No. 809,676. PATENTED JAN. 9, 1906.

P. E. FLETCHER.

SICKLE.

APPLICATION FILED APR. 26, 1905.

2 SHEETS—SHEET 1.

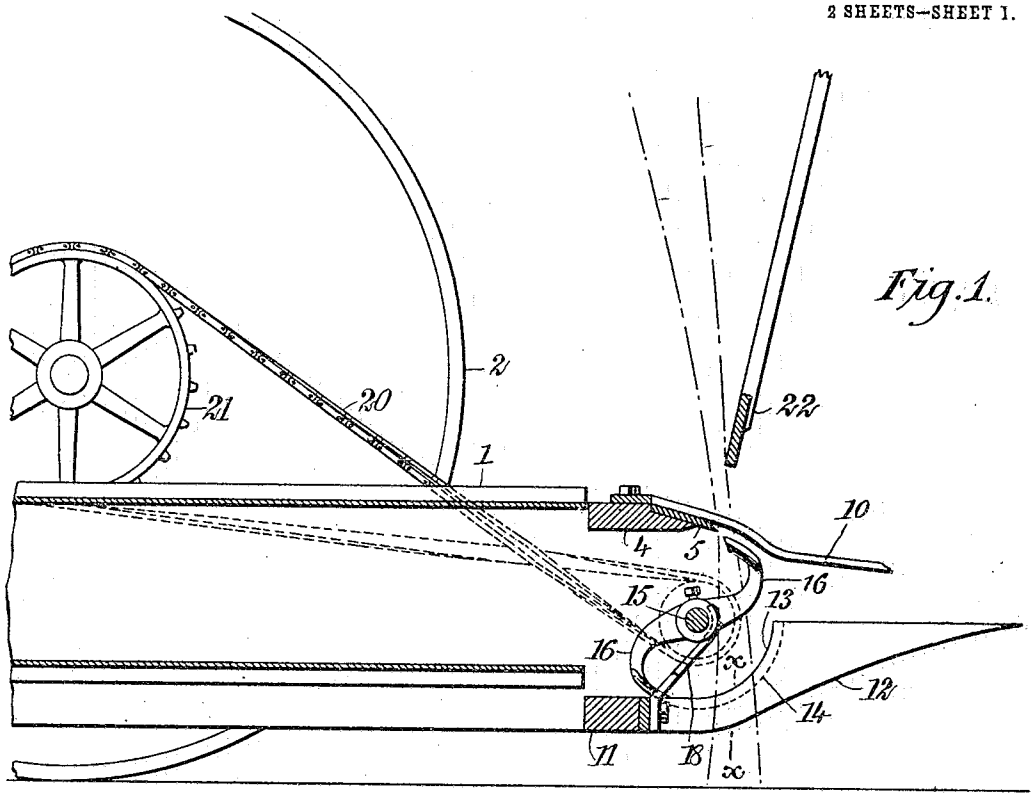
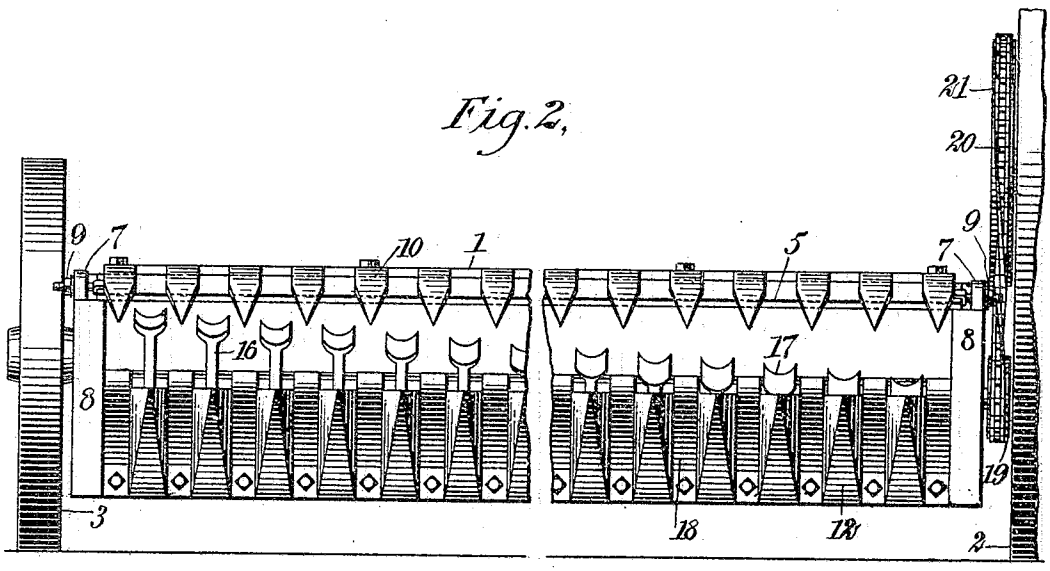


Fig. 1.

Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

Fig. 4.

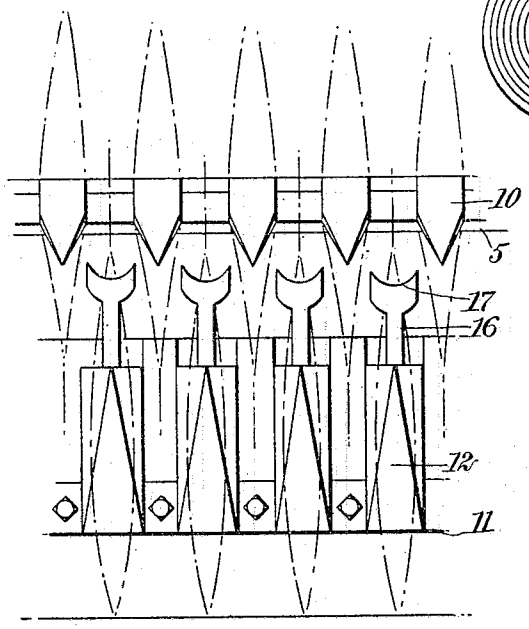


Fig. 6.

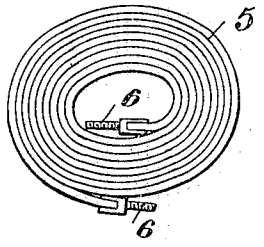
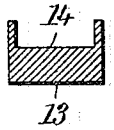


Fig. 5.



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UNITED STATES PATENT OFFICE.

PEARL E. FLETCHER, OF RIDGE, OREGON, ASSIGNOR OF ONE-HALF TO KENNETH GEORGE WARNER, OF PENDLETON, OREGON.

SICKLE.

No. 809,676. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed April 26, 1905. Serial No. 257,491.

To all whom it may concern:

Be it known that I, PEARL E. FLETCHER, a citizen of the United States, and a resident of Ridge, in the county of Umatilla and State of Oregon, have invented a new and Improved Sickle, of which the following is a full, clear, and exact description.

This invention relates to improvements in sickle mechanism designed to be used in connection with a harvester, reaper, or binder, the object being to provide a sickle mechanism that will be of comparatively light draft, thus requiring but little power to run it, and, further, to employ a very thin sickle-blade that may be readily sharpened with an emery-wheel without removing the blade from the machine.

Other objects of the invention will appear in the general description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a sickle mechanism embodying my invention. Fig. 2 is a front view thereof. Fig. 3 shows the sickle-blade in plan. Fig. 4 is a detail illustrating the manner of directing the grain to the blade. Fig. 5 is a section on the line *x x* of Fig. 1, and Fig. 6 shows the sickle-blade as coiled.

Referring to the drawings, 1 designates the draper of the machine, mounted on wheels 2 3. Arranged at the front end of the upper portion of the draper is a cross-bar 4, to which the sickle-blade 5 is attached. This sickle-blade, as before mentioned, is of very thin steel, so that it may be readily sharpened by an emery-wheel while on the machine, and upon removing the blade it will readily coil, similar to a watch-spring, so that it may be packed in a comparatively small space for transportation or storage. To keep the blade under proper tension, I provide screw-bolts 6 at its ends, which pass through lugs 7 on the upper ends of standards 8, and these bolts are engaged by tension-nuts 9.

Extended forward from the bar 4 and at a downward angle are the upper guide-fingers 10. These guide-fingers are beveled at their outer sides, so as to project to a point. Extended forward from a lower cross-bar 11 are the lower guides 12, the under sides of which are curved upward and forward, and their inner end portions are curved upward, as indicated at 13, these curved portions 13 being channeled, as indicated at 14, the object of which will hereinafter appear.

Mounted rigidly on a cross-shaft 15 are pressers, each comprising oppositely-extended and oppositely-curved arms 16, which when in rotary motion pass underneath the space between the upper guide-fingers 10 and force the grain against the blade 5. The ends of the arms 16 are somewhat widened and are concaved, as indicated at 17, these concaved portions serving to engage the grain and force the same with a shearing or sliding action against the blade 5. It will be noted that the lower guides 12 alternate with the guides 10, and the presser-arms that may be moving below the axis of the shaft 15 will pass their ends through the channels 14, and thus the pressers will be prevented from striking the grain until they move to an uppermost position toward the sickle-blade.

Extended upward from the lower bar 11 between the several pressers are guard-plates 18, the said guard-plates at their upper ends embracing the front side of the shaft 15 to form shields preventing the grain from engaging with and winding upon the shaft. Motion may be imparted to the shaft 15 through any desired connection with one of the machine-frames. I have here shown a sprocket-pinion 19 on the shaft, from which a chain 20 extends to a connection with a sprocket-wheel 21, mounted on the wheel 2.

In Fig. 1 above the machine is indicated a portion of a reel 22, which serves to force straws or grain inward between the guide-fingers until the grain is engaged by the concave ends of the pressers, which force the grain against the plate with a shearing motion, as before mentioned.

It will be noted that the several pressers are staggered on the shaft, so that practically no two operate together, and this will have a tendency to reduce the power required to operate the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a sickle-machine, a wheel-mounted draper, spaced guides extending downward and forward at an incline at the forward end of the draper, a sickle-blade arranged at the forward end of the draper, the said guides be-

ing tapered at the sides, lower guides alternating with the first-named guides, a shaft, and pressers mounted on said shaft and operating between the upper and lower guides.

2. In a sickle mechanism, a wheel-mounted draper, a bar extended across the forward end thereof, a sickle-blade mounted on the bar, guides extended at a forward and downward incline from said bar, the said guides being tapered at the sides, a bottom cross-bar, guides extended forward from said bottom cross-bar and alternating with the first-named guides, the said lower guides being curved and channeled at their inner ends, a shaft, pressers consisting of oppositely-extended arms mounted on said shaft and having broadened ends and adapted to pass through said channels of the lower guides, the said broadened ends being concaved, and means operated by a forward movement of the machine for rotating the shaft.

3. In a sickle-machine, a wheel-mounted draper, a thin blade arranged at the forward end of the draper, guide-fingers extended forward from said blade and tapered at the opposite sides, lower guide-fingers, a shaft, pressers mounted on said shaft, each consisting of oppositely-extended curved arms having broadened concaved ends, and guard-plates extended between the pressers and covering the front portion of the shaft.

4. In a sickle-machine, a wheel-mounted draper, a blade arranged at the forward end of the draper, guide-fingers extended forward from said blade, lower guides alternating with the first-named guides, and a presser coacting with the blade.

5. In a sickle-machine, the lower guides having their under sides curved upward and forward and their inner ends at the upper side curved upward and forward and channeled, and rotary presser-arms movable through said channels.

6. In a sickle-machine, the combination with a blade and guide-fingers, of a rotary shaft, and oppositely-curved presser-arms arranged on said shaft, the ends of said arms being concaved.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PEARL E. FLETCHER.

Witnesses:
S. A. LOWELL,
MABEL WHITMAN.