April 9, 1935. W. SCHEMMANN ET AL 1,996,885

CENTRIFUGAL DEVICE FOR THROWING ABRASIVE

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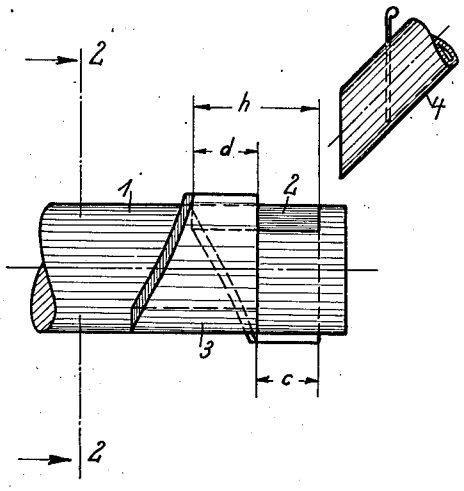


Fig. 1

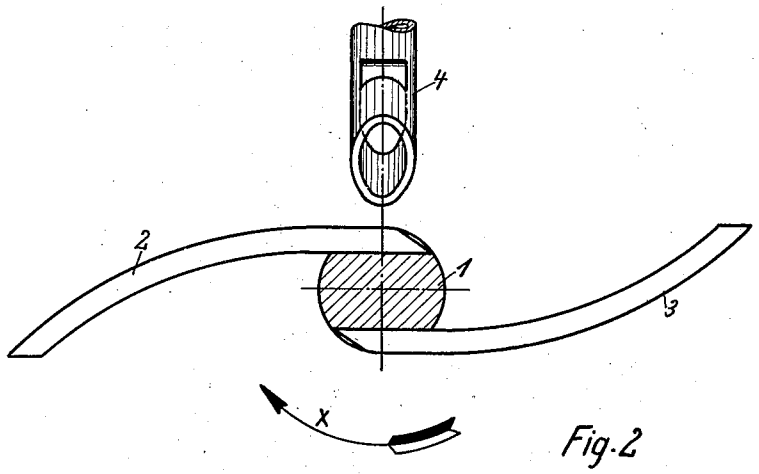


Fig. 2

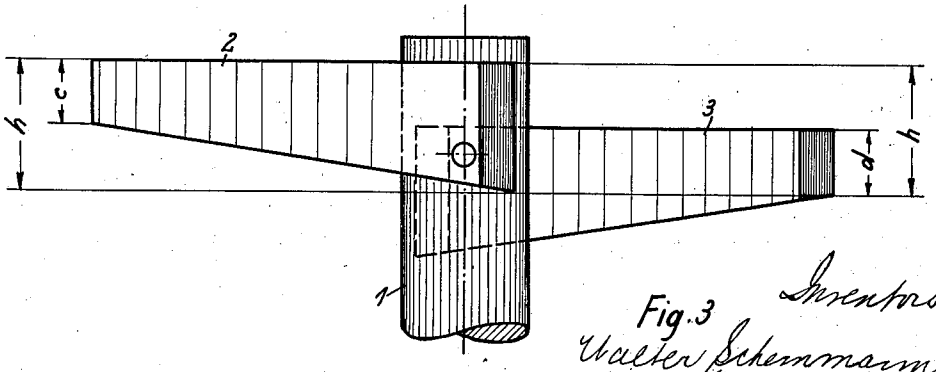


Fig. 3

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CENTRIFUGAL DEVICE FOR THROWING ABRASIVE

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2 Claims. (Cl. 51—9)

It is known that in centrifugal devices designed for the use in scaling or fettling machines and the like, several paddles are provided and disposed one after another, in order to distribute the abrasive to several throwing apparatuses, and the admission of the abrasive near the axis of rotation is also known.

As the quantity of the abrasive, falling towards the throwing apparatus by gravity, depends on the one hand on the number of revolutions of the centrifugal shaft and on the other hand on the air-whirling produced by the paddles, and finally on the manner of the abrasive supply, there is the danger that, owing to the increasing number of revolutions, the supply of the abrasive is cut off, which injures the gliding down of the abrasive. If several paddles are provided in a radial level, the capacity of reception will be reduced in proportion to the number of paddles, because at the instant where the paddles are passing the admitting pipe, the abrasive stream is cut off.

The object of the present invention is to reduce the interruptions of the supply stream to a minimum and to increase consequently the quantity of the admitted abrasive, but to keep the load of the paddle surfaces as low as possible.

This aim has been practically attained by providing a few paddles on a shaft, which are tapering towards their free ends and which are axially displaced in the direction of the shaft. Besides the above described features, this disposition offers the advantage that the required horse power is essentially reduced, because the form of the paddle is such that the necessary power, computed on the number of rotations, and on the breadth, length and form of the paddles, is very small. A further advantage is to be seen in the fact that the displaced disposition of the paddles allows a reduction of the size of the machine, and space is gained thereby.

The accompanying drawing represents this invention.

Fig. 1 represents a side elevation,

Fig. 2 represents a section on line 2—2 of Fig. 1,

Fig. 3 represents a plan view of the device.

In a manner, not shown in the drawing, on the centrifugal shaft "1", rotating in the direction of the arrow, two carefully balanced throwing paddles "2" and "3" are fixed and, as will be seen from Figs. 1 and 3, the paddle "1" is located opposite the paddle "2" and axially displaced on the shaft "1", so that a wide reception surface is created by the motion of rotation, and this surface grips the abrasive fed through pipe "4". The paddle "3" is displaced over against paddle "2" by the measure "c", so that by the motion of rotation a rotating body is created of a height of $h=c+d$ (at the free end). The paddle "2" alone grips the abrasive and partly delivers it to the paddle "3". Since, on each revolution only a single interruption of the abrasive supply takes place, the quantity supplied is as large as possible and further a distribution on several paddles is ensured and the load of the paddle surface is kept as low as possible. The capacity of a throwing device is in a definite proportion to the quantity of abrasive thrown out. Therefore, it is desirable to have so much abrasive charged into the device as can be done.

As it will be seen especially from Figs. 1 and 3, the paddles "2" and "3" are tapering towards their free ends. By this, a minimum power consumption is guaranteed. But as the paddles are axially displaced, there is yet created a wide reception surface. Besides, this disposition of the paddles prevents the whirling of the air, prejudicing the supply of the abrasive. The paddles "2" and "3" can be straight or curved, as shown in the drawing; by the latter design wear and tear will be reduced to a minimum.

We claim:

1. In a centrifugal machine for cleaning castings, a shaft in proximity to which abrasive is delivered axially of the shaft, paddles carried by the said shaft and secured to said shaft in vertically stepped relation thereto, said paddles being tapered toward their outer ends, and the said paddles being so arranged that the lower edge of one paddle at the tip is approximately in line with the lower edge of the base of the other paddle.

2. In a centrifugal machine for cleaning castings, according to claim 1 characterized by one edge of the said paddle being straight and the other edge at an angle thereto.

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