ATTACHMENT FOR CUTTING MECHANISMS.

APPLICATION FILED FEB. 17, 1905.

Inventor.

Frank Hamachek.

By Benedict Morell.

Witnesses.

R. S. Caldwell.

PATENTED MAY 29, 1906.
To all whom it may concern:

Be it known that I, FRANK HAMACHEK, residing in Kewanee, in the county of Kewanee and State of Wisconsin, have invented new and useful Improvements in Attachments for Cutting Mechanism, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 This invention relates to attachments for cutting mechanism, and comprises a device capable of attachment to guard-fingers of mowers and the like by adjustable clamping means, whereby it may be clamped to the guard-finger throughout the length of the cutter-bar or to guard-fingers of various sizes and also being adapted for adjustment in its engagement with the guard-fingers, so as to vary its general position for various requirements of the work to be performed.

An object of this invention is to provide such an adjustable attachment for guard-fingers with a spring-actuated inclined movable member having a rearwardly-extending guide-finger to carry out material over the cutter-bar.

Another object of this invention is to provide such a movable member with a removable point of novel construction.

Another object of this invention is to provide an attachment for guard-fingers with an adjustable engaging means therefor adapted to clamp the finger-bar and constitute a securing means for a leading-rod.

With the above and other objects in view the invention consists in the attachment, its parts, and combinations of parts, as herein set forth, and the equivalents thereof.

Referring to the accompanying drawings, in which like characters of reference indicate the same parts in the several views, Figure 1 is a sectional elevation of a guard-finger attachment constructed in accordance with this invention in position on a cutter-bar.

Fig. 2 is a plan view thereof, the position of the cutter-bar being shown in dotted lines. Fig. 3 is a plan view of the body portion of the attachment shown in Fig. 1, being sectioned through the upper guard-finger-receiving opening; and Fig. 4 is a side elevation of a clamp-plate forming a part of the attachment shown in Fig. 1.

In the drawings, 5 represents a finger-bar which is provided with guard-fingers 6, as usual, the sickle-bar being removed therefrom.

The guard-finger attachment constituting this invention comprises a body portion 7, which is in the nature of a shoe to fit upon the guard-finger 8, by having at its front end one or more tapering openings 8 to receive the pointed end of the guard-finger and at its rear end a clamping mechanism for engaging the finger-bar 5. As shown in the drawings and as preferred by me, the openings 8 are two in number, one being located directly above the other and both being adapted for the purpose above mentioned, the lower to be employed when the device is intended to meet certain conditions and the upper to be employed when other conditions are to be met with, as more fully explained later.

Above the opening 8 the body portion 7 is provided with an upwardly-extending web 9, forming a pivotal support 10 at its upper end for a movable member 11, which member is deeply recessed or grooved on its under side to embrace the web 9 and to contain an enlarged head 12, formed on the front end of the web 9 and constituting a stop for limiting the downward swing of said movable member. The groove or recess in the under side of the movable member 11 has a curved lower wall 13 extending for a short distance from the front end, which constitutes a stop to limit the upward movement of member 11 and also forms a support for a lug 14. This lug 14, with a lug 15 on the under side of an extension of head 12, forms the means for mounting a coil-spring 16, the spring having its ends surrounding the lugs 14 and 15 and holding the movable member 11 normally in its lowest position in engagement with the head 12.

The front end of the movable member 11 is provided with a reduced shank 17, which has engaging shoulders 18 at its lines of junction with the main portion of the movable member and is of a tapering shape adapted to fit within a correspondingly-shaped socket 19 in a removable point 20, which is secured on the shank 17 by means of a bolt or rivet 21 passing therethrough. The point 20 has its front pointed end sharpened and turned downwardly and its rear end broadened and rounded to bear upon the ground and limit the depth of penetration of the downwardly-turned front end. The shoulders 18 serve as an abutment for the point 20 and cause the side and top surface of the point to lie flush with the corresponding surfaces of the movable member.
The rear end of the movable member 11 forms a curved rearwardly-extending guide-finger 22, which arches above the cutting mechanism and serves to support cut material and convey it to the rear of the cutting mechanism, preferably onto leading-rods to be later mentioned, and so avoid the clogging of the cutting mechanism by such cut material.

The rear end of the body portion 7 is straightened to form a flat clamping extension 23, which is provided with a series of transversely-extending engaging teeth 24 and has an elongated slot 25 extending longitudinally therethrough. A clamp-plate 26 is adapted to bear upon the top of the finger-bar 5 and has a shoulder 27 at its rear end formed by a depending flange 28, which shoulder bears against the rear edge of the cutter-bar 5. The flange 28 is provided with a series of engaging teeth 29 to fit between the engaging teeth 24 of the body-portion extension 23, so that a bolt 30, which passes through the clamp-plate 26 and the flange 28 and slides in the slot 25 with a nut 31 threaded thereon, may clamp the finger-bar 5 between the clamp-plate 26 and the extension 23 to securely hold the attachment in place on the cutter-bar after the guard-finger 6 has been inserted in one of the openings 8. The slot 25 permits the bolt 30 to be moved lengthwise of the attachment, so that the clamp-plate 26 may always have its shoulder 27 bear against the rear edge of the finger-bar notwithstanding the different dimensions due to the taper of the finger-bar from one end to the other. The series of teeth 24 by extending the full length of the extension 23 enables the flange 28 to have its teeth 29 engaged therewith during all of such adjustments of the clamp-plate 26.

The head of the bolt 30 is formed with an eye through which a leading-rod 32 is adapted to pass and have its downwardly-bent end entered into one of a series of perforations 34 of the clamp-plate 26, there being five of such perforations in the construction shown in the drawings. The leading-rod 32 has grooves 35 provided therefor in the top surface of the clamp-plate 26, in which it lies when engaged in any of the perforations 34. The head of the bolt 30 has sufficient space left therebeneath to permit of its tightly clamping the leading-rod in place at the same time that the cutter-bar 5 is clamped between the clamp-plate and the body portion by the tightening of nut 31.

The perforations 34 are so arranged as to vary the angle of the leading-rod 32 with relation to the line of draft of the machine to suit the particular requirements of said leading-rod in serving as a side-delivery means. The tendency produced by this angular position of the leading-rod to turn the clamp-plate 26 on the bolt 30 when in use is overcome by the engagement of the shoulder 27 with the rear edge of the finger-bar 5, which engagement is further strengthened by an extension of said shoulder at one side of the clamp-plate also bearing on the rear edge of the cutter-bar.

Throughout the construction of the attachment the narrow formation has been adhered to as being most suitable for the purposes for which it is used, and the presence of engaging shoulders to obstruct the free passage of material has been avoided, so that no accumulations of material will be produced to hinder the operation or clog the cutting mechanism when in use. Thus the front edge of the clamp-plate 26 is beveled, as shown, avoiding the formation of a projecting shoulder in the path of cut material passing from the cutting mechanism, and the projecting point of the guard-finger 6 is protected from engagement with material by the rounded depending lower wall 13 in advance thereof.

The attachment provides an ordinary guard-finger with an extension capable of swinging to follow irregularities in the surface of the ground, and so lift fallen or lodged grain or vines into a position where they may be effectively cut by the cutting mechanism, and by the presence of the guide-finger 22 continues to support such material after being cut until it is carried beyond the cutting mechanism and delivers it onto the leading-rod forming a part of the side-delivery mechanism.

The forward incline of the cutting mechanism varying in different cases, it is found desirable to provide some means for adjusting the attachment with relation thereto to enable the limited range of movement of the movable member to permit of its accomplishing its object of keeping in contact with the surface of the ground in all cases. This is accomplished in the present construction by the provision of the pair of openings 8 for receiving the point of the guard-finger at different elevations, and thereby change the general position of the attachment with relation to the cutting mechanism to correspond with the different inclinations of the cutting mechanism, the clamping mechanism at the rear end of the attachment being capable of accomplishing its function of securely clamping the attachment to the cutter-bar in either case.

The removable point 20, besides being most effective for the purpose for which it is intended by carrying its downwardly-bent point slightly beneath the surface of the ground and preventing it from digging deeply by its enlarged rounded rear portion, has the further advantage of being capable of replacement when worn.

The clamping mechanism by its adjustability enables the attachment without alteration to be engaged with cutting mechanisms.
of different makes and with the guard-fingers at any position on the cutter-bar and also at the same time provides for the secure attachment of the leading-rod 32 to the cutting mechanism, allowing for the adjustment of the angle thereof and securely bracing it against displacement from the adjusted angle.

The body portion 7 is provided at its rear part with a pair of curved flanges or braces 36, which are curved outwardly and upwardly from the rounded part of the body portion and are adapted to embrace between them the rear end of the guard-finger 6, and so prevent the displacement of the attachment during use. Should the attachment strike a rock or otherwise receive a tendency to swing laterally on the guard-finger 6, the engagement of the flanges 36 with the rear end of the guard-finger will prevent the clamping device of the attachment sliding upon the finger-bar, especially when the attachment is located at the narrow end of the finger-bar.

What I claim as my invention is—

1. An attachment for cutting mechanism, comprising a body portion having means for engaging the front end of a guard-finger of the cutting mechanism, teeth formed on the body portion, a clamp-plate having teeth engaging the teeth of the body portion, a bolt connecting the clamp-plate with the body portion to clamp the finger-bar between the clamp-plate and the body portion, and a leading-rod connected to the clamp-plate.

2. An attachment for cutting mechanism, comprising a body portion having means for connecting with the front end of a guard-finger of the cutting mechanism, a clamp-plate for engaging the finger-bar of the cutting mechanism, a bolt connecting the clamp-plate with the body portion, and a leading-rod connected to the bolt, said bolt serving to clamp the finger-bar between the clamp-plate and the body portion.

3. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passed through the eye of the bolt and fitting in a groove in the clamp-plate, said bolt serving to hold the leading-rod in place and clamp the finger-bar between the clamp-plate and the body portion.

4. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passing through the eye of the bolt and fitting in a groove in the clamp-plate, said bolt serving to hold the leading-rod in place and clamp the finger-bar between the clamp-plate and the body portion.

5. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passing through the eye of the bolt and having its end inserted in an opening of the clamp-plate, said bolt serving to clamp the leading-rod in place and to clamp the finger-bar between the clamp-plate and the body portion.

6. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passing through the eye of the bolt and having its end inserted in an opening of the clamp-plate, said bolt serving to clamp the leading-rod in place and to clamp the finger-bar between the clamp-plate and the body portion.

7. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passing through the eye of the bolt having its end bent at an angle and adapted to engage with the openings in the clamp-plate to adjust the angle of the leading-rod with relation to the finger-bar.

8. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism and provided with a series of openings, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passed through the eye of the bolt and having its end bent at an angle and adapted to be inserted in the openings in the clamp-plate to adjust the angle of the leading-rod, said clamp-plate having grooves leading from the openings in which the leading-rod may lie, said bolt serving to clamp the leading-rod in its angular adjustments and to clamp the finger-bar between the clamp-plate and the body portion.

9. An attachment for cutting mechanism, comprising a body portion which engages the front end of a guard-finger of the cutting mechanism, a clamp-plate which engages the finger-bar of the cutting mechanism, an eye-bolt connecting the clamp-plate with the body portion, and a leading-rod passed through
the eye of the bolt and engaging the clamp-plate, and a shoulder on the clamp-plate engaging the rear edge of the finger-bar.

10. An attachment for cutting mechanism, comprising a body portion having an opening to receive the front end of a guard-finger of the cutting mechanism, teeth on the rear end of the body portion, a clamp-plate bearing on the finger-bar of the cutting mechanism and provided with a series of openings, a depending flange on the clamp-plate bearing on the rear edge of the finger-bar, teeth on the flange engaging the teeth of the body portion, an eyebolt connected to the clamp-plate and passing through an elongated slot of the body portion, and a leading-rod passed through the eye of the bolt and having an angularly-bent end adapted to engage with the openings in the clamp-plate, said clamp-plate having grooves in which the leading-rod rests when so engaged and having a beveled front edge, said bolt serving to clamp the leading-rod in its adjustments and adapted to clamp the finger-bar between the clamp-plate and the body portion.

11. An attachment for cutting mechanism, comprising a body portion having means for engaging the front end of a guard-finger of the cutting mechanism, a clamp for connecting the body portion to the finger-bar of the cutting mechanism, a web on the body portion, a movable member pivotally mounted thereon, a head on the web extending into a recess of the movable member and forming a stop for limiting the movements thereof, a lug on the head, a lug on the wall of the recess of the movable member, and a coil-spring mounted on the two lugs for holding the movable member in its lower position.

12. An attachment for cutting mechanism, comprising a body portion having means at different elevations for engaging the front end of a guard-finger of the cutting mechanism, a clamp for connecting the body portion to the finger-bar of the cutting mechanism, a web on the body portion, a movable member pivotally mounted thereon, a head on the web projecting into a recess of the movable member and forming a stop for limiting the movements of the movable member, a lug on the head, a lug on the wall of the recess of said movable member, a coil-spring mounted on the two lugs, and a guide-finger on the movable member extending over the cutting mechanism.

13. An attachment for cutting mechanism, comprising a body portion having a pair of openings at different elevations for receiving the front end of a guard-finger of the cutting mechanism, a clamp for connecting the body portion to the finger-bar of the cutting mechanism, a leading-rod secured to the clamp, a web on the body portion, a movable member pivotally mounted on the web, a head formed on the web projecting into a recess of the movable member and forming a stop to limit the movements of the movable member, a spring for normally holding the movable member in its lowermost position, a guide-finger on the movable member extending over the cutting mechanism and adapted to guide cut material onto the leading-rod, a shouldered shank formed on the front end of the movable member, and a removable point fitting on the shank having a downwardly-bent front end and a rounded flattened rear end, substantially as described.

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

FRANK HAMACHEK.

Witnesses:
L. ALBERT Karel,
A. B. SCHMITZ.