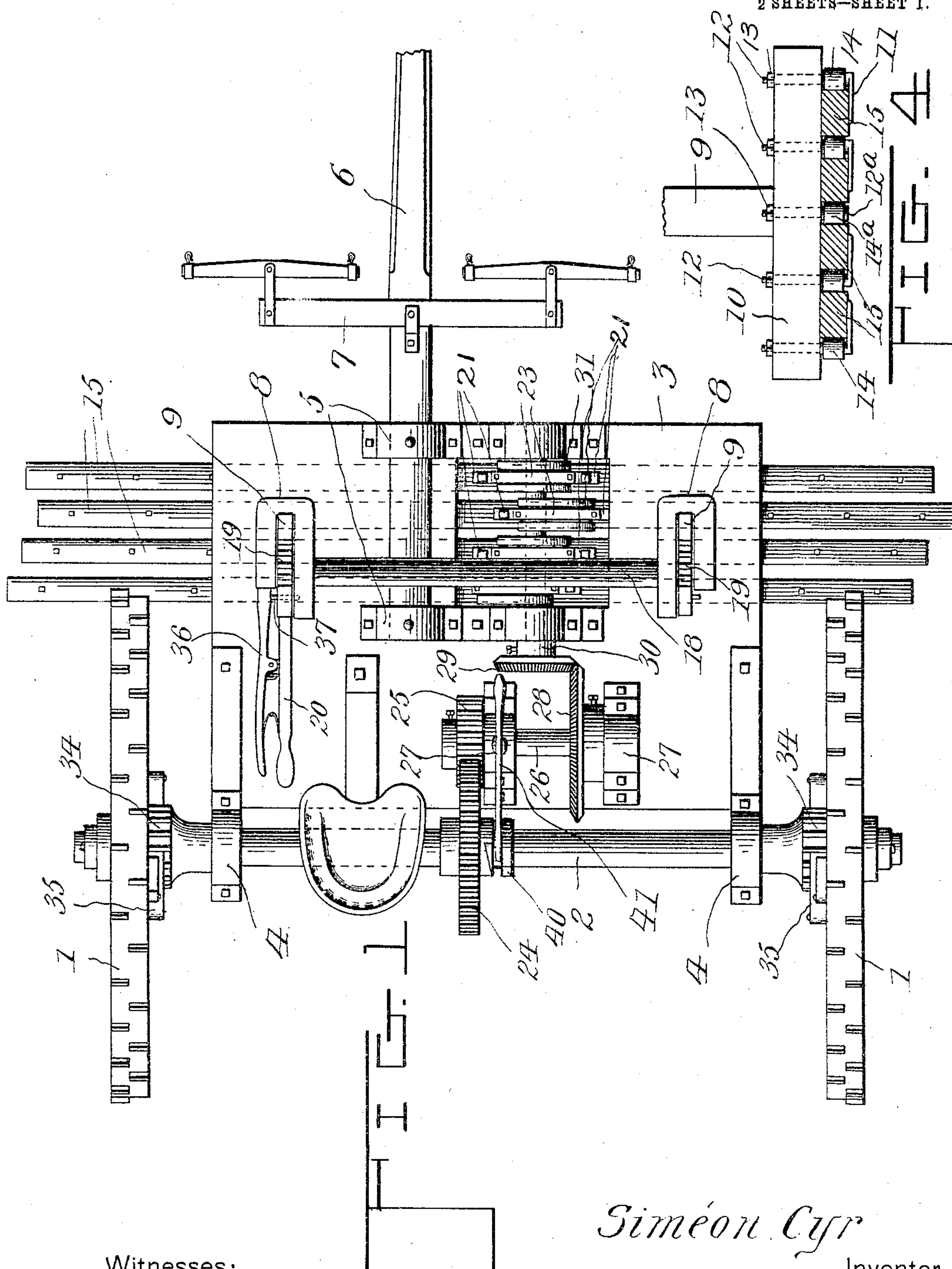


No. 791,884.

PATENTED JUNE 6, 1905.

S. CYR.
LAND GRUBBER.
APPLICATION FILED MAY 25, 1904.

2 SHEETS—SHEET 1.



Witnesses:

Ed. Page
J. H. Gibbs

Simeon Cyr

Inventor,

By

Marion & Marion

Attorneys

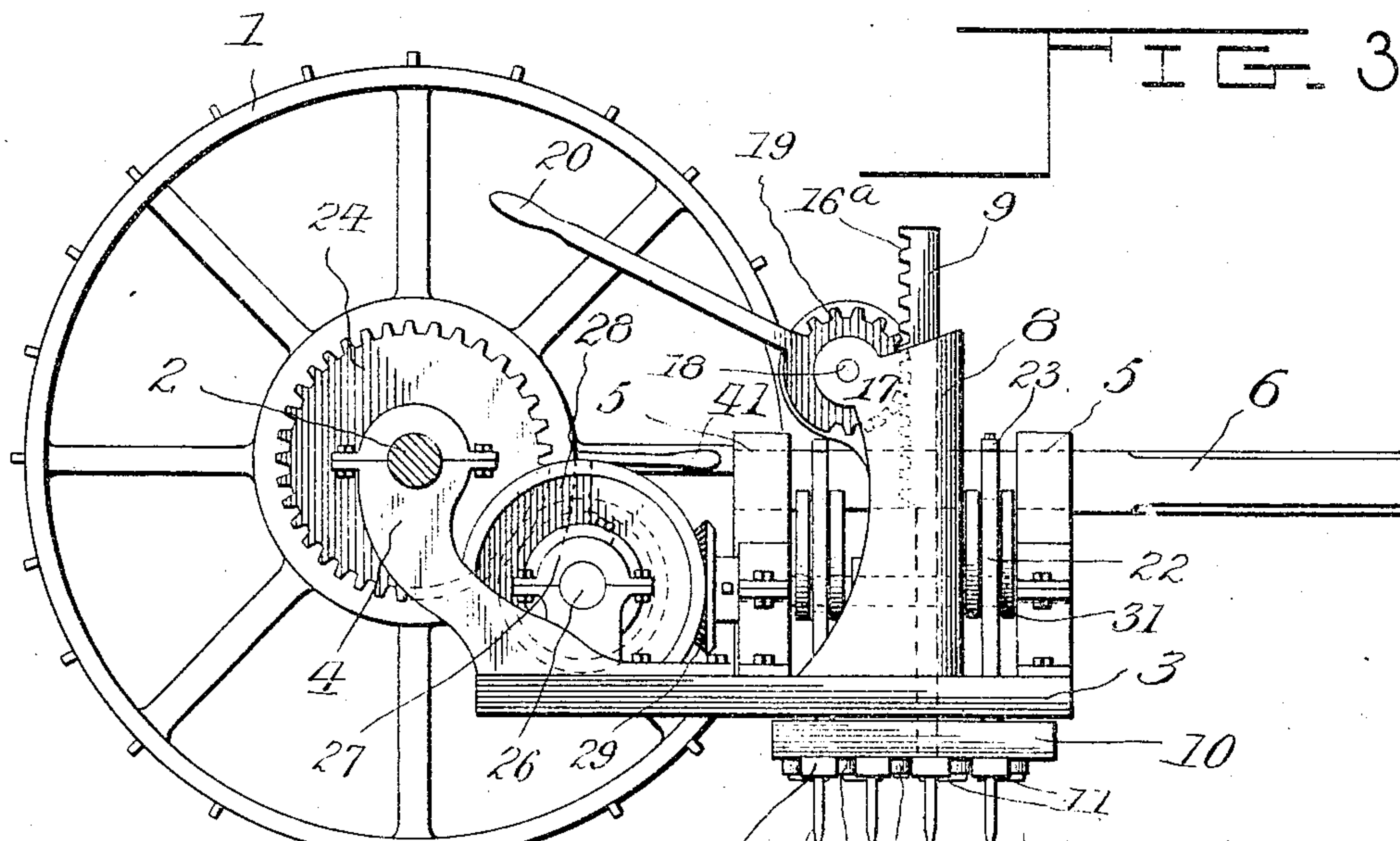
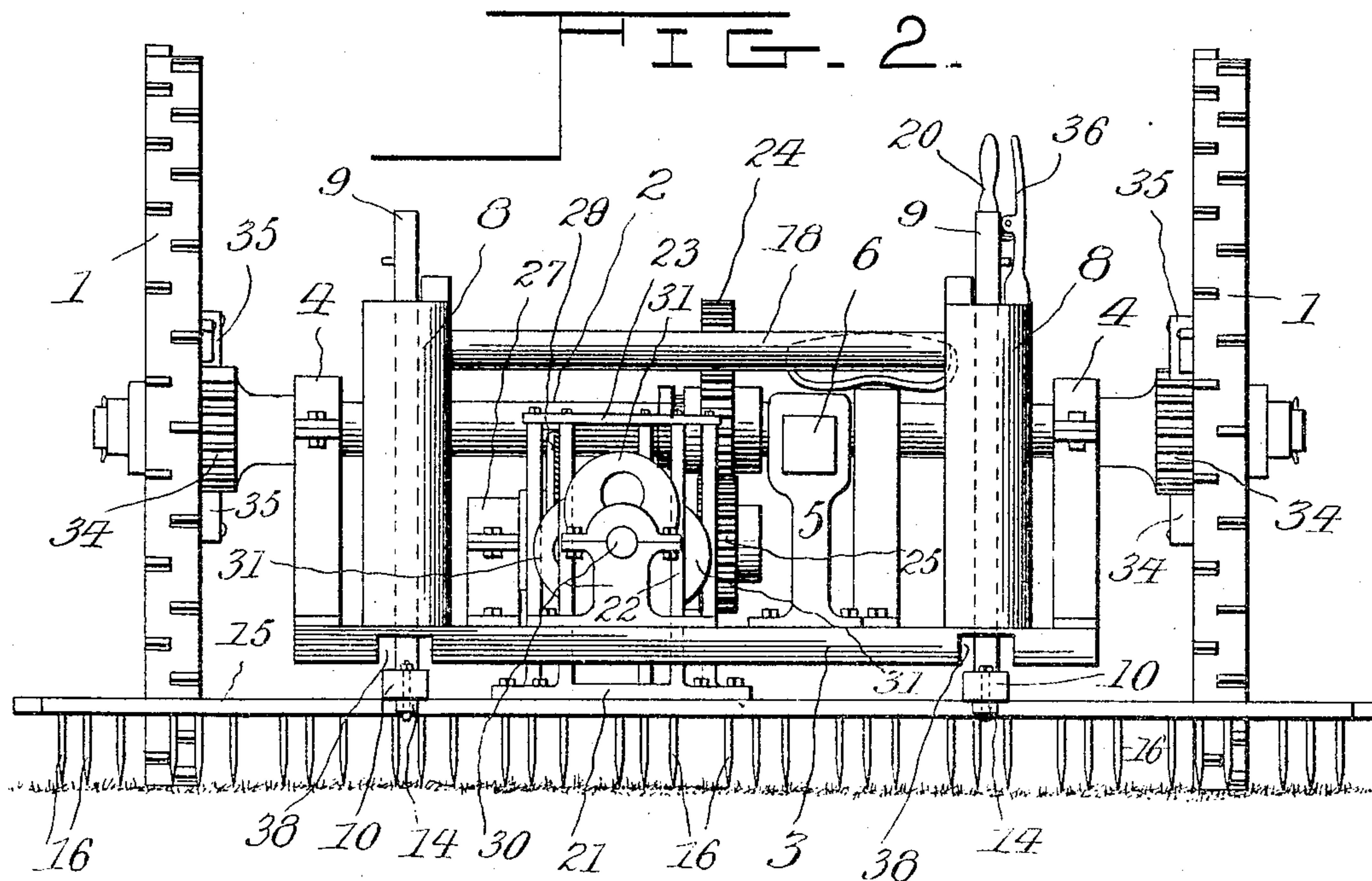
No. 791,884.

PATENTED JUNE 6, 1905.

S. CYR.
LAND GRUBBER.

APPLICATION FILED MAY 25, 1904.

2 SHEETS—SHEET 2.



Witnesses:

J. Ed. Page
J. H. Gibbs

15 16 17 Simeon Cyr, Inventor,

By

Marion Marion

Attorneys

UNITED STATES PATENT OFFICE.

SIMÉON CYR, OF VALLEYFIELD, CANADA.

LAND-GRUBBER.

SPECIFICATION forming part of Letters Patent No. 791,884, dated June 6, 1905.

Application filed May 25, 1904. Serial No. 209,618.

To all whom it may concern:

Be it known that I, SIMÉON CYR, a subject of the King of Great Britain, residing at Valleyfield, county of Beauharnois, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Land-Grubbers; and I do hereby declare that the following is 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.

This invention relates to new and useful improvements in land-grubbers; and it consists in certain features of novelty in the construction and arrangement thereof whereby suitable driving and supporting means are provided which carry a plurality of reciprocary teeth-carrying arms properly supported in position to contact with the surface of the ground or with growing vegetation thereon, all as hereinafter more fully described, and specifically pointed out in the claims.

The object of the invention is to produce a device of the character described in which a plurality of transversely-extended arms having differential reciprocary movement and carrying teeth will be carried by the machine and movement imparted thereto in such manner as to render the operation of the cutting-teeth most effective.

Referring to the drawings, in which similar numerals of reference indicate corresponding parts in all the views, Figure 1 is a plan view of the invention. Fig. 2 is a front elevational view thereof. Fig. 3 is a side elevational view, and Fig. 4 is a detached detail showing the means of supporting the reciprocary arms hereinafter referred to.

In a machine of this character it is desirable to provide one or more arms to which may be imparted a reciprocary movement during the travel of the machine over the surface of the ground, such arms carrying teeth adapted to perform the necessary work, and to that end the device herewith illustrated has been produced, in which—

1 represents the carrying-wheels supporting the main driving-shaft 2, from which depends the platform or supporting means 3, which serves to carry the operative parts of

the machine. Connecting the platform 3 with the driving-shaft 2 are clips 4, adapted to surround the driving-shaft, and at the forward end of the platform posts or standards 5 are provided, in which are mounted the draft-tongue 6, to which may be connected the whiffletree 7 or other suitable draft appliance for connection with a team of horses. Rising from the platform 3 are standards 8, which, as will be noted, are preferably hollow, and slidably supported in such standards are the reciprocary rods 9, which extend downwardly and are connected with the bars 10, shown at opposite sides of the supporting-platform. Connected with the bars 10, preferably by being projected vertically there-through, are supporting-clips, comprising the horizontal legs 11 and vertical legs 12, upon which latter at the upper end are secured the nuts 13 for causing engagement thereof with the bar 10, and below the bar 10 friction-reducing rollers 14 are placed upon the vertical legs of the said clips, which rollers serve as friction-reducing means for the transversely-extending grubber-bars 15, which carry the ordinary spike-shaped teeth 16, as shown in Figs. 2 and 3, which teeth are adapted to perform their function in cutting the ground. The rods 9 are provided with the racks 16^a, and supported in brackets 17, extending from the standards 8, is a transversely-extended shaft 18, which is provided on its opposite ends with pinions 19, adapted to mesh with the rack 16, and a lever 20 is connected with one of said pinions to rotate the same and its supporting-shaft, whereby the rods 9 and grubber-bars 15 may be adjusted vertically with relation to the surface of the ground independently of the said platform 3. Supported on the grubber-bars are yokes 21, having the vertically-extending arms 22, and, if desired, the cross connection 23 for reinforcing such yokes.

Carried by the driving-shaft 2 is a large gear 24, which meshes with the pinion 25 upon the shaft 26, which shaft is supported in bearings 27, carried by the platform 3. On the opposite end of the shaft 26 is a bevel-gear 28, which meshes with a correspondingly-beveled pinion 29 upon the shaft 30,

which latter shaft extends from the rear toward the front of the machine. On the shaft 30 are carried a plurality of cams 31, which are eccentrically secured upon the shaft 30 and are provided with annular channels in which rest the vertical extensions 22 of the yokes 21. Each of the grubber-bars 15 is provided with a yoke 21, and a corresponding number of cams 31 are provided on the shaft 30, by means of which a differential reciprocatory movement will be imparted to the grubber-arms 15 because of the eccentric arrangement of such cams, so that a dragging and tearing by the teeth of the ground-surface will result in the operation of the machine.

To permit turning of the machine, ratchets 34 are provided upon the shaft 2 near the wheels 1, and spring-actuated pawls 35 are carried by such wheels adapted for engagement with the ratchets, thus providing for independent rearward movement of both wheels when necessary.

Carried by the lever 20 is a locking-lever 36, which is pivoted intermediate its ends to the lever 20 and carries at its end near the shaft 18 a locking-pin 37, which is adapted to engage with perforations provided in the pinion 19 and bracket 17, so that the pinion may be locked at any predetermined position upon such bracket for the purpose of holding the grubber-bars in a fixed position with relation to the platform 3, while excisions 38 are provided in the lower portion of the platform to permit the bars 10 to be elevated sufficiently high so that the grubber-bars 15 will contact with the lower surface of the platform.

The operation of the machine is as follows: Draft-animals being connected thereto, it is drawn over the ground, whereupon the driving-shaft 2 will cause rotation of the shaft 30 through the gearing hereinbefore described and carry the eccentrically-disposed cams 31 with it, whereupon such cams will impinge upon the vertical arms 23 of the yokes, and thereby drive the grubber-arms in a direction transverse to the line of draft of the machine, each of the arms being carried independently of the other, so that the arms will travel to some extent in opposite directions.

In the accompanying drawings four grubber-arms are shown, with four supporting-clips therefor, while an intermediate spindle 12^a is shown carrying a friction-reducing roller 14^a, and it will be evident that any of such clips may be removed when desired, so that more or less of such arms may be used, according to the requirements of the occasion.

It is obvious that a clutch, as 40, may be placed on the shaft 2 and the gear 24 thrown into and out of engagement with said clutch by means of the lever 41, whereby the said gear will rotate with the shaft 2 or rotate idly on said shaft, in which latter case the arms 15 will not be reciprocated.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

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

1. In a land-grubber, a driving-shaft, supporting means carried thereby, a plurality of reciprocatory arms, teeth thereon, standards on said supporting means, reciprocatory rods in said standards, bars connected therewith, and removable clips extending through said bars below said reciprocatory arms.

2. In a land-grubber, a driving-shaft, supporting means carried thereby, a plurality of reciprocatory arms, teeth thereon, standards on said supporting means, reciprocatory rods in said standards, bars connected with said rods, removable clips connected with said bars, and friction-reducing means on said clips.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

SIMÉON CYR.

Witnesses:

T. MYNARD,
M. MCALEER.