

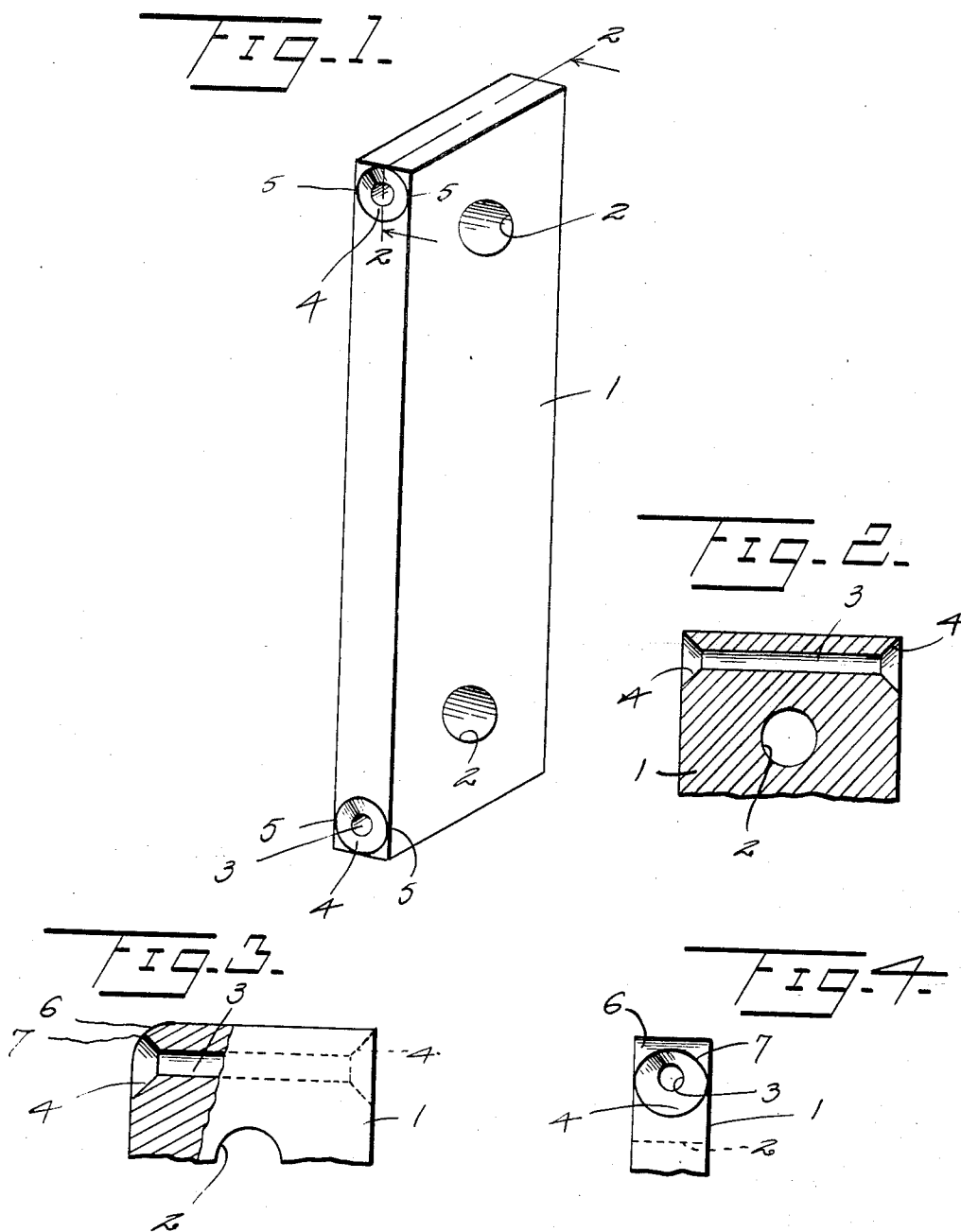
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ROTARY HAMMER

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ROTARY HAMMER

Application filed June 23, 1932. Serial No. 618,966.

This invention relates to improvements in hammers for hammer mills.

The present invention constitutes an improvement upon the forms of rotary hammers illustrated in co-pending application, Serial No. 553,627, filed July 28th, 1931.

The primary object of the present invention is to provide a hammer for a hammer mill, in which an increasing amount of cutting edge will be obtained with the wearing away of the hammer at the corners.

In hammers of the solid type after the corners thereof become worn to a rounded condition the hammers must be replaced by new ones as no further cutting action can be obtained. In the application above referred to this difficulty is overcome by providing the hammer with passages extending transversely from one longitudinal edge to the other and in relatively close proximity to and paralleling each end edge so that as the corners of the hammer wear down the edges of these passages will operate to cut the grain or other material and the wearing away of the body of the hammer keeps the edges of the passage in sharp condition.

As the passages originally employed were made of the same diameter from end to end, only a relatively small cutting edge is obtained, as the corner of the hammer wears away and although such a small cutting edge makes the usefulness of the hammer last over a much longer period than would be the case if the passages were not formed, it has been found that a larger sharp cutting edge can be maintained at each corner of the hammer and the means by which this result is obtained forms the subject-matter of the present application.

The primary object, therefore, is to provide a rotary hammer in which a relatively large sharp cutting edge will be maintained as the corners of the hammer wear away, thus maintaining, if not increasing, the efficiency of the hammer with wear.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however,

that the invention is not confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:—

Figure 1 is a perspective view of the hammer embodying the present invention;

Figure 2 is a sectional view taken substantially upon the line 2—2 of Figure 1 through a portion of one end of the hammer;

Figure 3 is a view partly in side elevation and partly in section of one end of the hammer showing the manner in which a corner thereof wears away when in use;

Figure 4 illustrates the worn corner of the hammer shown in Figure 3 looking at the edge thereof and showing the manner in which the sharp cutting corner is formed with wear.

Referring now more particularly to the drawing wherein like numerals of reference indicate corresponding parts throughout the several views, the numeral 1 indicates the hammer as a whole, the same being in the usual form of an elongated flat rectangular plate of steel through which is formed adjacent each end from one side face to the other, a passage 2 through which a supporting pin passes when the hammer is mounted in a chopping machine.

In carrying out the present invention the hammer body 1 has drilled therethrough at each end from one longitudinal edge to the other and parallel with the adjacent end edge, the passage 3 and each end of each of these passages is reamed out as indicated at 4 so that the outer edge of the reamed portion 4 touches the adjacent longitudinal corners and the transverse corner, as indicated at 5 in Figure 1.

When in use the corners of the hammer wear down to the rounded condition shown in Figure 3 and indicated by the numeral 6 and as shown in Figure 4 when this wearing occurs it runs into the reamed-out portion 4 and thus there is formed across the edge of the hammer, the arcuate cutting edge 7.

These hammers are designed primarily for use in grinding grain and as it is desirable that the grain be sharply cut instead of mashed it will be readily apparent that by providing the reamed-out ends of the transverse passages a sharp edge will be maintained at each corner of the hammer as it wears away and the cutting action of the hammer will continue unimpaired. By providing the through passage 3 the grain is prevented from jamming into or packing the opening and thus defeating the purpose of the invention as it will pass through the passage.

Having thus described the invention, what is claimed is:—

1. A rotary hammer comprising an elongated flat body having apertures therethrough at right angles to the longitudinal edges for the reception of supporting elements and further having at each end a passage formed therethrough from one longitudinal edge to the other, said passage being enlarged at each end to a width equal to the thickness of the body.

2. A rotary hammer, comprising an elongated flat body having longitudinally and transversely extending square corners bordering its longitudinal edges and apertures

transversely thereof each being adjacent one end and at right angles to the said edges, each longitudinal edge of the body adjacent each end being cut-out to form a relatively deep inwardly tapering recess, the outer edge of which, recess contacts with each longitudinal corner and the adjacent transverse corner of the body.

3. A rotary hammer, comprising an elongated flat body having longitudinally and transversely extending square corners bordering its longitudinal edges and apertures transversely thereof each being adjacent one end and at right angles to the said edges and further having a passage drilled therethrough at each end from one longitudinal edge face to the other and in relatively close proximity to the end edge face, said passages each having each end of gradually increasing width outwardly to an outside width equal to the thickness of the body and the edge of the widened outer end of each passage touching the adjacent transverse corner of the body.

In testimony whereof I hereunto affix my signature.

SANNING C. JENSEN.