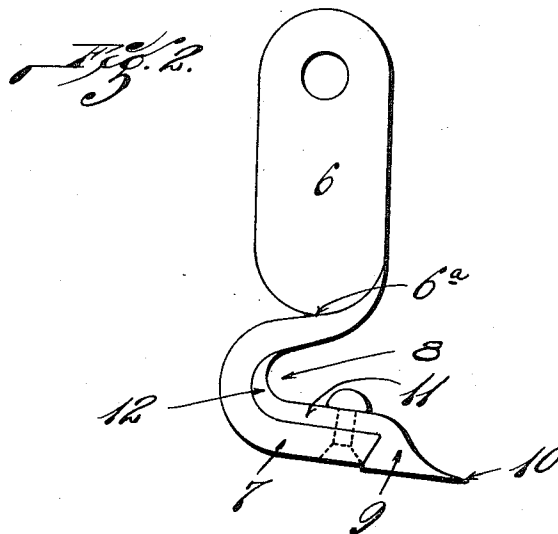
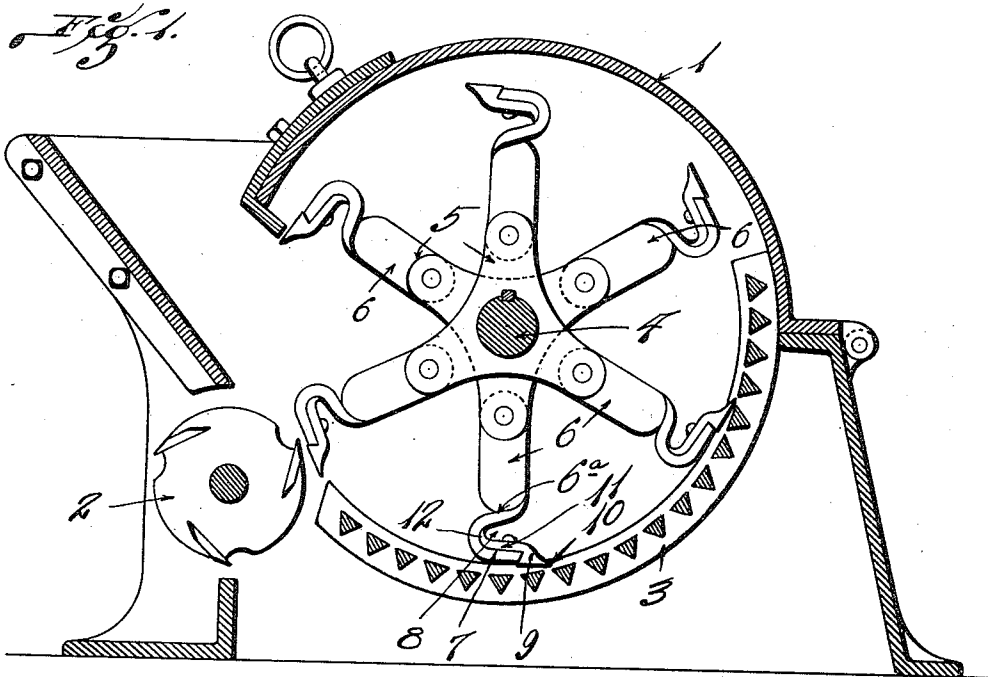


M. F. WILLIAMS.
SLICING HAMMER.
APPLICATION FILED AUG. 28, 1911.

1,016,979.

Patented Feb. 13, 1912.



ATTEST.
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Mr. Janus

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UNITED STATES PATENT OFFICE.

MILTON F. WILLIAMS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WILLIAMS PATENT CRUSHER & PULVERIZER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

SLICING-HAMMER.

1,016,979.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed August 28, 1911. Serial No. 646,533.

To all whom it may concern:

Be it known that I, MILTON F. WILLIAMS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain
5 new and useful Improvement in Slicing-Hammers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section taken through the center of a machine equipped
15 with my improved slicing hammers. Fig. 2 is an elevation of one of the hammers.

My invention relates to a new and useful improvement in slicing hammers for shredding or disintegrating machines, the object
20 of my invention being to construct a hammer provided on one end with a blade, and which blade is provided with a shank which overlies a portion of the body of the hammer, and serves to protect said body from
25 wear while in service.

A further object of my invention is to provide a simple form of blade and mount the same on the hammer shank by means of rivets in a manner so that the shearing
30 strain upon said rivets is entirely overcome.

A further object of my invention is to provide a hammer having a pocket immediately to the rear of the cutting edge of the blade, into which pocket the cut material
35 will be initially received, and therein carried around with the rapidly moving hammer to be further reduced by attrition.

With the above objects in view my invention consists in certain novel features of
40 construction and arrangement of parts hereinafter more fully described and claimed.

In the drawings, 1 designates the casing of a shredding or disintegrating machine, 2 the breaker roll, 3 the grinding cage and 4
45 the transversely disposed shaft, which extends through the grinding chamber, and which carries the disks or spiders 5, upon which the slicing hammers are pivotally mounted.

The slicing hammer, as shown, consists of a shank 6, the lower end of which is bent a quarter of a turn at 6^a, and the portion below this quarter bend is bent rearwardly, as designated by 7, to form a pocket 8 at the
55 lower end of the hammer. The extreme

lower end of the bent portion occupies an approximate horizontal plane, and fitted on to this portion of the hammer is a cutting blade. This cutting blade comprises a head 9 provided on its forward end with a transversely disposed cutting edge 10, and the rear side of said head fits directly against the forward end of the portion 7 of the hammer shank.

Formed integral with the upper portion 65 of the head, and overlying the portion 7 is a shank 11, which fits directly upon said portion 7 and forms a wear receiving plate for the lower portion of the pocket 8. The extreme rear end of the shank 11 is preferably curved upward, as designated by 12, and fits snugly within the rear portion of the pocket 8. The blade is rigidly fixed to the hammer shank by means of rivets, or like fastening devices, which pass through
75 corresponding apertures formed in the shank 11, and part 7. The under side of the head 9, and the sharp edges 10 occupy the same plane with the underside of the part 7.

When a machine equipped with my improved slicing hammers is in operation, the shaft 4 is rotated at a comparatively high rate of speed, and the slicing hammers are swung outward so as to occupy radial lines
85 by centrifugal force, and, thus, the cutting edges 10 of the blades occupy tangential planes, and travel through a circular path immediately adjacent the periphery of the breaker roll 2 and the inner surface of the
90 cage 3.

The material which is acted upon by the slicing hammers is engaged and cut by the rapidly moving cutting edges 10, and the cut material immediately passes into the
95 pocket 8, over the shank 11, where it is carried and whirled around with the rapidly moving hammers and is further reduced and disintegrated by attrition. As the pocket fills up the material, at the rear end
100 thereof, will be forced laterally out of said pocket and will finally pass through the grinding cage cut to the desired degree of fineness. The head 9 bearing directly against the end of the part 7 receives all
105 impact upon the cutting blade, therefore doing away with all shearing strain upon the rivets or fastening devices used for mounting the blade upon the hammer shank, and the shank 11 extending rearwardly into
110

the pocket forms a wear surface to protect that portion of the shank which would naturally receive the greatest wear in service.

When the blades have become worn or broken in use they can be readily removed and replaced by new blades without the necessity of replacing the entire hammer shanks.

It will be readily noted that minor changes in the size and form of my improved hammers may be made and substituted without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim:

1. The hereindescribed slicing hammer comprising a shank which is bent so that one end occupies a plane at right angles to the main body portion of said shank, a blade secured to the bend in the shank, said blade having a portion thereof extending over the bent end of said shank.

2. A slicing hammer comprising a shank, adapted to be pivotally connected at one end to a rotating member and the opposite end of which shank is bent at right angles to the main body portion of said shank to form a curved pocket, a blade fixed to the end of the shank below and in front of said pocket, a portion of which blade forms a wear plate extending into the pocket and a shoulder between the blade and end of the shank to which it is applied.

3. In a device of the class described, a slicing hammer comprising a pivotally mounted shank provided with a U-shaped pocket at one end, which pocket is disposed

at right angles with respect to the plane occupied by the body of the shank, a blade applied to the free end of the shank, said blade having a portion thereof extending into said pocket and covering a portion of the inner end of the surface thereof.

4. A slicing hammer comprising a shank having a pocket in one end thereof, a blade applied to the end of the shank in front of and below the pocket, the rear side of which blade bears directly against the outer end of the shank below the pocket, and said blade having a portion extending into the pocket and covering a portion of the surface thereof.

5. In a device of the class described, a slicing hammer comprising a shank which is bent a quarter turn, a blade applied to the shank below the bent portion thereof, said blade having a portion thereof overlying that portion of the hammer shank to which it is secured.

6. In a device of the class described, a slicing hammer comprising a shank provided with a quarter turn and a refolded portion forming a pocket for receiving the sliced material, a blade applied to the refolded portion said blade having a portion extending into said pocket.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 24th day of August, 1911.

MILTON F. WILLIAMS.

Witnesses:

M. P. SMITH,
JESSIE CLARK.