A method of vibrating a die-spotting rack in contact with a Kellered die for marking the irregularities of the rough die for proper material removal to produce a finished die.

2 Claims, 3 Drawing Figures
METHOD OF FINISHING A DIE

This invention relates to a method of die manufacturing and more particularly to a method for marking irregularities on the die surface with a spotting rack for removal to produce a finished die.

A normal procedure in die manufacturing consists of applying a water soluble coating of Prussian blue dye to the spotting rack, placing the coated spotting rack over the rough die, hammering the spotting rack to cause movement while in contact with the rough die to cause the coating on the spotting rack to rub off and adhere to the high spots or irregularities on the rough die, thereby indicating the areas that need to be removed. Then the spotting rack is removed and the marked areas removed from the die. The process is repeated until all the marked areas are removed.

In this process, several problems have been recognized. The spotting rack must be ruggedly constructed to withstand the repeated impacts of the hammer. Care must also be exercised that the spotting rack does not become canted on the rough die and mismark the die.

It is an object of this invention to provide a method for marking the irregularities of the rough die by vibrating the spotting rack and avoiding harsh impacts thereto.

Another object of this invention is to provide a method for finishing a die wherein the danger of misalignment is removed.

These and other objects of this invention, as well as various features of novelty and advantages, will be apparent from the following specification and drawing, wherein:

FIG. 1 is a perspective view of a spotting rack positioned over a rough die with a vibrating means secured to the spotting rack;

FIG. 2 is a sectional view in the direction of the arrows substantially along the line 2—2 of FIG. 1 illustrating irregularities on the die in contact with the spotting rack;

FIG. 3 is an enlarged view of the circle 3 of FIG. 2 showing an irregularity in contact with the spotting rack.

The method of finishing the rough die 10 to a finished die ready for production use is shown in FIGS. 1–3.

In the illustrated example, a spotting rack 12 is prepared from a wood or plastic material. A pair of eyebolts 14 are secured in the spotting rack 12 to facilitate handling and a vibrator 16 is attached to the rack. The vibrator 16 may be any of a number of commercially available vibrators, such as electrically or air actuated vibrators.

The method of finishing the die 10 consists of painting the inner surface of the spotting rack 12 with a dye coating 18 such as Prussian blue used for spotting die. The coated spotting rack is then placed over the rough die 10, as best seen in FIG. 2. Irregularities 20 on the die surface space the spotting rack from complete engagement with the die. The vibrator 16 is then actuated and as the spotting rack is vibrated, the irregularities 20 are rubbed against the dye coating 18 and a buildup of the coating 18c is formed on the irregularities, thus marking the points of contact, as best seen in FIG. 3. The vibrator 16 is stopped and the spotting rack 12 is removed from the rough die 10. Then the irregularities are removed and the process repeated until a satisfactory surface is obtained on the finished die 10.

By using the vibrator 16 to move the spotting rack 12 relative to the die 10, a lighter and less expensive spotting rack may be used for a saving in material and time in its construction. The vibrator also induces a uniform movement of the spotting rack and prevents canting by avoiding irregular hammer blows formerly used to move the spotting rack relative to the die.

While but one embodiment of this invention has been shown and illustrated, it is obvious rearrangement of some of the steps may be made without departing from the spirit and scope of the following claims.

1 claim:

1. The method of finishing a rough die which consists of the following steps:
   1. Prepare a spotting rack of the die from a model having a mating surface for the finished die,
   2. Secure a vibrating means to the spotting rack,
   3. Coat the mating surface of the spotting rack with a die-spotting coating,
   4. Position the spotting rack with the mating surface in contact with the rough die,
   5. Actuate the vibrating means for moving the spotting rack relative to the rough die for marking irregularities on the die with the die-spotting coating,
   6. Deactivate the vibrating means and remove the spotting rack from contact with the die,
   7. Remove the marked irregularities from the die surface.

2. The method of finishing a rough die as claimed in claim 1 including the following step:
   8. Repeat Steps 3 through 7 until all irregularities have been removed from the rough die and a finished surface is obtained.

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