No. 885,177. PATENTED APR. 21, 1908.

A. M. POWELL.

WOOD CHIPPER.

APPLICATION FILED JULY 25, 1907.

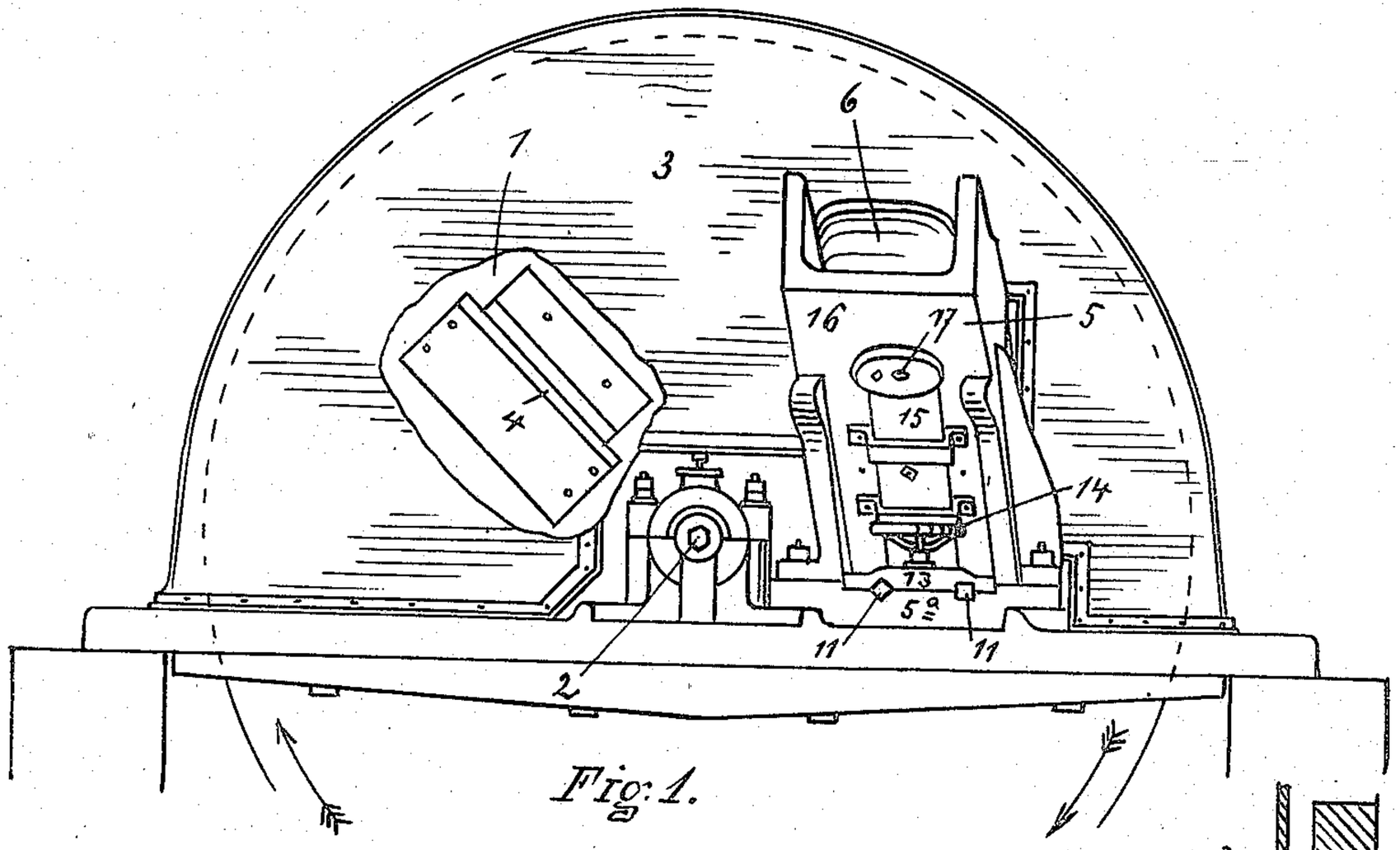

Fig. 1.

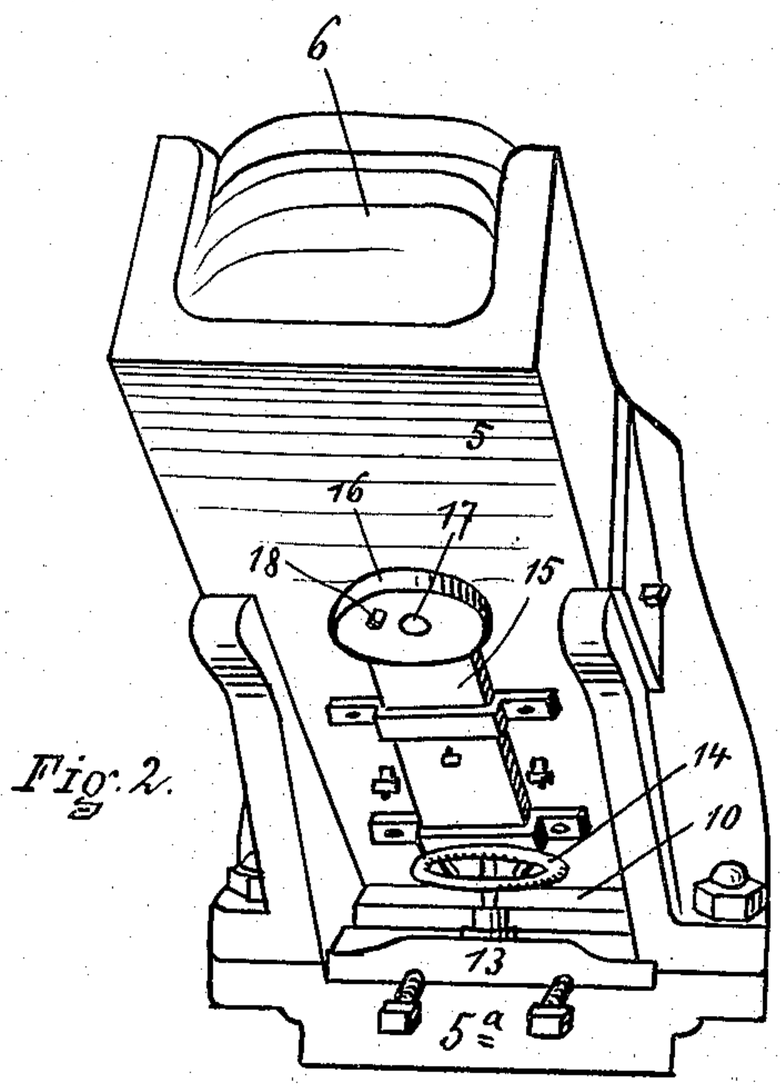

Fig. 2.

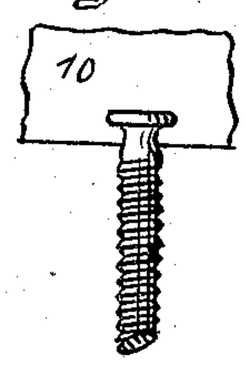

Fig. 4.

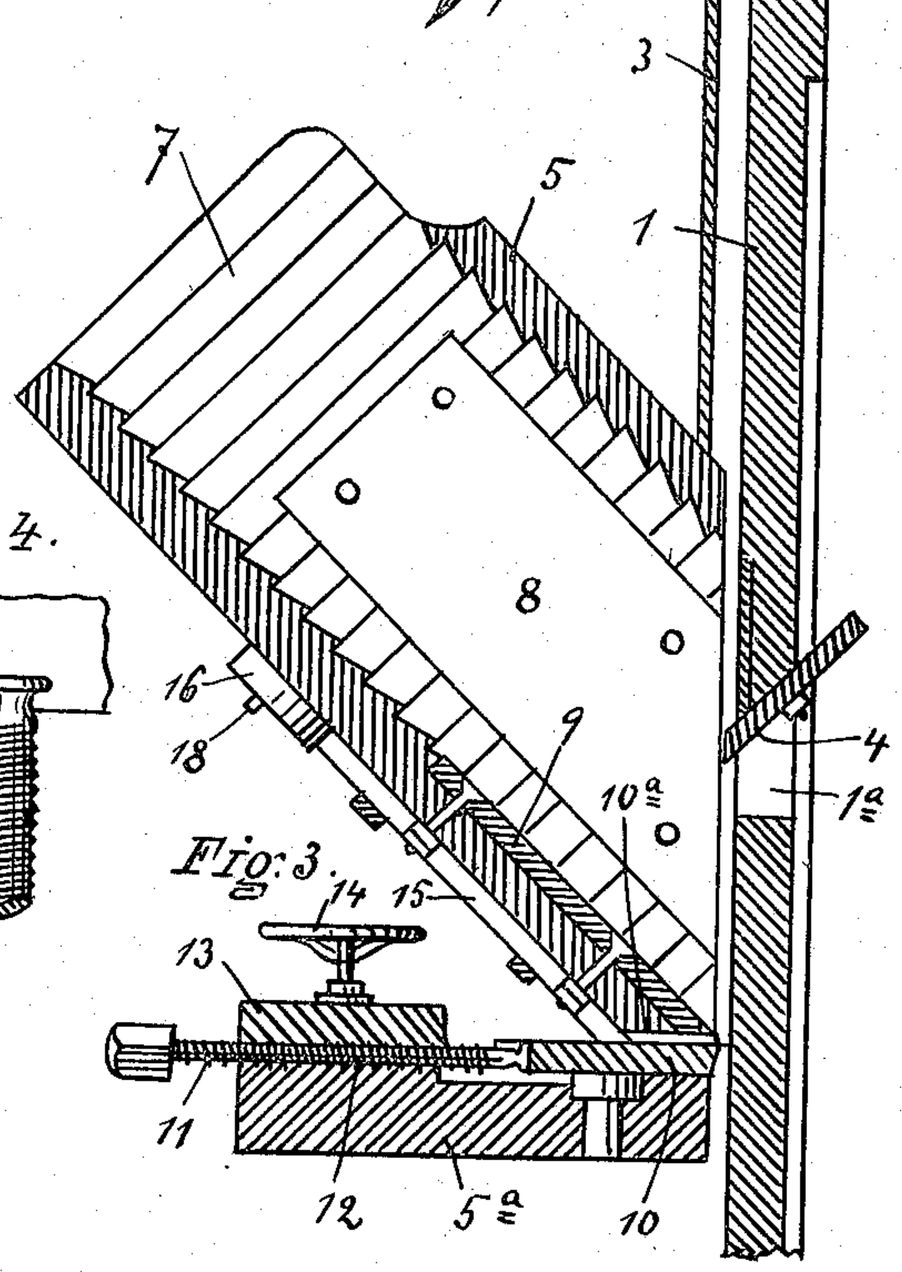

Fig. 3.

WITNESSES.
Rich. A. George
E. S. Hesse

INVENTOR
ALBERT M. POWELL
BY Robinson, Martin & Jones
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALBERT M. POWELL, OF CARTHAGE, NEW YORK, ASSIGNOR TO CARTHAGE MACHINE COMPANY, OF CARTHAGE, NEW YORK.

WOOD-CHIPPER.

No. 885,177. Specification of Letters Patent. Patented April 21, 1908.

Application filed July 25, 1907. Serial No. 385,471.

To all whom it may concern:

Be it known that I, ALBERT M. POWELL, of Carthage, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Wood-Chippers; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 the letters of reference marked thereon, which form part of this specification.

The object of my invention is to provide certain improvements in wood chippers, wherein provision is made for adjusting, removing and replacing the cutting plate with facility, as well as holding it securely.

The machine to which my improvements appertain is such a one as is usually provided for chipping wood in the first stages of process of making paper pulp therefrom.

Figure 1 shows a partial side elevation of a machine embodying the features of my construction, certain parts being broken out to exhibit the internal construction. Fig. 2 is an enlarged detail of the chipper feeding spout in perspective. Fig. 3 is an enlarged detail in section of the spout and its parts, together with portions of the revolving disk and cutter or knife. Fig. 4 is a detail relating to an adjusting screw.

Referring to the reference letters and figures in a more particular description, 1 indicates a revoluble disk mounted on a shaft 2 to be revolved and inclosed in a casing 3 as to its upper portion, the lower portion ordinarily running in a pit which is not shown. The revolving disk 1 is provided with one or more openings 1^a, in which is set a knife or cutter 4 projecting through and beyond the face of the disk a sufficient distance to regulate the thickness of the chip to be cut. The feeding spout 5 is mounted on the frame at a point between the center and the periphery, as appears in Fig. 1. The blocks of wood to be cut are fed into the spout through the opening 6, which opening may have a surface of teeth-like corrugations, as shown at 7, to assist in preventing the blocks receding from the knife while being cut, and may be provided with internal plates 8 and 9 arranged at the points of greatest wear. The lower delivery end of the spout 5 is arranged in close proximity to the face of the disk 1, as clearly shown in Fig. 3, so that the blocks are exposed to the knife 4 as it passes the spout in each revolution of the disk.

At the base of the spout there is provided a slotted opening 10^a which receives the cutting plate 10. This plate 10 is preferably of steel to better withstand the severe strains to which it is subjected, and lies flat on the bed 5^a, which constitutes the bottom of the slot receiving the plate. For adjusting the plate 10 towards and from the disk to adapt it to nicely coöperate with the knife 4 in chipping the wood, there is provided a pair of adjusting screws 11, 11. These are coupled to the plate 10 at one end by being provided with a head 11^a fitting a corresponding slot in the rear or outer edge of the plate 10. These screws 11 are received in part in a screw-threaded opening or groove 12 in the upper face of the base 5^a, and in part in a screw-threaded opening in the underside of the removable block 13. The block 13 lies substantially in the same plane with the plate 10 and fits the slot or opening which receives the plate 10 at the outer end and is held in place by a screw having a hand wheel 14, by means of which it may be readily removed or replaced. For clamping and holding the plate 10 down firmly on its base, there is provided on the underside of the spout a sliding bar 15 mounted in keepers, as shown, to slide freely, the lower end of which bar presses on the top of the plate 10, as shown in Fig. 3. For locking the bar 15 there is provided a cam or eccentric 16, the periphery of which rests on the upper end of the bar 15 and which is pivoted at 17 on the spout. The eccentric 16 will preferably have a set screw 18 bearing against the underside of the spout. By tightening this set screw the eccentric will be held against rotation. The working edge of the plate 10 adjacent to the knife requires to be sharpened or ground frequently and it will be noted that the same may be removed with facility by loosening the eccentric 16 with the push bar 15, removing the bolt 14 and the block 13, and drawing the plate out by means of the bolts 11 after they have been slightly raised out of the threaded grooves. After sharpening the plate can be returned to its normal position and the screws 11 replaced and the block 13 secured in position; then by means of turning the screws 11 the plate can be nicely adjusted to

its proper position, after which it will be secured by the clamp consisting of the push bar 15 and the eccentric 16.

It will be noted that the cutter plate 10 is plain and without slot or opening except in its extreme rear edge, whereby it becomes practically entirely available to compensate for wear and grinding on the cutting edge.

What I claim as new and desire to secure by Letters Patent is:

The combination in a chipping machine of a revoluble disk presenting a plain circular face, a cutter projecting from the face, a fixed feed spout arranged on an incline and opening against the disk face, a slotted bed at the lower delivery end of the spout, a cutter plate mounted on the bed in the slot, a cutter plate adjusting device detachably and removably mounted on the bed in the outer end of the slot, and a clamp engaging on the top of the cutter plate and holding it to the bed, substantially as set forth.

In witness whereof, I have affixed my signature, in presence of two witnesses, this 17th day of July 1907.

ALBERT M. POWELL.

Witnesses:
A. F. WARDELL,
C. W. MCWILLIAMS.