No. 807,571. PATENTED DEC. 19, 1905.

E. MORTERUD.

MACHINE FOR CUTTING CHIPS.

APPLICATION FILED JULY 14, 1905.

Fig. 1.

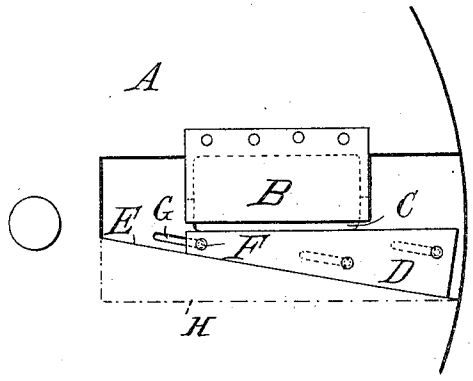


Fig. 2.

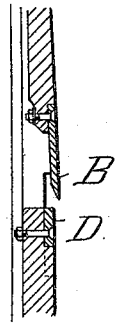


Fig. 3.

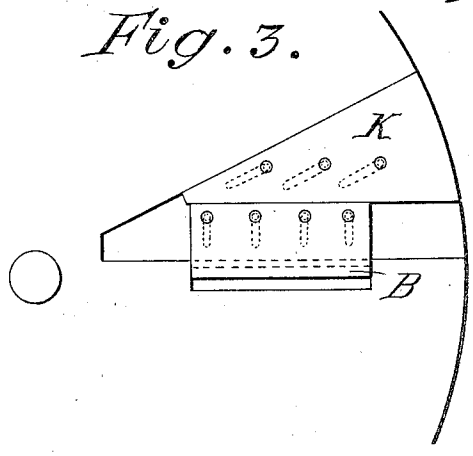
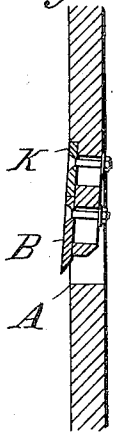


Fig. 4.



Witnesses.

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by Keeny & Orth atty.

UNITED STATES PATENT OFFICE.

EINAR MORTERUD, OF CHRISTIANIA, NORWAY.

MACHINE FOR CUTTING CHIPS.

No. 807,571. Specification of Letters Patent. Patented Dec. 19, 1905.

Application filed July 14, 1905. Serial No. 269,724.

To all whom it may concern:

Be it known that I, EINAR MORTERUD, a subject of the King of Sweden and Norway, residing at Christiania, Norway, have invented certain new and useful Improvements in Machines for Cutting Chips for Cellulose-Digesters; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to machines for cutting chips for cellulose-digesters, and especially to the type of such machines having knives placed on the face of a rotatory disk.

The object of my invention is to improve this kind of machines, so as to make them more efficient and to avoid shocks in the working of the machine. In this kind of machines the cutters are usually mounted in front of apertures in the disk, the thickness of the chips being regulated by the width of the free space between the cutting edge and the adjacent edge of the aperture, the chips passing through said aperture. To regulate the width of the said free space and to make up for wear as the cutters are worn out, there usually is placed a regulating-piece on the said edge. When, however, this regulating-piece is moved toward the cutting edge, an open space will be formed at its lower edge, and this open space gives rise to shocks each time the wood strikes the regulating-piece, especially when a new wood block is coming in contact with the disk with its corner.

In the arrangement according to my invention I avoid the forming of such open spaces, and I also place the knives and form the disk so that there will be an even and gradually-sloping surface from the edge of one knife to the edge of the next aperture.

The annexed drawings illustrate some forms of the invention.

Figure 1 is an elevation of a part of the cutting-disk, and Fig. 2 a cross-section. Figs. 3 and 4 show a modified form.

A is the cutting-disk, and B one of the cutters, which are, as usually, so arranged as to almost cover the hole C in the disk. At the lower edge of this hole the regulating-piece D is arranged. By means of this piece the size of opening is regulated, the piece D being moved nearer the center of the disk as the cutter is worn. In the usual arrangement the piece D consists of a U-shaped iron piece placed over the lower edge of the hole and falling into a groove in the front of the disk.

When such regulating-piece is moved upward, an open space is formed below its lower edge, effecting shocks when the wood strikes the regulating-piece. In the present invention this is avoided by adjusting the regulating-piece by means of a lateral movement, which may be done in the simplest manner, as shown in the drawings, where the regulating-piece itself consists of a wedge bearing against an inclined edge E in the disk. The regulating-piece is fixed by means of pins F, fitted into grooves G in the disk. The arrangement may also be made in such a manner that a separate wedge is used to move the regulating-piece—for instance, as indicated by the dotted lines H. In order to avoid very long wedges, two or more regulating-pieces may be used.

In Figs. 3 and 4 is shown another form of the regulating device. In this instance the regulating-piece is not placed underneath the knife, the latter being itself adjustably mounted and a regulating-piece K being placed above the knife.

I claim—

1. In a cutting-machine for making chips for cellulose-digesters the combination with a cutting-disk having one or more apertures, a cutter placed with its edge in front of said aperture and means to regulate the distance between the cutting edge and the adjacent edge of the aperture, said disk having a sloping surface between each cutter and the next aperture.

2. In a cutting-machine for making chips for cellulose-digesters a cutting-disk, apertures in the disk, a sunk portion adjacent to the aperture and a cutter and a regulating or filling piece placed in the sunk portion.

3. In a cutting-machine, the combination of a carrying element having a plurality of apertures therein, and a cutter mounted on said carrying element protruding into each aperture, the top faces of the cutter and carrying element forming a sloping surface between two apertures.

4. In a cutting-machine of the kind specified, the combination of an apertured cutter-disk, having a recess adjacent to each aperture, a cutter mounted in each recess, and means coöperating with the cutter to regulate the size of the aperture.

5. In a cutting-machine of the kind specified, the combination of an apertured cutter-disk, having a recess formed therein adjacent to each aperture, a cutter and a regulating device mounted in each recess.

6. In a cutting-machine of the kind specified, the combination of an apertured cutter-disk, having a recess formed therein adjacent to each aperture, a stationary cutter mounted in each recess and a regulating member in each recess movable parallel to the edge of the cutter.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

EINAR MORTERUD.

Witnesses:
HENRY BORDEWICH,
MICHAEL ALGER.