

(No Model.)

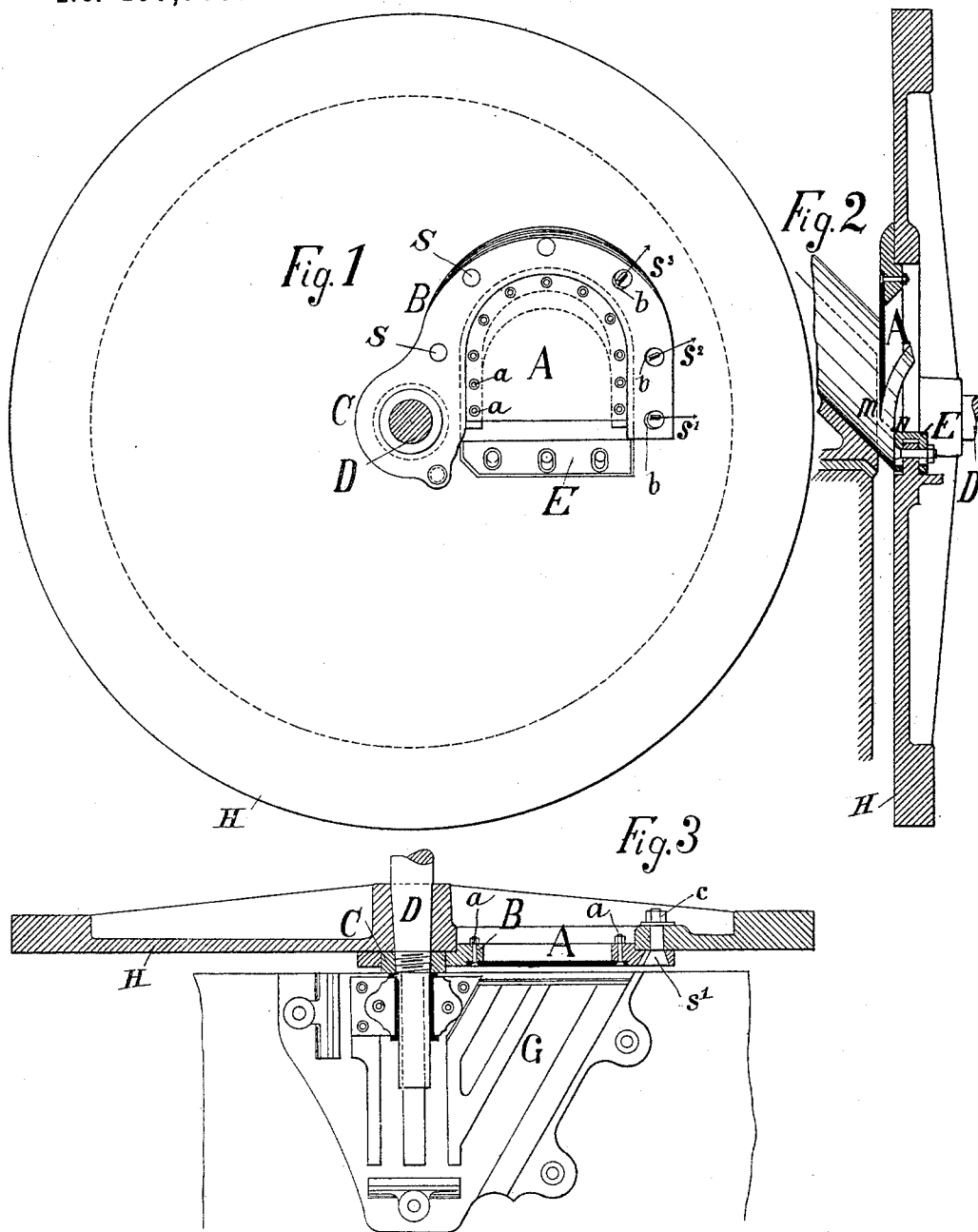
2 Sheets—Sheet 1.

H. WIGGER.

APPARATUS FOR CUTTING WOOD INTO DISKS FOR USE IN MAKING
WOOD PULP.

No. 467,786.

Patented Jan. 26, 1892.



Witnesses

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Fig. 4

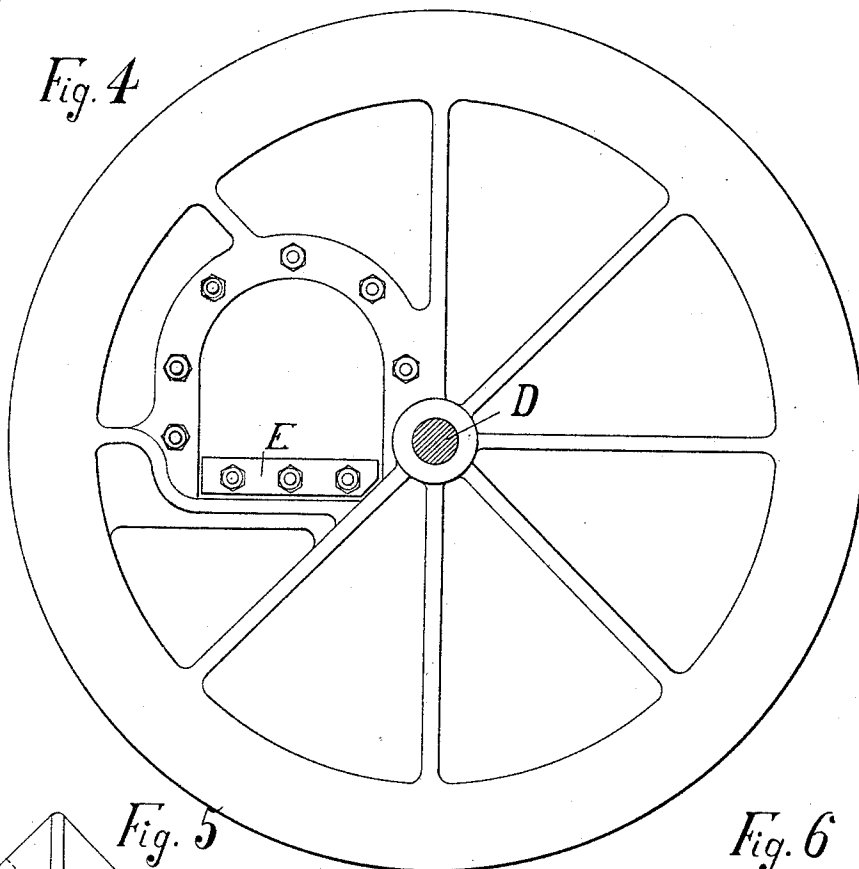


Fig. 5

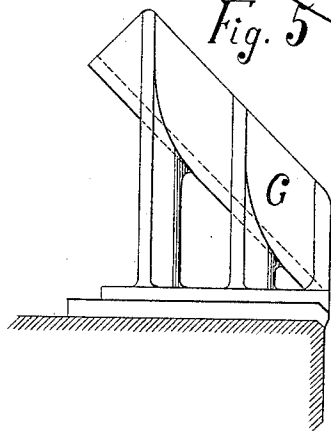


Fig. 6

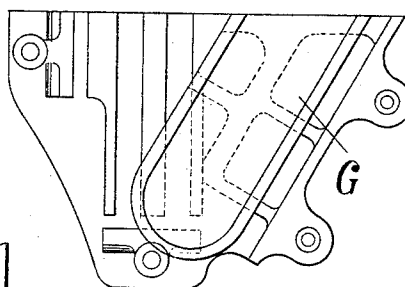
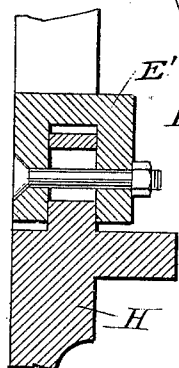


Fig. 7



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UNITED STATES PATENT OFFICE.

HEINRICH WIGGER, OF UNNA, GERMANY.

APPARATUS FOR CUTTING WOOD INTO DISKS FOR USE IN MAKING WOOD PULP.

SPECIFICATION forming part of Letters Patent No. 467,786, dated January 26, 1892.

Application filed June 18, 1890. Serial No. 355,911. (No model.) Patented in Germany April 17, 1889, No. 49,293; in England September 16, 1889, No. 14,563; in Switzerland September 18, 1889, No. 1,399; in Austria-Hungary December 17, 1889, No. 3,361 and No. 39,471, and in Norway February 12, 1890, No. 1,510.

To all whom it may concern:

Be it known that I, HEINRICH WIGGER, a subject of the Emperor of Germany, and residing at Unna, in the Province of Westphalia, Kingdom of Prussia, Germany, have invented new and useful Improvements in Apparatus for Cutting up Wood into Disks for Use in Making Wood Pulp, (for which I have obtained Letters Patent in Germany, No. 49,293, bearing date April 17, 1889; in England, No. 14,563, bearing date September 16, 1889; in Switzerland, No. 1,399, bearing date September 18, 1889; in Austria-Hungary, No. 39,471 and No. 3,361, bearing date December 17, 1889, and in Norway, No. 1,510, bearing date February 12, 1890,) of which the following is a specification.

My invention relates, particularly, to improvements in wood-cutting machines to be used in connection with the Mitscherlich process of making wood pulp.

For making wood pulp according to the system of Mitscherlich, the wood, having its bark peeled off, is cut in oblique disks of one to two inches thickness by saws. Preparing the wood in this manner requires much power, labor, and wages, and causes, besides, a very great quantity of sawdust, which is at least troublesome for making good and clean pulp. I have therefore designed the cutting apparatus shown on the annexed drawings, by means of which it is possible to cut with a rotary cutter-disk disks of wood of the required thickness without the formation of small chippings.

Figure 1 is a front view of the disk with the cutter-holding strap. Fig. 2 is a vertical section. Fig. 3 is horizontal section. Fig. 4 is a back view of the cutter-disk. Fig. 5 is a vertical side view of the feed-bracket. Fig. 6 is a plan of the same. Fig. 7 is a detailed sectional view of part of the disk H in an enlarged scale, showing a slight modification in the fixing and adjusting the forked or saddle piece E', corresponding to the piece E of Fig. 1.

The arrangement consists of a knife A, the holding-strap B, and of the cutter-disk H, having a smooth surface in front, to which the said pieces A and B are fixed in a suitable manner. The knife A is screwed fast to the

holding-strap B, which surrounds, by its closed boss at one side of it, the fixing-nut C of the shaft D of the cutter-disk and is held to the cutter-disk by screws S. A projection *y*, Fig. 7, may be cast to the boss of part B for a bolt K, by which the strap is further held fast upon the disk H. The nut C is a wrought-iron nut of round shape, fitting closely into the hole in the boss of part B. It serves to hold the disk H in place upon the shaft D'; but it, as well as the projection *y* on the boss, may be dispensed with if found desirable.

In order to stiffen the knife completely screws *s'* *s*² *s*³ are arranged at the other end of the holding-strap in such a manner that the strap can be pulled fast in the direction of the arrows shown in Fig. 1, and thus the knife is also pulled fast. This will be best understood by reference to Figs. 1, 3, 7, and 8 of the drawings and from the following explanation: The strap B is held securely and firmly to the cutter-disk H by means of the screw-bolts S at the left side in Fig. 1, and upon it the knife A is fastened by a larger number of small bolts *a*, Figs. 7 and 8. The right wing of the strap B is held in such a manner to the cutter-disk A that on account of its being of arch shape it can be opened or stretched out a little, and for that reason the bolts *s'* *s*² *s*³ are made with conical or wedge shaped heads, the holes *b* in the strap being made oblong or in form of slots, whereas the bolts themselves fit tightly in the holes of the disk H, so that when the nuts *c* at the back are screwed fast the heads of the bolts *s'*, *s*², and *s*³ will act like a wedge or key and pull the corresponding part of the strap in the direction indicated by the arrows in Fig. 1, and thus the knife A will be stretched and held absolutely stiff in the cutter-disk.

It is not necessary to adjust the knife for wear and tear. Instead of this the cutting-opening *m n*, Fig. 2, is regulated on the one side by adjusting the forked piece E. Slotted holes *d* or *d'* (best seen in Figs. 2 and 9) are therefore provided either in the cutter-disk or in the piece E, allowing play for the fastening-bolts, so that the piece E can be adjusted upward and downward, and this piece is made

of $\cap$ shape in order to give a better hold upon the disk and for the sake of strength.

In order to obtain a smooth cutting-surface of the wood disks and to require as little power
 5 as possible for cutting, I arrange the feeding-block G, Figs. 5 and 6, in such a position with regard to the surface of the cutter-disk that it stands in an oblique direction to the latter,
 10 both as regards the horizontal plane and as regards the vertical plane of the same—that is to say, it stands obliquely to it in both directions and is inclined to it both ways at an angle of forty-five degrees, as shown by Figs. 2, 3, 5, and 6.

15 I am aware that prior to my invention wood-cutting machines have been made having cut-

ters fixed to a rotary disk. I therefore do not claim such a machine broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is— 20

In a cutting apparatus, a rotary cutter-disk consisting of the knife A, held fast to the disk, the adjustable holding-strap B, and the fastening-screws s' s^2 s^3 , in combination with the forked piece E and the feeding-block 25 G, placed obliquely to the disk in both directions.

HEINRICH WIGGER.

Witnesses:

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