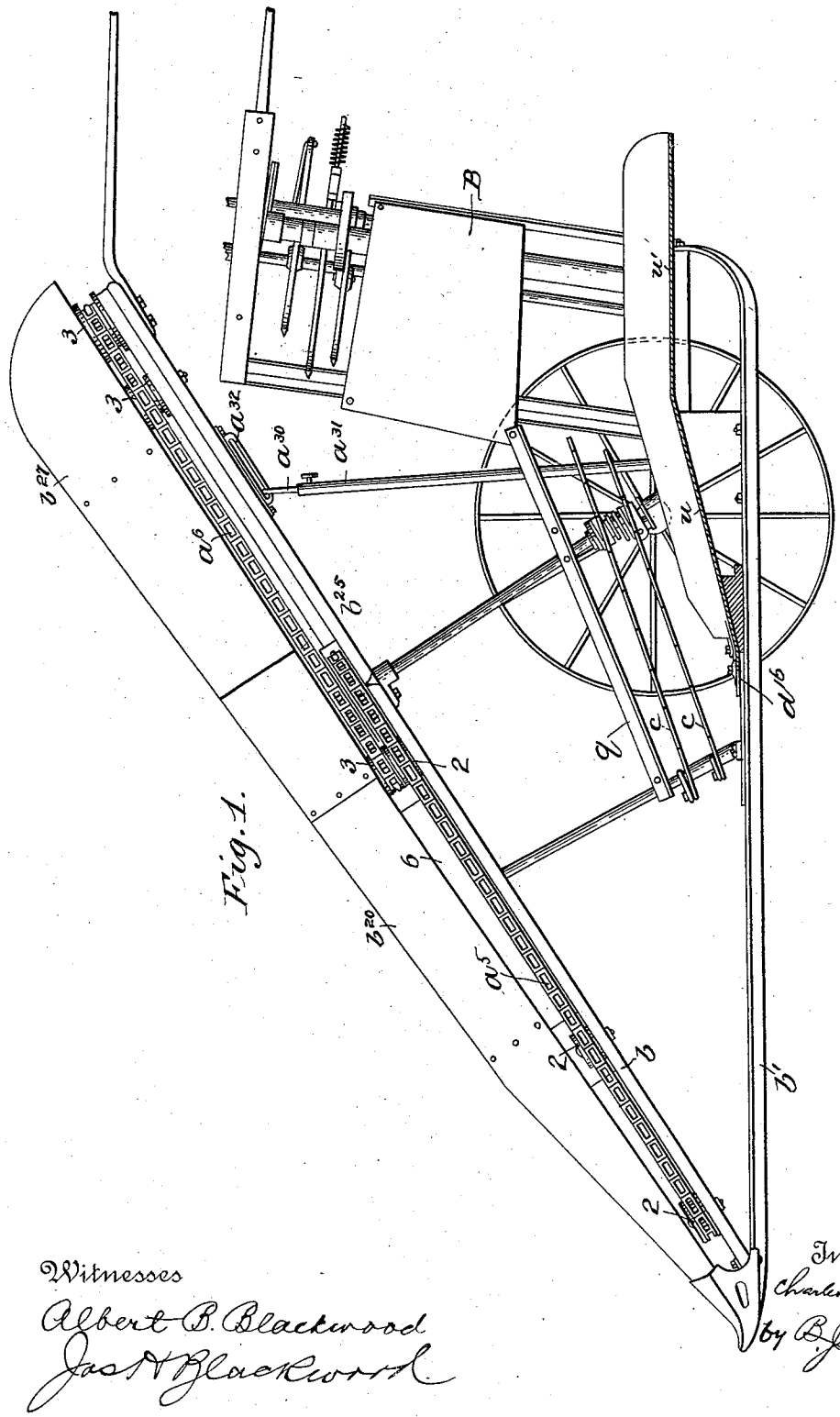
No. 614,066. Patented Nov. 8, 1898.

C. S. SHARP.

CORN HARVESTER.

(Application filed Apr. 9, 1898.)

(No Model.) 2 Sheets—Sheet 1.



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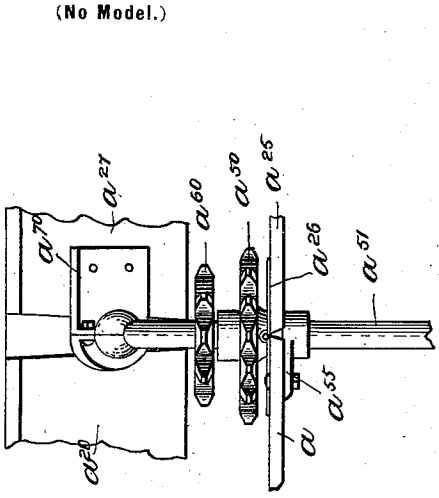


Fig. 5.

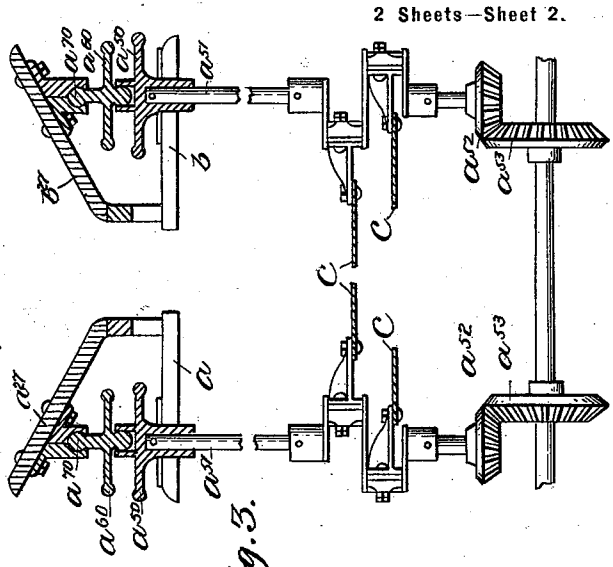


Fig. 3.

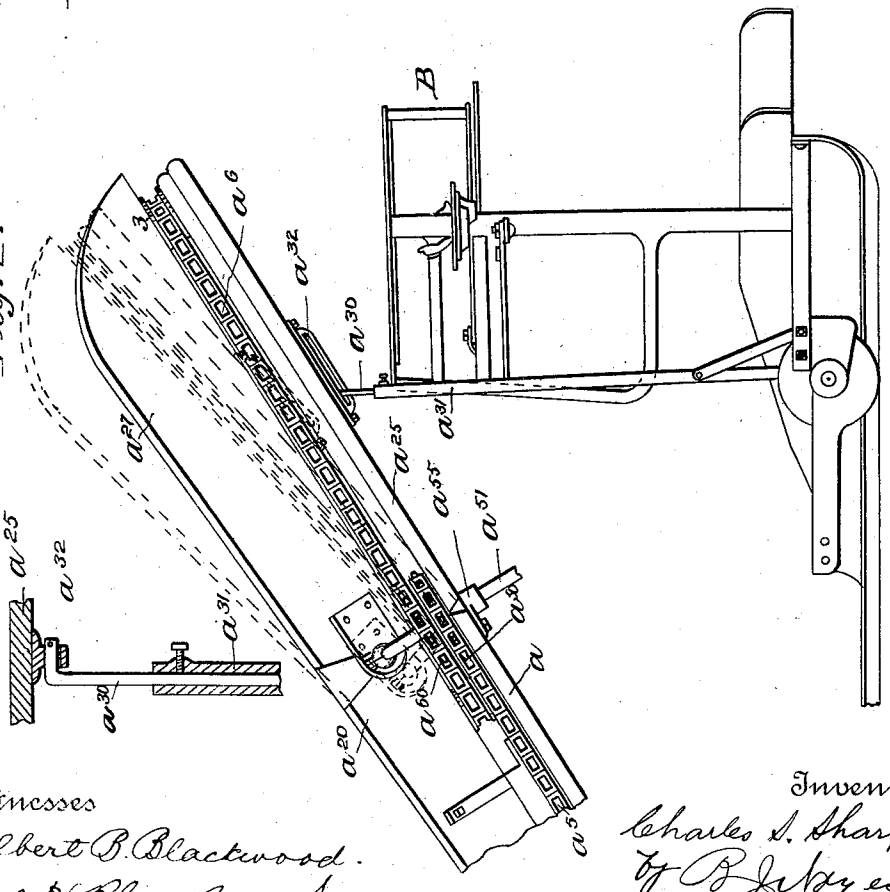


Fig. 2.

Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES S. SHARP, OF AUBURN, NEW YORK, ASSIGNOR TO THE D. M. OSBORNE & COMPANY, OF SAME PLACE.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 614,066, dated November 8, 1898.

Original application filed March 27, 1897, Serial No. 629,465. Divided and this application filed April 9, 1898. Serial No. 677,002. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. SHARP, of Auburn, county of Cayuga, and State of New York, have invented an Improvement in Corn-Harvesters, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts, this application being a division of application Serial No. 629,465, filed March 27, 1897.

This invention relates to corn-harvesters of that class wherein the standing corn is cut and conveyed along the passage-way in standing position to a binder and bound "on end," such a corn-harvester being shown and described in United States Patent No. 539,830, granted to me May 28, 1895; and the invention has for its object to improve the construction of a corn-harvester such as therein shown to better adapt it to harvest tall corn.

The invention consists in adjusting the feeding-chains or equivalent feeding devices at the rear part or delivery end of the corn-passage to different elevations, in order that they may act upon the corn at a greater or less distance from the butts, also in adjusting the rear ends of the side walls of the corn-passage likewise to different elevations, also in combinations of parts comprising such adjustable features or elements.

Figure 1 shows a vertical section of a corn-harvester embodying my present improvements; Fig. 2, a detail showing one of the adjustable feeding devices and one of the adjustable side walls of the laterally-confined passage-way; Fig. 3, a detail showing a part of one of the adjustable side walls; Figs. 4 and 5, other details, to be referred to.

The forwardly-projecting gathering-arms or prongs consist, essentially, of the upwardly-inclined portions $a\,b$, located a short distance apart, and the lower horizontal portions, as b', likewise located a short distance apart, all supported by the framework and adapted to form a more or less laterally-confined passage-way between them extending from the forward end of the machine rearwardly toward or to a binder B. u represents the floor of said laterally-confined passage-way, and u' a rear extension thereof which forms a floor for the binder. Between said upwardly-inclined portions and the lower horizontal portions there may be side bars, as q, so located as to serve as a coöperative part of the side walls of said laterally-confined passage-way. A cutter d^{16} of any usual construction is arranged to work across said laterally-confined passage-way substantially midway its length and quite near to the ground to sever the standing corn which is presented to it.

From the cutter d^{16} to the binder B a floor u is provided for said laterally-confined passage-way, and said floor preferably has projecting upwardly from it at each side vertical side portions which also form a coöperative part of the side walls of said passage-way. Erected upon each upwardly-inclined portion $a\,b$ is a top board $a^{20}\,b^{20}$, respectively, said boards being set more or less obliquely to the portions $a\,b$, but arranged in opposite ways, to thereby form a flaring top to said laterally-confined passage-way.

There are two sets of corn-engaging devices shown in the present machine, which work along the laterally-confined corn-passage, and in many respects they are the same as shown in my Patent No. 601,760, dated April 5, 1898, they being represented as two pairs of corn-engaging chains $a^5\,a^5$ and $a^6\,a^6$, the former being arranged to work along the front part of the passage-way and the latter to work along the rear part of the passage-way, the former "righting" the leaning stalks of corn and the latter working in conjunction with other devices to present the "righted" corn to the cutter and to feed along the severed corn.

As herein shown, the corn-engaging chains $a^5\,a^5$ each pass around idle-wheels 2 and around large sprocket-wheels $a^{50}\,a^{50}$, which are secured to the upper ends of oblique driving-shafts a^{51}, said shafts being provided at their lower ends with bevel-gears a^{52}, engaging bevel-gears a^{53}, secured to the main driving-shaft of the machine, and, as herein shown, the corn-engaging chains $a^6\,a^6$ each pass around idle-wheels 3 and around sprocket-wheels a^{60}, which are secured to the upper ends of said oblique driving-shafts a^{51} just above the

sprocket-wheels a^{50}, and as said oblique shafts a^{51} are rotated in opposite ways said chains will be moved along, with their adjacent engaging portions traveling in the same direction.

The driving sprocket-wheels a^{50} are larger than the driving sprocket-wheels a^{60}, and as a consequence the chains a^5 a^5 will be driven faster than the chains a^6 a^6. The relative proportions of the parts is such that said chains a^5 a^5 will be driven faster than the speed at which the machine advances, and the chains a^6 a^6 will be driven at about the speed of the machine, and said foremost chains will operate to "right" the leaning stalks before they are presented to the cutter, and the rearmost chains will operate in conjunction with butt-feeding devices to engage the stalks which have been thus brought into upright position by said chains a^5 a^5 and will present them to the cutter and thereafter feed along the severed corn toward or to the binder. The butt-feeding devices herein shown are represented as jaws *c c;* yet it is obvious that they may be otherwise constructed.

The corn-engaging devices at the rear part of the laterally-confined passage-way, which are herein represented as feeding-chains a^6 a^6, are made adjustable in such manner that their rear ends may be raised and lowered relatively to their forward ends, or, in other words, relatively to the floor of the passage-way, to accommodate short and tall corn, it being particularly desirable to raise the same for tall corn, and the rear parts or ends of the side portions or walls of said laterally-confined passage-way are also adjustable to different elevations relatively to their forward ends—that is to say, relatively to the floor of the passage-way—it being particularly desirable to raise them to serve as guides or side supports for tall corn. In carrying out this part of my invention the upwardly-inclined portions *a b*, which form coöperative parts of the side walls of the passage-way, are divided transversely at points substantially midway their length—as, for instance, at points substantially opposite the oblique shafts a^{51}—and the rear parts a^{25} b^{25} of such portions are hinged to the front parts at such point by hinges a^{26}, (see Fig. 5,) so that said rear parts a^{25} b^{25} may be raised and lowered on their hinge connections, and such movement, it will be seen, is relative to the floor of the passage-way. The rear ends of the front parts *a b* are stationarily supported upon projections a^{55}, formed on collars or hubs on said oblique shafts a^{51}. The rear ends of the rear parts a^{25} b^{25} are supported upon vertically-adjustable rods or uprights a^{30}, telescopically mounted in and supported by the tubular rods a^{31}, rising from the frame, the upper ends of said rods a^{30} being bent right angularly or offset, as shown in Fig. 4, and passed through the slots of the slotted bearing-blocks a^{32}, which are secured to the under sides of the parts a^{25} b^{25}. As said rods a^{30} are raised and lowered the upper ends thereof will slide along in the slots of said blocks a^{32} and will raise and lower the parts a^{25} b^{25} on their hinged connections, said parts being movable from the full-line to the dotted-line position. (Shown in Fig. 2.) The oblique top boards a^{20} b^{20} are likewise divided transversely in two parts, and the rear parts thereof, as a^{27} b^{27}, are movable with the parts a^{25} b^{25} upon said hinged connections a^{26}. The feeding devices or chains a^6 a^6 are supported by said adjustable portions a^{25} b^{25}, and consequently are adjusted with said parts, and to enable such result to be accomplished the driving sprocket-wheels a^{60}, with which said chains are connected, are in turn connected with the shafts a^{51} above the driving sprocket-wheels a^{50} by universal joints, as shown in Fig. 3, so that said sprocket-wheels a^{60} may be tilted in different directions, and the upper bearings a^{70} for said sprocket-wheels a^{60} are secured to the under sides of the oblique top boards a^{27} b^{27}, so that as the rear parts or end portions are raised or lowered the sprocket-wheels a^{60} will be correspondingly tilted and the chains a^6 a^6 maintained in parallelism with said adjustable rear parts.

It is obvious that many ways may be devised for thus adjusting to different elevations the rear parts or ends of the side portions of the laterally-confined passage-way relatively to their front ends or to the floor of the passage-way and also for adjusting the rear corn engaging or feeding devices to different elevations relatively to their front ends or to the floor of said passage-way without departing from the spirit and scope of this invention; and, furthermore, I desire it to be understood that I do not limit my invention to any particular location of the front ends of said adjustable portions.

What I claim is—

1. In a corn-harvester, a passage-way, corn-engaging devices working rearwardly along the front part thereof and upwardly-inclined corn-engaging devices working rearwardly along the rear part thereof and means for adjusting the rear ends of said rear corn-engaging devices to different elevations, substantially as described.

2. In a corn-harvester, wherein the corn is gathered, cut and conveyed rearwardly to an upright binder and bound on end, a passage-way along which the corn is conveyed, a cutter working across the passage-way substantially midway its length, upwardly-inclined corn-engaging devices working rearwardly along the front part of said passage-way and upwardly-inclined corn-engaging devices working rearwardly along the rear part of said passage-way and means for adjusting the rear ends of said rear corn-engaging devices to different elevations relative to their front ends, substantially as described.

3. In a corn-harvesting machine, a pair of gathering arms or prongs located a short dis-

tance apart to provide a laterally-confined passage-way, said arms or prongs having top guides which are jointed and the rear parts pivoted to the front, corn-engaging devices working rearwardly along the front part of said passage-way, upwardly-inclined corn-engaging devices working rearwardly along the rear part of said passage-way, and means for adjusting the rear ends of said rear corn-engaging devices and the rear ends of said top guides up and down, substantially as described.

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

CHARLES S. SHARP.

Witnesses:
FRED M. EVERITT,
S. ELLIOTT GRANT.