June 14, 1966 W. J. CUNNINGHAM 3,255,697

BUSINESS INSTRUMENTS

Filed Oct. 27, 1964

2 Sheets-Sheet 1

Fig.1

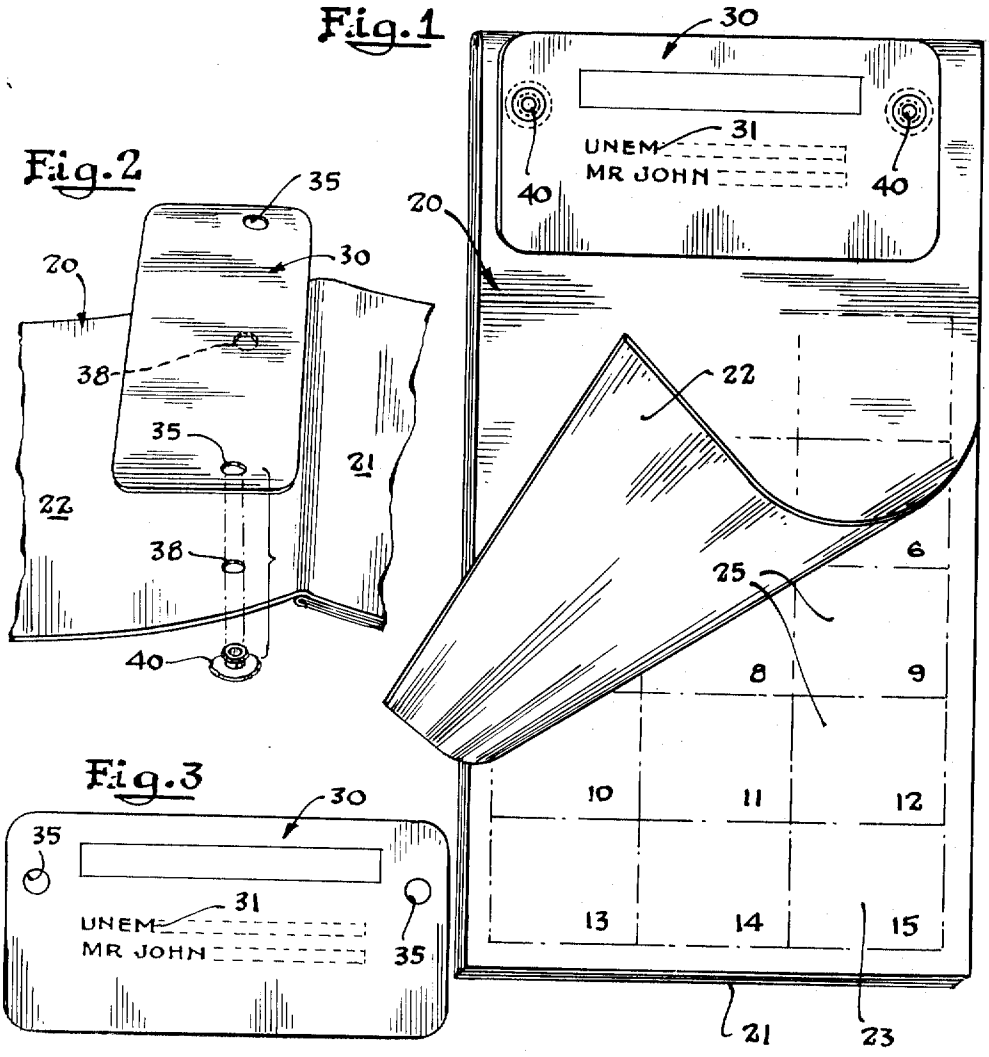
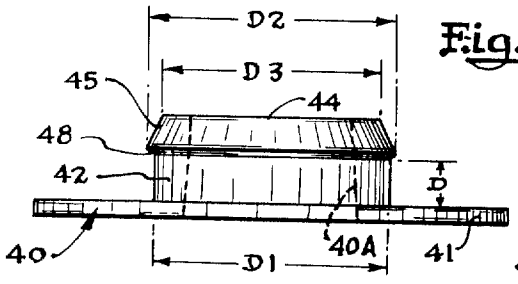


Fig.2

Fig.3

Fig.4



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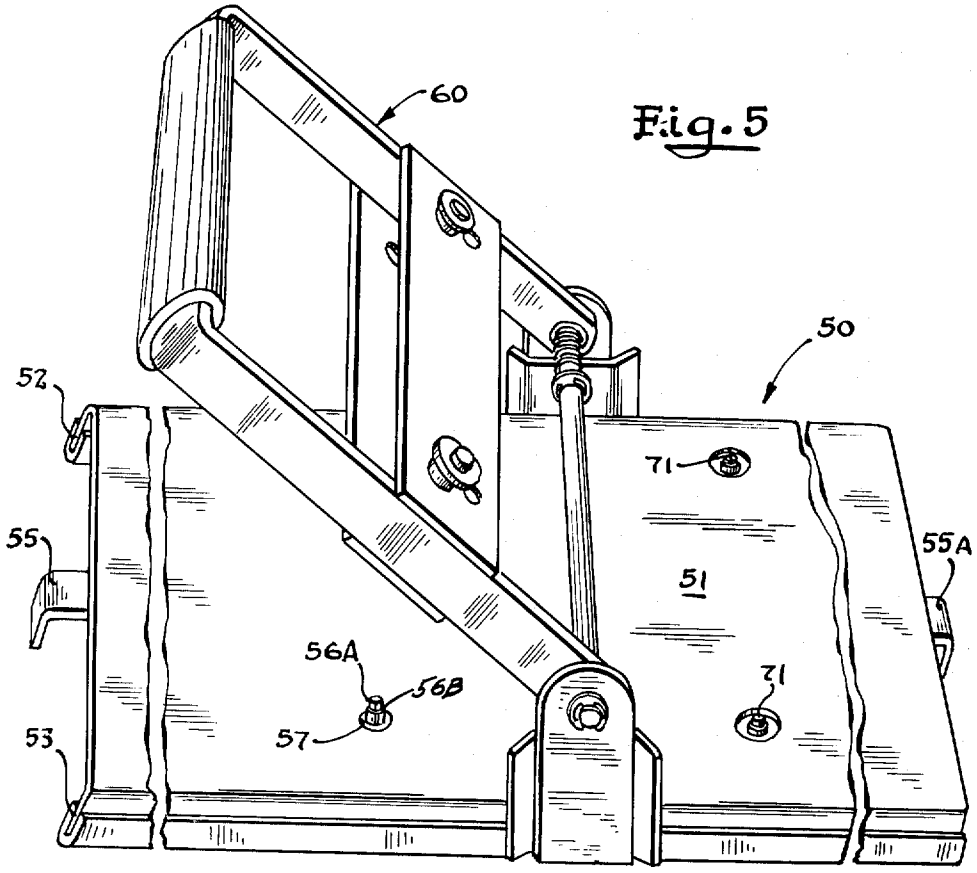


Fig. 5

Fig. 6

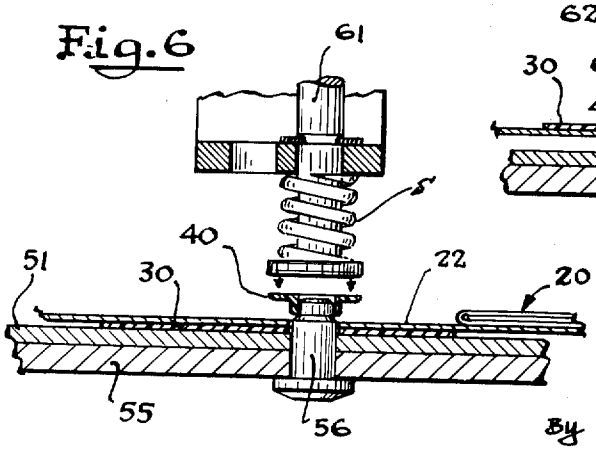
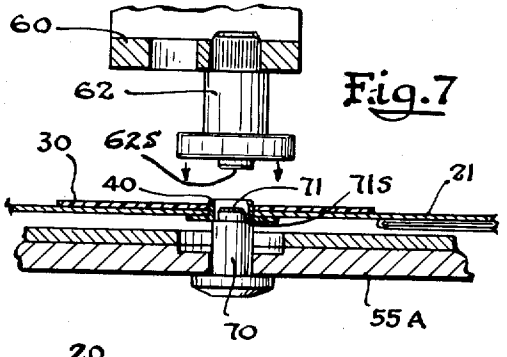


Fig. 7



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BUSINESS INSTRUMENTS

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Claims priority, application Canada, Dec. 24, 1963, 892,080
2 Claims. (Cl. 101—369)

This invention relates to record keeping systems and in particular to a business instrument that includes a form comprising one or more sheets provided with space for entry of variable data, and which also includes an embossed plate presenting permanent data for making related imprints. The embossed plate is separably attached to the form sheet in such a fashion that a special device or other special effort is required to effect a separation. In other words, the embossed plate is secured to the form with assurance that it will not become inadvertently separated, and this is essential in assuring that a particular plate will always remain an integral part of the form with which it is related, rather than being separated and lost in the course of handling business instruments of the character involved under the present invention.

The business instrument of the present invention fulfills an important need in a convenient, neat and inexpensive relationship. Thus, the embossed plate, which presents embossed type characters for making any number of permanent imprints from the business instrument, is of thin, flexible, inexpensive plastic which adds little bulk or weight to the form to which it is attached. Resultantly, the business instrument as a whole can be easily and expeditiously handled in the course of making entries on the form portion thereof or in the course of presenting the attached plate to an imprinting machine incidental to making an imprint therefrom.

The plate is attached to one sheet of the business form by light-weight deformable retainers that are of such character and form as to protrude very little from the business instrument. Consequently, neither the plate nor the retainer means associated therewith adds a great deal of bulk to the entire package that includes the form, and this enables a file of many such instruments to be maintained in a small space in spite of the complexity of each instrument. Even so, if circumstances require a change in the plate, as where the data embossed thereon are no longer apropos, then it is possibl to remove the retainers, incidential to substituting a different embossed plate, and without destroying the form sheet.

In the drawings:

FIG. 1 is a perspective view of a business instrument contemplated by the present invention;

FIG. 2 is a view illustrating the relationship of parts of such a business instrument;

FIG. 3 is a plan view of the plate that is an element of the business instrument;

FIG. 4 is an elevation of one of the two identical retainers used to fasten the plate to the business form;

FIG. 5 is a perspective view of a device for attaching and removing the aforesaid retainers;

FIG. 6 is a detail view illustrating the manner in which he aforesaid device is used to apply the fasteners; and

FIG. 7 is a view similar to FIG. 6 illustrating the way in which the aforesaid device is used to remove the fasteners.

Referring to FIG. 1 of the drawings, a business instrument of the character contemplated under the present invention is illustrated at **20** as inclusive of a form **21** comprising one or more paper sheets **22** and **23**, the latter in particular being provided with spaces **25** for the entry of variable data therein. Such data will be entered on the form from time to time in the course of maintaining records with respect to a particular transaction. Such entries, for example, may include data pertaining to the receipt or acknowledge of payment of insurance premiums. Variable data of this character may also be represented by entries on or in the form sheet concerning transactions at a bank.

An embossed printing plate **30** is part of the business instrument **20**, and is separably secured to one of the sheets of the form **21**, the sheet **22** in the present instance. This plate is of a thin, flexible, easily embossed material, such as a high strength plastic. This embossed data **31** appearing thereon present type faces for producing imprints through a carbon sheet or the like on a record sheet that is related to the same transaction that involves the entry of the variable or time-to-time entries on the form sheet **23**. Consequently the type faces presented by the embossed characters **31** face outwardly of the outer face or side of the form sheet **22**. The embossed data **31** are related to the overall transaction for which the business instrument is intended. For example, in the instance of insurance records, the data **31** embossed on the plate **30** will at least identify the insured.

Thus, it will be seen that the business instrument in the present instance includes a form presenting a sheet as **22** to which the plate **30** is attached. Business instruments of this character are, of course, subjected to somewhat frequent handling, particularly as this is necessitated by repeated withdrawal from and insertion in the file drawer where the instrument is stored, the making of entries on the form sheet, and the production of repeated imprints made from the embossed data **31** on the plate **30**. Because of this, and because of the relatively flimsy nature of the sheet **22**, there is a need for separably attaching the plate **30** to the sheet **22** in such a fashion as to avoid to the greatest possible degree the likelihood that the plate will become separated due to abusive handling.

This need is satisfied under the present invention by having resort to easily deformable, light-weight retainers which are so configured and dimensioned as to enable the plate to be separably attached to the sheet with assurance that the plate will not become detached except by resort to a special effort or the special device hereinafter described. Thus, while a more or less permanent relationship is established between the plate **30** and the business form **21**, purposeful disassociation can be achieved in order to enable a plate as **30** to be replaced as, for example, when there is a change in address or the need for a change in some other portion of the data that appear as embossed type characters on the plate as **30**.

In achieving the foregoing, the plate **30** is provided with a pair of spaced openings **35**, FIGS. 2 and 3. The sheet **22** of the form **21** to which the plate **30** is attached is also provided with a pair of spaced openings **38**, FIG. 2, which register with the openings **35** in the plate **30**.

The various openings are of the same diameter for reasons apparent from the description to follow.

A pair of retainers **40**, FIGS. 1, 2 and 4, each of identical form, are entered in the registered openings to separably secure the plate to one of the sheets of the form **21**. Each retainer is entered in the related pair of registered openings from the underside of the sheet **22**, that is, the side of the sheet **22** opposite that where the plate **30** is presented, as hereinafter described in more detail in connection with the device illustrated in FIG. 5. However, it may here be noted that each retainer **40** is of a light weight, easily deformable material such as thin, flexible metal or an equivalent form of high strength plastic.

Referring to FIG. 4, each retainer **40** includes a relatively wide flat, annular flange or base **41** which will bear against the underside of the sheet **22** in engagement with that portion of the sheet surrounding the related opening **38** therein. Resultantly, each retainer presents generous contact with the sheet **22** so that the bordering portion of the sheet **22** (the portion of the sheet bordering the openings **38**) resists the tendency for the retainers to be pulled through the sheet in the course of severe handling of the business instrument as a whole.

Each retainer **40** includes a stub portion **42** projecting from one side of the flange **41**. This stub portion **42** is of a thickness D approximately equal to the combined thickness of the sheet **22** and the card **30**, and the diameter **D1** thereof is approximately equal to the diameter of the related opening in the card and the form sheet so as to easily fit therein.

The side of the retainer **40** opposite the flange **41** is defined by an annular head **44** of trunco-conical form. Thus, the head **44** has a beveled or tapered side **45** enabling the same to be easily forced through the registered openings **35** and **38** even though the head **44** at its maximum diameter **D2** is slightly larger than the openings **35** and **38**. Thus, the narrow end of the head **44**, as shown in FIG. 6 is of a diameter **D3** just slightly smaller than the diameter of the opening **38** in the form sheet and the opening **35** in the card so as to be easily entered therein.

The tapered or beveled face **45** of the narrow end of the retainer widens to affords a retainer lip **48**, and the maximum diameter of this lip is just slightly larger than the diameter of the related opening **35** in the card **30**. This relationship of parts enables each retainer **40** to, in effect, be snapped into place. Thus, upon exerting sufficient pressure on the retainer, the end **44** of the retainer or fastener can be pressed easily through the opening **38**, and with difficulty through the opening **35**, so that the head **44** becomes exposed at the face of the card **30** where the embossed data appear. By exerting additional pressure, the annular edge portion of the plate **30** bordering each opening **35** therein is flexed or expanded sufficiently to enable the head **44** to be squeezed through, and ultimately the entirety of the tapered head **44** emerges at the front of the plate **30**, whereupon the circular edge portion of the plate **30** that was expanded to admit the tapered head **44** contracts to its previous state, being now confined by the lip **48**. Resultantly, the lip **48** concentrically surrounds a bit only of the immediate border of the card **30** that defines the opening **35**, and thereby the retainer **40** is effective to lock the plate to the form sheet, but without the retainer having undergone any permanent distortion.

An appreciable effort is required to force the head portion of the retainer through the opening in the plastic plate. Advantageously a retainer applying device of the character illustrated at **50** in FIG. 5 may be advantageously employed, both in assembling and disassembling the retainers **40**. Any equivalent device, tool, or set of tools can be used.

The device **50** comprises a flat base or bed **51** of a sheet of material bent downward along the opposite sides thereof to afford depending flanges **52** and **53** affording a stable support when the device **50** is resting on a table.

Advantageously, the lower edges of the legs **52** and **53** are covered by a soft material that will prevent scoring of the table top.

In assembling the retainers **40**, a slide **55**, retained at the underside of the base **51**, is positioned so that a pair of assembly buttons **56** are registered with corresponding openings **57** in the base **51** of the device **50**.

Referring to FIG. 6, the assembly buttons **56** protrude above the plane of the support bed **51**. The card **30** is arranged with respect to the buttons **56** so that the latter are entered in the openings **35** of the plate **30**. The sheet **22** of the form **20** is related to the assembly buttons **56** in a similar fashion. Thereafter, the retainers or fasteners **40** are set on narrow ends **56A** of the assembly buttons **56**, these ends being so dimensioned as to neatly fit in the openings **40A** that extend through the retainers **40** entirely from one side to the other.

It will be appreciated, as shown in FIG. 6, that the retainers **40** are so related to the assembly buttons **56** that the wide base or flange **41** of each retainer is uppermost. Resultantly, the narrow or head end **44** of each retainer rests on a tapered shoulder portion **56B** of the related assembly button in position to be forced into the registered openings of the sheet **22** and the card **30**, in a manner that will now be described.

Thus, the handle **60** is manipulated to present to each retainer **40** the head of a stud **61**, FIG. 6, biased by a spring S, to press the retainers **40** downwardly over the tapered ends of the assembly button **56** resulting in the retainer **40** being forced with a snap action through the registered openings of the sheet **22** and the card **30** as noted above.

When it is desired to displace the retainers, the arrangement illustrated in FIG. 7 prevails. In this event, the form **20** is reversed, and disassembly buttons **70** that are a part of the apparatus **60** are positioned by a slide **55A** so that narrow ends **71** thereof project into the openings of the retainers **40**, the latter being supported on a shoulder **71S** that is a part of each button **70**, FIG. 6. The head **60** is then manipulated so that a narrow projection **62S** at the lower wide end of each of a pair of studs **62** will enter the ends of the retainers **40** at the narrow sides thereof. Continued forcing eventually ejects the retainers **40**, enabling the corresponding card **30** to be replaced.

I claim:

1. A business instrument comprising a form that is inclusive of at least one paper sheet and a plate separably attached to one side of such a sheet, said plate of embossable material having data formed thereon and having a retainer-receiving opening therein registering with an opening of similar size in said sheet, said plate having a flexible edge portion about said retainer receiving opening for expansion and contraction to change the size of said retainer receiving opening, said opening being expanded when said edge portion is flexed and said opening being contracted when said edge portion is unflexed, and retainer means entered in said registered openings and separably securing the plate to the sheet, said retainer means having at one side a wide flat flange engaging one side of said sheet in a generous portion that borders the opening therein so that the bordering portion of the sheet resists a tendency to pull the retainer through the opening in the sheet, and said retainer means having at the other side thereof a head presenting a lip just slightly larger than the diameter of the opening in the plate such that the head in its normal state is forced through the openings in the sheet and plate to flex said edge portion and to expand said retainer receiving opening in said plate to permit said head to move therethrough whereupon said retainer receiving opening contracts, said flange and lip being interconnected by a stub portion having a length equal approximately to the thickness of said plate and sheet, and with said lip overhanging the plate only by the amount that the lip exceeds the diam-

eter of the opening when said retainer receiving opening is contracted in the plate.

2. An instrument according to claim 1 wherein both the plate and the retainer are of plastic.

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