C. S. SHARP.

STALK CUTTER.

APPLICATION FILED AUG. 27, 1915.

1,247,018.

Patented Nov. 20, 1917.

2 SHEETS—SHEET 1.

Fig. 1

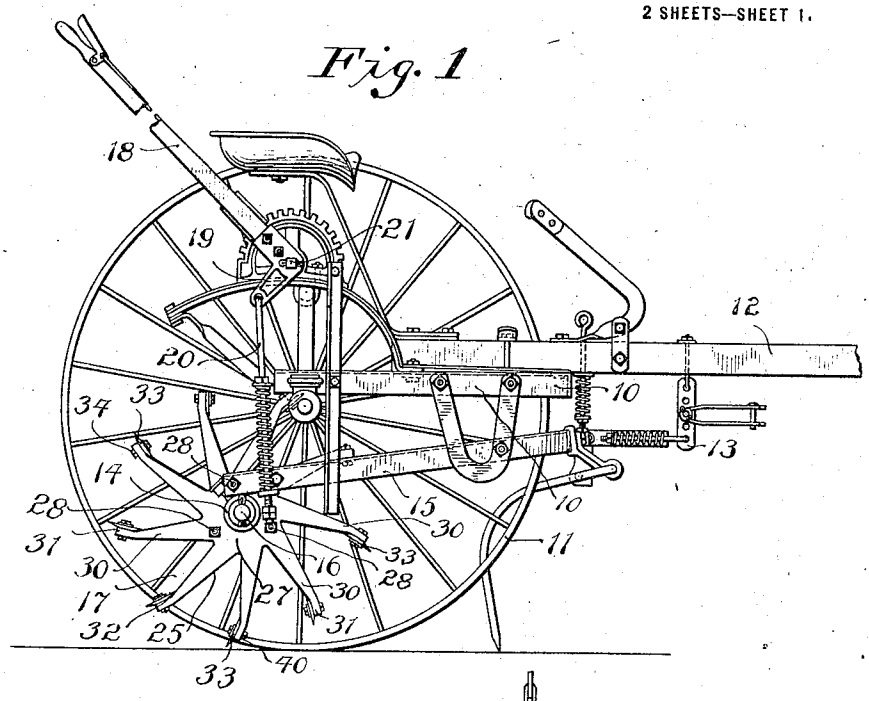
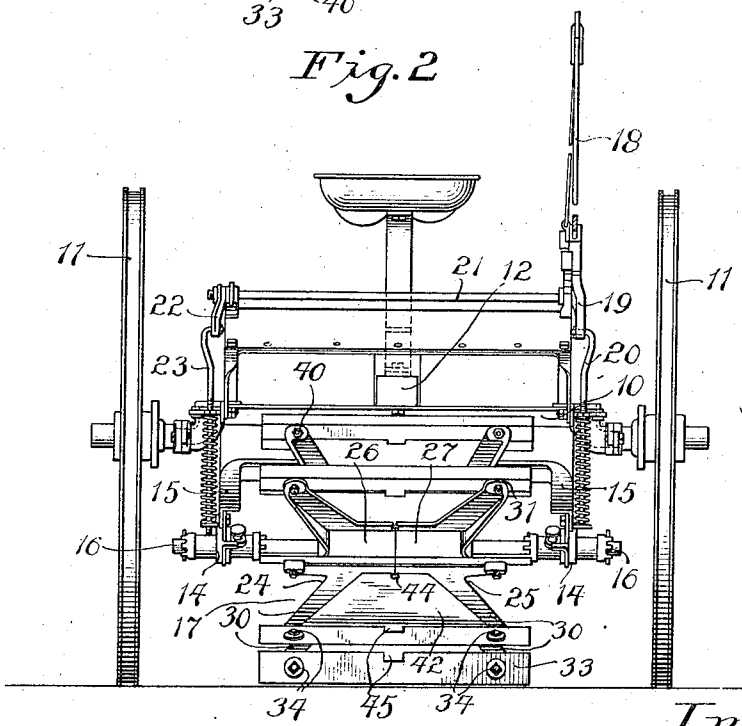


Fig. 2



Inventor:
Charles S. Sharp.
By Chas. E. Lord
Atty.

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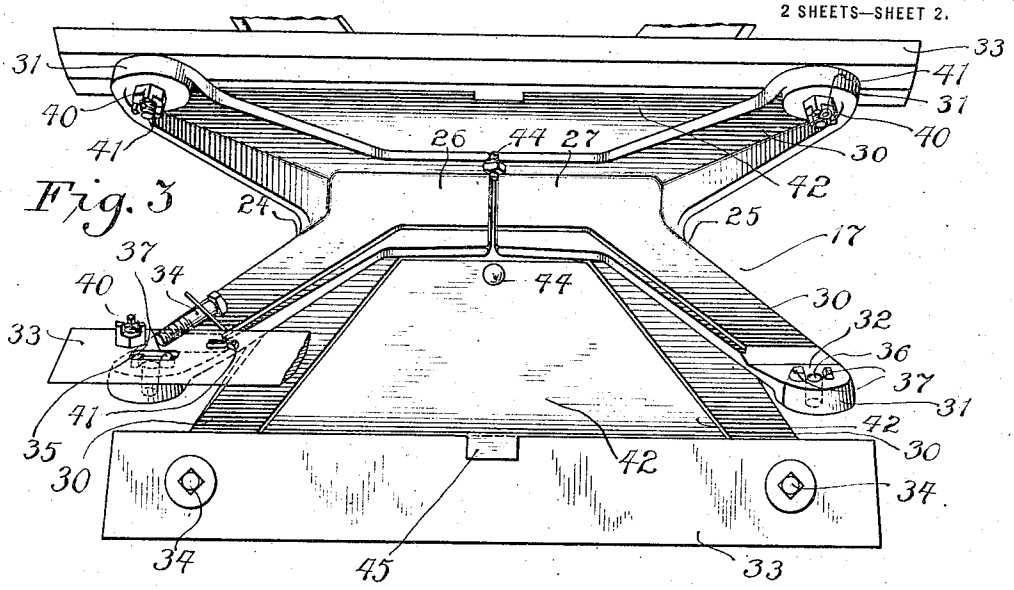
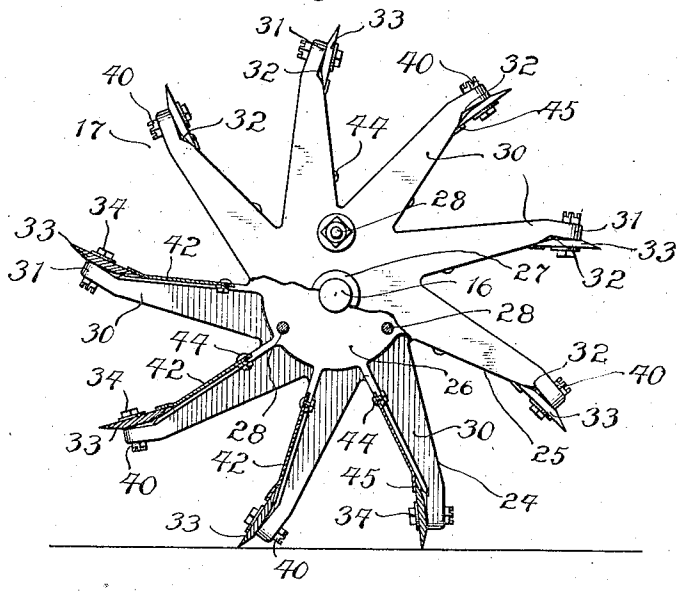


Fig. 3

Fig. 4



Inventor:
Charles S. Sharp.
By Chas. E. Lord
Atty.

UNITED STATES PATENT OFFICE.

CHARLES S. SHARP, OF AUBURN, NEW YORK, ASSIGNOR TO INTERNATIONAL HARVESTER COMPANY OF NEW JERSEY, A CORPORATION OF NEW JERSEY.

STALK-CUTTER.

1,247,018. Specification of Letters Patent. Patented Nov. 20, 1917.

Application filed August 27, 1915. Serial No. 47,584.

To all whom it may concern:

Be it known that I, CHARLES S. SHARP, a citizen of the United States, residing at Auburn, in the county of Cuyahoga and State of New York, have invented certain new and useful Improvements in Stalk-Cutters, of which the following is a full, clear, and exact specification.

This invention relates to stalk cutters.

One of the objects of the invention is to prevent clogging of the knife head.

Another object of the invention is to prevent the knife blades from shearing off the holding bolts therefor.

Another object of the invention is to provide a simple, durable, and inexpensive stalk cutter adapted to meet all of the requirements for successful commercial operation.

These objects are accomplished by providing a stalk cutter having a knife head including cutting and coöperating members arranged in a manner to overcome any tendency of the parts thereof to clog, and means for supporting the knife members in an improved manner to prevent the holding bolts from being sheared off.

The invention is illustrated on the accompanying sheets of drawings, in which—

Figure 1 is a side elevation of a stalk cutter embodying my invention;

Fig. 2 is a rear elevation of the same stalk cutter;

Fig. 3 is a fragmentary front view of my improved knife head on an enlarged scale; and

Fig. 4 is an end elevation of the same knife head, parts being broken away for the sake of clearness.

The various novel features of my invention will be apparent from the following description and drawings, and will be particularly set forth in the appended claims.

This stalk cutter includes a frame 10, supported in the usual way upon ground wheels 11, the frame having secured to the front end thereof a tongue 12, with suitable yieldable draft appliances 13. Mounted in bearing members 14 at one end of a pivotally mounted frame member 15, is a shaft 16, upon which is mounted my improved knife head 17. The knife head may be raised and lowered by actuating a hand operated lever 18, having a small arm 19, to one end of which is pivotally connected a rod 20 which is yieldably connected with the frame member 15. The lever 18, being mounted upon a rock shaft 21, is effective also to transmit motion to the left-hand side of the frame member 15 through the arm 22 mounted upon the opposite end of the rock shaft 21 and a rod 23 connecting the arm 22 with the left-hand side of the frame member 15.

This improved knife head includes two spiders 24 and 25, having axially extending hub portions 26 and 27 mounted over the shaft 16. These spiders are connected or secured together by three axially extending bolts 28 whereby relative movement between the spider members is prevented. Each of the spider members has a plurality of knife arms 30 which, it will be noted, do not extend radially but from off one side of the center of the hub. This construction is to relieve the arms of excessive strain by giving a more direct stroke, and tends to prevent knife arm breakage, and also gives a better stroke for cutting. The ends 31 of the arms 30 are at an angle with the main part of the arms and are provided with grooves 32 for the reception of knife blades 33. The ends of the spider arms are shaped to bring pressure against the blade on both sides of the holding bolts 34 for holding the blades tightly, the holding bolts passing through elongated openings 35 in the blades and through circular openings 36 in the spider arms. It will be noted that the bolts 34, when in place in the openings 36, are located between two lugs 37 formed on the ends 31 of the spider arms. These lugs fit into the elongated openings 35 of the knife blades when the knife blades are placed in position, the lugs 37 taking the jars and pressure transmitted from the knife blades which otherwise would be transmitted to the holding bolts 34. By means of this arrangement the shearing of the holding bolts is prevented. With this construction the knives cannot be loosened by contact with stalks or stones, are always held firmly in place, and can be easily removed for grinding. The bolts are held in locked position by castle nuts 40 and cotter pins 41.

To prevent clogging of the knife head the spaces between the knife blades 33, arms 30, and the hub portions 26 and 27 of the spiders, the latter are provided with shields 42 of flat steel, held in place at the center of the spiders by bolts 44 and caught under the knife blades 33, fitting into the grooved face

at the ends of the spider arms 30. The space, therefore, between the spider arms and hubs and knife blades is entirely closed in a manner to prevent the knife head from being clogged in any manner whatsoever. Corn or cotton stalks cannot wrap over the blades or around the spider arms, clogging the knife head and making it necessary to stop the team to clear it. The spider shield or web makes a tight joint for the blade so no stalks can be forced between. A struck up portion 45 of the shield passes over the opposite side of each of the knife blades 33 to protect the blades from bulging. There are no loose edges to gather trash and carry it along.

By means of this simple and compact arrangement, the requirements for successful commercial operation are met. It is evident that there may be various modifications of the precise arrangement herein shown and described, and it is my intention to cover all such modifications which do not involve a departure from the spirit and scope of my invention as set forth in the following claims.

What I claim as new is:

1. In a stalk cutter, a knife head having offset arms, a shield mounted thereon and a blade supported by said arms and clamping said shield thereto arranged to be in a vertical plane when it strikes the ground.

2. In a stalk cutter, a knife head having a spider with a cylindrical hub and arms, a knife blade secured to said arms, and a shield between the spider arms, cylindrical hub and knife blade inclosing the space therebetween.

3. In a stalk cutter, a knife head including a spider member having arms, a knife secured to said arms, and a shield between said arms and knife held in position by having a portion thereof reaching over to engage one side of the knife and another portion being clamped under said knife.

4. In a stalk cutter, a knife head including a spider with arms, a knife blade secured to said arms, and a shield fastened under said blade and having a struck up portion engaging one side of said blade.

5. In a stalk cutter, a knife head including a spider having arms with lugs thereon, knife blades having openings for the reception of said lugs, and securing members for holding said blades in position, the lugs being arranged to take all pressure transmitted from the knife blades.

6. In a stalk cutter, a knife head including a spider having arms with lugs formed thereon and openings intermediate said lugs, a knife blade having an elongated opening for the reception of said lugs, and means passing through said elongated openings in the knife blades through openings in said arms for holding the blades in place.

In testimony whereof I affix my signature.

CHARLES S. SHARP.

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