

(No Model.)

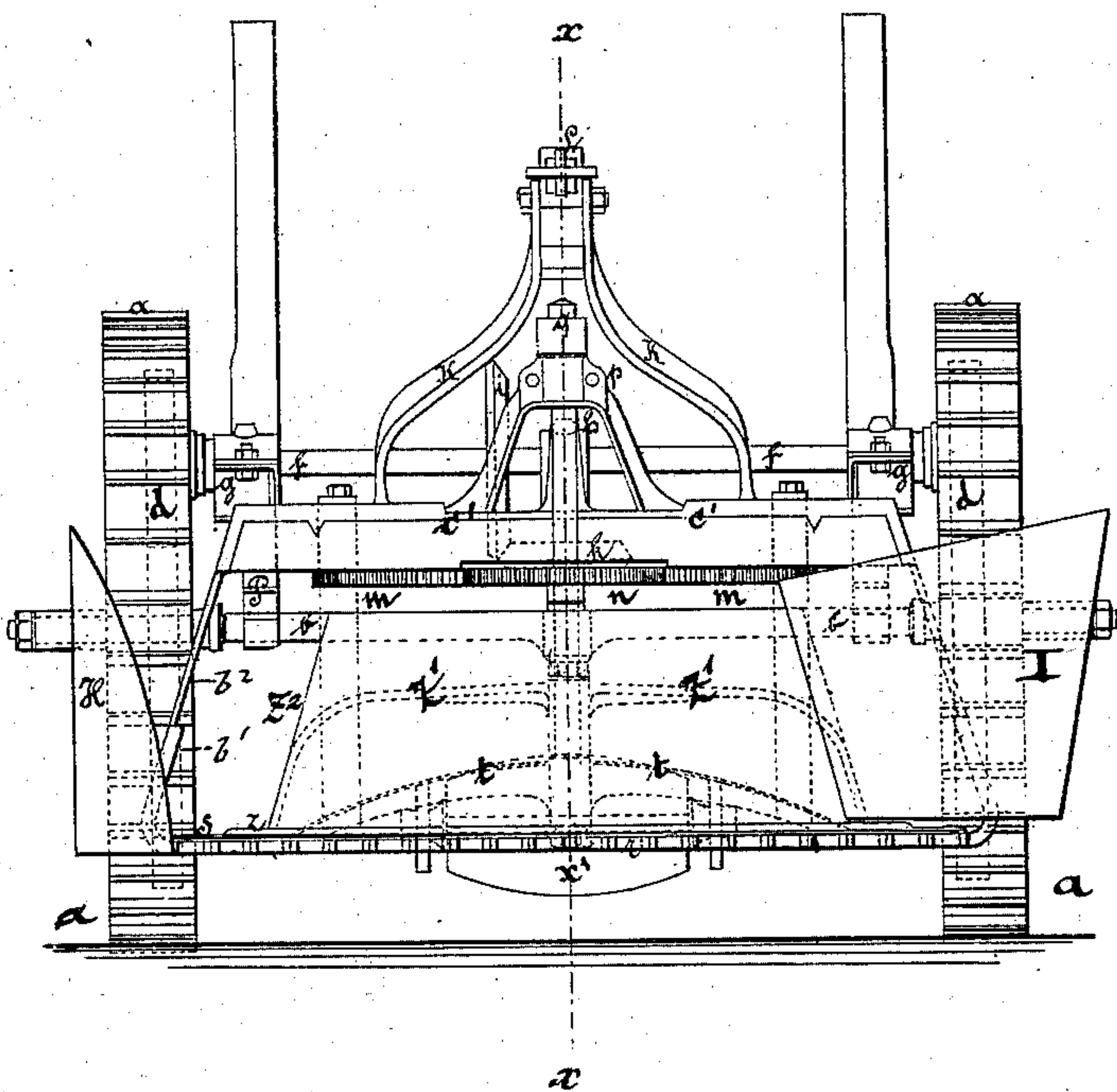
4 Sheets—Sheet 1.

J. A. CARLÈS.
MOWING MACHINE.

No. 255,718.

Patented Mar. 28, 1882.

Fig. 1



Witnesses:

Carl Karp
Otto Busch

Inventor:

Jean Anne Carlès
by Paul Goepel
Attorney.

(No Model.)

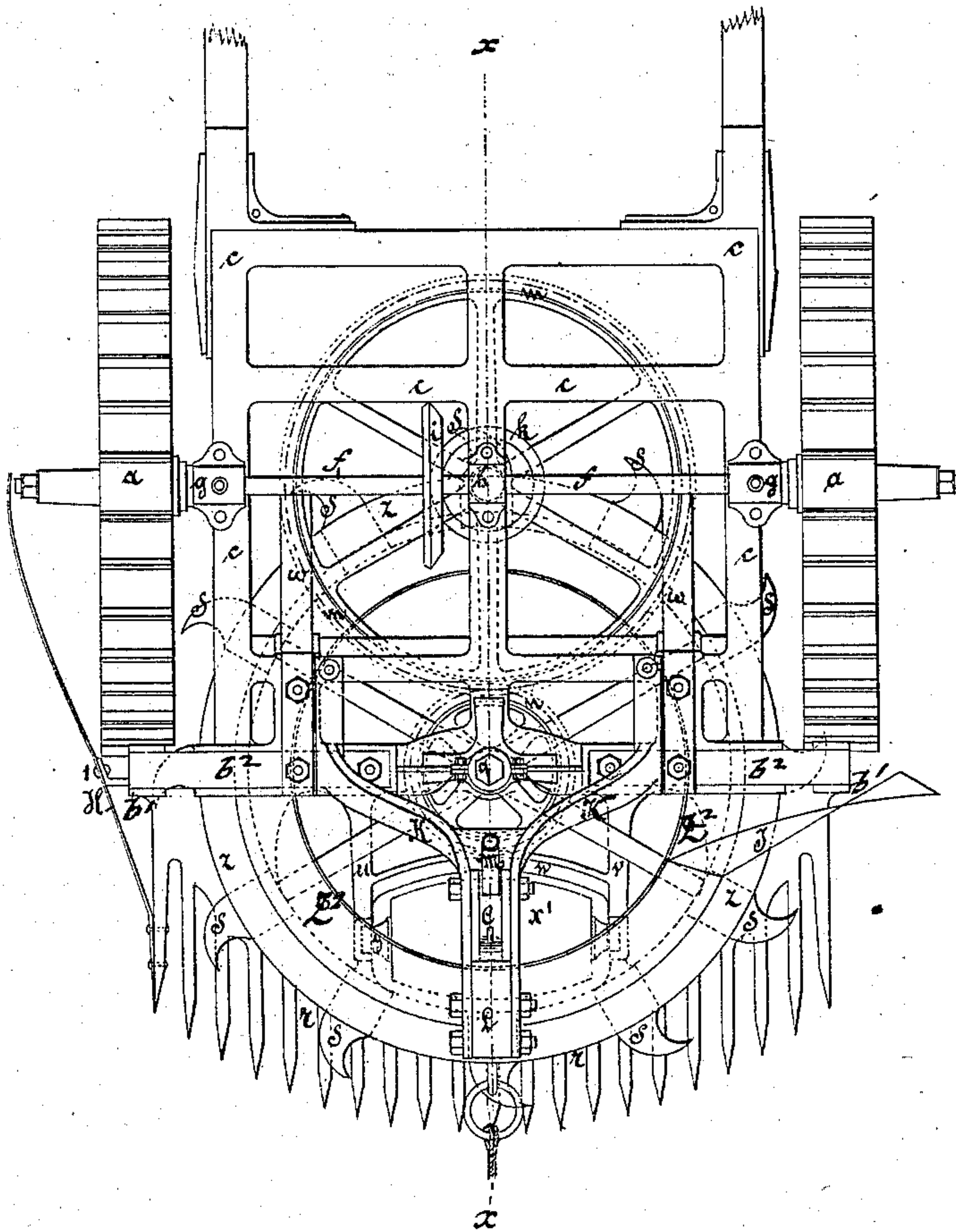
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J. A. CARLÈS.
MOWING MACHINE.

No. 255,718.

Patented Mar. 28, 1882.

Fig. 2



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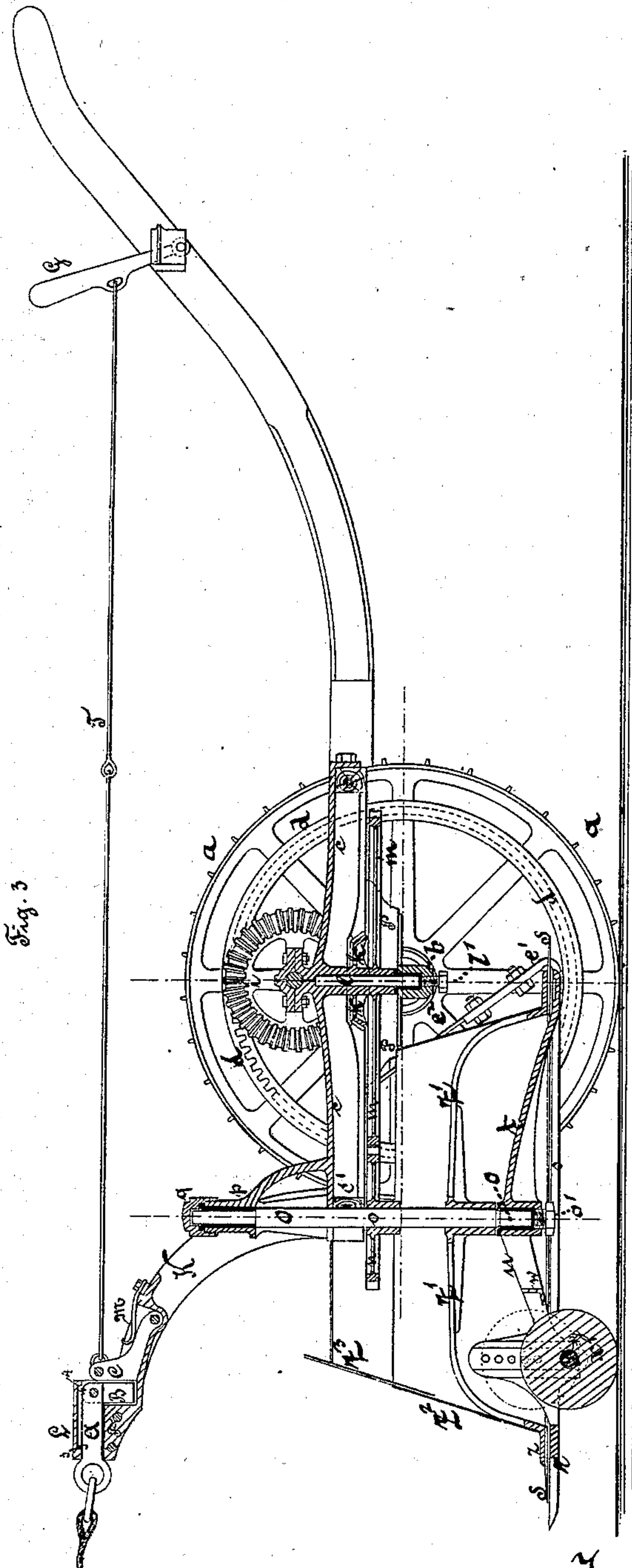
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J. A. CARLES.
MOWING MACHINE.

No. 255,718.

Patented Mar. 28, 1882.



Witnesses:

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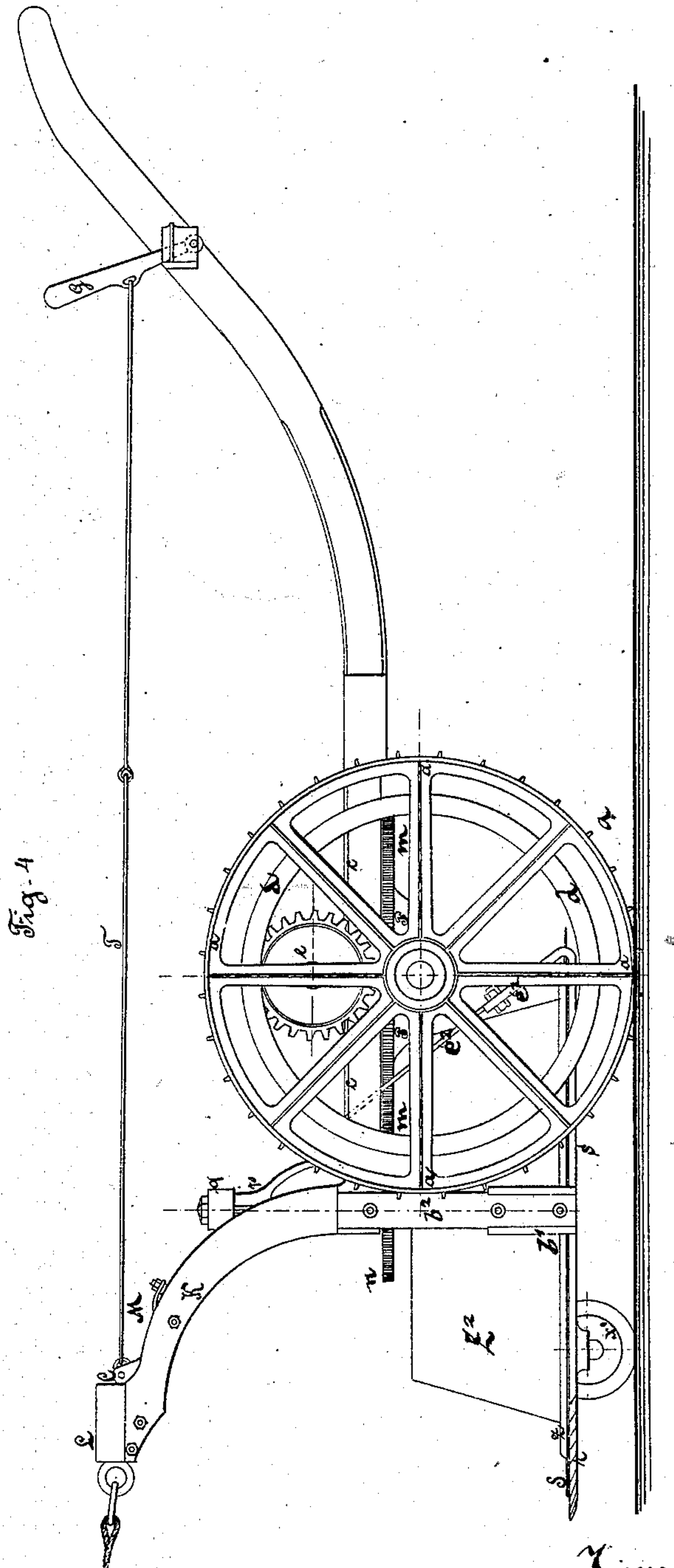
(No Model.)

4 Sheets—Sheet 4.

J. A. CARLÈS.
MOWING MACHINE.

No. 255,718

Patented Mar. 28, 1882.



Witnesses:
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UNITED STATES PATENT OFFICE.

JEAN ANNE CARLÈS, OF TOULOUSE, FRANCE.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 255,718, dated March 28, 1882.

Application filed July 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, JEAN ANNE CARLÈS, a resident at Toulouse, in the Republic of France, have invented certain new and useful Improvements in Mowing-Machines, of which the following is a specification.

This invention has reference to improvements in mowing-machines of that class in which a horizontally-rotating cutter-disk is employed; and the invention consists of mechanism substantially as set forth in the claim. The revolving cutter-disk works in connection with a fixed finger-beam below the same, and is guided by a conical shell along a guard-cone above the disk. A vertically-adjustable revolving roller in front of the supporting-wheels steadies the front end of the mowing-machine and admits the higher or lower cutting of the stalks. The mowing-machine is further arranged at one side with a guard-shield for preventing the crushing of the cut-off stalks, and at the opposite side with a deflecting-shield for throwing off the stalks.

In the accompanying drawings, Figure 1 represents an end elevation of my improved mowing-machine. Fig. 2 is a plan view. Fig. 3, a vertical longitudinal section of the same on line *x x*, Figs. 1 and 2; and Fig. 4 is a side elevation of the same.

Similar letters of reference indicate corresponding parts.

In the mowing-machine which forms the subject of this application the cutting mechanism is arranged in front of the supporting-wheels and the handles back of the same, in contradistinction to the mowing-machines in which the cutting mechanism is arranged back of the supporting-wheels. It consists essentially of the following main parts: First, of the supporting-wheels and intermediate mechanism for transmitting motion from the same to the operative parts of the machine; secondly, of a revolving cutter-disk which rotates above a fixed finger-beam that is supported on a wooden frame stiffened by a cast-metal frame; thirdly, of a front roller and of mechanism by which the same can be vertically adjusted for raising or lowering the cutting mechanism; fourthly, of means for protecting the stalks against the crushing action of the main wheels and for throwing off the cut-off stalks.

Referring to the drawings, *a* are the support-

ing main wheels, which are provided at the circumference with transverse ribs for properly taking hold of the ground and preventing the slipping of the machine while moving over the field. The main wheels *a* impart motion to all the operative parts of the machine, as customary in agricultural machines of this class. They are placed loosely upon a square axle, *b*, Fig. 1, which latter supports by means of two platforms, *P*, secured rigidly to the axle and close to the wheels *a*, a frame, *c c*, that is made of wood and iron and properly strengthened by a longitudinal central piece and by transverse braces, so as to be strong enough to support the different working parts of the machine.

Each wheel *a* is provided with an interiorly-toothed ring, *d*, which meshes with a crown-wheel, *e*, secured to a transverse shaft, *f*, which turns in bearings *g* and *h* on the supporting-frame *c*. The crown-wheels *e e* are locked by a pawl and ratchet mechanism to the shaft *f* during the forward motion of the machine, but released therefrom so as to turn loosely upon the shaft *f* when the machine is moved in a backward direction. Near the center of the shaft *f* is keyed a bevel-wheel, *i*, which meshes with a horizontal bevel-wheel, *k*, that is keyed to a short vertical shaft, *l*. This short shaft *l* turns in a step-bearing at the center of the axle *b* and in a top bearing of the main frame *c*. The vertical shaft *l* carries, furthermore, below the bevel-pinion *k* a large gear-wheel, *m*, which meshes with a small gear-wheel, *n*, in front of the gear-wheel *m*. The vertical shaft *o* of the gear-wheel *n* is in line with the central axis of the entire machine, and supported in a central step-bearing of the radial arms *t* of a circular frame, *s*, and in a top bearing of a standard, *p*, of the main frame *c*, the top bearing being closed by a screw-nut, *q*. The circular frame *s* carries at its front part a fixed horizontal finger-beam, *r*, having parallel teeth. Back of the finger-beam *r* extend from two radial arms, *t*, of the circular frame *s* in forward direction two arms, *u* and *v*, which are laterally braced by a curved and flanged bridge, *w*, as shown clearly in Fig. 2. The flange of the bridge *w* serves as a scraper for keeping a roller, *x'*, arranged at the front part of the mowing-machine clear of earth. The form of this roller *x'* is preferably that of

a roll having a convex longitudinal face. The shaft *y* of the roller *x'* is carried in bearings of the arms *u* and *v*, the bearings being vertically adjustable in guides of the arms and secured by means of fastening-bolts, so that the roller *x'* can be set higher or lower. The roller *x'* supports the front part of the machine and gives, in connection with the main wheels, a steady support for the same, while its vertical adjustability admits the higher or lower adjustment of the fixed finger-beam and rotating cutter-disk, according as the stalks are to be cut off at a greater or less distance from the ground.

The finger-beam *r* is connected by rigid arms *b'* and bands *b²* with the transverse front piece, *c'*, of the frame *c* of the machine. The frame *s* of the finger-beam is further connected by arms *e'* and bands *e²* with the frame *c* of the machine. These connections are so arranged that the cutter-disk is not prevented from freely rotating above the finger-beam. The teeth of the finger-beam *r* are either made in one piece with the frame *s* of the same, or they may be screwed thereto, as desired.

The rotating cutter-disk *Z* is supported on curved arms *Z'*, the hub of which is keyed fast to the vertical shaft *o*. The cutter-disk *Z* carries at its circumference twelve or any greater or less number of cutter-teeth, *S*, and serves to cut off the stalks projecting above the finger-beam. The shafts *o* and *l* are capable of vertical adjustment by means of set-screws *o'* and *l'*, arranged in the bottom of the step-bearings of both shafts, so that in this manner the cutter-disk *Z* may be adjusted higher or lower independently of the finger-beam *r*. The cutter-disk *Z* receives its rotary motion from the gear-wheels *m* and *n* of the shafts *l* and *o*. To the arms *Z'* of the cutter-disk is attached a conically-tapering shell, *Z²*, of sheet metal, which incloses the arms of the disk, as well as the circular frame *s* and step-bearing of the shaft *o*. The shell revolves with the cutter-disk and carries the cut-off stalks sideways in the direction of motion of the disk, so as to throw them off at the side of the ma-

chine. At the front of the machine is arranged, inside of and extending above the shell of the cutter-disk, a conical guard-piece, *Z³*, which is connected to the transverse front piece, *c'*, of the frame *c*.

On one side of the machine is arranged a triangular and slightly-curved divider or guard-piece, of metal, *H*, for the protection of the cut-off and of the standing stalks against the crushing action of the main wheel *a*. This piece of metal *H* is riveted to the outermost tooth of the finger-beam and to the arms *b'* at 1, so that the stalks which have entered into the finger-beam are separated by the last tooth from the standing stalks, the latter passing along the shield *H*, which is extended back as far as the main axle, so that they clear the wheel. The front edge of this piece of metal *H* is sharpened, so that it cuts even through a very dense growth of stalks and admits the easy passing of the machine through the same.

To the opposite side of the machine is secured a deflecting-piece, *I*, of sheet metal, which throws the cut-off stalks sufficiently to the outside of the path of the machine that they clear the opposite wheel and are not crushed by the same.

I reserve the right to file a separate application for Letters Patent for the device for attaching and quickly releasing the draft animals.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, in a mowing-machine, of a rotary cutter-disk, a supporting-frame therefor, a rotary guide-shell above the disk, and a deflector, *I*, at the discharge side of the machine, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of May, 1881.

JEAN ANNE CARLÈS.

Witnesses:

ANTOINE CARLÈS,
ROBT. M. HOOPER.