

957,428.

2 SHEETS—SHEET 1.



WITNESSES:
Ellen J. Kruger
Gert Schwarz.



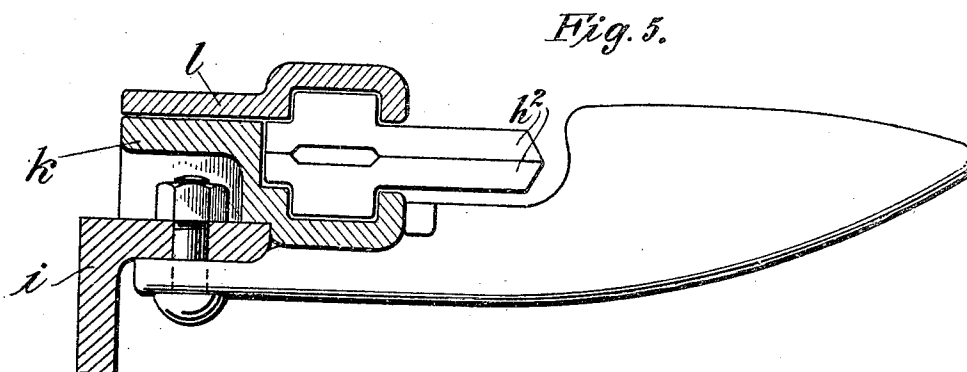
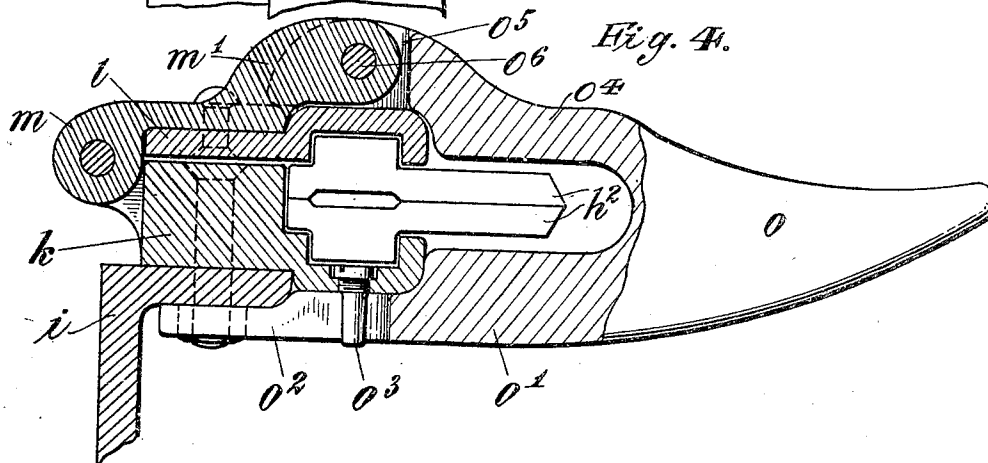
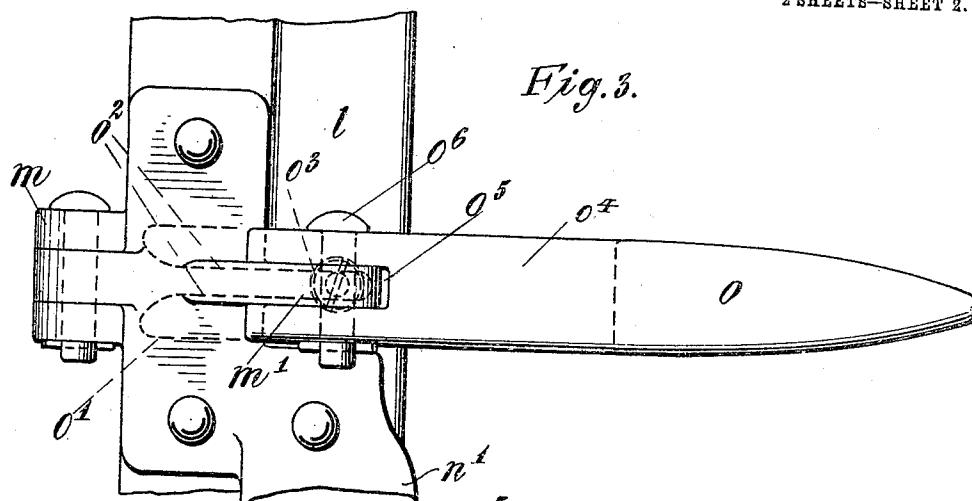
Redding, Greeley & Austin
ATTORNEY

N. P. LITHANDER.
CUTTER FOR HARVESTERS.
APPLICATION FILED MAY 28, 1909.

957,428.

Patented May 10, 1910.

2 SHEETS—SHEET 2.



WITNESSES:
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UNITED STATES PATENT OFFICE.

NELSON P. LITHANDER, OF HALLOCK, MINNESOTA.

CUTTER FOR HARVESTERS.

957,428.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed May 28, 1909. Serial No. 499,024.

To all whom it may concern:

Be it known that I, NELSON P. LITHANDER, a citizen of the United States, residing in Hallock, in the State of Minnesota, have invented certain new and useful Improvements in Cutters for Harvesters, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to endless chain cutters for harvesters, in which an endless chain, driven by suitable means, is armed with knives or cutting blades and the upper and lower links of the chain move in close proximity to each other so that the blades thereof coöperate.

The object of the invention is to improve the construction of such cutters and particularly to provide a cutter of the character referred to which can be applied readily to any mowing or other like machine of ordinary construction and in which the endless chain can be readily released for the sharpening of the knives or for the substitution of a new knife for an old one, or for any other reason.

The invention will be more fully explained hereinafter with reference to the accompanying drawings in which it is illustrated, and in which—

Figure 1 is a top view, partly broken away, of so much of the improved cutter and the associated parts, as is necessary to enable the invention to be understood. Fig. 2 is a view thereof in front elevation. Fig. 3 is a top view of a combination guard and supporting tooth, showing also a portion of the cutter bar. Fig. 4 is a view partly in elevation and partly in section of the parts shown in Fig. 3, the chain and its blades being also represented. Fig. 5 is a view showing the cutter bar and housing in section with one of the guard teeth in elevation.

The improved cutter is so constructed that it can be readily applied to any ordinary mowing machine, reaper or harvester, in place of the cutters usually found thereon. It is also operated from the usual gearing of the mowing or other machine, a chain wheel *a*, shown in part in Fig. 2, being substituted for the usual crank disk which, in an ordinary machine, drives the reciprocating knives. From this wheel *a*, a chain *b* drives a chain wheel *c* on a short shaft *c'* which is mounted in a suitable bearing *d* and has at its other end a chain wheel *c''*.

The latter is connected by a chain *e* with a chain wheel *f* on a short shaft *f'* which is mounted in a suitable bearing *d'*. A chain tightener *b'* is provided to take up slack in the chain *b* and the two bearings *d* and *d'* are connected by a slotted bar *d''* forming a bracket which is adjustably secured by bolts *d'''*, to the frame of the machine, a portion of such frame being indicated at *d''''*. Through the adjustability of the bar *d''* with the bearings *d*, *d'*, slack in the cutter chain, herein-after described, may be taken up.

The shaft *f'* has secured thereon a chain wheel *g* about which passes the endless cutter chain *h*, which may have any suitable construction. As represented in the drawings every alternate link, as *h'*, has formed with it a blade or knife *h''*. The outer bight of the cutter chain is carried by a suitable wheel *h'''* which is supported by the usual cutter bar *i*, the latter being connected to the frame of the machine in the usual manner, as by being secured to the frame member *d''''*. The cutter bar *i* carries the lower member *k* of a housing which supports and guides the chain between the wheels *g* and *h'''*, being securely bolted to the cutter bar *i*. The upper member *l* of the housing is so secured to the lower member *k* as to permit the chain to be freed readily whenever it is necessary to sharpen or renew the knives or to repair the chain. To this end it is hinged to the lower housing *k*, as at *m*, so that it can be turned back readily to give access to the chain. Furthermore, idler rolls *n* are mounted on the upper housing *l*, as by brackets *n'*, so that when the housing is turned back upon its hinges, the chain is slacked so as to permit it to be removed without difficulty.

For the purpose of holding the upper housing in proper position during operation, one or more, preferably one at each end and one in the middle, of the guard teeth is or are made to serve also as supports to hold the two parts of the housing together. As shown clearly in Figs. 3 and 4, each guard tooth *o* is U-shaped, its lower member *o'* being slotted at its rear end, as at *o''*, so as to permit it to be slipped upon a pin *o'''* which projects from the underside of the housing *k*. The upper member *o''''* of the tooth is forked or slotted, as at *o'''''*, to engage a lug *m'* which preferably rises from the upper plate of the hinge *m*. The tooth thus supports the upper housing *l* and holds the two

housings k and l together and holds them
 firmly in proper operative relation, the tooth
 being held in engagement with the lug or
 hinged member m' by a pin o^a . When it is
 5 desired to release the chain, the pin o^a is
 withdrawn thereby releasing the tooth o
 which is slipped off and leaves the housing
 l free to be turned back upon its hinges.
 As already stated, this movement of the up-
 10 per housing slacks the chain and permits it
 to be removed without difficulty. It there-
 fore becomes possible to remove the chain
 for repair without requiring the withdrawal
 of any bolts, while at the same time the cut-
 15 ter is properly supported in operation.

I claim as my invention:

1. Cutter mechanism for harvesters, com-
 prising a machine frame, a bracket mounted
 adjustably on the frame, a shaft journaled
 20 in the bracket, a wheel carried by said shaft,
 a cutter bar connected with the machine
 frame, a carrying wheel mounted on the cut-
 ter bar, an endless chain cutter carried by
 said wheels, a housing for the cutter mount-
 25 ed on the cutter bar, a driving wheel mount-
 ed on the machine frame, and chain gearing,
 independent of the endless chain cutter and
 including a chain tightener, for transmitting
 motion from said driving wheel to said shaft,
 30 whereby slack in the endless chain cutter is
 taken up by adjusting the bracket and the
 resulting slack in the chain gearing is taken
 up by the chain tightener.

2. Cutter mechanism for harvesters, com-
 35 prising a machine frame, a cutter bar con-
 nected to the frame, a driving wheel sup-
 ported by the frame, a carrying wheel at the
 outer end of the cutter bar, an endless chain
 cutter carried by said wheels, a housing for
 40 the chain mounted on the cutter bar and
 comprising a fixed lower member and a
 hinged upper member, a removable support
 for holding the two members of the housing
 in operative position, and idler rolls carried
 45 by the hinged member of the housing and co-
 operating with the chain between said wheels,
 whereby, when the hinged member of the
 housing is turned back to expose the chain
 cutter, the idler rolls are removed from the
 50 chain cutter and the chain cutter is slack-
 ened.

3. Cutter mechanism for harvesters, com-
 prising a machine frame, a cutter bar con-
 nected to the frame, a driving wheel sup-
 55 ported by the frame, a carrying wheel at the
 outer end of the cutter bar, an endless chain
 cutter carried by said wheels, a housing for
 the chain mounted on the cutter bar and
 comprising a fixed lower member and a

hinged upper member, a projection on the 60
 underside of the lower member of the hous-
 ing, a projection on the upper side of the
 housing, a removable U-shaped support
 adapted to be slipped upon the housing to
 hold the two members in operative position, 65
 the lower member of the support being
 slotted longitudinally to engage the projec-
 tion on the under side of the housing and
 the upper member of the support being
 slotted longitudinally to engage the projec- 70
 tion on the upper side of the housing, and a
 pin to engage the upper member of the sup-
 port and the corresponding projection to
 hold the support in position.

4. Cutter mechanism for harvesters, com- 75
 prising a machine frame, a cutter bar con-
 nected to the frame, a driving wheel sup-
 ported by the frame, a carrying wheel at the
 outer end of the cutter bar, an endless chain
 cutter carried by said wheels, a housing for 80
 the chain mounted on the cutter bar and
 comprising a fixed lower member and a
 hinged upper member, a combined guard
 tooth and support straddling the two mem-
 bers of the housing to hold them in opera- 85
 tive relation, and means to secure the com-
 bined guard tooth and support in position.

5. Cutter mechanism for harvesters, com-
 prising a machine frame, a cutter bar con-
 nected to the frame, a driving wheel sup-
 90 ported by the frame, a carrying wheel at the
 outer end of the cutter bar, an endless chain
 cutter carried by said wheels, a housing for
 the chain mounted on the cutter bar and
 comprising a fixed lower member and a 95
 hinged upper member, a U-shaped support
 straddling the two members of the housing
 to hold them in operative position, and
 means to secure the support in position.

6. Cutter mechanism for harvesters, com- 100
 prising a machine frame, a cutter bar con-
 nected to the frame, a driving wheel sup-
 ported by the frame, a carrying wheel at the
 outer end of the cutter bar, an endless chain
 cutter carried by said wheels, a housing for 105
 the chain mounted on the cutter bar and
 comprising a fixed lower member and a
 hinged upper member, a combined guard
 tooth and support straddling the two mem-
 bers of the housing to hold them in operative 110
 position and means to secure the support in
 position.

This specification signed and witnessed
 this 24th day of May, A. D. 1909.

NELSON P. LITHANDER.

Signed in the presence of—

ELLA J. KRUGER,
 AMBROSE L. O'SHEA.