

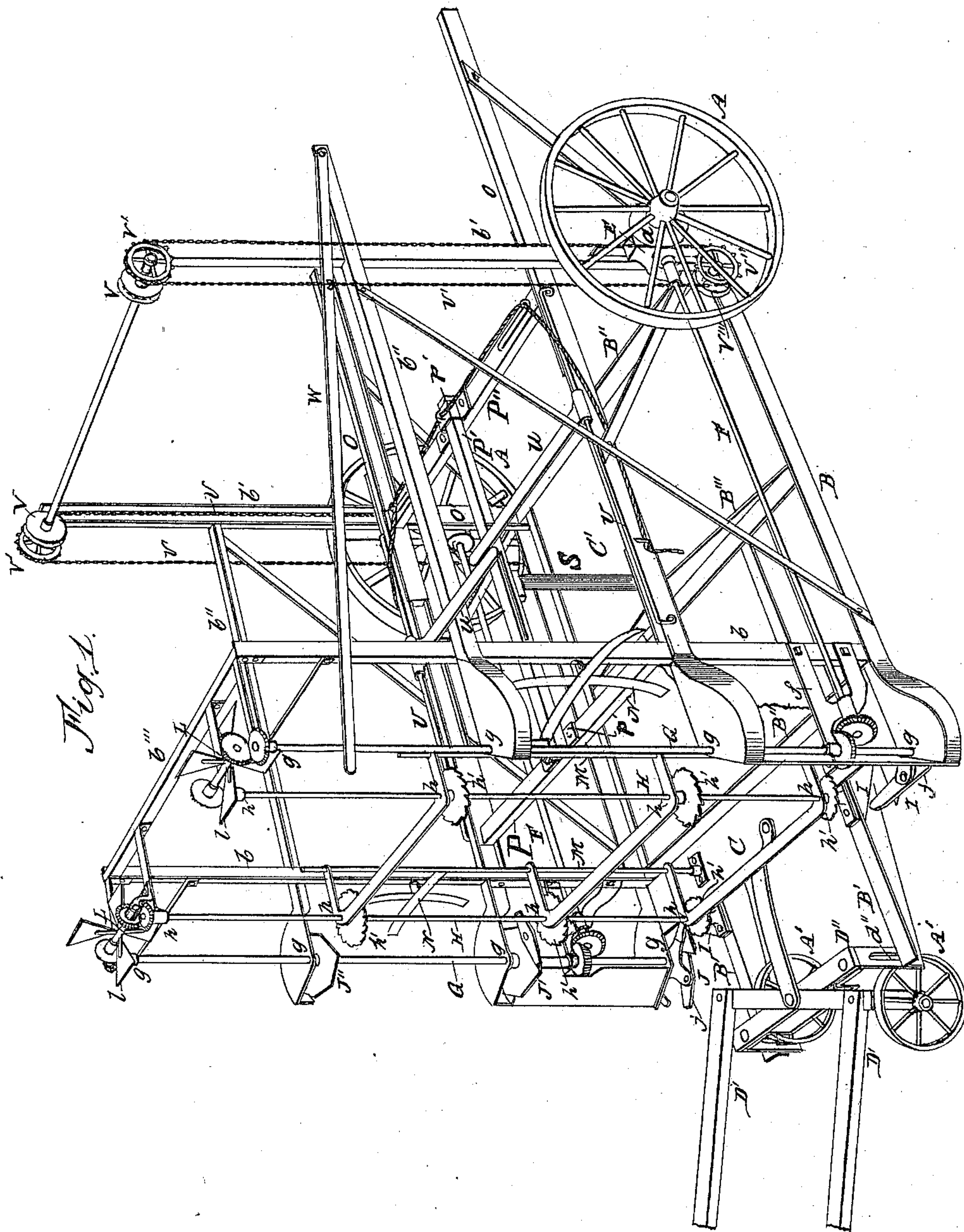
(No Model.)

2 Sheets—Sheet 1.

C. S. BLODGETT.
CORN HARVESTER.

No. 600,853.

Patented Mar. 22, 1898.



Attest.
J. E. Great.
Jos. Mulick

Inventor
Charles S. Blodgett.
By J. M. John,
Atty.

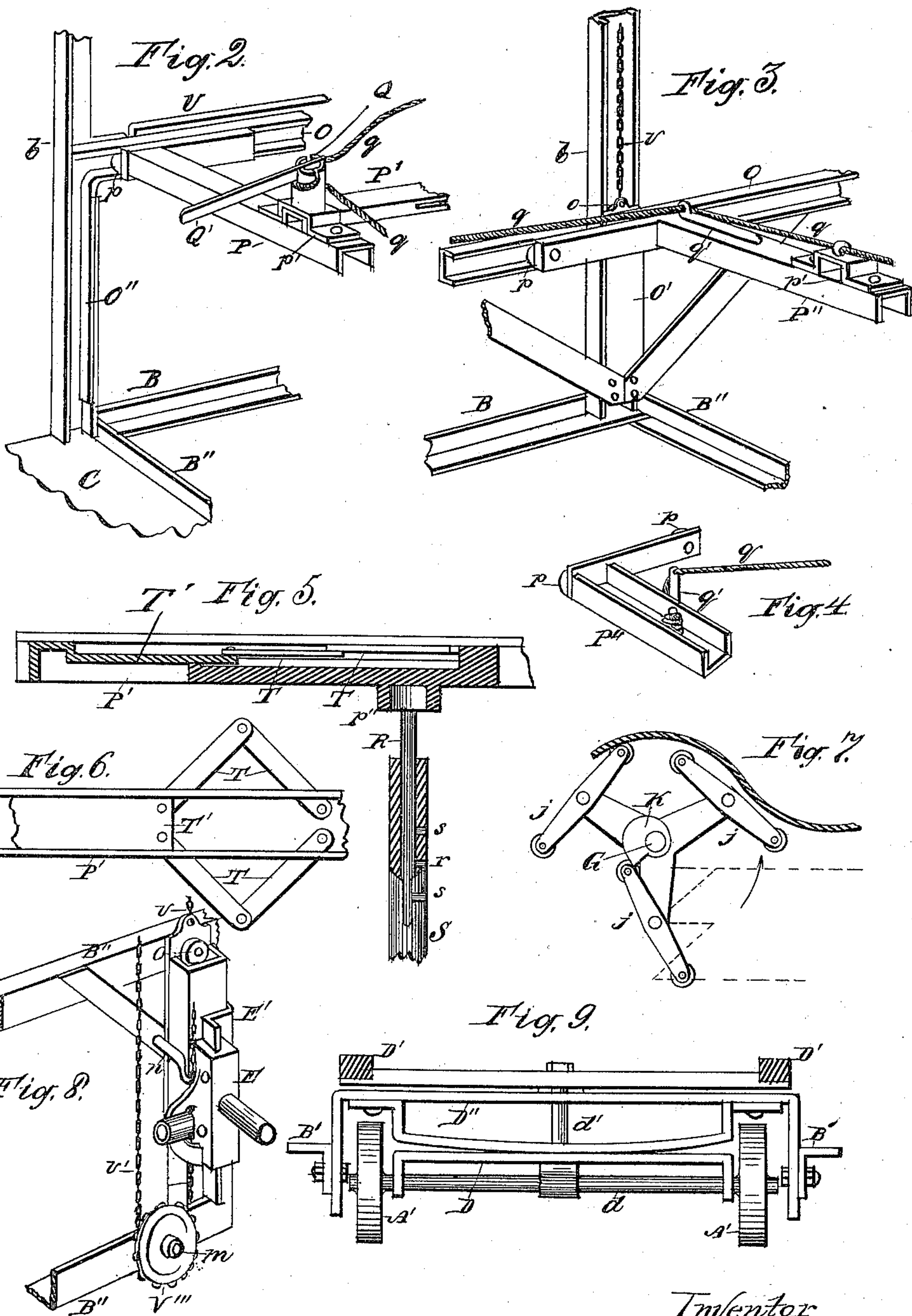
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2 Sheets—Sheet 2.

C. S. BLODGETT.
CORN HARVESTER.

No. 600,853.

Patented Mar. 22, 1898.



Attest.

J. F. Groat.
Henry Woodruff

Inventor
Charles S. Blodgett
By J. M. John
Atty.

UNITED STATES PATENT OFFICE.

CHARLES S. BLODGETT, OF CENTRAL CITY, IOWA.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 600,853, dated March 22, 1898.

Application filed September 8, 1896. Serial No. 605,203. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. BLODGETT, a citizen of the United States, residing at Central City, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Corn-Harvesters; and I do hereby 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.

The object of this invention is to facilitate the cutting and shocking of corn; and the invention consists in the construction, combination, and arrangement of parts for this purpose, as will be hereinafter fully set forth and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a view in perspective of a harvester embodying the invention. Fig. 2, Sheet 2, is a fragmentary view in perspective, showing a part of the forward portion of the frame and its connections. Fig. 3 is a similar view showing a part of the rear portion of the machine. Fig. 4 is a similar view of the under side of the rear bar of the shock-supporting carriage. Fig. 5 is a central longitudinal section of the middle bar around which the shock is built and its connections. Fig. 6 is a plan view of the same as seen from the under side. Fig. 7 is a view of one of the stalk-feeders as seen from the under side. Fig. 8 is a fragmentary view in perspective, showing one of the wheel-standards and a portion of the connected frame. Fig. 9 is a front elevation of the front truck without the wheels.

Similar letters of reference indicate corresponding parts.

On suitable wheels A A and A' A' is mounted a frame B. This consists mainly of sills B B and B' B', connecting cross-beams B'' B'' B''', and uprights b b b' b', connected by beams b'' and b'''. These parts are suitably braced by diagonal rods, as indicated. Across the front portion of the sills extends a narrow platform C to support the butts of the stalks preparatory to shocking.

To the front ends of the sills B' B' is connected the front truck. Its wheels are mounted on an axle d, secured to a yoke D, which

is connected rigidly with the thills D' by a king-bolt d', passing through a bolster D''. The bolster is made adjustable vertically by slots d'' in the vertical standards, through which pass suitable bolts to connect it with the sills B' B', as clearly illustrated in Figs. 1 and 9.

The rear wheels are mounted on standards E E, attached adjustably to guide-plates E' E', secured to the rear posts b' b'. These standards also form bearings for shafts F F, which at the other ends are journaled in bearings f f, attached to the front posts b b. Bevel-gears a a are secured to the rear wheels and through suitable gearing transmit motion to two pairs of vertical shafts G G and H H, journaled in bearings g g g g and h h h h, respectively, bracketed to said front posts, cross-bar b''', and uprights M. These upright shafts carry feeders adapted to force the standing stalks backwardly across the cutters I I and into a receptacle back thereof, where they may be conveniently taken to the shocker.

The two lower pairs of feeders J J and J' J' are similar in principle, though somewhat different in construction. The two at the lower end of the shaft G G are spiders, on the arms of which are pivoted arms j j j, running close to the diagonal cutters I I. The inner ends of these arms are made to engage with cams K, which it will be understood are secured rigidly to the bearings close to the spiders, one of them being illustrated in Fig. 7. As the spider revolves in the direction indicated by the arrow the stalks in front of it (considered with respect to its own movement) are forced back across the cutters indicated by dotted lines. On reaching a point where the arms should disengage the stalks the inner ends of the arms pass the cam and the arms swing free successively. In the case of the feeders J' J' the swinging arms are mounted on angular disks, which serve to press the stalks backwardly and away from the shafts. Similar disks J'' J'' are secured to the same shafts higher up. Opposite these feeders are saw-toothed feeders h' h' h', serving the same purpose on the other pair of vertical shafts. Each pair of vertical shafts G and H is connected

by a transverse shaft L and gearing, and a reel l on each shaft forces the tops of the stalks backwardly in the same manner.

Back of the vertical shafts in a passage-way 5 formed on the outer sides by the brackets supporting the bearings for the shafts G G and on the under sides by stirrup-shaped bars secured to a pair of vertical posts M M. Into this passage the stalks are forced as cut off, 10 and from thence are conveyed to the shocker, as before mentioned. The stalks are prevented from falling down backwardly by a pair of reels N N, having thin elastic blades. These operate in the same manner as a turn- 15 stile revolving in a vertical plane, turning one-quarter of a revolution as each bunch of stalks is brought through by the operator.

The corn is shocked in the rectangular central part of the machine and from the back 20 side thereof forwardly. The apparatus for this purpose and for depositing the shock on the ground will now be described.

The two rear posts *b' b'* are vertical tracks or guides, in which are mounted two horizontal 25 tracks O O, extending some distance back of the posts. The front ends of these tracks engage also with the front posts, which serve as guides therefor, the mounting of the parts being best illustrated in Figs. 2 and 3. A 30 downwardly-extending flange O' forms the main bearing for the track O in connection with the post *b* and is strongly braced to the track, as shown. To this arm are connected antifriction-rolls *o*, one of which is partially 35 shown in Fig. 3, the other of course being near the lower end of the arm. This admits of the horizontal track being raised or depressed at will. The posts, both front and rear, are preferably made of channel-iron, as 40 are also the horizontal tracks and the cross-bars P and P'. At their forward ends the horizontal tracks merge into a section of vertical track by a downwardly-extending flange O'', overlapping one of the flanges of the front 45 post *b*. This flange of the post is cut away above, so as to allow the horizontal track to move up and down. In the double track so formed is mounted a pair of cross-bars P P'', similarly provided with antifriction-rolls *p p*. 50 In the middle of each is a stirrup *p'* to receive the center bar P'. On the forward stirrup is mounted a revoluble drum Q, adapted to connect with a rope *q* at both its free ends. The body of the rope passes to the rear cross-bar 55 and through the eyes of a pair of spring-arms *q' q'*. The construction is best shown in Figs. 3 and 4. One end of the arm is turned at right angles to the body thereof and passes through a hole in the cross-bar P. On this pivoted 60 part of the arms is mounted a simple coil-spring adapted to swing the arm to the position shown in Fig. 3 in a manner that will be readily understood. These arms normally hold the rope outwardly and clear of the space 65 in which the shock is built, as shown in Fig. 1. By means of a hand-lever Q', engaging suitable notches in the drum, the free ends of the

rope may be drawn up to compress the shock inclosed within. This action also draws the cross-bars nearer to each other, as will be 70 evident.

In the operation of building up the shock the forward cross-bar lies at the bottom of the track in the forward posts out of the way of the operator. The center bar P' is sup- 75 ported, however, on a center post R, its rear end resting in the stirrup of the rear cross-bar. In order to accommodate the shocker to varying heights of corn, the center post is made adjustable, a simple device for this pur- 80 pose being shown in Fig. 5. The post has a lateral stud *r*, which engages with notches *s* in a slotted tubular standard S, secured to the center of the platform. The upper end or head of the post enters a socket *p''* on the un- 85 der side of the center bar.

In the center bar is mounted a shock-spreader composed of a double toggle-joint T T, hinged at one end to the bar and at the 90 other end to a slide T'. The arms spread side- wise, as shown in Fig. 6, through slots in the sides of the center bar. When the slide is drawn forward, the spreader contracts to the width of the bar.

On rods U U, attached to each horizontal 95 track, are mounted arms *u u*, sliding on said rods. These arms are turned up to allow the operator to pass a bunch of corn through back of them and then dropped to hold the stalks from falling forward, the forward pressure of 100 the stalks serving to cramp the arms on their guide-rods, so that they do not slip.

At the upper ends of the rear posts is mounted a shaft provided with a pair of sheaves V V and sprockets V' V'. A chain *v* connects 105 with each sheave and with the track below. A chain *v'* passes from each sprocket to a similar sprocket V'' below, mounted on a stud *m*, as more clearly indicated in Fig. 8. This chain connects with a stud *n*, projecting outwardly 110 from one of the track-braces. A hand-lever W, engaging with one of the chains *v'*, rotates the shaft above as it is drawn down or elevated, and this serves to correspondingly elevate or depress the entire shock-holding 115 carriage. The purpose of the chain connection with the carriage below is to draw the carriage down and prevent any tendency to stick when in an elevated position. The lower sprockets are idlers, as will be seen, and 120 sheaves will answer the same purpose. The sheaves V V act in the same way as a winch or drum, it being necessary to raise the carriage but a short distance. The shock having been built up, as already described, the op- 125 erator occupying the forward portions of the platform, the front cross-bar is elevated to its final position engaging the forward end of the center bar. The free ends of the rope are then connected with the drum and the shock 130 is compressed. When bound and while so compressed, the whole carriage, with the shock suspended therefrom, is elevated as much as may be desired and pushed to the rear end

of the horizontal track, where it is easily lowered to the ground by the lifting-lever. The compression-rope is then released, the front cross-bar drawn forward, and the center bar drawn out of the shock, after the spreader having first been contracted by drawing its slide forward. The track may then be easily elevated high enough so that the rear cross-bar clears the top of the shock, the harvester moved forward a little, and the parts placed in proper position for the next shock.

The spreader is designed to be expanded when the shock is half built. It serves not only to spread the butts of the stalks apart and make a good broad bottom for the shock, but to resist the tendency of the shock to drag down out of the carriage when elevated and moved back to dump.

In practice the gathering-arms *jj* are provided with rollers, as shown in Fig. 7, so that in case either end of the arm strikes an obstruction it is the more easily deflected after passing the cut stalks.

An improvement in the cutting-blades is shown in Fig. 1 and consists in making it double, like two right-angle triangles set side by side in similar positions, with the beveled cutting edge outward. This admits of the corn being easily cut without passing over so much ground as where a single knife is used, and the stalks are therefore delivered more nearly in a single bunch.

I claim—

1. In a corn-harvester, the combination with a frame, substantially as described, having suitable channel-posts to serve as guides for a horizontal track, of a pair of horizontal tracks mounted to move vertically on said posts, and provided at the forward end with downwardly-extended continuations of the track to coincide with the forward posts, and a pair of cross-bars mounted to move back and forth in said horizontal tracks, the forward one being adapted to slide to the extreme bottom of the forward end of the track so as to be out of the way in the building of the shock, substantially as described.

2. In a corn-harvester, the combination with a frame, substantially as described, having suitable vertical posts to serve as guides for a horizontal track, a pair of horizontal tracks mounted to slide vertically on said posts, and provided with downward extensions of the track to coincide with similar tracks in the forward posts, a pair of cross-bars movable in said tracks, and provided with central stirrups to receive the ends of

the center bar, and a center bar to engage with said stirrups, substantially as and for the purpose set forth.

3. In a corn-harvester, the combination with a frame, substantially as described, having vertical posts serving as guides for a horizontal track, the forward post being a continuation of said track, of a horizontal track mounted to slide on said guide-posts, a pair of cross-bars mounted to slide back and forth in said tracks, the forward cross-bar being movable to the bottom of the frame out of the way in the building of the shock, central stirrups on said cross-bars, a center bar engaging with said stirrups, a hinged spreader at the middle of the center bar adapted to spread outwardly in the building of the shock and to be collapsed to withdraw the center bar, and means for collapsing said spreader, substantially as described.

4. In a corn-harvester substantially as described, the combination with a horizontal, vertically-movable track terminating at the forward end in vertical extensions thereof reaching to the platform, a pair of cross-bars movable in said track, the forward one being adapted to lie at the bottom, forward end of the track out of the way in building the shock, a center bar engaging said cross-bars, and a center post adapted to support said center bar while the forward cross-bar is out of engagement therewith.

5. In a corn-harvester, the combination of a pair of cross-bars and tracks therefor, a compression-rope, a pair of arms pivoted on one of the cross-bars and provided with retractile springs, the rope passing through eyes at the free extremities of said arms, and said arms being adapted to draw the rope outwardly so as to follow practically the sides of the frame in which the shock is built, and a drum or windlass on the other cross-bar with means for winding the same up to compress the shock, as described.

6. In a corn-harvester, the combination with supporting-tracks terminating forwardly in a downwardly-extending portion, of a pair of cross-bars, a center bar, and a supporting-center post therefor, substantially as described.

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

CHARLES S. BLODGETT.

Witnesses:

J. M. ST. JOHN,
J. F. GROAT.