Dec. 5, 1961 B. W. ANDRUS ET AL 3,011,535

CHIP CUTTER BLADE

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Fig. 10

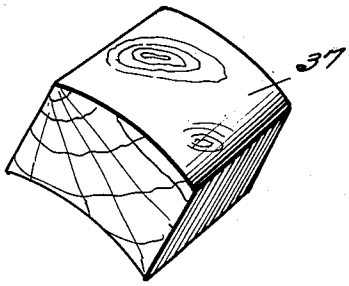


Fig. 1

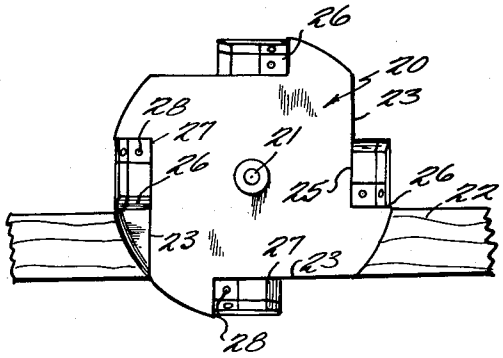


Fig. 2



Fig. 7

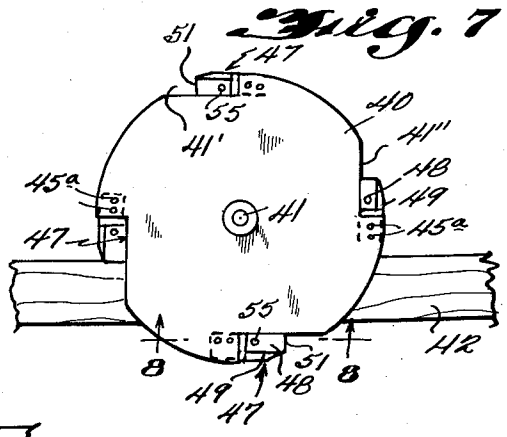
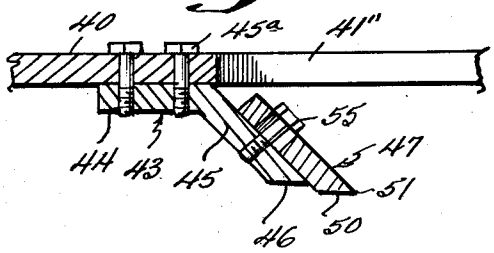


Fig. 8



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Fig. 3

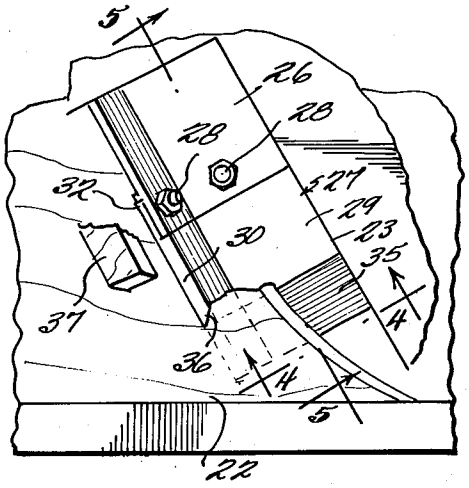


Fig. 4

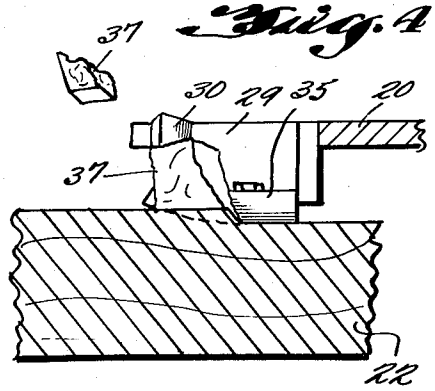


Fig. 5

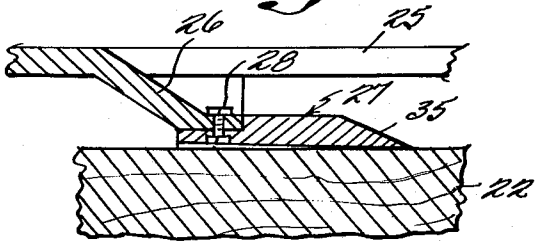
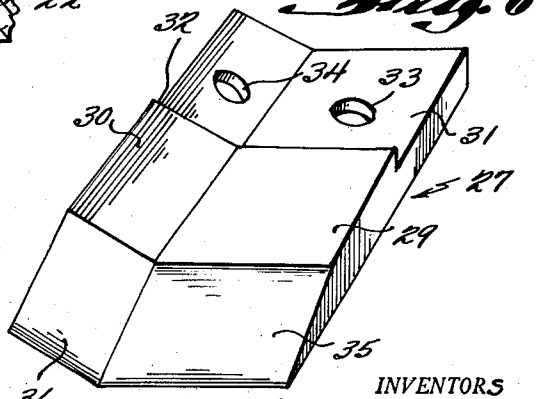


Fig. 6



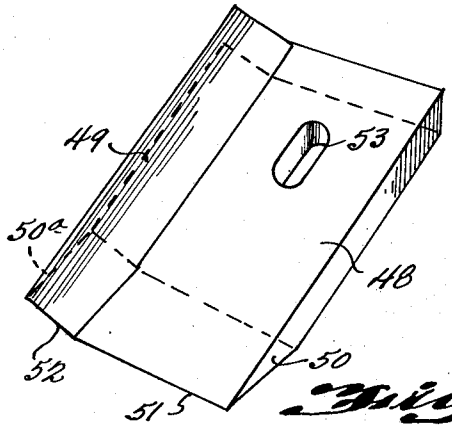


Fig. 9

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CHIP CUTTER BLADE

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Filed June 20, 1960, Ser. No. 37,381
4 Claims. (Cl. 144—219)

This invention relates to a chip cutting blade and comprises a continuation-in-part of our co-pending application Serial No. 774,747, filed November 18, 1958, and now Patent No. 2,966,182, entitled "Lumber Blanking and Chipping Machine."

A primary object of this invention is the provision of an improved chipping blade which is particularly adapted for use in a machine to size lumber by removing chips instead of shavings so that the chips can be used in the making of paper pulp and the saving of valuable pulp material is accomplished.

An additional object of the invention is the provision of a blade of this character, which when employed in a blanking and chipping machine such as is described in our co-pending application above mentioned, will chip relatively large chips consisting of relatively long fibers which are usable in the making of wood or paper pulp from a piece of lumber to be blanked or sized.

An additional object of the invention is the provision of such a chipping blade which is durable in construction, reliable and efficient in its operation of producing chips with long fibers, and relatively simple and inexpensive to manufacture.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds and shown in the accompanying drawings wherein there are disclosed preferred embodiments of this inventive concept.

In the drawings:

FIGURE 1 is a plan view of a cutter disk incorporating elements of the instant invention.

FIGURE 2 is a side elevational view of the blade shown in FIG. 1.

FIGURE 3 is an enlarged fragmentary plan view of one of the chip cutting blades and the mounting therefor.

FIGURE 4 is a fragmentary sectional view taken substantially along the line 4—4 of FIG. 3 as viewed in the direction indicated by the arrows.

FIGURE 5 is an enlarged fragmentary sectional view taken substantially along the line 5—5 of FIG. 3 as viewed in the direction indicated by the arrows.

FIGURE 6 is a perspective view of one form of chipping blade removed from the rotor.

FIGURE 7 is a view similar to FIG. 1 showing a modified form of disk and chipping blade.

FIGURE 8 is an enlarged sectional view taken substantially along the line 8—8 of FIG. 7 as viewed in the direction indicated by the arrows.

FIGURE 9 is an enlarged perspective view of the modified form of chipper blade as shown in FIGS. 7 and 8, removed from its associated rotor, and

FIGURE 10 is a perspective view of one of the chips removed by the cutter blade of the instant invention from a piece of lumber.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawings in detail, and more particularly to FIGS. 1 and 2, there is generally indicated at **20** a rotor disk which is mounted on a shaft **21** driven from any suitable source of power, as described in our above-mentioned co-pending application, and juxtaposed to a piece of lumber **22** to be blanked. The rotor disk **20** is cut away along a series of lines **23** to provide cutter blade holding recesses or notches **25**, portions of the cut-away piece being bent downwardly at an incline as indicated at **26** to form cutter blade holders. Cutter or chipping blades generally indictaed at **27** are secured to the portions **26** as by means of bolts **28**. In this form of the invention each cutter blade **27** is, as best shown in FIG. 6, comprised of a body portion **29** provided with an angularly offset portion **30** extending on one side thereof. A portion to the rear of body **29** is cut away as at **31**, and a corresponding end portion of the offset portion **30** is cut away at **32**, bolt holes **33** and **34** being provided in the respective cut-away portions for the accommodation of the bolts **28**. The front edge of both portions **29** and **30** is beveled as at **35** and **36**, respectively, to form a cutting or chipping blade portion which engages the wood to be sized. The offset blade portion **36** serves to direct the chips **37** upwardly and outwardly as best shown in FIGS. 3 and 4.

FIGS. 7, 8, and 9 show a modified form of construction wherein a disk **40** similar to the disk **20** is mounted on a shaft **41** and similarly driven to act on a piece of wood **42**. In this modification cut-away portions or notches **41'** are formed by cutting along line **41''**, chipping blade holders **43** being provided instead of the downwardly turned portions **26**. Holders **43** include flat plate portions **44** which are secured as by bolts **45***a* to the underside of plate **40** adjacent each cut-away portion **41'**. Integrally formed with the plates **44** are downwardly inclined offset portions **45** having beveled lower edges **46** which extend in parallelism to the under surface of the plate **40**, and to which are secured cutter blades generally indicated at **47**. Each cutter blade **47** as best shown in FIG. 9, comprises a body portion **48**, having an angularly offset portion **49** extending along one side thereof, the offset portion projecting upwardly toward the blade **40**, the forward edge of portion **48** is beveled as at **50** to form a sharp cutting edge **51**, and the forward edge of offset portion **49** is correspondingly beveled as at **50***a* to form a similar cutting edge **52**. Elongated adjustment openings **53** in the portions **48** receive bolts **55** which engage in suitable apertures in the offset portions **45** for securing the chipping or cutter blades to the holder.

By employing a blade of this type, a relatively large chip **37** having relatively long fibers is produced.

From the foregoing it will now be seen that there is herein provided an improved chipping blade or disk for chipping lumber adapted to be employed with a blanking and chipping machine, and particularly with a machine described in our co-pending application above mentioned which accomplishes all of the objects of this invention, and others including many advantages of great practical utility.

As many embodiments may be made in this inventive concept, and as many modifications may be made in the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

We claim:

1. A chipper disk for a lumber blanking and chipping machine comprising a generally circular flat plate, a plurality of downwardly offset blade holding extensions formed on the peripheral edge portion of said plate, said peripheral edge portion being cut away to provide notches for the accommodation of said extensions, and a blade releasably secured to each extension, said blades extending substantially parallel to said disk, each of said blades comprising a generally flat horizontal portion and an upwardly angularly offset portion formed with said blade along one side thereof.

2. The structure of claim 1 wherein each horizontal portion and each offset portion are beveled upwardly towards said plate to form a cutting edge.

3. The structure of claim 1 wherein each horizontal portion and each angularly upwardly offset portion are beveled downwardly to form a cutting edge.

4. A chipper disk for a lumber blanking and chipping machine comprising a generally circular flat plate, a plurality of downwardly offset extensions integrally formed on the peripheral edge portion of said plate, and a blade releasably secured to each integral extension with each blade extending substantially parallel to said disk, each of said blades comprising a generally flat horizontal portion and an angularly upwardly offset portion integrally formed with said blade along one side thereof.

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