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(54) Process for obtaining double picture prints on hard surfaces

Verfahren zum Erhalten von zwei Druckbildern auf harten Oberflächen

Procédé d'obtention de deux impressions sur des surfaces rigides

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Description

OBJECT OF THE INVENTION

The present invention relates to a process for obtaining double picture prints on any kind of hard surface, which process is particularly useful as a security system and a constituent element in designing coins, medals and the like, so that the said process allows two different pictures to be viewed on the same relief, being alternately visible depending upon the impingement of the light, i.e. one of the pictures will be visible in a given position and on tilting the piece slightly the said picture will be concealed and the other will come to light.

In the preferred field of practical application of the invention the double picture print system prevents the coins from being copied using matrix systems traditionally used in counterfeiting.

BACKGROUND OF THE INVENTION

There are currently no security elements effectively preventing counterfeiting in the field of coin printing.

The visual checking of the genuineness of a coin depends upon the quality of the prints, that can in certain copies be very high.

A method that is often used in the fraudulent manufacture of coin moulds and which yields good results, is electroerosion, though this method is limited to prints with certain minimum dimensions, below which the method cannot be applied, bearing in mind that the size of the spark produced in turn limits such dimensions.

DESCRIPTION OF THE INVENTION

The process for obtaining double picture prints upon hard surfaces subject of the invention comprises initially making a relief formed by a mesh of straight and parallel furrows the side walls of which are at a particular angle to the general plane of the hard surface in question, viz. the said mesh has a triangular, preferably isosceles, section.

Each of the two pictures to be obtained is formed by all the walls pointing in the save direction, i.e. one of the walls in each and every furrow, that pointing in the same direction, is the base for representing a drawing, whereas the other wall shall in turn provide the base for representing the other drawing.

For its part, each of these two drawings is in turn defined by a variation in the degree of inclination of certain areas or each of the respective walls, which inclination is considerably greater to the general plane of the hard surface being treated.

In accordance with the above, the resolution of the picture shall depend directly upon the number of furrows used in the print, and their relief shall be dependent upon the type of minting, size of the print, distance between the furrows and inclination of its walls. As a security measure, the height and spacing of the furrows will be as little as technically feasible, which will moreover expedite minting.

DESCRIPTION OF THE DRAWINGS

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, a single sheet of drawings is attached to the specification which, while purely illustrative and not fully comprehensive, has a single figure which shows a hard surface having a double picture print obtained using the process subject of the present invention.

PREFERRED EMBODIMENT OF THE INVENTION

In the light of this figure it is clear that the process for obtaining double picture prints subject hereof comprises first of all providing the hard surface at issue, for instance the operating surface of a coin minting core, with a plurality of straight and parallel furrows (1) of dihedral shape and preferably having a triangular isosceles section, taking up fully the surface at issue, so that each of the furrows define two walls (2) and (3), with a different inclination, one of the walls (2) of such furrows having an identical inclination to the rest, as with the other wall, numbered (3).

After this previous treatment of the hard surface, viz. after providing the same fully with the furrows (1) described above, the process is completed establishing the said double picture, it being provided to this end that one of the pictures be in particular provided on the faces or walls (2) of the ridges (1) at a certain angle, and the other drawing on the faces or walls (3) that are at a different angle.

More specifically, the drawing on the faces (2) is obtained by establishing bas-reliefs (4) on such surfaces, where the inclination of such respective walls (2) and (3) is considerably greater with regard to the general plane of the hard surface at issue, as can be seen perfectly in the figure.

As aforesaid, the resolution of the picture shall depend directly upon the number of furrows (1) to be used in the print. The said number of furrows will be preferably six per millimetre and to provide the coin surface with such furrows a burin or cutting tool will be used with its faces at an angle of 50° to the vertical. The furrows (1) shown in the only figure of the drawings explaining the invention will be formed thus, whereas the bas-reliefs 4-5 shall be provided using another burin or cutting tool having its leading edge chamfered with a cross-section of approximately 0.05 millimetres, i.e. 5 hundredths, the angle of the cutting faces of the said burin being at approximately 25° to the vertical.

The distance between the two peaks of two consecutive furrows will be approximately 0.15 millimetres.

In practice and merely as an example, the print to be made on the die stamp or minting core shall be executed using a computer assisted number control copier

milling machine, in which the data concerning the start and end of each print line are inserted. These data, distinguishing hundredths, are obtained by analysing the two drawings previously outlined with the assistance of a CAD program. Printing shall be made using two cutting tools, one having a greater angle for the general mesh and the other a smaller angle and a given point measurement, requiring a great accuracy, for the two motifs.

Claims

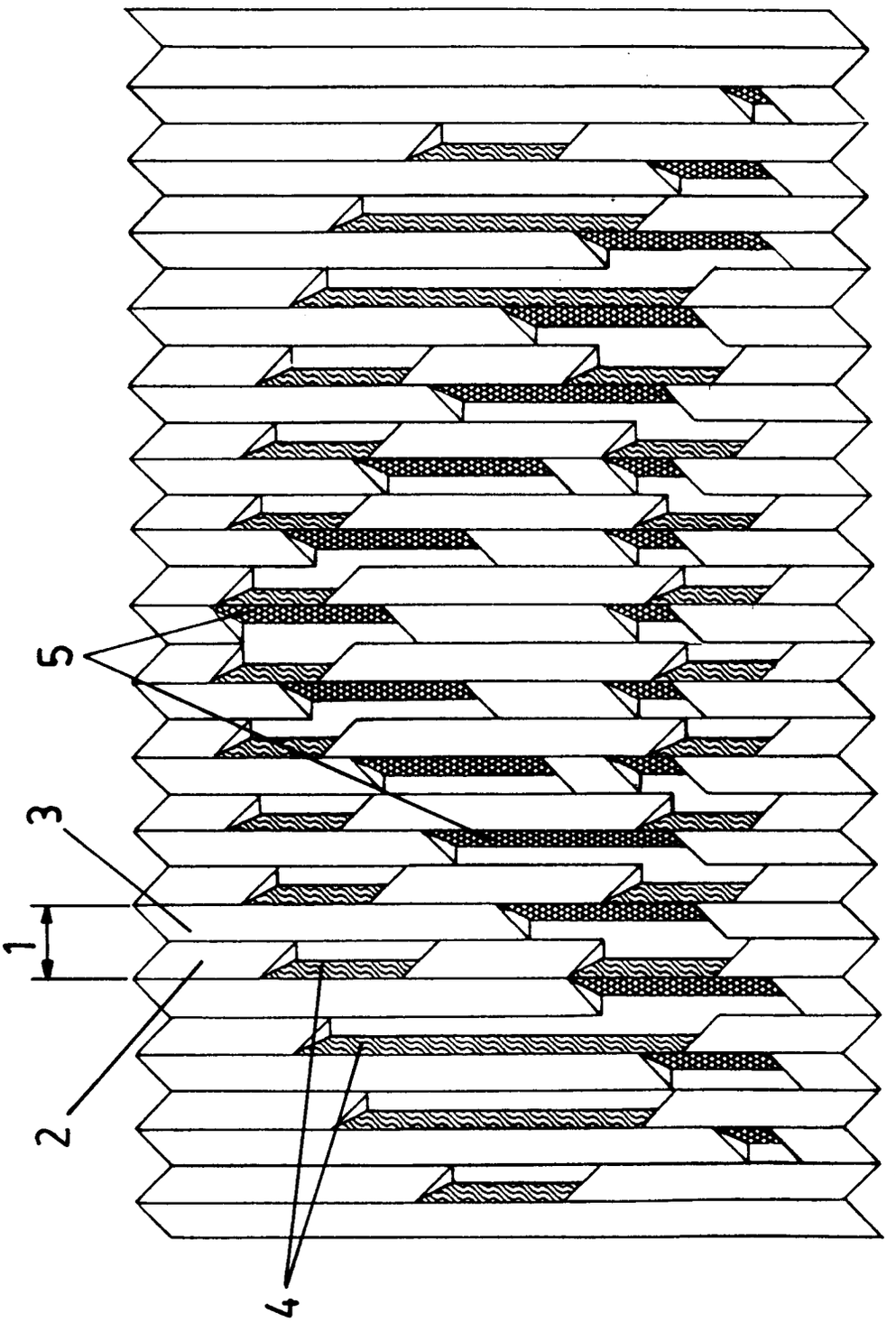
1. A process for obtaining double picture prints on hard surface, being especially useful as a security system and constituent element in designing coins, medals and the like, characterised in comprising the provision of a relief formed by a mesh of straight parallel furrows (1), the side walls (2) and (3) of which are at a given angle to the general surface plane, it being provided that each of the two pictures to be printed be defined on the group of faces (2) or (3) of the said furrows (1), pointing in a given direction, and be obtained by means of a plurality of bas-reliefs that may take up to a greater or lesser extent one or more areas of all or part of the said faces pointing in the same direction, which bas-reliefs are obtained by a variation in the angle of such faces, in particular with a considerably greater angle to the general plane of the hard surface at issue, the number of furrows used in the print being variable, directly in proportion to the resolution of the picture that is to be obtained.

Patentansprüche

1. Verfahren zum Erhalten von zwei Druckbildern auf harten Oberflächen, das speziell als Sicherheitssystem und Bestandteil beim Entwurf von Münzen, Medaillen und dgl. angewandt wird, hauptsächlich dadurch gekennzeichnet, dass es darin besteht, ein Relief aus geraden, parallelen Rillen (1) herzustellen, deren Seitenwände (2) und (3) gegenüber der Oberflächenebene eine bestimmte Neigung aufweisen, wobei vorgesehen ist, dass jedes der beiden zu gravierenden Bilder in der Seitengruppe (2) oder (3) der Rillen (1) mit einer bestimmten Ausrichtung definiert und durch eine Vielzahl von Flachreliefs erhalten wird, welche einen oder mehrere Bereiche aller bzw. mancher Seiten mit der gleichen Ausrichtung mehr oder weniger beeinträchtigen können und durch eine Veränderung der Neigung dieser Seiten hergestellt werden, die gegenüber der Ebene der entsprechenden harten Oberfläche viel stärker ist, während die veränderliche Anzahl der Rillen unmittelbar zur Auflösung des Bildes, das man erhalten möchte, proportional ist.

Revendications

1. Procédé d'obtention de deux impressions sur des surfaces rigides, qui en étant tout particulièrement applicable comme système de sécurité et élément de composition dans l'élaboration de pièces de monnaie, de médailles et semblables, se caractérise essentiellement par le fait qu'il consiste à effectuer un relief formé par une trame de cannelures (1) droites et parallèles, dont les parois latérales (2) et (3) ont une certaine inclinaison par rapport au plan général de la surface, alors que l'on aura prévu que chacune des deux impressions à imprimer soit définie dans le groupe de faces (2) ou (3) de ces cannelures (1) avec une certaine orientation et qu'elle soit obtenue moyennant plusieurs bas-reliefs susceptibles d'affecter dans une plus ou moins grande mesure une ou plusieurs zones de la totalité ou d'une partie de ces faces avec la même orientation, bas-reliefs obtenus moyennant une variation de l'inclinaison de ces faces, concrètement avec une inclinaison sensiblement plus grande par rapport au plan général de la surface rigide en question, le nombre de cannelures employées dans l'impression variable étant directement proportionnel à la résolution de l'impression que l'on désire obtenir.


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