

(No Model.)

5 Sheets—Sheet 1.

C. BALTZELL.
CORN HARVESTER.

No. 277,660.

Patented May 15, 1883.

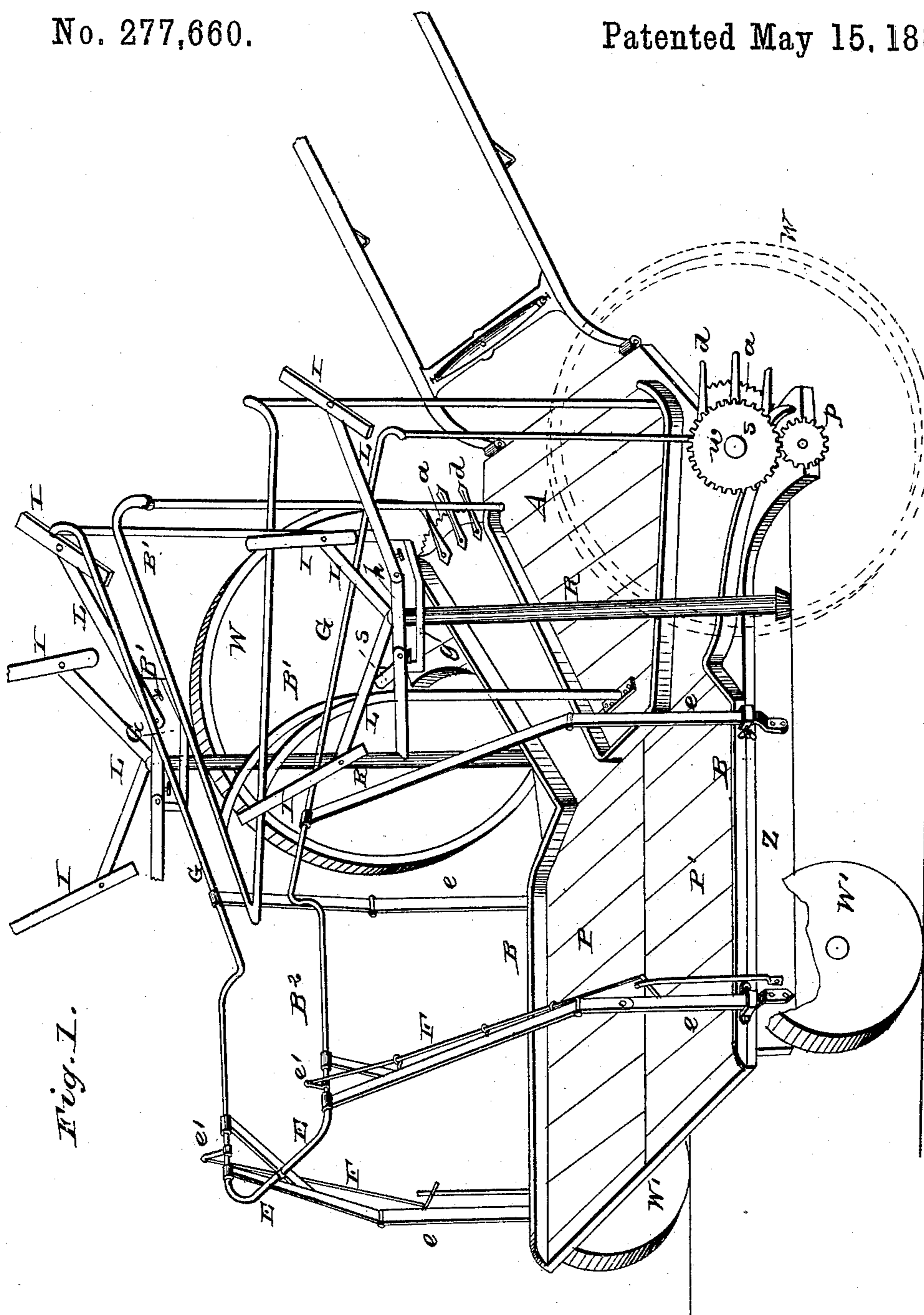


Fig. 1.

WITNESSES:
Philip Massi
Jas. J. Sheehy.

INVENTOR.
Charles Baltzell,
by Anderson & Smith
his ATTORNEYS.

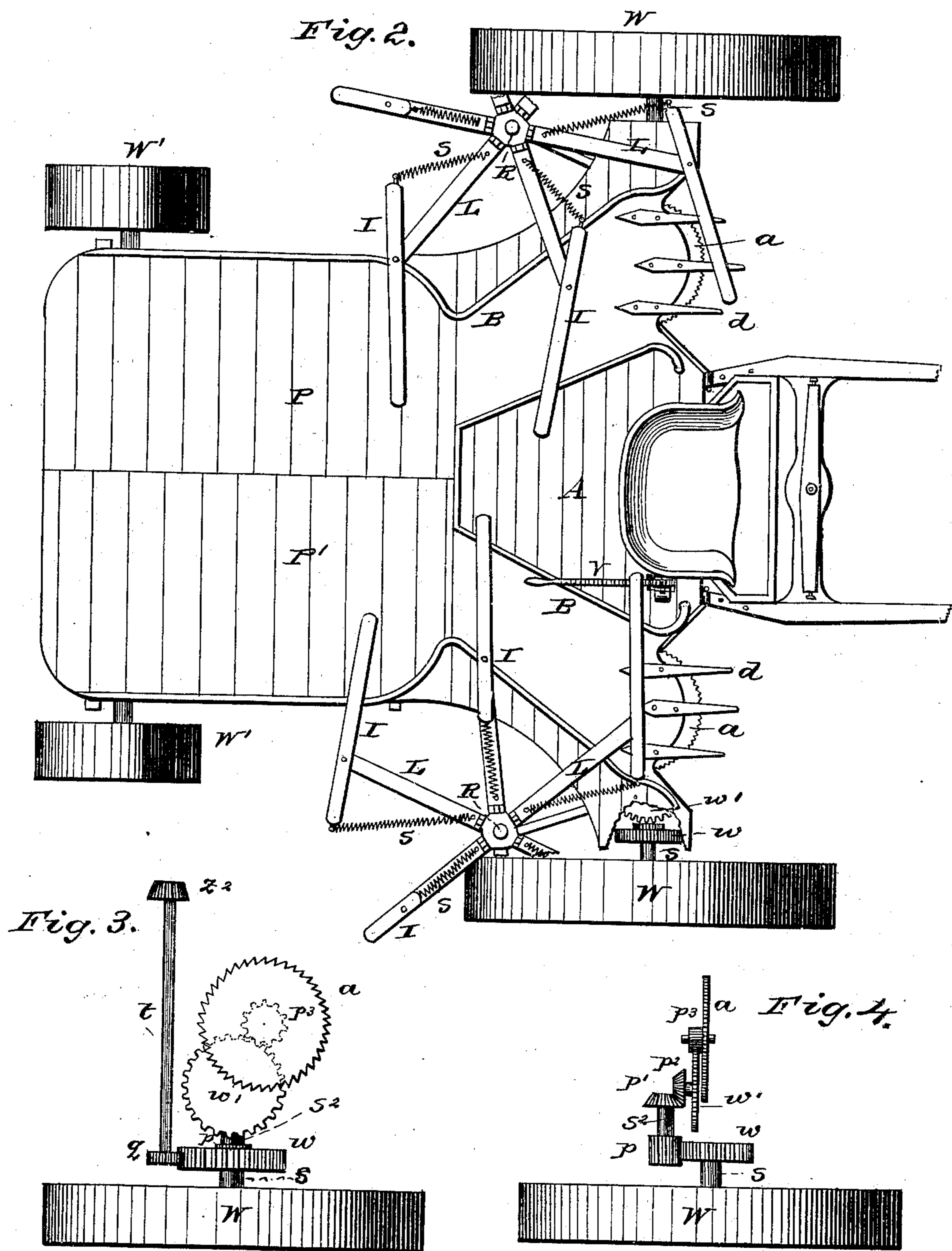
(No Model.)

5 Sheets—Sheet 2.

C. BALTZELL.
CORN HARVESTER.

No. 277,660.

Patented May 15, 1883.



WITNESSES:
Philip L. Masi.
Jas. J. Sheehy

INVENTOR.
Charles Battzell,
by Anderson & Smith
his ATTORNEYS.

(No Model.)

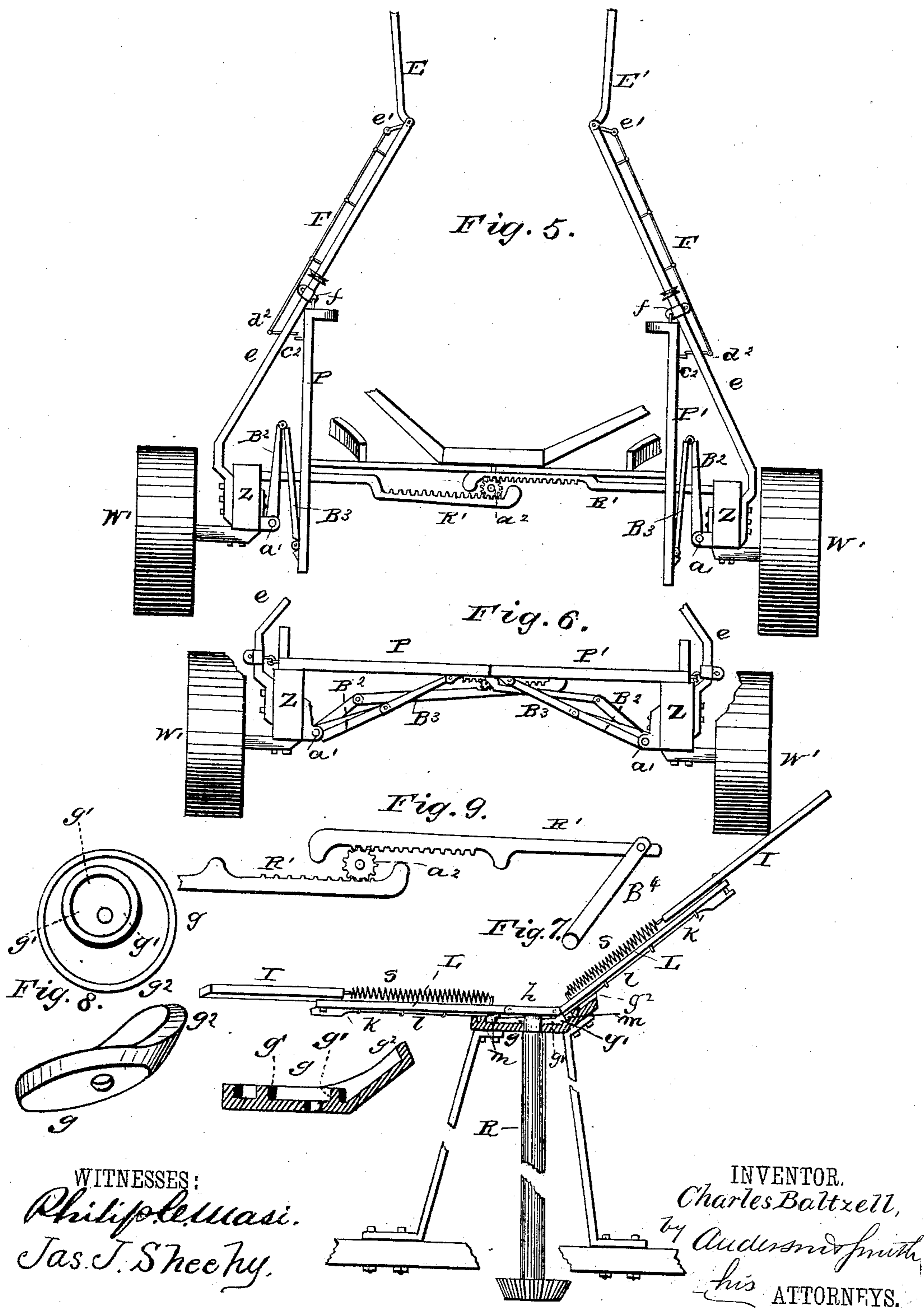
5 Sheets—Sheet 3.

C. BALTZELL.

CORN HARVESTER.

No. 277,660.

Patented May 15, 1883.



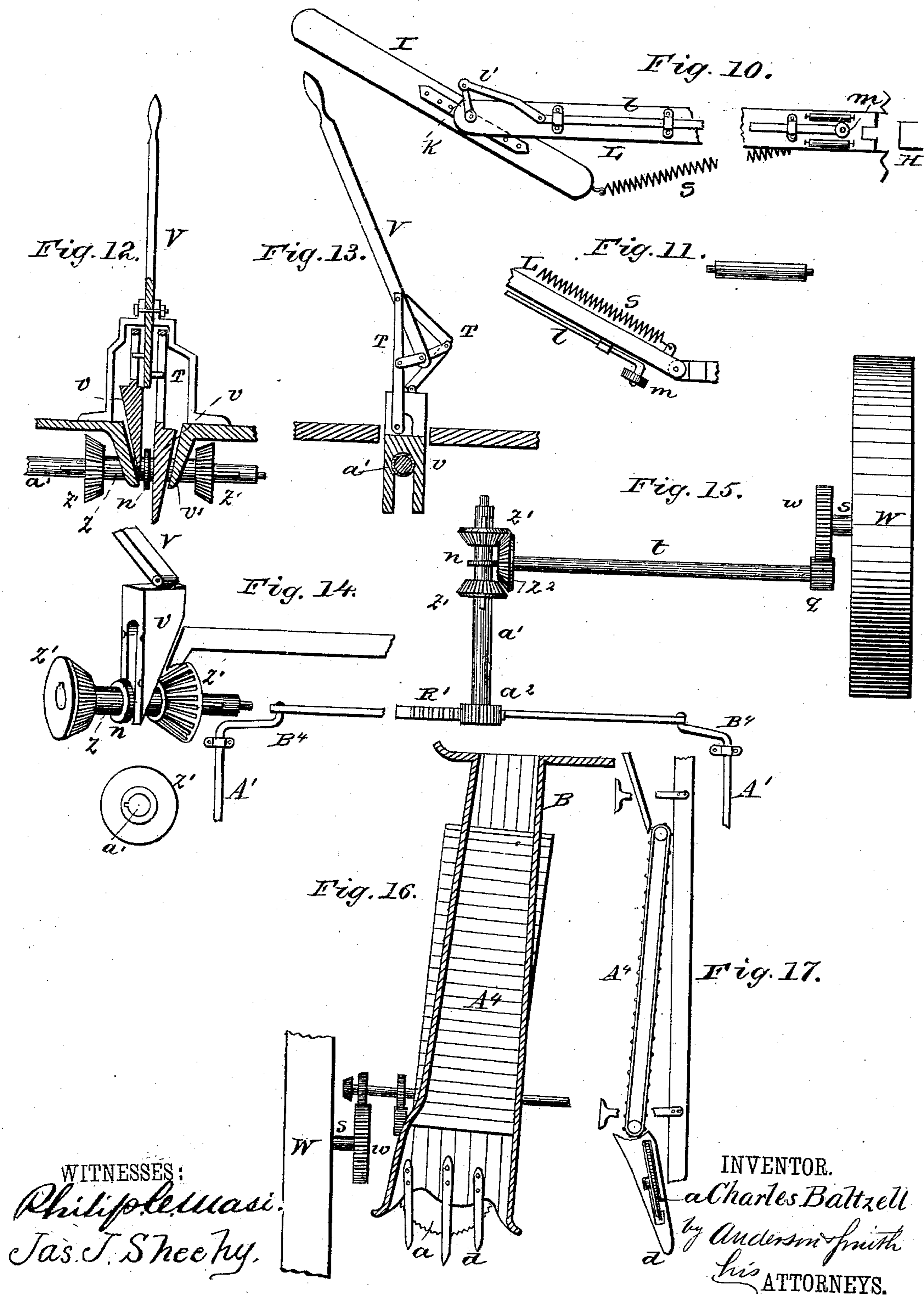
(No Model.)

C. BALTZELL.
CORN HARVESTER.

5 Sheets—Sheet 4.

No. 277,660.

Patented May 15, 1883.



(No. Model.)

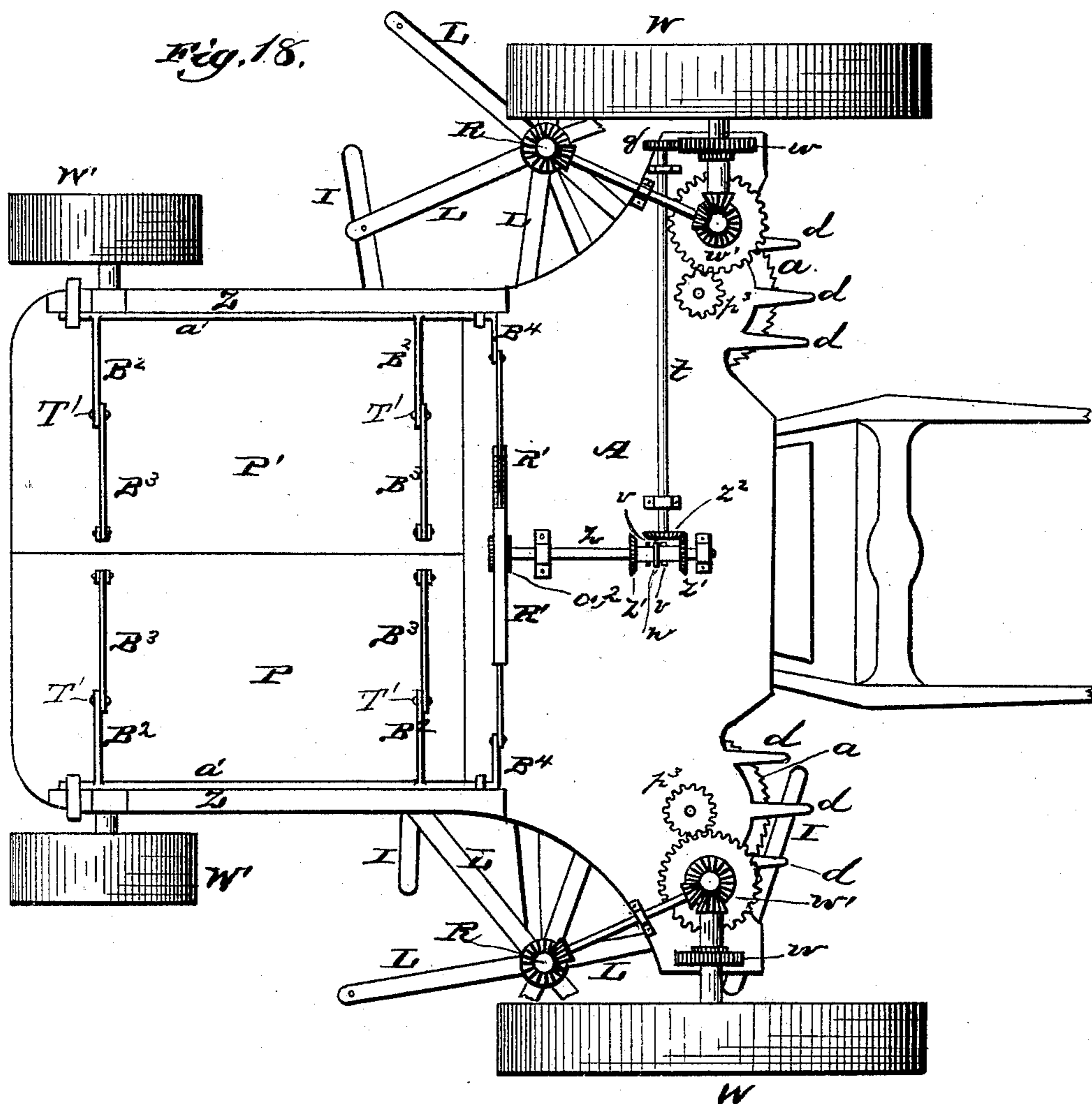
5 Sheets—Sheet 5.

C. BALTZELL.

CORN HARVESTER.

No. 277,660.

Patented May 15, 1883.



WITNESSES
E. H. Bates
Theo. Mungen.

INVENTOR
Charles Baltzell
by *Anderson & Smith*
his ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES BALTZELL, OF CUMBERLAND, MARYLAND.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 277,660, dated May 15, 1883.

Application filed April 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHAS. BALTZELL, a citizen of the United States, and a resident of Cumberland, in the county of Alleghany and State of Maryland, have invented a new and valuable Improvement in Corn-Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a perspective view of my stalk-cutter. Fig. 2 is a top or plan view of the same, and Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, and 17 are detail views of the different parts connected with my device. Fig. 18 is a bottom view of the machine.

This invention has relation to machines for harvesting corn and cane; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, the letter A designates the front portion of the frame, which is provided with guideways B, extending to the platform-sections P P' in rear, the outer edges of which rest, when the sections are closed together, on sills Z of the frame. The front portion, A, is somewhat sloping.

W indicates the driving-wheels of the machine, and W' the rear supporting-wheels.

a a indicate the rapidly-revolving cutting disks or saws, circular in form, and operated by shafts s of the driving-wheels, and the cog-wheels w thereon gearing with pinions p of the shafts s², which carry bevel-pinions p', engaging the bevel-pinions p² of the horizontal gear-wheels w', which engage the pinions p³ of the cutting disks or saws.

The disks or saws a are located under the front edge of the platform A, on each side, and at the proper distance apart to act on the stalks of two adjacent hills or rows, the disks cutting the stalks off near the ground as the machine advances. The platform is provided with forwardly-projecting guard-fingers d, which extend over and in front of the disks, and serve to hold the stalks against the cutting-edges thereof. The cutting disks or saws are located at the front ends of the guideways

B, on which the lower ends of the stalks are received after the cutting.

G represents the guide-rails, which are arranged above the platform and supported by suitable uprights or standards, e e e e, which are secured to the main frame. These guide-rails form guide-passages B', above the guideways B of the front portion of the platform, and a holding-band, B², above the platform-sections P P', as shown in the drawings. As the machine advances the stalks pass back in the upright position into the guide-passages B', and are packed on the platform-sections P P', being held in the upright position by the holding-rail B². The rear portion of this rail consists of the transverse arms E, which are pivoted to bearings on the uprights e e e e, and are designed to open upward or close together when operated by slide-rods F, the ends of which are pivoted to arms e' of said arms E E.

R R indicate the reel-shafts, arranged one on each side of the frame in upright position, and operated by gearing connected to the main driving-shaft s. The upper end of each reel-shaft passes through a cam-plate, g, and is provided with a head, h, to which the arms L are pivoted to vibrate vertically as they pass around. The cam-plate is provided with rims or cams g' g², as shown in the drawings. The cam g² is turned outward, or in the direction of the standing stalks, and its object is to raise the arms L high enough to escape the driver's head and pass over the severed stalks.

I represents the follower-bars, which are pivoted to the ends of the arms L, and are provided with elbow-levers k, arranged at an angle with the follower-bars, as shown in the drawings. A connecting-rod is pivoted to the levers k, and connects the same to a slide-rod, l, on the arm L, the end of which is formed with a projecting stud carrying the anti-friction-roller m, which is designed to work against the inside of the ledge or rim g' of the cam-plate g. A spring, S, connects the inner end of the follower-bar I to the arm L, near the head h, and serves to keep the end of this bar in its revolution firmly pressed against the mass of stalks on the platform, which is increasing as the machine advances. The cam-rim g' is eccentric to the reel-shaft, and is designed to slide the rod l, and thus move the follower-bars in such a manner that they will pass

squarely back just above the high guide-rails G, and carry the cut corn or cane back through the guide-passages to the platform-sections P P' and the holding rail above the same.

5 When a sufficient quantity of corn or cane has been cut and massed back on the sectional platform, the driver, by means of a lever, V, and mechanism connected therewith, turns the platform-sections outward, so that the mass

10 falls in upright position, or in the form of a standing shock. At the same time the pivoted rear arms, E, of the holding-rail are opened, so that the machine can pass forward freely, leaving the shock in position. In order to ac-

15 complish this discharge, the lever V is pivoted to a bearing on the forward portion of the main frame, and is connected by toggles T to wedge-slides *v*, operating on the tapering bearings *v'* and engaging the collar *n* on the ad-

20 justable sleeve *z*, carrying the bevel-gear *z'* *z'*, said sleeve bearing on the shaft *a'*, which carries a pinion, *a²*, engaging the racks R'. The gear-wheel *w* of the driving-wheel engages a pinion, *q*, on the transverse shaft *t*, which

25 carries at its inner end a bevel-pinion, *z²*, which is designed to operate the shaft *a'* by engagement with one or the other, but not both at the same time, of the bevel-wheels *z'* of the sleeve *z*, according to the adjustment of the

30 sleeve, which is moved in one direction or the other by the operation of the wedge-slides *v*. The shaft *a'*, therefore, is turned in one direction or in the other, and moves the racks R' in or out, and consequently throws the arms B⁴, which are pivoted to the ends of said racks,

35 outward or inward. The arms B⁴ are rigidly attached to the lateral shafts *a'*, which extend longitudinally and are seated in bearings of the frame. The shafts *a'* are also provided

40 with arms B², forming portions of the toggles T', the upper branches, B³, of which are hinged to the platforms P P', as shown in the drawings. When the racks are moved outward the shafts *a'* are also rotated outward and the tog-

45 gles T' bent, allowing the platform-sections to tip outward by a falling movement, and at the same time to move laterally outward, their outer edges being connected by traveling bands or clip-slides *f* to the guiding-standards

50 *e* of the frame. A wide opening is in this

manner formed, through which the mass on the machine descends to the ground. The rear arms, E, of the rail-guard are opened at the same time that the platform-sections open

55 by means of trips or arms *c²* on the platform-sections, which, when the outer edges of said sections rise, engage levers *d²*, pivoted to bearings on the frame and connected to the slide-rods F. By the reverse movement of the lever V the sleeve *z* is shifted to engage the

60 pinion *z²*, so that the racks R' are moved toward each other, closing the platform-sections together, and at the same time closing the end rails, E, by the movement of the platform-sections. When the platform is in the closed or

65 open position the operating-lever V is moved to an intermediate position, thereby disengaging both pinions *z'* *z'* of the sleeve *z* from the driving-pinion *z²*.

A⁴ is an endless apron by which the cut

70 stalks are carried back to the sectional platform to be massed.

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

75

1. In a corn-harvester, the plate *g g*, having cams *g'* and *g²*, in combination with the reel-shafts R R, their heads *h h*, pivoted arms L, pivoted follower-bars I, elbow-levers *k*, slides *l*, and springs *s*, substantially as specified.

80

2. In a corn-harvester, the combination, with the lateral folding platform-sections P P' and toggles T', of the arms B² B³, racks R', pinion-shafts *a' t*, pinions *z'* *z'* *z²*, adjustable pinion-sleeve *z*, lever V, toggles T, wedge *v*, and

85 wedge-bearings *v'*, substantially as specified.

3. In a corn-harvesting machine, the guide-rail G above the platform and the transverse arms E E in rear, adapted to be opened, in combination with the sectional folding plat-

90 form, the arms *e e e e*, rods F F, and the lever V, and gearing for operating the sectional platform, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence

95 of two witnesses.

CHAS. BALTZELL.

Witnesses:

R. E. TAYLOR,
J. M. ROBBINS.