No. 780,801. PATENTED JAN. 24, 1905.

H. KENYON.

ATTACHMENT FOR GRINDING MILLS.

APPLICATION FILED APR. 13, 1904.

Fig. 1.

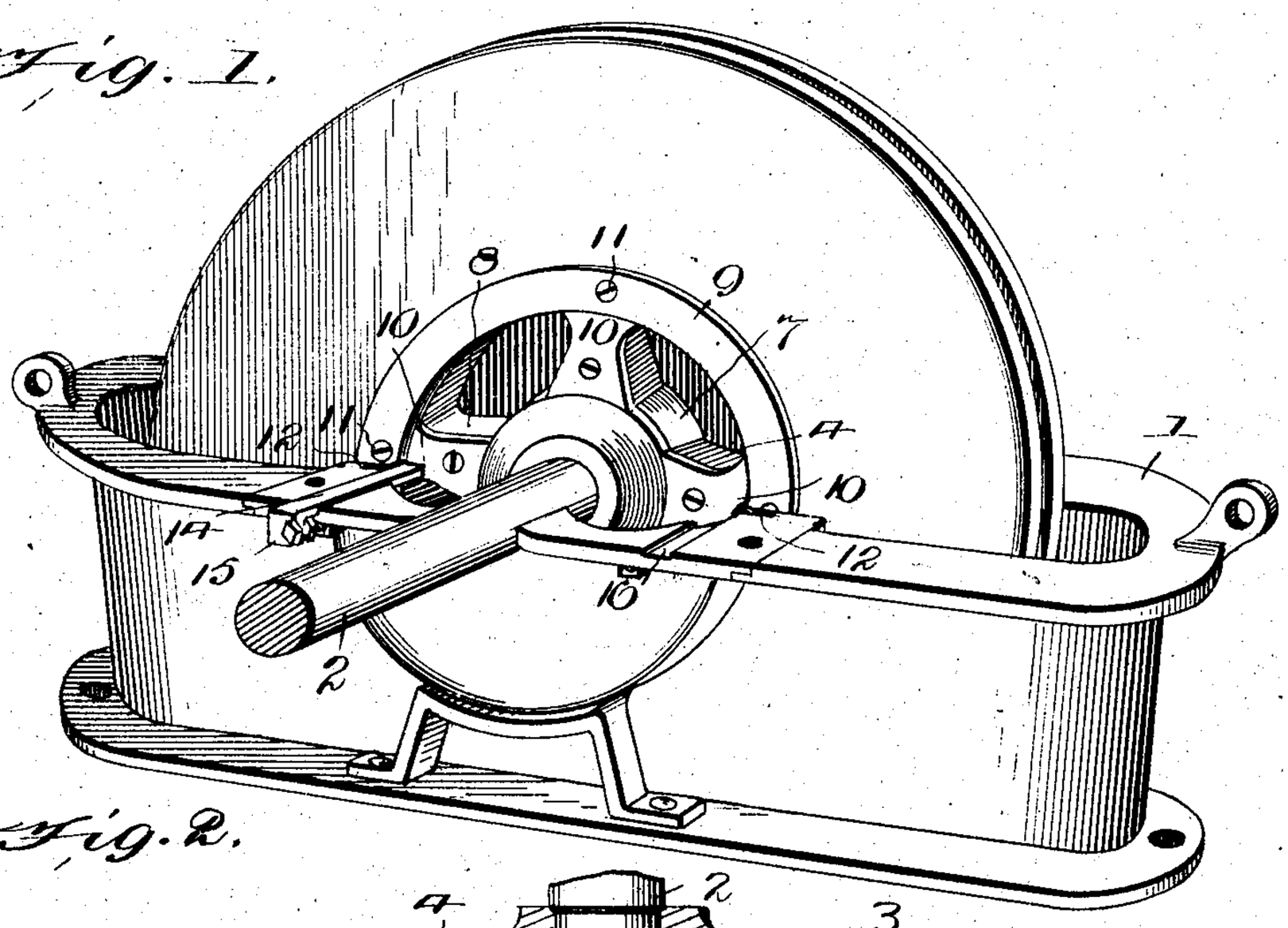


Fig. 2.

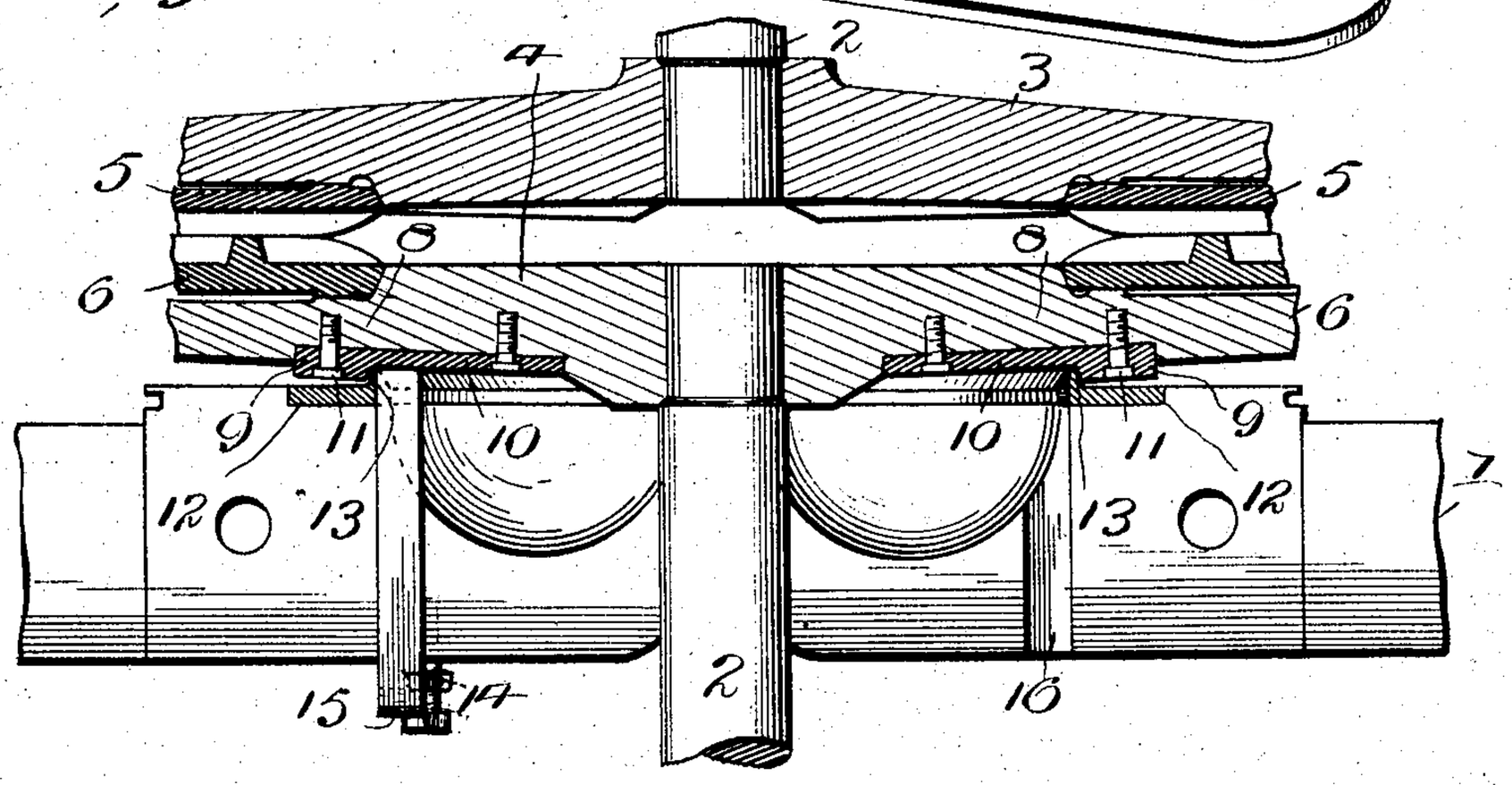
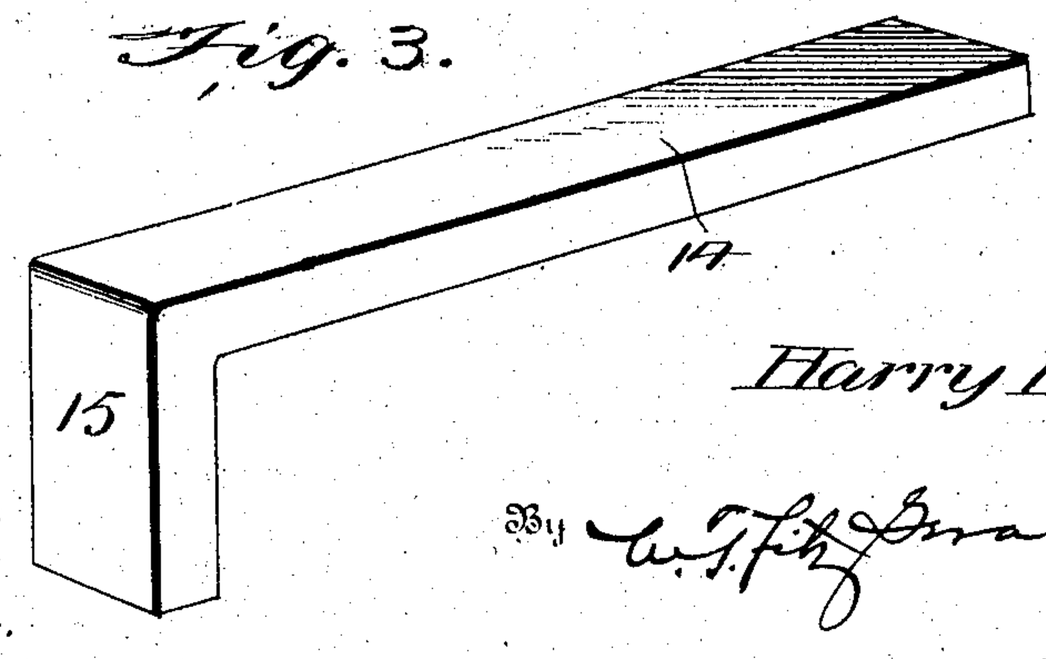


Fig. 3.



Witnesses
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No. 780,801. Patented January 24, 1905.

UNITED STATES PATENT OFFICE.

HARRY KENYON, OF MAPLEPARK, ILLINOIS.

ATTACHMENT FOR GRINDING-MILLS.

SPECIFICATION forming part of Letters Patent No. 780,801, dated January 24, 1905.

Application filed April 13, 1904. Serial No. 202,946.

To all whom it may concern:

Be it known that I, HARRY KENYON, a citizen of the United States, residing at Maplepark, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Attachments for Grinding-Mills; 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.

My invention relates to what are commonly termed "attrition-mills" for grinding or disintegrating into more or less small particles coarse substances, as fodder, &c.; and my invention consists of certain novel features of construction and combination of parts, the preferred form whereof will be hereinafter fully set forth, and pointed out in the claims.

The object of my invention is to insure that the grinding parts will not become clogged, and consequently produce an undue amount of friction and heat.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawings, which are considered a part of this application, and in which—

Figure 1 shows a perspective view of an attrition-mill complete with my attachment applied thereto. Fig. 2 is a sectional view of the grinding parts and showing a portion of the supporting-frame and driving-shaft. Fig. 3 is a perspective detail view of my attachment complete ready for use.

The various parts of my invention and cooperating accessories will be referred to by designating-numerals, the same numeral applying to a similar part throughout the several views.

It may be stated in this connection that attrition-mills meet with considerable trouble in preventing accumulation of the substance being ground in certain parts of the machine, and especially when the material being ground possesses a more or less stringy nature or substance, as corn-husks or the like, as the stringy substances lodge across the arms in the eye or place where the feed passes between the attrition-plates and are held there by centrifugal force and suction due to the fast revolution of the grinding-head, thus partly closing the eye and interfering with the feeding, and consequently the grinding process, causing some of the material to be forced between the grinding-head and seal-ring or that portion of the mill serving as the sealing-ring.

The friction caused by the accumulation of the material induces combustion and necessarily interferes with the grinding process. In order to obviate this source of trouble and prevent the accumulation of the material being ground, I provide my attachment, which consists of what I term a "key," which is locked in the keyway or slot in a contiguous part of the framework, where it is held so that the extreme inner end thereof will come in contact with any substance that might cling to the arms in the eye of the mill and remove said adhering particles and prevent the accumulation thereof.

While in the present instance it will be observed that I have provided a simple piece of steel, preferably having a slightly-beveled end, which end is disposed near the path traveled by the outer ends of the spokes or arms of the wheel, the outer part of which carries or comprises the grinding devices proper, it will be understood that I desire to comprehend any substantial equivalent of what I have herein described, inasmuch as any suitable device for removing adhering particles of material from the points referred to may be adopted.

Referring to the numerals on the drawings, 1 designates the base portion or supporting-frame, while 2 indicates the driving-shaft, which carries the attrition-wheels 3 and 4, the outer opposing edges of which are provided with the grinding or attrition disks proper, 5 and 6, secured in place in any preferred way.

It will be observed that near the hub 7 are a plurality of spokes 8, and it is through the openings between these spokes that the material to be ground is introduced to be acted upon by the attrition-plates 5 and 6. I prefer to provide what is commonly termed the "renewable" ring 9, having the inwardly-directed arms or auxiliary spokes 10, corresponding in location with these spokes 8, said ring and auxiliary spokes being secured in place in

any preferred way, as by the screws 11. I also provide what is commonly designated the "seal-ring" 12, corresponding in diameter with the ring-like member 9, and said seal-ring is provided on its inner edge with the flange 13, which is of sufficient length to lie in contact with the inner edge of the ring 9 and the outer ends of the auxiliary spokes 10, the object of said flange being to prevent the casual escape of material between the rings 9 and 12. It is found, however, in practice that the flange 13 is not sufficient for this purpose and that material will accumulate between said rings, and friction sufficient to produce combustion will result. I have therefore provided my attachment, consisting of the blade-like member 14, and preferably having a downwardly-extending angular terminal 15 upon its outer end, the blade 14 being designed to be received by a slot 16, which latter may have vertical walls, or the slot may be dovetail in form and the blade 14 made correspondingly, so that it will fit the same.

Any suitable means, as a set-screw or an overhanging nut or bolt-head, may be provided for holding the member 14 in its adjusted position.

It will be understood that the groove or slot 16 is to be properly located, so that the inner end of the blade 14 will be brought into close approximation to the path of travel of the outer ends of the auxiliary spokes 10, and the inner end of the blade will so act upon any clinging, tenacious, stringy substance, as corn-husks or the like, and sever the same and prevent their accumulation at this point.

It is found in practice that my simple attachment will prevent the casual escape of substances between the ring members 9 and 12 and will therefore obviate all liability of accumulation of substances between said rings and consequent heating of the parts.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an attrition-mill, the combination with the spokes of the attrition-wheels, of a blade-like member coöperating with or bearing against the sides of said spokes, and means to longitudinally adjust and anchor said blade-like member as desired, all combined substantially as specified.

2. In an attrition-mill, the combination with the spokes of the attrition-wheels, of a blade-like member 14, the inner end of which is adapted to bear sidewise on said spokes, and means to longitudinally adjust said member 14 as desired, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY KENYON.

Witnesses:
F. L. SNYDER,
ALBERT AHLIN.