

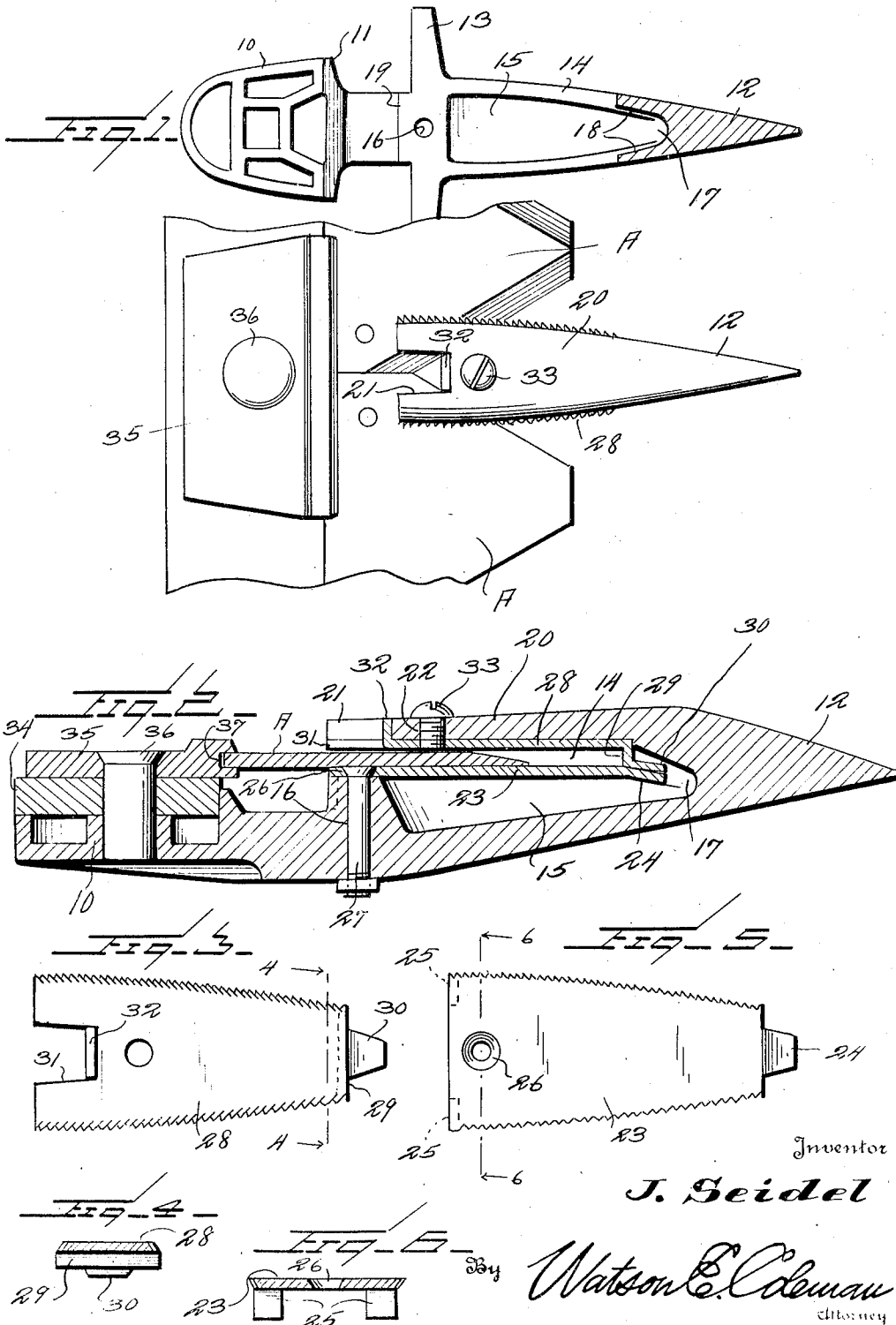
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GUARD FOR MOWING MACHINES, REAPERS, HARVESTERS, ETC

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UNITED STATES PATENT OFFICE

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GUARD FOR MOWING MACHINES, REAPERS, HARVESTERS, ETC.

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This invention relates to the knife guards or sickle guards of mowers, reapers, harvesters, and all sickle using harvesting machines, and the invention particularly relates to the ledger plates of the knife guards and the means for holding the ledger plates in place.

The general object of the invention is to provide a construction of this character wherein the ledger plates are readily removable or insertible into the slot of the finger, and a further object is to provide means for detachably locking the ledger plates in place, and means whereby the upper ledger plate may be forced down against the knife and toward the lower ledger plate to any desired extent.

A further object is to an improved sickle or knives which are so formed as to secure a self balancing sickle or knife bar.

Other objects will appear during the course of the following description.

My invention is illustrated in the accompanying drawings, wherein

Figure 1 is a top plan view of two fingers of a knife guard, the knives coacting therewith, one of the fingers or guards being in section;

Figure 2 is a longitudinal section of one of the guard fingers;

Figure 3 is a top plan view of the upper ledger plate;

Figure 4 is a section on the line 4—4 of Fig. 3;

Figure 5 is a top plan view of the lower ledger plate; and

Figure 6 is a section on the line 6—6 of Fig. 5.

Referring to the drawings, 10 designates the base of a guard finger, to which base the usual finger bar is attached. This base is formed with an upwardly extending edge 11 against which the rear edge of the sickle is adapted to bear and extending from the base is the finger 12 of usual form and formed with the laterally projecting portions 13, commonly found on finger bars. So far, I have described a construction quite common in mowing machines.

The finger bar is formed with the usual horizontal slot 14 within which the sickle or

knives operate. The bottom wall of this slot is formed with a longitudinally depending depression 15 and rearward of this depression with the bolt hole 16. The forward wall of the slot 14 is recessed at 17 and the side walls of this recess are cut away at 18. Between the laterally extending horns or projecting portions 13 the finger is slightly projected at 19. The upper wall 20 of the finger is longitudinally slotted at 21 and forward of this slot is provided with an aperture 22. Adapted to be disposed upon the upper face of the lower wall of slot 14 is the lower ledger plate 23 which, at its forward end is formed with the forwardly projecting slightly angled lug 24 defined by laterally disposed shoulders. The rear end of this ledger plate has flanges 25 at the corners and is formed with a counter-sunk aperture 26 adapted to receive the head of a bolt 27 which passes through the aperture 16 and acts to hold the lower ledger plate in place, the lug 24 entering the recess 17 and seating in the cutaway portions 18 of the recess.

The flanges 25 engage over the laterally extending portions or shoulders 13, the middle portion of which is outwardly projected at 19, to fit between these flanges 25, thus locking the lower ledger plate from transverse movement without placing any strain on the bolt 27.

The upper ledger plate 28 is adapted to fit over the lower ledger plate and at its forward end is formed with a downwardly extending flange 29, the middle of which has a forwardly projecting tongue 30. The rear end of this upper ledger plate is slotted at 31 and the forward end of this slot is bounded by an upwardly extending lug 32. Just forward of this lug, the upper ledger plate is apertured for engagement with a screw 33 which passes down through the aperture 22 in the portion 20. When the parts are in place, the lower ledger plate has its tongue 24 disposed within the recess 17. The upper ledger plate is disposed with the flange 29 bearing against the upper face of the lower ledger plate and with the tongue or lug 30 extending into the recess 17. The sickle or cutting knives A are disposed between the ledger plates and the upper

ledger plate is held in its place by means of the screw 33, the slot and the finger bar being machined to fit the sickle blade or knives. When these ledger plates are in place they cannot become detached as the forward ends of both plates are interlocked with the finger guard and the rear ends are held by the screw 33 and the bolt 27.

The lateral margins of the ledger plates are beveled in opposite directions and toothed to provide cutting edges for the knives A.

The bases 10 of the several fingers will be mounted, of course, upon a wooden tongue or strip designated 34, having applied thereto any desired number of guide members 35, each of these guide members being held by a bolt or screw 36. Each of these guide members is formed with a relatively shallow longitudinally extending groove 37 wherein the rear margin of the sickle formed by the knives A is mounted for longitudinal movement. The slot 37 in this guide 35 is shallow and is just deep enough to act as a guide and permit the blade to cut either way effectively. This secures a self balancing of the sickle knives A.

It will be seen that the ledger plates constitute knife guards and are readily removable and replaceable.

It is to be particularly understood that this invention is applicable to mowing machines, binders, harvesters, and structures of all kinds using a reciprocating sickle. The self balancing feature is of particular importance. The finger 12 is so formed as to provide strength where needed.

What I claim is—

1. In a knife guard having a cutter receiving slot, upper and lower ledger plates between which the cutter operates, the upper plate being fulcrumed at its forward end upon the lower ledger plate for vertical movement and a screw passing through the rear end of the upper wall of the slot and engaging the upper ledger plate to rock it upon the fulcrum, and thereby adjust the upper ledger plate toward or from the lower ledger plate.

2. A knife guard having a horizontal slot within which the cutter reciprocates, the forward end of the slot being formed with a recess, a lower ledger plate having a lug projecting into said recess, a bolt passing through the rear end of the lower ledger plate and through the guard and thereby holding the lower ledger in place, an upper ledger plate having a downwardly extending flange at its forward end resting upon the lower ledger plate and the lower ledger plate having a lug at its forward end engageable in the recess, the rear end of the upper ledger plate having an upwardly extending lug, the upper wall of the slot in the guard being formed with an open ended slot to receive said lug, and a screw passing through the upper wall of the

guard and having screw-threaded engagement with the upper ledger plate.

3. A knife guard having a horizontal slot within which the cutter reciprocates, the forward end of the slot having a recess, a lower ledger plate having a lug projecting within the recess, the rear end of the ledger plate having downwardly extending flanges, the knife guard being formed with a transversely extending shoulder against which the flanges abut, the middle portion of said shoulder being protuberant to extend between said flanges, a bolt passing through the rear end of the lower ledger plate and holding it from longitudinal movement, an upper ledger plate having a downwardly extending flange at its forward end resting upon the lower ledger plate and having a lug engageable in said recess, the upper ledger plate at its rear end having an upwardly extending lug, the rear end of the upper wall of the slot in the guard having a longitudinally extending slot to receive said lug, and a screw passing the upper wall of the guard and having threaded engagement with the upper ledger plate.

4. In a knife guard having a cutter receiving slot, triangular knives operating transversely through said slot, upper and lower parallel ledger plates disposed in said slot and between which the cutter operates, said plates bearing against the upper and lower faces of the cutter, means for interlocking the forward and rear ends of said ledger plates with the knife guard against lateral movement, and means for preventing the longitudinal movement of the ledger plates.

5. In a cutting mechanism for mowers, reapers, and kindred machines, a supporting member, slotted fingers attached thereto and projecting outward therefrom, upper and lower parallel ledger plates mounted within the fingers, a plurality of connected cutting knives operating in the slots of said fingers and reciprocating transversely of the fingers and operating between and bearing against said upper and lower ledger plate, and a guide mounted upon the supporting member and having a relatively shallow longitudinally extending groove within which the rear ends of the connected knives engage, and by which they are balanced, alternate knives being beveled in opposite directions relative to each other.

In testimony whereof I hereunto affix my signature.

JOHN SEIDEL.