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ROTATING DISK FOR METAL DIVIDING MACHINES.

APPLICATION FILED JULY 5, 1911.

1,039,738.

Patented Oct. 1, 1912.

Fig. 1

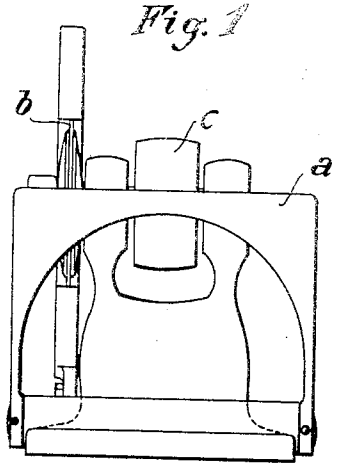
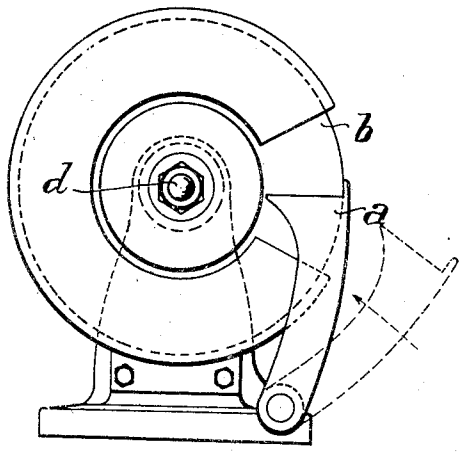


Fig. 2



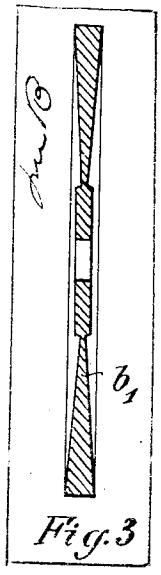


Fig. 3

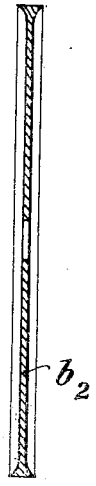


Fig. 3.

Fig. 4.

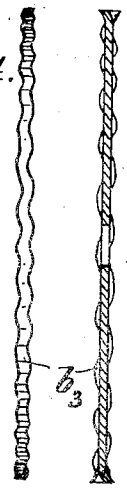


Fig. 5.

Witnesses.

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ROTATING DISK FOR METAL-DIVIDING MACHINES.

1,039,738. Specification of Letters Patent. Patented Oct. 1, 1912.

Application filed July 5, 1911. Serial No. 636,942.

To all whom it may concern:

Be it known that I, HANS HEYNAU, of Nuremberg, Bavaria, Germany, have invented an Improvement in Rotating Disks for Metal-Dividing Machines, of which the following description, in connection with the accompanying drawing, is a specification.

The invention relates to rotating disks for metal-dividing-machines.

Attempts have already been made to employ rapidly rotating smooth metallic disks to divide metal, but the heat produced by the extreme rapidity of revolution of the disk causes it to sweat fast in the work before the desired result could be accomplished. Another disadvantage attending the use of smooth disks was that the edge, upon becoming heated, turned over upon itself, so that the desired effect was also not attained. The present invention avoids these disadvantages by thickening or broadening the edge of the disk in any suitable manner. The disk does not then bend in cutting nor does it sweat into the work.

In the drawings, Figure 1 is an end view of a machine showing the application of my invention thereto. Fig. 2 is a side view thereof. Fig. 3 is an enlarged sectional view of one form of my invention. Fig. 4 is an edge elevation of the modified form of the invention. Fig. 5 is a sectional view of the form shown in Fig. 4.

Figs. 1 and 2 show the manner in which the disk is disposed in a machine. The disk —*b*— is of ordinary sheet-iron, the edge being thickened in any manner as shown in Figs. 3 to 5, the whole being mounted on the shaft —*d*— and the latter rotated rapidly by means of the pulley —*c*—.

The operation of the appliance is extremely simple. The material to be separated is laid on the angle-table —*a*— and advanced toward the disk —*b*— which is rotated at a circumferential speed of about seventy meters (two hundred and thirty feet) a second. The friction produced occasions such a heat as to cause the material to glow at the point of contact, so that it is partly consumed and partly pressed aside by the advance of the disk. As the edge of the disk is broader and thicker than the more central parts, the disk is continually surrounded by air and so far cooled by this means that it does not sweat fast in the work or bend over at the edge.

Fig. 3 shows a form of construction —b^2— in which only the edge of the disk is broadened, while in the construction —b^3— shown in Figs. 4 and 5, the broadening of the edge is accomplished by means of corrugations.

It will be seen that my invention embodied a disk having a transversely flat cylindrical face and sharp cutting edges projecting laterally therefrom. It will also be clear that the sharp edges, in the specific form shown, are contiguous with the flat cylindrical face and are on a line therewith.

I claim:—

1. A metal cutting disk comprising a body portion having a transversely continuously flat cylindrical face and sharp cutting edges projecting laterally therefrom, substantially as described.

2. A metal cutting disk comprising a body portion having a transversely continuously flat cylindrical face and sharp cutting irregular edges projecting laterally therefrom, substantially as described.

3. A metal cutting disk comprising a body portion having a transversely continuously flat cylindrical face and sharp cutting edges projecting laterally to at least an extent equal to the thickness of said body portion. substantially as described.

4. A metal cutting disk comprising a body portion having flat parallel sides and a transversely, continuously flat cylindrical peripheral face, said disk having sharp cutting edges projecting laterally of the body portion and parallel with the axis of said disk and not extending radially outwardly from said cylindrical face, substantially as described.

5. A metal cutting disk comprising a body portion having a peripheral face which is cylindrical and transversely flat continuously about the disk, said disk having sharp cutting edges projecting laterally of the body portion and parallel with the axis of the disk and not extending radially outwardly from said face, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HANS HEYNAU.

Witnesses:

HEINRICH FIETH,

ELISABETH HELLMUTH.