F. J. BULLOCK.

KNIFE SUPPORT FOR CUTTING WHEELS.

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1,249,020. Patented Dec. 4, 1917.

Fig. 1.

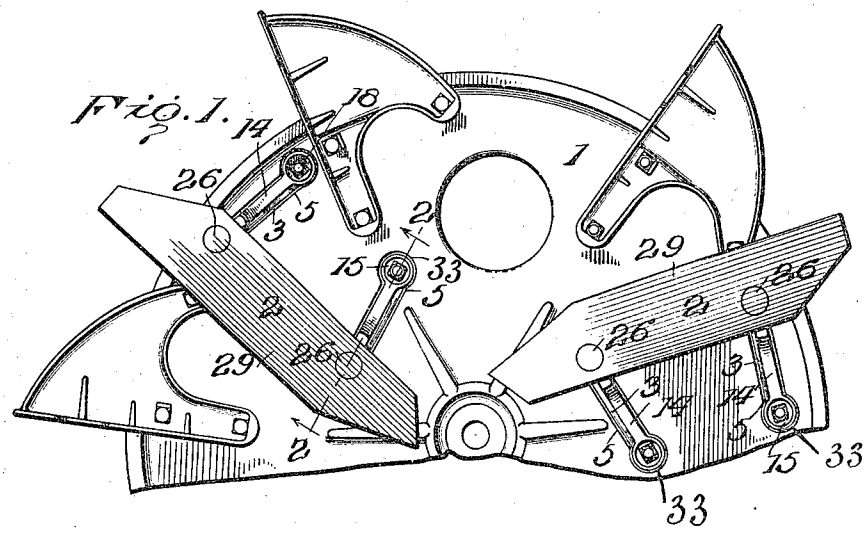
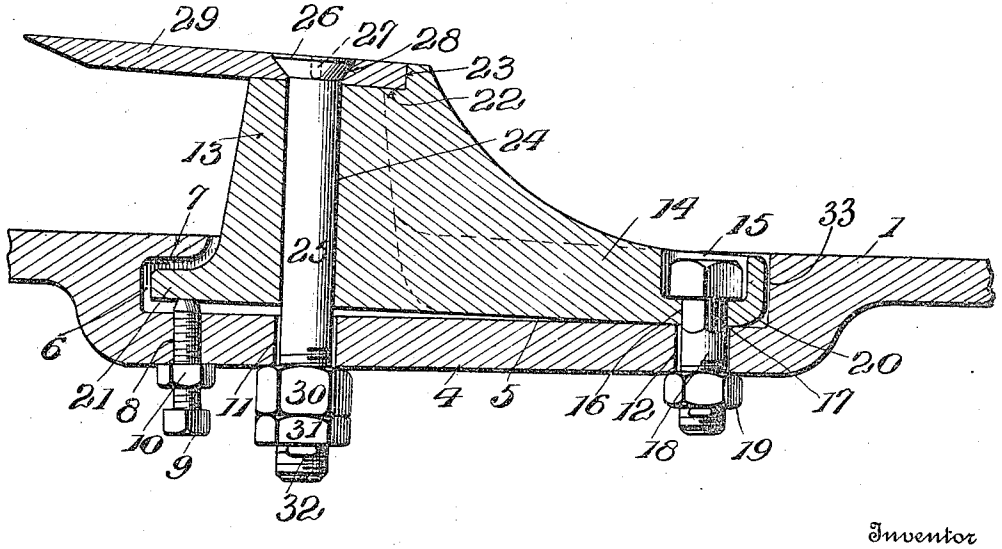


Fig. 2.



Witness

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UNITED STATES PATENT OFFICE.

FRED J. BULLOCK, OF SHORTSVILLE, NEW YORK, ASSIGNOR TO PAPEC MACHINE COMPANY, OF SHORTSVILLE, NEW YORK, A CORPORATION OF NEW YORK.

KNIFE-SUPPORT FOR CUTTING-WHEELS.

1,249,020. Specification of Letters Patent. Patented Dec. 4, 1917.

Application filed April 5, 1916. Serial No. 89,146.

To all whom it may concern:

Be it known that I, FRED J. BULLOCK, a citizen of the United States, residing at Shortsville, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Knife-Supports for Cutting-Wheels, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in knife supports for cutting wheels used in ensilage cutters, and the object of this invention, is to provide a knife support in which a stop is employed in connection therewith in order to form positive means for preventing the knife working loose to such an extent that the machine can be damaged thereby in the rotation of the cutting wheel.

Another and further object of the invention is to provide a knife support which is seated within a recess formed in the cutting wheel which is provided with an overhanging portion forming a stop for the lip of the support to limit the outward movement of the support.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing—

Figure 1, is a plan view of a portion of a cutting wheel showing a pair of tangentially arranged cutting knives mounted thereon by my improved construction of knife support; and

Fig. 2, is an enlarged section taken on the line 2—2 of Fig. 1.

Like numerals of reference refer to like parts in the several figures of the drawing.

In the drawing, 1 indicates a cutting wheel, 2 the knives and 3 the supports for the knives, each knife being mounted upon a pair of supports secured to the face of the cutting wheel between the fan blades carried thereby.

In constructing a wheel as herein shown and described, the same is provided with enlarged portions corresponding to the number of knives employed on the cutting wheel, the opposite face of the wheel from the enlarged portion 4 being formed with a recess 5 which is provided at one end with an undercut portion 6 forming a stop 7.

The enlarged portion is provided with a threaded opening 8 to receive an adjusting bolt 9 which is locked in its adjusted position by a lock nut 10 and spaced openings 11 and 12 to receive the fastening bolts for the support as will be hereinafter fully described.

My improved construction of support comprises a body portion 13 which is provided with a reduced portion 14 the end of which is provided with a socket 15 having a square opening 16 formed in its bottom to receive the square portion 17 of a bolt 18, the head of which, is seated within the socket 15, said bolt passing through the opening 12 and is secured by a nut 19.

The body 13 and extension 14 are provided with a flat base, the end of the extension being rounded as shown at 20 in order to allow the support to rock on the bottom of the recess in which it is mounted.

The body portion at its base has a lip 21 extending therefrom which extends under the shoulder 7 into the undercut portion and is adapted to be engaged by the adjusting bolt 9 so as to rock the support in the recess formed in the cutting wheel.

An inclined seat 22 is formed in the top of the body portion which terminates at a shoulder 23, said body portion being provided with a bore 24 registering with the opening 11 formed in the bottom of the recess of the cutting wheel and in which a bolt 25 is mounted which is provided with a head 26 having a key 27 adapted to fit within a notch formed in the wall of an opening 28 formed in a knife 29 which is arranged within the seat 22 so that the knife will be normally held at an angle in respect to the face of the wheel.

The bolt 25 extends through the opening 11 and has mounted thereon, a nut 30, a lock nut 31 and is provided with an opening through which a cotter pin 32 extends for locking the nuts 30 and 31 on the bolt.

The recess 5 formed in the face of the cutting wheel corresponds in shape to the support 3 and it will be seen that when the support is arranged within this recess and secured by the bolts 18 and 25 it will be securely held in position, as in inserting the support within the recess, the support is tilted so as to force the lip 21 into the undercut portion of the recess and the bolts then are placed in position so as to fasten the same and by operating the adjusting

bolt 9, the support can be adjusted in respect to the cutting wheel so as to throw the cutting knife carried thereby, the proper distance from the shear plate.

It will be noted that each knife is mounted upon a pair of supports seated within recesses in such a manner that a stop is formed for limiting the outward movement of each support so that in case one of the bolts should break when the cutting wheel is in operation, the movement of the knife in respect to the cutting wheel will be limited so as to prevent the knife from injuring the machine.

The recess 5 formed in the face of the cutting wheel 1 is provided with a vertical wall 33 against which the rounded end 20 of the knife support is adapted to abut so as to form a stop in order to relieve the bolt 18 of the strain so as to prevent the same from being sheared off when the cutting wheel is in operation.

From the foregoing description, it will be seen that I have provided a knife support for a cutting wheel used in ensilage cutters, which is so mounted within the cutting wheel that the same will be securely held in position and in such a manner that it can be readily adjusted so as to throw the knife the proper distance from the shear plate, means being provided for limiting the movement of the support in respect to the cutting wheel which forms means for preventing the support from moving only a certain distance from the face of the cutting wheel in case one of the securing bolts should break when the cutting wheel is in operation.

I claim:

1. The combination with a cutting wheel having spaced recesses formed therein provided with undercut portions, of knife supports adjustably mounted within said recesses, said knife supports having projecting lips extending into the undercut portions of said recesses.

2. The combination with a rotary cutting wheel having a series of spaced pairs of recesses formed in one face thereof, of knife supports adjustably mounted within said recesses, one end of each of said recesses being provided with an undercut portion forming a stop, and a lip projecting from each of said supports extending under said stop.

3. A rotary cutting wheel for ensilage cutters having a series of knife supports adjustably mounted thereon arranged in pairs, said wheel having stops, and a lip projecting from each of said knife supports arranged under said stops.

4. In a rotary cutting wheel, the combination with the body thereof having recesses formed therein provided with undercut portions forming stops, of knife supports arranged in said recesses mounted on a rounded bearing at one end, knives carried by said supports, lips projecting from said supports extending under said stops, and means carried by said wheel engaging said supports for adjusting the position of said knives in respect to the face of said wheel.

5. The combination with a rotary cutting wheel having a pair of recesses formed in one face thereof provided with undercut portions at one end forming stops, of a knife support mounted in each of said recesses comprising a body portion and a reduced portion terminating in a rounded end, a bolt for securing the reduced portion within said recess, said body portion being provided with knife seats, a knife mounted upon said seats, a bolt passing through said knife, body portion and wheel, a lip carried by each of said supports extending under said stops, and an adjusting bolt mounted in said wheel engaging said lip for adjusting said support in respect to said wheel.

6. A rotary cutting wheel having enlarged portions upon one face thereof and recesses upon the opposite face thereof opposite said enlarged portions, said recesses being provided with undercut portions at one end thereof forming stops, knife supports adjustably mounted within said recesses, each pair of supports carrying a knife, bolts for securing said supports and knife to said wheel within said recesses, each of said supports being provided with an outwardly projecting lip extending into the undercut portion of said recess under said stop, and an adjusting bolt mounted in the offset portion of said wheel engaging said lip for adjusting said support in respect to said wheel.

7. A cutting wheel for ensilage cutters having a recess formed in one face thereof, a support mounted in said recess, means for securing said support in said recess, means for adjusting said support in said recess, said wheel having an integral portion thereof forming a stop, said support having means thereon adapted to engage said stop for limiting the movement of adjustment of said support in said recess.

8. A rotary cutting wheel for ensilage cutters having a support having a base and adjustably mounted on one face on said wheel, said wheel having a stop in a plane at one side of the base of said support, said support having a projection arranged under said stop, and adapted to engage said stop for limiting the lateral movement of said support in respect to the face of said cutting wheel.

9. A rotary cutting wheel for ensilage cutters having a recess formed in one face thereof, a support mounted in said recess, said wheel having an integral stop formed thereon at one end of said recess, spaced

means for securing and adjusting said support within said recess, said support having means thereon adapted to engage said stop for limiting the outward movement of said support.

10. In a rotary cutting wheel for ensilage cutters, a knife support carried thereby having a two point connection therewith, said support being mounted on a rounded bearing at one end, means disposed at the opposite end of said support for adjusting said support in respect to said wheel, and positive means for limiting the outward movement of said support.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

FRED J. BULLOCK.

Witnesses:

B. BENNETT BROWN,

WILLIS C. ELLIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."