July 5, 1966 R. C. ROTHMAN 3,259,063

MARKING DEVICE

Filed Dec. 14, 1964 2 Sheets-Sheet 1

FIG. 1.

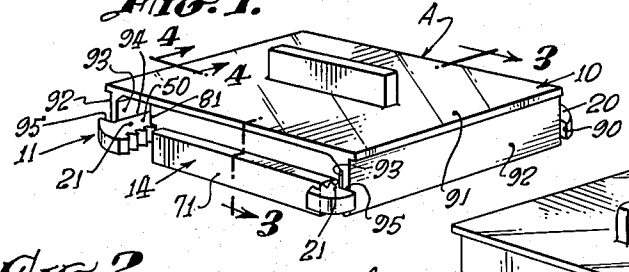


FIG. 5.

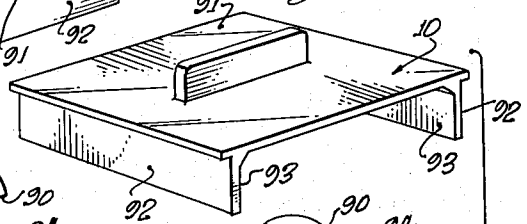
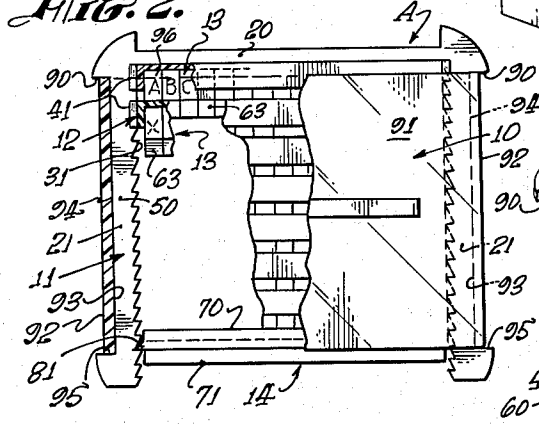


FIG. 2.



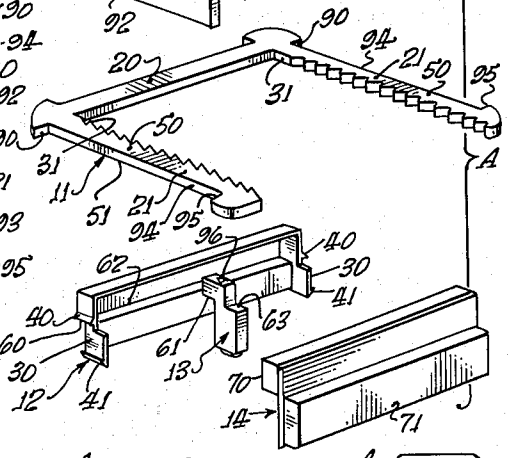
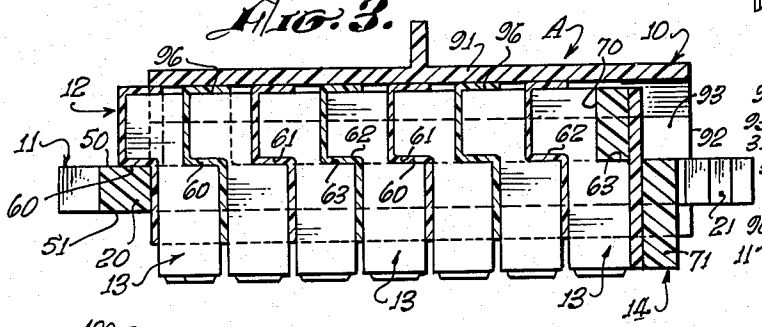


FIG. 3.



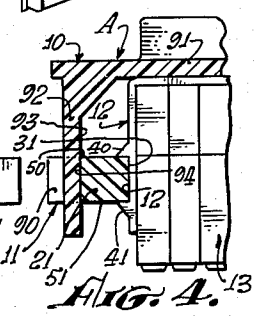


FIG. 4.

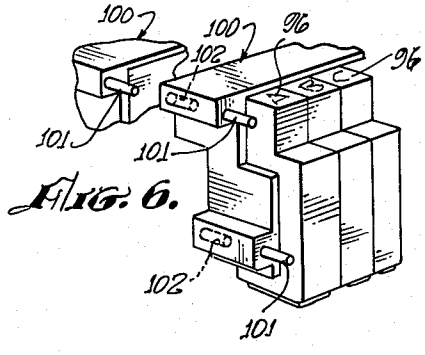


FIG. 6.

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MARKING DEVICE

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FIG. 7.

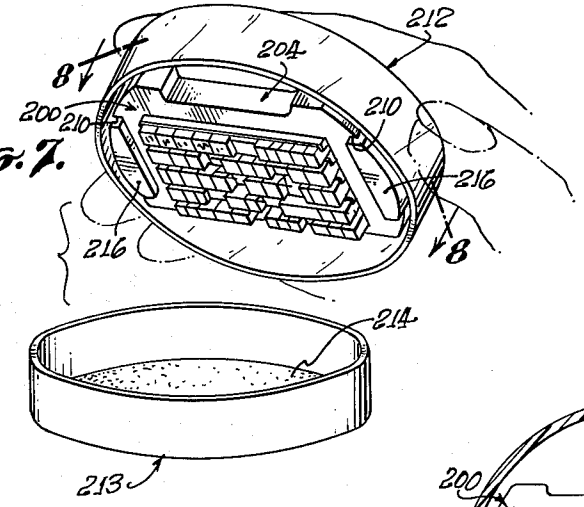


FIG. 8.

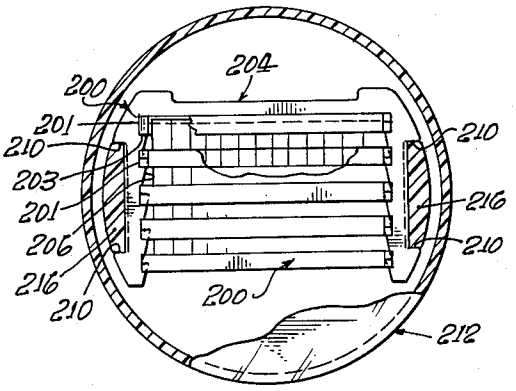


FIG. 9.

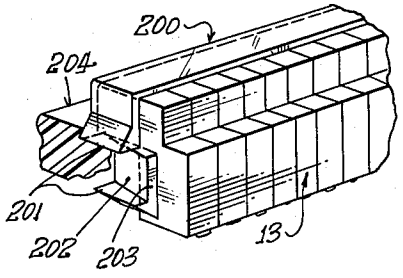


FIG. 10.

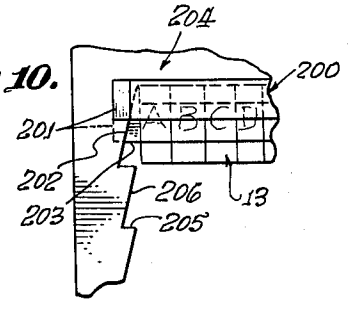
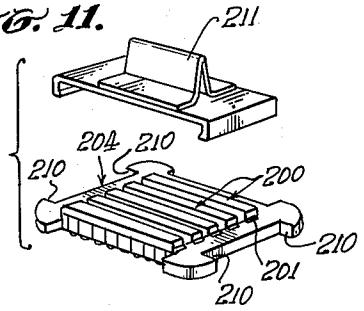


FIG. 11.



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3,259,063

Patented July 5, 1966

3,259,063

MARKING DEVICE

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7 Claims. (Cl. 101—381)

This invention relates to improvements in marking devices, and more particularly to stamping or printing devices wherein the printing legends or characters are readily replaceable. This invention is especially useful in hand stamps and accordingly will be discussed with reference to a hand stamp; however, it is to be expressly understood that the invention is equally useful and applicable to any printing or marking device wherein interchangeable characters are desired.

Hand stamps of this general type are well known in the art throughout various industries. It is frequently necessary to use such stamps bearing different legends or characters, the plurality of which are conventionally supported in a rack or other suitable means. For example, in the prior art, stamping or marking devices are often found wherein the general legend remains the same; however, the date or the name of the shipper or the like is interchangeable with another die bearing another name or date. The needs of industry, however, are often greater than can be satisfied by the conventional hand stamping device and therefore it is necessary to provide a hand stamping device wherein the legend is interchangeable by lines, words, or character by character so that any variety of legends including dates or numbers can be provided. Since the legends or characters may be quite small, often one stamp upon first glance will look like another, and it is difficult to determine in a production stamping line whether the correct stamp has been selected or not. Therefore it would be also desirable in a stamp with character by character interchangeability to provide some means for reading the legend easily and quickly through the top of the stamping device.

Accordingly, it is an object of the present invention to provide a hand stamping device wherein the legend or characters are replaceable character by character.

Another object of the present invention is to provide a hand stamping device wherein the legend is visible through the top of the hand stamping device such that the legend may be quickly and easily read.

It is another object of the present invention to provide a hand stamping device wherein resettable characters can be easily installed by hand.

Yet another object of the present invention is to provide a hand stamping device wherein resettable characters can be installed in serial sequence, rigidly such that a clean impression can be produced of a relatively complex legend.

Another object of the present invention is to provide a stamping device wherein characters can be set and interchanged without possibility of being incorrectly oriented.

It is a further object of the present invention to provide a hand stamping device with resettable legends that is inexpensive and easily manufactured.

The present invention resides primarily in a stamping device which contains a holder that carries cooperatively character-carrying cartridges and replaceable and resettable characters. The assembly is contained within a transparent plastic cap member which permits viewing the legend through the top of the stamping device.

The novel features which are believed to be characteristic of the invention, both as to its organization and method of operation, together with further objects and advantages thereof, will be better understood from the following description considered in connection with the accompanying drawing in which a presently preferred

embodiment of the invention is illustrated by way of example. It is to be expressly understood, however, that the drawing is for the purpose of illustration and description only, and is not intended as a definition of the limits of the invention.

FIGURE 1 is a perspective view of a hand stamping device constructed in accordance with the presently preferred embodiment of this invention.

FIGURE 2 is a plan view, partially broken away, of the device shown in FIGURE 1.

FIGURE 3 is a cross-sectional view of the invention taken along line 3—3 of FIGURE 1.

FIGURE 4 is a fragmented cross-sectional view of the invention taken along line 4—4 of FIGURE 1.

FIGURE 5 is an exploded view of the invention as shown in FIGURE 1, showing in detail the various components of the assembled invention.

FIGURE 6 is a fragmented perspective view showing another possible embodiment utilizing pinned cartridges in the invention.

FIGURE 7 is a perspective view of another embodiment of this invention wherein the printing assembly is contained within one portion of a two-portion housing and an ink pad is contained in the other portion of the housing.

FIGURE 8 is a sectional view taken along line 8—8 of FIGURE 7.

FIGURE 9 is a fragmented perspective view showing a cartridge and its characters from the embodiment of the invention shown in FIGURE 7.

FIGURE 10 is an enlarged fragmented segment of the invention as shown in FIGURE 8.

FIGURE 11 is another embodiment of the invention wherein a simple, inexpensive plastic or celluloid handle is utilized.

Referring to FIGURE 1, a presently preferred embodiment of the invention is shown and designated by the general character A.

Referring to FIGURES 1 and 5, the invention comprises essentially a cap member **10**, a holder **11**, cartridges **12**, resettable characters **13**, and a brace **14**, with means for interconnecting the various components into the completed hand stamp assembly A.

The holder **11** is generally U-shaped in configuration, having a bottom member **20** and depending side members **21**. The holder **11** is made of a somewhat resilient but relatively hard material such as, for example, plastic or hard rubber or the like. The cartridges **12** are made of transparent plastic so that the printing characters can be viewed from the top of the stamp as described hereinafter. The cartridges **12** are installed transversely between the side members **21** of the holder **11**. The width of the cartridge **12** between the external end surfaces **30** is substantially equal to the difference between the inside edges **31** of the side members **21** of the holder **11**. The cartridge is thus held in the assembly, laterally in position by the end members **21**. The cartridge is held vertically in position by means of upper detents **40** and lower detents **41** of the cartridge **12**. The detents **40** and **41** engage holder **11** at the upper surface **50** and lower surface **51** of side members **21** of the holder **11**. Thus the cartridge **12** is by means of detents **40** and **41** firmly affixed laterally and vertically within the holder **11**.

Printing characters **13** are installed in cartridges **12**. The printing characters have markings which include numbers, symbols, blank spaces and the like, such that any legend can be provided. Referring to FIGURES 3 and 5, it can be easily seen that the cartridge **12** defines a shoulder **60** along its entire width. The printing character **13** forms a downward facing shoulder **61** which cooperatively bears upon the shoulder **60** of the cartridge **12**, as shown particularly in FIGURE 5 in the dotted lines.

Printing characters are placed in stacked relationship along the entire width of cartridge **12** such that the space between the inside end surfaces **70** is firmly packed, thus creating a rugged and rigid assembly of the cartridge and its cooperatively engaged printing characters. In assembly, a cartridge **12** is installed in the holder **11** as described hereinabove. A cartridge **11** is then fitted with printing characters until the entire cartridge is filled.

Referring to FIGURES 3 and 5, it can be seen that the printing indicia forms an upward facing shoulder **63**. Further, it can be easily seen, when the cartridge **12** is filled with printing indicia **13**, an upward facing shoulder is defined along the entire width of the cartridge by means of the printing indicia shoulders **62**. As can be seen, then, particularly in FIGURE 3, filled cartridges **12** may be installed in serial relationships, on upon the other, until the holder is filled, thus providing a complete legend.

It is to be noted that any legend can in this way be supplied because of the complete interchangeability of characters and cartridges. If desired, numbers or mathematical symbols and the like can be used. Also the printing characters may be blank to provide spaces between letters and between lines.

After the holder is filled with assembled cartridges **12** and printing characters, the brace **14** completes the assembly except for the cap. Brace **14** has an upper rectangular rib **70** which cooperatively bears upon the shoulder **63** defined by the last row of printing indicia. A lower rib **71** extends the completed assembly of filled cartridges such that the assembly of cartridges and brace firmly engages the side members **11**. As can be seen in FIGURES 2 and 5, the side members **21** of the holder **11** are notched along the inside surfaces thereof. The brace **14** has a projecting edge **81** which engages cooperatively with the notches of the holder **11**. Thus in assembly as described hereinabove, filled cartridges are stacked one atop the other until the holder is practically filled. The brace is then installed and pushed tightly with the fingers until the brace engages in the notches of the holder **11** and a firm assembly containing a legend is formed.

The holder **11** defines external detents **90** to engage the cap member **10**. The cap member **10** in the preferred embodiment is made of clear plastic and comprises a top member **91** and side walls **92**. The side walls **92** are spaced apart such that the distance between the inside surfaces **93** of the side walls **92** is substantially the same distance apart as the distance between the outside edges **94** of the side member **21** of the holder **11**. The length of the side walls **92** is substantially equal to the distance between the detents **90** and **95** along the side member **21** of the holder **11**. Thus, to complete the stamping assembly the cap **10** is snapped into place with its sidewalls **92** engaged between detents **90** and **95** of the holder **11**.

On top surface **96** of the printing indicia **13** the printing indicia is inscribed or printed thereupon and so since the cap member **10** and the cartridges **12** are made of transparent plastic the entire legend of the printing device may be read through the top surface of the device.

Referring to FIGURE 6, an alternative embodiment of the invention is depicted. In this embodiment, cartridges **100** have projecting on the front side thereof upper and lower pins **101**. The cartridges **100** define recesses **102** on the rearward side that engage cooperatively by pressure fit with the pins **101** of another cartridge.

Referring now to FIGURES 7 through 11, another embodiment of the invention is shown. This embodiment is similar to the embodiment shown in FIGURES 1 through 5, with some structural details changed to provide more versatility and ease of use.

In this embodiment, the cartridge **200** with the depending detents **201** is constructed of relatively thick transparent plastic. As can be easily seen in FIGURE 9, the surface **202** between the detents **201** is tapered inwardly from the leading edge **203** of the cartridge **200**. Holder **204** is provided with notches **205** along the entire length of the inner sides **206** thereof. The notches **205** are tapered cooperatively with the taper of surface **202** of the holder **200**.

Because of this rigid and tapered construction the cartridges **200** can be snapped into place in the holder **204** and will be retained in a rigid assembly without necessity of any other supporting structure. Thus the assembly can be inserted now in any type of holder for printing use. For expedience it is merely necessary to group the holder **204** in the hand to use the device.

The holder **204** is provided with external detents **210** which are similar to those detents **90** described hereinabove with respect to the embodiment shown in FIGURES 1 through 6. Thus a cap **10** as described in FIGURE 1 can be utilized in this embodiment also. As shown in FIGURE 12, a simple and inexpensive holder **211** can be fabricated of plastic and snapped together with the holder **211**.

Referring to FIGURE 7, an embodiment is shown wherein the cap member **212** is also one portion of the container that holds the printing assembly and a self-contained ink pad. In this embodiment, the cap member **212** is made of transparent plastic and is for compactness made circular in shape. A bottom **213** of the container contains an ink pad **214** of the kind well known in the art. Bottom **213** is made of plastic also, and has an external diameter substantially equal to but less than the internal diameter of the cap **212**, such that the cap **212** and bottom **213** can be fitted together and held closed by friction fit. The cap **212** is provided with projections **216** spaced from the cap's inner peripheral surface by substantially the same but more than the thickness of the peripheral wall of the bottom **213**. The projections **216** in assembly engage with the detents **210** and thus the holder **204** is held in the cap **212**.

In the completed assembly the cap **212** and the bottom **213** are fitted together and thus a convenient assembly if formed with a self-contained ink pad **214** with no danger of ink leaking, and so the stamp can be carried in a purse or pocket without fear of soiling.

In summary, this invention thus lies in the use of a transparent cap member containing an assembly of a holder containing transverse cartridges sold with individually replaceable printing characters, the cartridges being in stacked relationship to fill the holder, thus constituting an efficient, compact hand stamping device wherein the printing characters can be individually and flexibly interchanged and replaced, thus allowing any legend to be utilized. Also, because of the rigid interrelationship of the cartridges and printing characters within the holder and cap, a clean impression can be achieved utilizing rubber or plastic type, which has not been achieved heretofore in stamping devices and particularly in hand stamping devices.

What is claimed is:

1. A stamping device comprising:
   - a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
   - a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders;
   - a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder;
   - a brace, said brace being adapted to retain said cartridges in said holder, said brace defining an upper rib, said upper rib facing inwardly of said holder and cooperatively engaged with said shoulder of said printing characters; and
   - a transparent cap member, said cap member being adapted to receive said holder.

2. A stamping device comprising:
a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder, said holder having notched surfaces inwardly facing;
a brace, said brace being adapted to retain said cartridges in said holder, said brace defining an upper rib, said upper rib facing inwardly of said holder and cooperatively engaged with said shoulder of said printing indicia, said brace having a projecting edge, said edge being cooperatively engaged with said notches of said holder; and
a transparent cap member, said cap member being adapted to receive said holder.

3. A stamping device comprising:
a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders, said characters defining a top surface upon which the information of said characters is inscribed;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and said members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder, said holder having notches inwardly facing;
a brace, said brace being adapted to retain said cartridges in said holder, said brace defining an upper rib, said upper rib facing inwardly of said holder and cooperatively engaged with said shoulder of said printing indicia, said brace having a projecting edge, said edge being cooperatively engaged with said notches of said holder; and
a transparent cap member, said cap member being adapted to receive said holder.

4. A stamping device comprising:
a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders, said characters defining a top surface upon which the information of said characters is inscribed;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder, said holder having notches inwardly facing; said holder defining outwardly extending detents proximate the corners thereof;
a brace, said brace being adapted to retain said cartridges in said holder, said brace defining an upper rib, said upper rib facing inwardly of said holder and cooperatively engaged with said shoulder of said printing characters, said brace having a projecting edge, said edge being cooperatively engaged with said notches of said holder; and
a transparent cap member, said cap member being adapted to receive said holder, said cap member engaging said outwardly extending detents of said holder.

5. A hand stamping device comprising:
a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders, said characters defining a top surface upon which the information of said characters is inscribed;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder, said holder having notches inwardly facing, said holder defining outwardly extending detents proximate the corners thereof; and
a transparent cap member, said cap member being adapted to receive said holder, said cap member engaging said outwardly extending detents of said holder.

6. A hand stamping device comprising:
a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders, said characters defining a top surface upon which the information of said characters is inscribed;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder, said holder having notches inwardly facing, said holder defining outwardly extending detents proximate the corners thereof;
a transparent cap member, said cap member being adapted to receive said holder, said cap member engaging said outwardly extending detents of said holder, and
a bottom member, said bottom member adapted to engage said cap member, whereby a hand stamp and its container form a compact package without danger of leaking ink.

7. A hand stamping device comprising:
a plurality of cartridges, said cartridges defining upwardly facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders, said characters defining a top surface upon which the information of said characters is inscribed;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder, said holder having notches inwardly facing, said holder defining outwardly extending detents proximate the corners thereof;
a transparent cap member, said cap member being adapted to receive said holder, said cap member engaging said outwardly extending detents of said holder;
a bottom member, said bottom member adapted to engage said cap member; and

an ink pad, said ink pad affixed to the upper surface of said bottom member.

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