L. GALARDI AND L. PATUZZO.

PLOWING MACHINE.

APPLICATION FILED FEB. 24, 1916.

1,325,244.

Patented Dec. 16, 1919.

2 SHEETS—SHEET 1.

Fig. 3.

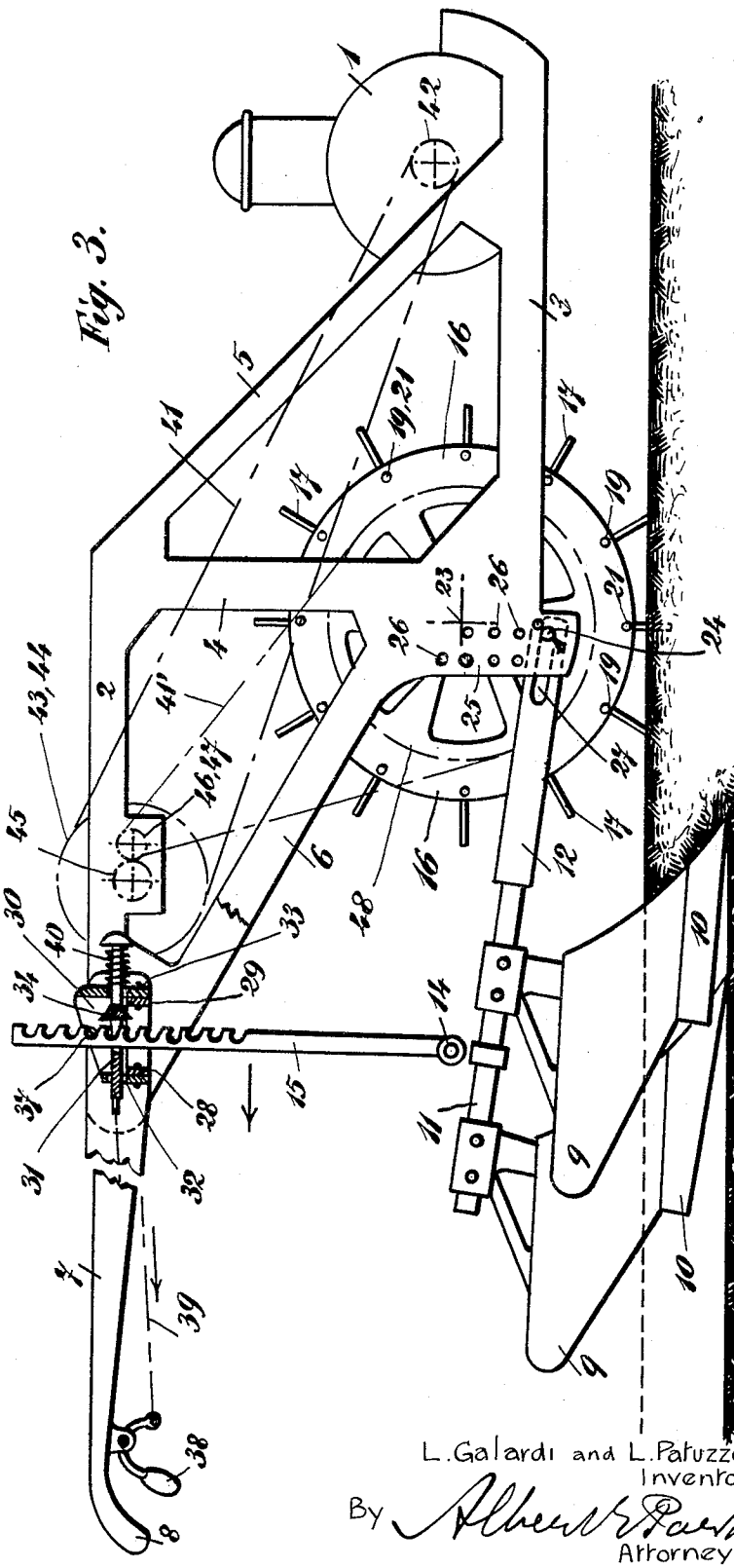


Fig. 1.

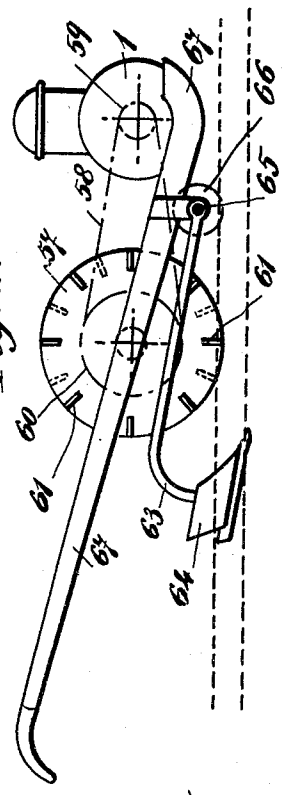
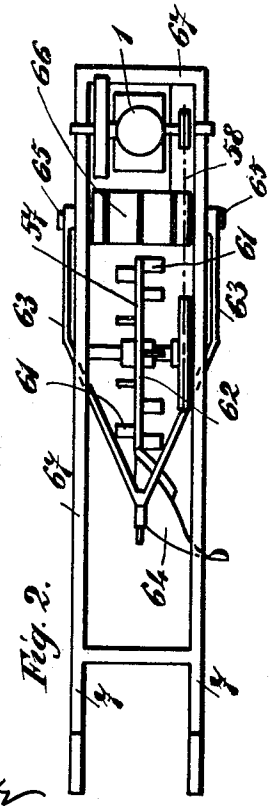


Fig. 2.



L. Galardi and L. Patuzzo.
Inventors
By Albert G. Parker
Attorney.

L. GALARDI AND L. PATUZZO.

PLOWING MACHINE.

APPLICATION FILED FEB. 24, 1916.

1,325,244.

Patented Dec. 16, 1919.

2 SHEETS—SHEET 2.

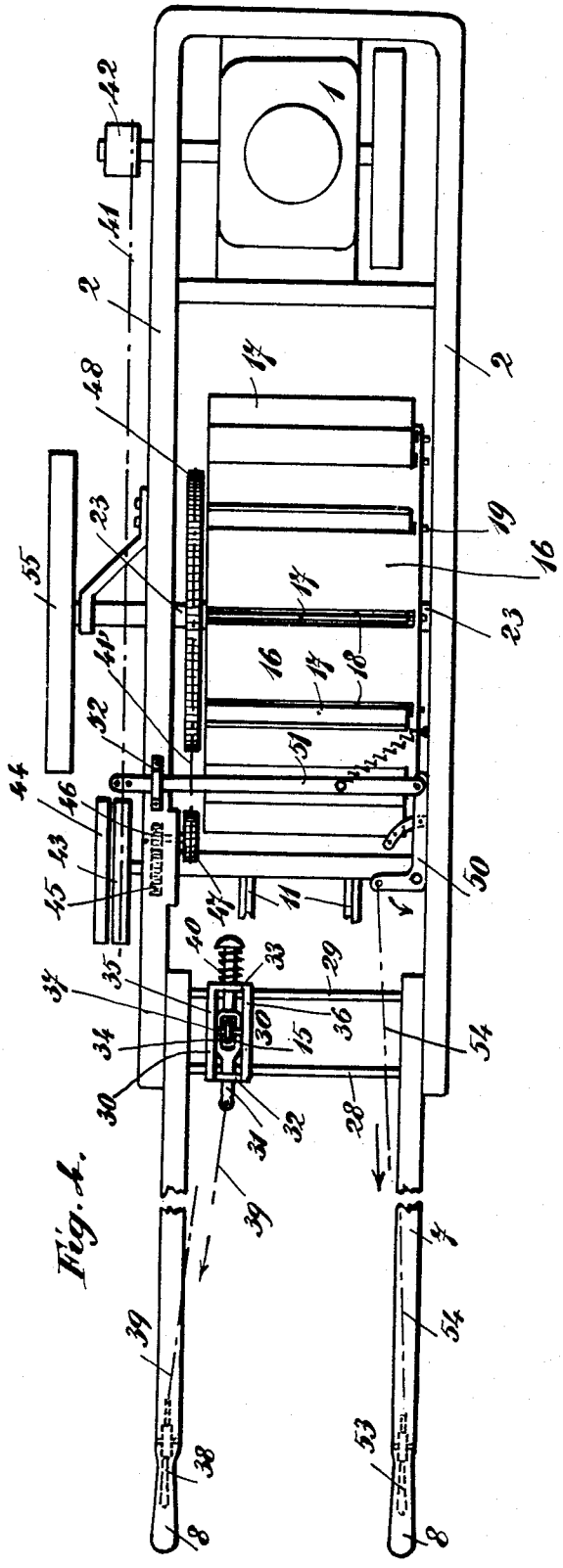


Fig. 4.

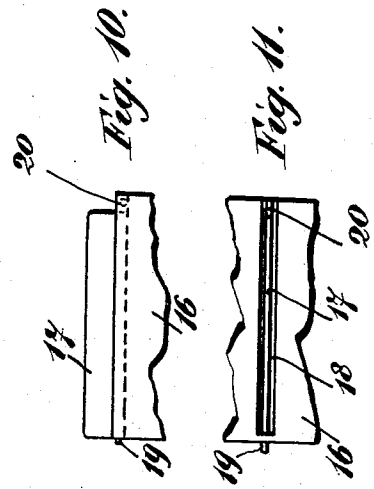


Fig. 10.

Fig. 11.

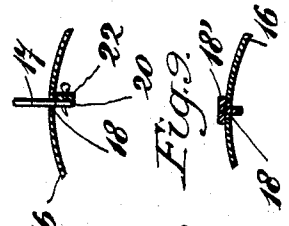


Fig. 8.

Fig. 9.

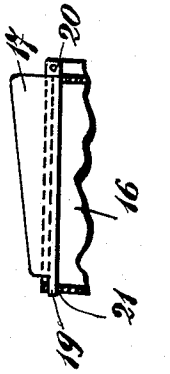


Fig. 7.

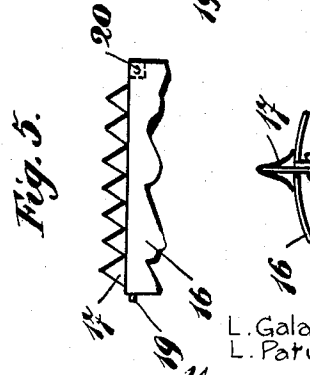


Fig. 5.

Fig. 6.

L. Galardi
L. Patuzzo.
Inventors.

By Albert G. Parker
Attorney.

UNITED STATES PATENT OFFICE.

LEOPOLDO GALARDI AND LEANDRO PATUZZO, OF MILAN, ITALY.

PLOWING-MACHINE.

1,325,244. Specification of Letters Patent. **Patented Dec. 16, 1919.**

Application filed February 24, 1916. Serial No. 80,101.

To all whom it may concern:

Be it known that we, LEOPOLDO GALARDI and LEANDRO PATUZZO, engineers, both subjects of the Italian Kingdom, and residents of Milan, Via Durini 18, Italy, have invented certain new and useful Improvements in and Relating to Plowing-Machines, of which the following is a specification.

Our invention relates to certain new improvements in motor-plows of that class whereby a frame is combined with an oil engine, plowing means and controlling means.

Object of our invention is an embodiment of parts intended to obtain efficiency of work, simplicity of construction and improved output.

In the annexed drawings are represented by way of example two forms of construction of our said invention.

Figure 1 is an elevational view of a motor-plow of great power.

Fig. 2 is a plan view of same.

Figs. 3 and 4 represent respectively a side elevational view of a second form of construction and a plan of same.

Figs. 5—6—7—8—9—10—11— represent certain details of construction as will be more clearly described hereafter.

The form of construction represented in Figs. 3—4— comprises the tractor-frame consisting of beams 2—3—, uprights —4— and stays —5—6—, duly riveted to one another to form a rigid system.

On a platform provided at the forward part of said tractor-frame, is mounted and fixed the oil-engine —1—.

To the rear ends of the upper beams —2— are rigidly connected the arms —7— provided at their ends with handles —8—.

A battery of plows, each of which comprises mold board —9— and share —10—, is swung on a frame consisting of bars —11— projecting rearward from beams —12—. Said beams 12 are pivotally connected to the lower part —25— of the tractor frame, by means of pivots —24—, longitudinal slots in said beams and holes —26, in said tractor-frame.

Several holes —26— are provided in order to connect the beams —12— at different positions.

The supporting frame for the battery of plows is pivotally connected at —14— to a rack —15— which function is to shift the plows vertically and to vary the angle of incidence of the shares by means of hand operations and a clutch device that will be described hereafter.

The progressive motion of the tractor is obtained by means of a drum —16— provided with radial blades —17— and mounted on a transverse axle —23—.

The blades may have different shape, as shown by Figs. —5—6—7—10— but they all have the effect of engaging the ground in order to produce sufficient reaction for the progressive motion.

The way how the blades —17— are connected to the drum —16— is shown by the Figs. —5—6—7—8—10—11— which show different views and sections of the drum.

Each blade has a pivot-projection, 19— and an eyed lug —20—, to said projection —19— and to said lug —20— correspond respectively hole —21— laterally on drum —16— and eyed lug —22— on the opposite side of drum —16—.

For the connection of the blade to the drum, pivot-projection —19— enters hole —21— and the two eyed-lugs 20—22 are locked together.

18 are slots on the surface of drum —16— and which give passage to the blades —17—.

18′ is a T-like bar to cover the slots —18— when the tractor is driven on a road and consequently the blades —17— have to be removed.

In order to shift the plows vertically a clutching device is provided consisting of a rectangular member —30— in which is longitudinally arranged a slidable link —31— which extends through the front and rear sides —32—33— of said supporting member —30—; —28—29— are supporting bars for member —30—.

The rack —15— passes through said supporting member 30 and through the enlarged portion 34 of link 31 and normally engages a transverse rod —37— fixed on the supporting member —30—. The link —31— which is free to slide on its seat, is joined to a wire —39— connected to hand lever —38— mounted within the grasp of the conductor.

A coil spring —40— is provided to resist the backward movements of link —34— and to cause the same to return to its normal position, when lever —38— is released.

To unclutch rack —15—, pull lever —38— causing the front wall of portion 34 of link 31 to drive the rack —15— backward and to disengage it from rod —37—; thereupon

press downward or pull upward arms —7— to vertically move member 30 and link 31 relatively to rack 15, and finally release lever —38— to have the rack —15— fixed in its new relative position; it will be understood, that the mentioned operation, will vertically adjust the plows and vary the angle of incidence of the plows while the tractor is kept horizontal.

The driving means of drum —16— comprise: belt —41— stretched between engine-pulley —42— and fixed-and-loose pulleys 43—44— mounted on beam —2—. The shaft of pulleys —43—44— bears gear-wheel —45— gearing with pinion —46— and the axle of pinion —46— bears sprocket-wheel —47— connected to sprocket-wheel —48— on drum —16— by means of a chain —41'—.

It is worth mentioning that the distribution of parts is such as to have the machine completely balanced on the axle —23— of drum —16—; moreover the driven sprocket-wheel —47— is mounted on the same part of the machine, in respect of the axle —23—, as the plows.

Such position secures a pressure on the plows while the engine is driving the plows.

Lever —53— wire —54—, lever —50—, connecting rod —51— that slides in bridge —52— constitute a shifting device to remove the belt —41— from pulley —43— to loose pulley —44— and vice-versa.

—55— is a lateral wheel as is generally used with plows which have to work on hilly fields.

In the form of construction represented by Fig. 1 2— the engine is directly coupled to the drum —57— by means of a sprocket-chain —58— mounted between wheels —59—60—.

The progressing drum is in this case constituted by a disk —57— provided with laterally projecting blades —61—.

The fore-beam —63— of the plow —64— is connected to the axle —65— of drums —66— which roll on the ground and support the machine.

Having now particularly described and ascertained our invention and the manner in which the same should be performed we declare that what we claim is:

1. The combination with a supporting drum, of a framework provided with handles supported by said drum and manually movable about the axis thereof, a plow carrying member pivotally connected to said framework at the rear of said drum axis, plowing tools connected to the plow carrying member, and mechanism for connecting the framework and plow carrying member in adjusted relationship determined by the manual movement of the framework about the drum axis, said mechanism comprising a rack connected to said member, means carried by the framework normally engaging said rack, and means operable to effect disengagement of said rack and to effect re-engagement thereof after said manual movement of the framework relatively to the rack.

2. The combination as defined by claim 1, in which an operating member is mounted on one of said handles and is connected to the last named means.

3. The combination as defined by claim 1, in which a stationary member is fixed to the framework and is normally engaged by said rack and a rack disengaging member is slidably mounted on said framework.

In testimony whereof we have affixed our signatures in presence of two witnesses.

LEOPOLDO GALARDI.
LEANDRO PATUZZO.

Witnesses:
GIAN GIACOMO GUANININ,
ILO C. FUNK.