

W. H. MORSE.  
GRINDING BLOCK.  
APPLICATION FILED NOV. 21, 1914.

1,133,739.

Patented Mar. 30, 1915.

FIG. 1.

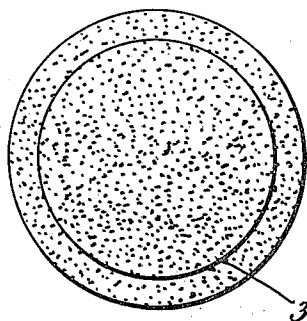
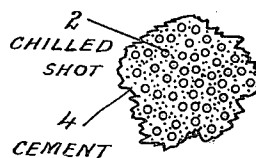


FIG. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM HENRY MORSE, OF KENOSHA, WISCONSIN.

## GRINDING-BLOCK.

1,133,739.

Specification of Letters Patent. Patented Mar. 30, 1915.

Application filed November 21, 1914. Serial No. 873,393.

*To all whom it may concern:*

Be it known that I, WILLIAM H. MORSE, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain new and useful Improvements in Grinding-Blocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to blocks of abrasive material; and it consists of a composite block as hereinafter fully described and claimed which is specially adapted for resurfacing grindstones, but which may be used for other purposes where advantageous.

In the drawings, Figure 1 is an end view of a grinding block constructed according to this invention. Fig. 2 shows a broken-off fragment of the grinding block, drawn to a greatly enlarged size to illustrate its internal structure.

In carrying out this invention, an iron metal, such as steel, is first formed into very small globules or shot 2 which are chilled in course of manufacture, so that they are extremely hard, but nevertheless have smooth spherical surfaces. The globules or granules are very small, like dust shot, and they are substantially spherical, but their exact size may be varied, and it is not necessary for them to be all of the same size in a single block. These globules are held together in the form of a block 3 by a suitable cement, and for this purpose a cement 4 composed of Portland cement and fine sand is preferably used. A good result is obtained when equal quantities of iron metal globules,

Portland cement and sand are mixed together with sufficient water, and are cast into suitable molds. The grinding blocks thus formed, and when sufficiently set, are held in any suitable holders, and are pressed against the surface of the grindstone which requires truing up. The grindstone is revolved at a suitable speed, and water is flowed over its surface. This grinding block cuts away the material of the grindstone with great rapidity, and the cement forms a sludge on the surface of the grindstone which holds the chilled globules on the stone during the surfacing operation. The sand also aids as an abrasive material in truing up the grindstone. This treatment leaves the surface of the stone in good condition for grinding.

What I claim is:

1. A grinding block, comprising very small globules of chilled iron metal, similar to dust shot in size, and having smooth spherical surfaces of extreme hardness, and a suitable binding cement.

2. A grinding block, comprising very small globules of chilled iron metal, similar to dust shot in size, and having smooth spherical surfaces of extreme hardness, and a suitable binding cement containing particles of sand which is relatively of much less hardness than the metallic globules but which is sufficiently hard to abraid portions of the article to be ground.

In testimony whereof I have affixed my signature in the presence of two witnesses.

WILLIAM HENRY MORSE.

Witnesses:

JAMES MILLAR,  
CARRIE I. CROPLEY.