

[54] IDENTIFICATION STRUCTURE

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[58] Field of Search 250/59, 67; 283/7; 40/2.2

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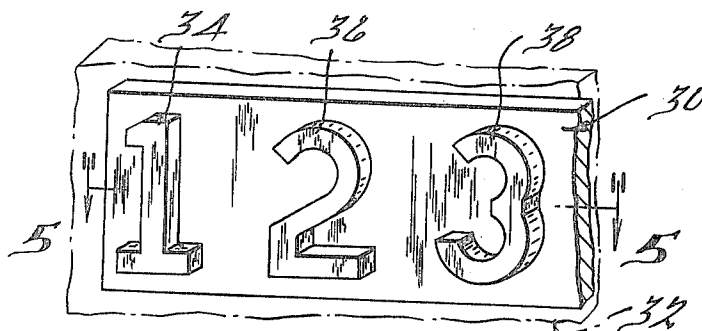
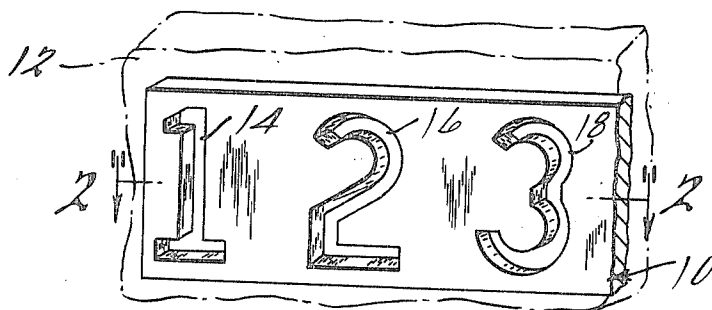
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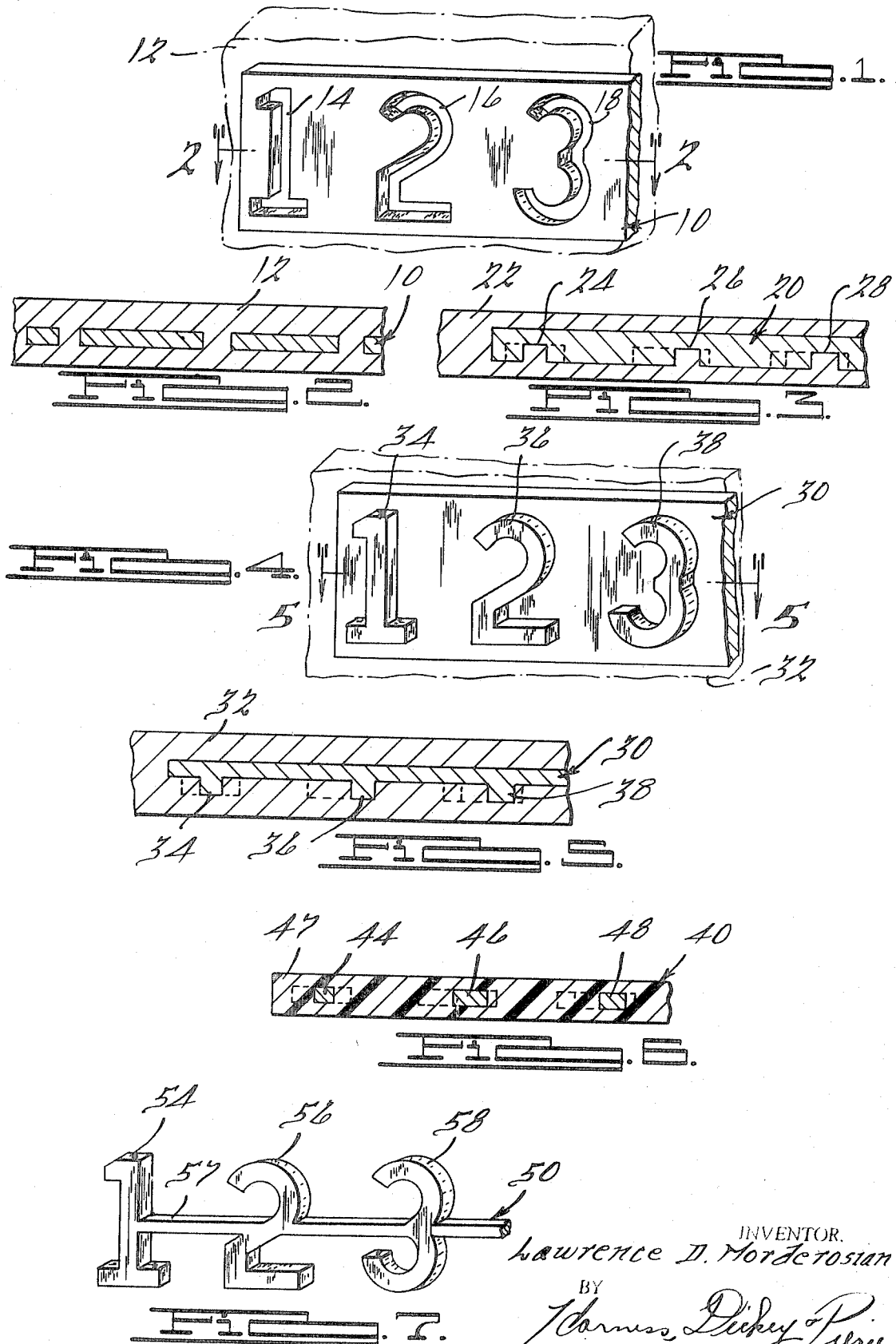
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[57] ABSTRACT

An identifying system for objects made from metal utilizing indicia selected from material having a substantially different radiation absorption coefficient and melting temperatures higher than the melting point of the object to permit identification by radiographic techniques.

4 Claims, 7 Drawing Figures





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IDENTIFICATION STRUCTURE

This is a continuation of my application Ser. No. 517,695 filed Dec. 30, 1965 and which is now abandoned.

The present invention relates to identification constructions for identifying selected objects.

In the identification of automobile engines and other parts, identification numbers are cast in the engine block or otherwise mounted on the surface. These identification numbers are readily locatable and can be easily changed or removed thereby destroying the means for identifying that particular object. This is especially significant when considering the ease with which such identification numbers, etc., can be changed upon stolen automobiles, etc. It is desirable that an identification construction be provided which is of a nature whereby it cannot be destroyed or altered. The need for such an identification construction is also present with firearms. Again, it would be highly desirable that an identification construction be provided which cannot be altered or destroyed. In the present invention an identification construction is shown which cannot be altered and in fact does not permit detection by normal, visual means where it could be located and altered or destroyed. Also, it is of such a nature that to destroy the identification would require the destruction of an integral part of the object being so identified. Therefore, it is an object of the present invention to provide a novel identification construction for selected objects.

It is another object of the present invention to provide a novel identification construction for identifying selected objects which construction cannot readily be altered or destroyed.

It is still another object of the present invention to provide an identification construction which cannot be located by simple visual observation and is completely embedded in the object being identified whereby it cannot be readily altered or destroyed.

Other objects, features, and advantages of the present invention will become apparent from the subsequent description and the appended claims, taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of an identification construction embodying the features of the present invention with the object to be identified shown in phantom;

FIG. 2 is a sectional view of the identification construction of FIG. 1 taken substantially along the line 2—2 in FIG. 1 with the object to be identified shown in solid lines;

FIG. 3 is a sectional view similar to that of FIG. 2 of a modification of the identification construction of FIG. 1;

FIG. 4 is a perspective view of a still different identification construction;

FIG. 5 is a sectional view of the identification construction of FIG. 4, taken substantially along the line 5—5 in FIG. 4;

FIG. 6 is a sectional view similar to FIG. 5 depicting a still different embodiment; and

FIG. 7 is a perspective view depicting another form of the invention.

In the past, identification tags have been constructed to be mounted or supported on the member or object to be identified and are visually observed. Likewise identifying symbols or numbers which are cast in the surface can be visually observed. In the present invention the identification construction is such that the identifying tag is completely embedded such that it cannot be observed visually. With this construction the serial number or other identifying symbols can be detected only by radiographic technique utilizing X-ray, gamma rays or other type radiation devices which are capable of penetrating through the material of the object to be identified. In the case of a cast iron engine block, it is contemplated that the identifying tag be made of tungsten or some other material having a higher melting point than that of the cast iron. For objects made of materials other than cast iron, materials other than tungsten for the identification tag could be utilized provided that the material of the tag will not melt at the melting temperature of the material of the object being identified. In addition since the identification symbol is to be ascertained by

radiographic techniques, it is important that the material of the identification tag have a substantially different absorption coefficient in order that detection may be accomplished by X-ray or other radiation techniques; for purposes of simplicity this characteristic will be referred to as radiation absorption coefficient.

Looking now to FIG. 1, an identifying tag is generally indicated by the numeral 10 and is shown to be completely embedded in an object generally indicated by the numeral 12. The tag 10 is made of a solid block of material with numbers designated by the numerals 14, 16 and 18, being cut therethrough. In the embodiment of FIG. 1, the numerals 14, 16 and 18 are cut completely through the thickness of the material of the tag 10 such that upon pouring of the material of the object 12, that material will pass through the openings caused by the cutout portions of numerals 14, 16 and 18 (see FIG. 2). Thus upon identification radiographic equipment will detect the difference in the radiation absorption coefficient of the material which is then located in the voids of the numerals 14, 16 and 18 as compared to the material of the remaining surrounding portion of the tag 10 whereby a radiograph or film can be provided which will clearly provide the image of numerals 14, 16 and 18 and hence give a means of identifying the serial number of the tag 10.

In FIG. 3 a different embodiment is shown in which an identification tag 20 is provided for use with an object 22 to be identified. In this case the numbers indicated by numerals 24, 26 and 28 are indented within the body of the tag 20 thereby providing for a substantially lesser thickness of the material outline the numerals 24, 26 and 28. Upon casting the body 22, the material therein will generally flow to fill the voids or recesses of the numerals 24, 26 and 28 and because of the disparity in thickness between the numerals and the remaining portions of the tag 20, the numerals 24, 26 and 28 can be discerned by radiographic techniques.

FIGS. 4 and 5 show an embodiment which is generally opposite to that shown in FIG. 3, rather than having the numerals depressed, a tag 32 is shown having numbers indicated by numerals 34, 36 and 38 which are embossed or substantially raised from the surrounding surface of the tag 32 and hence upon being cast and completely surrounded by the material of a part 42 to be identified, the raised or embossed numerals 34, 36 and 38 will provide areas of substantially greater thickness and will again provide means whereby an image of the numerals 34, 36 and 38 can be obtained by radiographic techniques. In some applications, it would be desirable if only the numbers and substantially no other structure were provided in the body of the object to be identified. Such a construction is shown in FIG. 6 and includes an identification tag 40 composed of numbers indicated by numerals 44, 46 and 48 which are held by a body member 47. The body member 47 is made of a material which is vaporizable at the melting temperature of material in which the tag 40 is to be embedded. Thus, as the material of the object to be embedded is poured about the tag 40, the body 47 will vaporize and leave behind the numerals 44, 46 and 48 such that only the numerals 44, 46 and 48 will remain in the object to be identified. Note that the numerals 44, 46 and 48 are held together only by the body member 47 after body member 47 has vaporized the numerals 44, 46 and 48 are separated from each other.

FIG. 7 shows a still different form of identification tag being designated by the numeral 50 and includes a plurality of formed numbers indicated by the numeral 54, 56 and 58, which are held together by a holding bar 57, which is made of the same material as the numerals 54, 56 and 58. Again, by molding the material of an object to be identified about the tag 50, positive identification can be obtained because of the differences in radiation absorption coefficient, etc., of materials by radiographic techniques. Note that as a further modification the tag 50 could be initially held within a vaporizable body such as 47.

It can be readily seen that by employment of the various identification structures as shown and by completely em-

bedding the identification tags within the material of the object to be identified, the identification numbers or designations are permanently secured to the object to be identified and cannot be altered or destroyed. Also, the location of the identification tags is not readily apparent and hence lends itself to the concealment from individuals who would change such identifications. With this type of identification construction, more than one could be located in the object to be so identified, and hence provide even further protection from discovery and hence destruction. By use of the above-described identification construction, identification of engine blocks, firearms, etc., would be substantially permanently retained. Of course, the invention is equally applicable to other objects to be thus permanently identified.

While it will be apparent that the preferred embodiments of the invention disclosed are well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without departing from the proper scope or fair meaning of the subjoined claims.

I claim:

1. An identification structure for an object to be identified comprising identification means for permitting identification comprising identifying symbols, said identification means

made of a first material having a higher melting point than the material of the object to be identified with said first material having a substantially different radiation absorption coefficient, said identification means being surrounded by the material of the object to be identified with said symbols being defined by said first material and the material of the object whereby said symbols can be detected by radiographic techniques, and with said identification means comprising a tag member with said symbols constructed of said first material and a body member retaining said symbols, said body member being constructed of a second material which vaporizes at the melting point of the material of the object whereby said body member is not present as a part of said identification means after the object is formed.

2. The structure of claim 1 with said first material being a metal and with said material of said object being a metal cast about said identification means.

3. The structure of claim 2 with said object to be identified being a substantially permanent part of a vehicle whereby a substantially permanent identification of the vehicle is provided.

4. The structure of claim 3 with said object being the engine block.

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