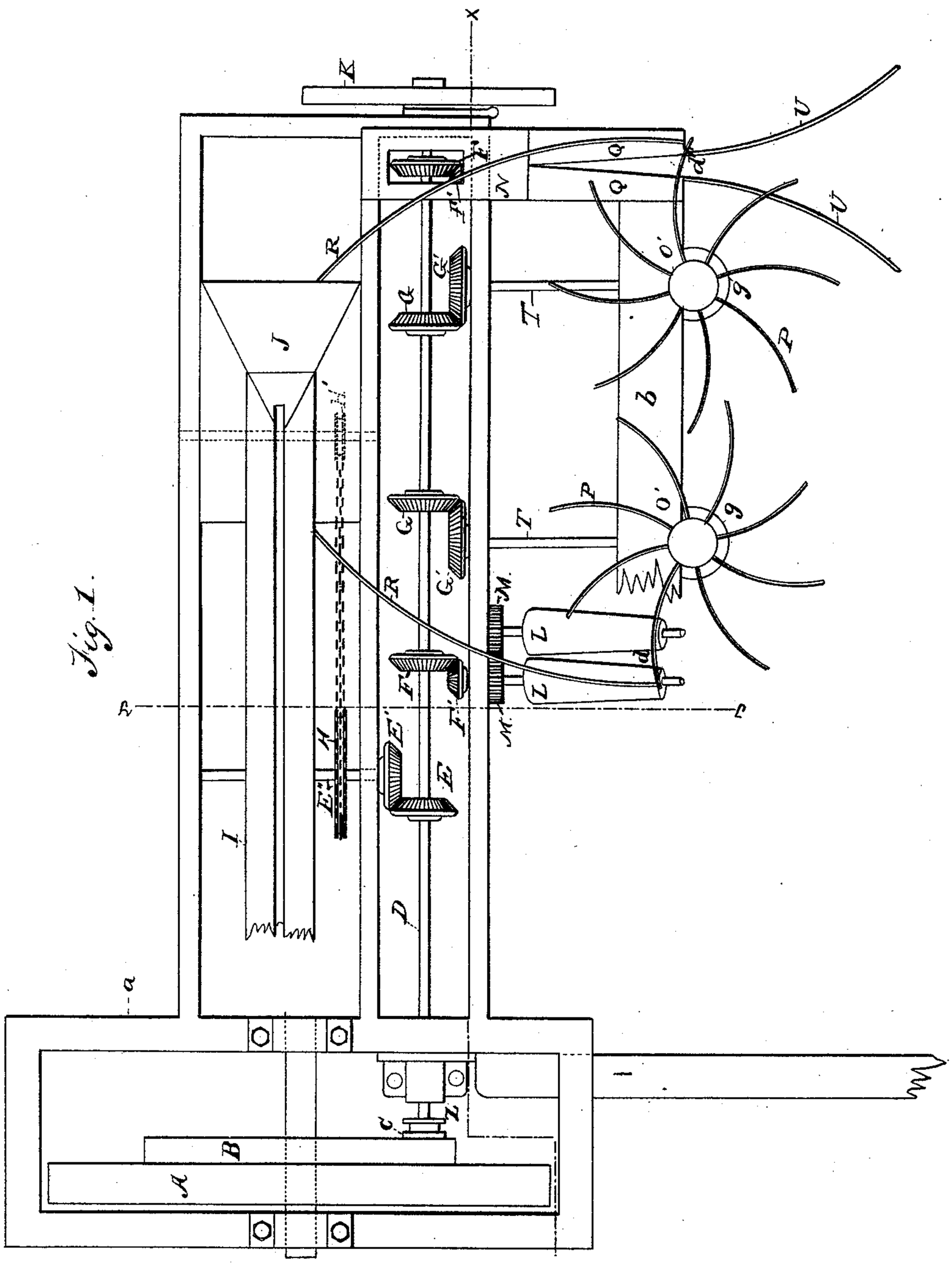
(No Model.) 2 Sheets—Sheet 1.

S. A. AMBRISTER.

CORN GATHERING MACHINE.

No. 413,999. Patented Oct. 29, 1889.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

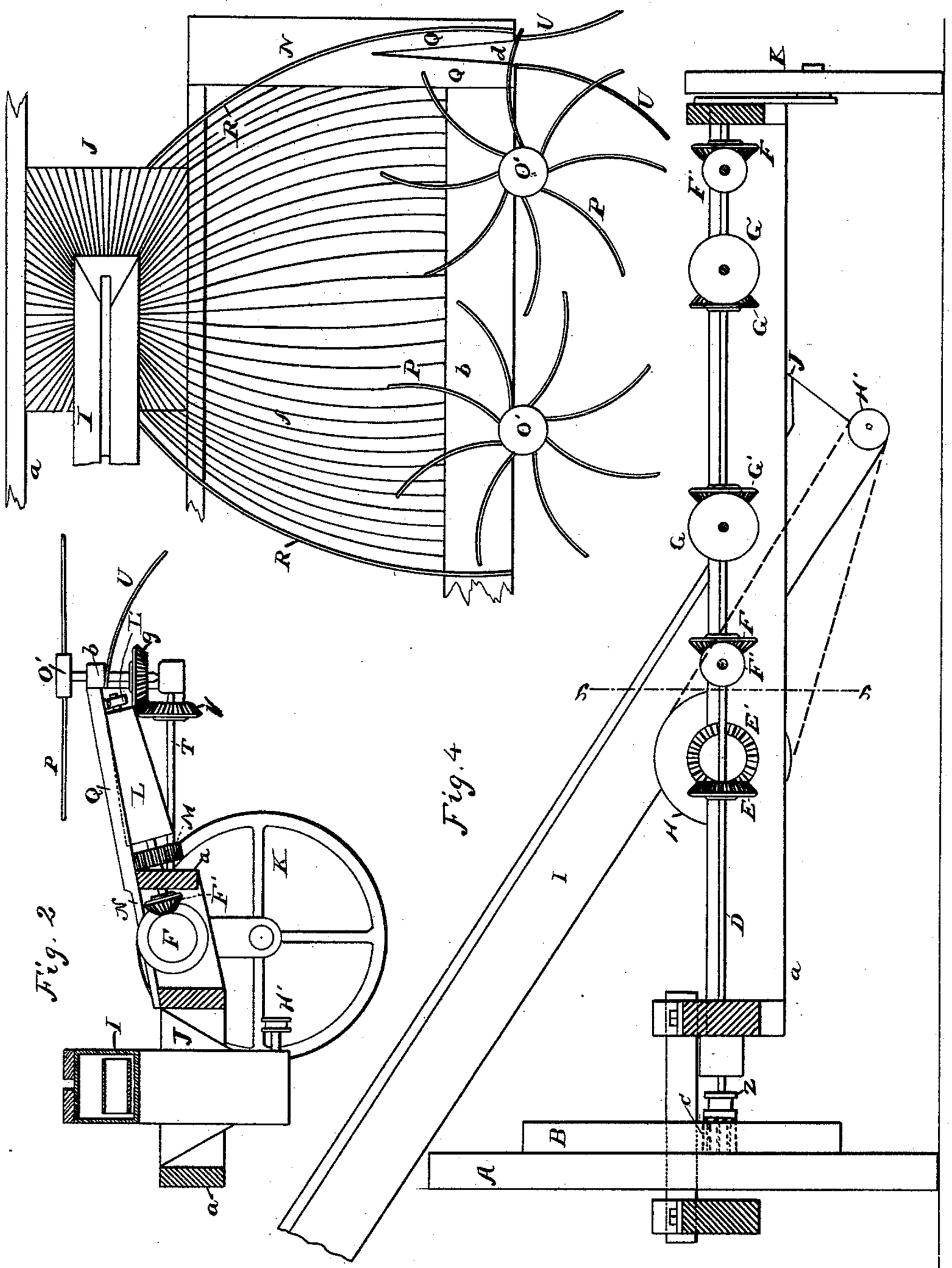

Fig. 2.

Fig. 4.

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UNITED STATES PATENT OFFICE.

SAMUEL ALEXANDER AMBRISTER, OF DUNBAR, NEBRASKA.

CORN-GATHERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 413,999, dated October 29, 1889.

Application filed March 18, 1889. Serial No. 303,712. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ALEXANDER AMBRISTER, a citizen of the United States, and a resident of Dunbar, in the county of Otoe and State of Nebraska, have invented certain new and useful Improvements in Corn-Gathering Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a plan view of the machine without the wires of the gathering-chute. Fig. 2 is a vertical sectional view. Fig. 3 is a partial top view showing the hopper and gathering-chute. Fig. 4 is a transverse sectional view.

This invention has relation to corn-gathering machines; and it consists in the novel construction and combination of devices, all as hereinafter set forth.

The object of the invention is to provide a machine which is designed to take the ears of corn from the standing stalks and carry them by means of an elevator into the receiving-wagon box.

In the accompanying drawings, the letter *a* designates the frame-work of the machine, and *b* the timbers to which the bearings in which the reels move are connected.

A represents the main driving-wheel, supporting the frame on the outside; and K is the inside supporting-wheel.

B is the main gear-wheel, which is connected to the main wheel A. The gear-wheel B has its teeth interior to its rim, and it engages the pinion *c* on the end of the main shaft D, to which are secured at intervals along its length the bevel-wheels E, F, and G.

The bevel-wheel E engages a bevel-wheel E′ on a shaft E″, which carries a sprocket-wheel H, from which a chain belt extends to the sprocket-wheel H′ of the elevator belt or apron and communicates motion to the latter. The elevator is indicated at I. It is secured to the frame of the machine, and rises at an inclination from the hopper portion J, projecting over and beyond the main drive-wheel A, in position to deliver the ears of corn to a wagon moving alongside.

The bevel-wheels F engage the bevel-wheels F′, which run the tapering rollers L L, which are arranged in pairs at the sides of the main gathering floor or chute *f* of the machine, and whose forward ends have their shafts supported in bearings L′, fastened to the under side of the bars, hereinafter further referred to. The shafts of the rollers constituting each pair are provided with the engaged gear-wheels M, so that the rollers are turned toward each other in such a manner as to draw downward any stalk which may pass into the tapering interval *d* between the rollers. Above the rollers are the knives Q, also arranged in pairs, as indicated, these knives having their cutting-edges inclined upward and inward or toward each other, and having between said cutting-edges a tapering interval, as at *d′*, similar to the interval *d* between the rollers. From the ends of the knives extend forward, downward, and outward from each other the guide-prongs U, designed to raise and guide ears of corn into the interval between the knives, while at the same time guiding the stalks into the intervals between the rollers, which draw the stalks downward, causing the ears to be cut off by the knives.

The bevel-wheels G engage the bevel-wheels G′ of the shafts T, which are provided with bevel-wheels V at their forward ends, engaging the bevel-wheels *g* on the lower ends of the stems of the reels O′, which are pivoted in bearings secured to the timbers *b*. The reels O′ have the curved radial arms P, which turn with the reel-stems outward or toward the guiding-prongs U of the rollers and knives. These reels serve, therefore, to move the stalks laterally toward the paths of said knives and rollers, and to carry the stalks into position between said knives and rollers.

R indicates the curved side walls or rim-guides of the inclined gathering-chutes *f*, whereby the ears of corn which are taken from the stalks by the knives are guided back into the hopper J.

The pinion *c* is usually arranged in connection with a ratchet-clutch Z on the shaft

D and designed to be moved by a suitable lever, so as to bring said shaft into or out of gear, according to requirement.

N N indicate upwardly-inclined frame-like bars, to the upper sides of which the knives are connected.

The gathering-chute *f* is usually constructed of wire rods set about an inch apart and converging toward the hopper J of the elevator.

The purpose of employing wires is to readily provide a series of intervening spaces ranging in the direction of the length of the chute and toward the hopper to effect the carrying of the corn endwise to and thus delivering it into the hopper, for its more advantageous disposition.

The machine is drawn along the rows of standing corn in such a manner that the pairs of rollers and knives at each side engage the stalks which are drawn downward by the rollers, so that the ears are removed by the knives and pass back to the hopper and elevator. The guiding-prongs U are designed to lift those stalks which are bent down or inclined, and the reels move those which are out of line into proper position for engagement with the rollers and knives, and carry them laterally and backward to secure such engagement.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

The corn-gathering machine consisting of the inclined frame-like bars, the sets or pairs of inclined tapered rollers arranged below and coincidently with said inclined frame-like bars, and each pair geared together and to a common shaft, the inclined pairs of knives arranged above said inclined rollers and having their cutting-edges inclined toward each other, the guide-prongs connected to the forward or elevated ends of said knives and curving forward, downward, and outward from each other, the reels having curved horizontal arms arranged intermediately of said sets or pairs of knives, prongs, and rollers and upon cross-bars or supports connected with the inner knives at their outer ends, said reels having their shafts geared to said common shaft, the horizontal chute comprising a series of spaced-apart wire rods curved and covering at their inner ends and connected to the hopper, the hopper and inclined elevator, the curved guide-rims extending from the hopper above said chute and terminating adjacently to the guide-prongs, and mechanism to actuate the said geared-together shafts, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL ALEXANDER AMBRISTER,

Witnesses:

WILLIAM S. ASHTON,

THOMAS MURRAY.