the same plane as each other to deform said portion of said identification member therebetween and spread a part thereof into said trapezoidal-shaped openings.

4. A printing device comprising an identification card having an opening formed therethrough, a printing plate having a plurality of tabs formed in the peripheral edge portion thereof and spaced from each other around the periphery of said printing plate by trapezoidal-shaped slots, the longer of the parallel sides of each trapezoidal-shaped slot extending substantially parallel to that portion of the peripheral edge of said printing plate in which that slot is formed and being positioned closer to the center of said printing plate than the shorter of the parallel sides of the same slot, said printing plate being positioned in said opening in said identification member with said plurality of tabs in engagement with the portion of said identification card defining the outline of said opening, alternate tabs being positioned on opposite sides of said identification card, said alternate tabs gripping said portion of said identification card therebetween and pressing a part thereof into said slots.

5. A printing device comprising an identification card, and a printing plate positioned in the same plane as said identification card and having

a plurality of tabs formed in the edge portion of one side thereof, said tabs being spaced from each other along said edge portion by having slots formed therebetween, said tabs extending alternately across opposite sides of the edge portion of one side of said identification member with such edge portion extended into said slots, said alternate tabs extending to the same plane and deforming the parts of said edge portion of said one side of said identification card in said slots whereby said edge portion to interconnect said card and plate.

6. A printing device comprising an identification member having an opening formed therein, and a printing member having a plurality of tabs formed around the peripheral edge portion thereof in spaced relation one to the other by having slots formed therebetween, said printing member being mounted in said opening and having the marginal portion of said identification member about said opening disposed in said slots whereby alternate ones of said tabs extend on opposite sides of said marginal portion of said identification member, said tabs compressing said marginal portion of said identification member to thereby deform said portion of said identification member and press parts thereof into the slots, said tab being disposed in substantially the same plane when arranged to deform said portion as aforesaid.

WALTER T. GOLLWITZER.

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