

M. S. OPSATA.
GANG PLOW.
APPLICATION FILED DEC. 21, 1908.

964,179.

Patented July 12, 1910.

2 SHEETS—SHEET 1.

FIG. 1.

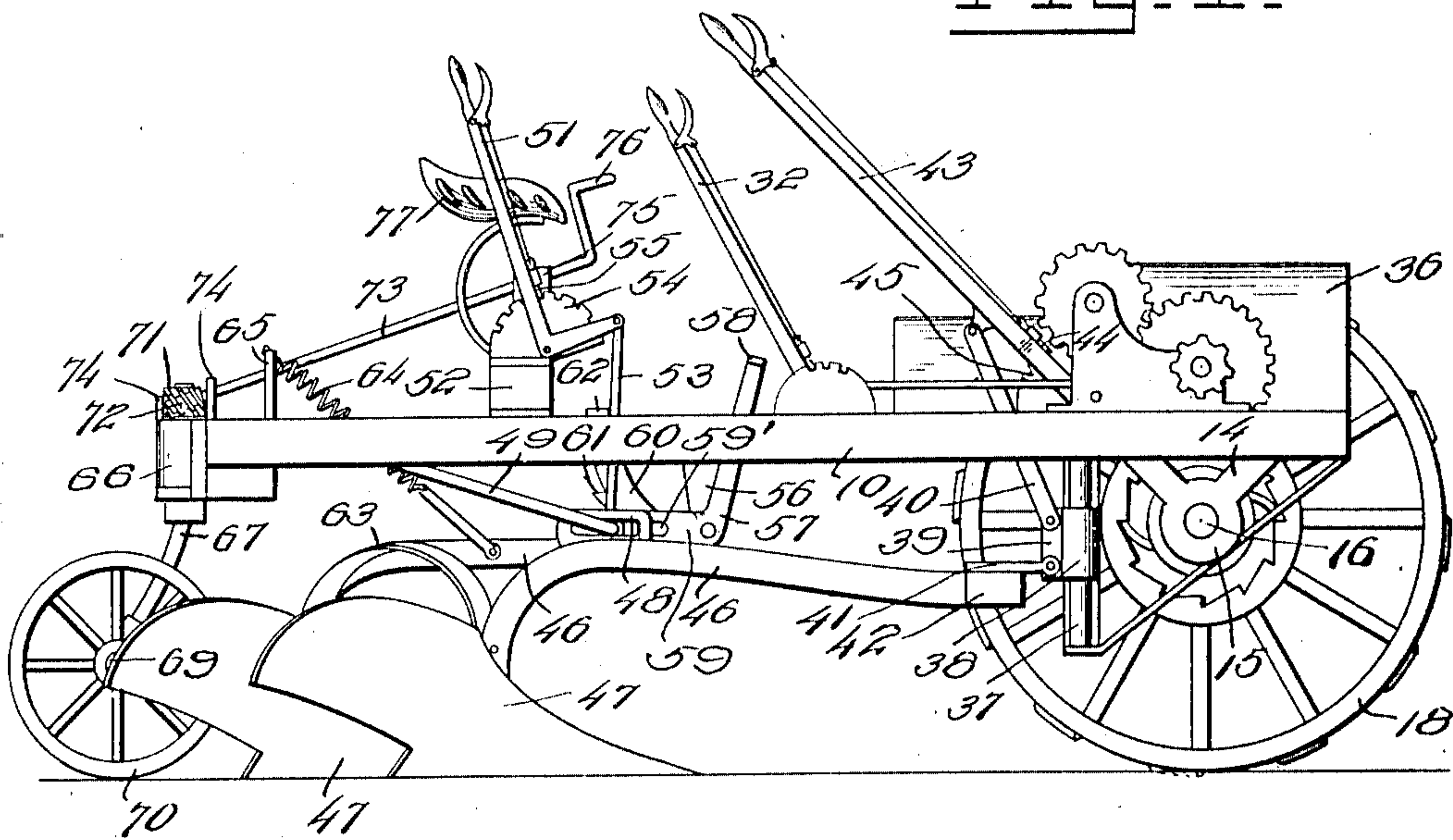
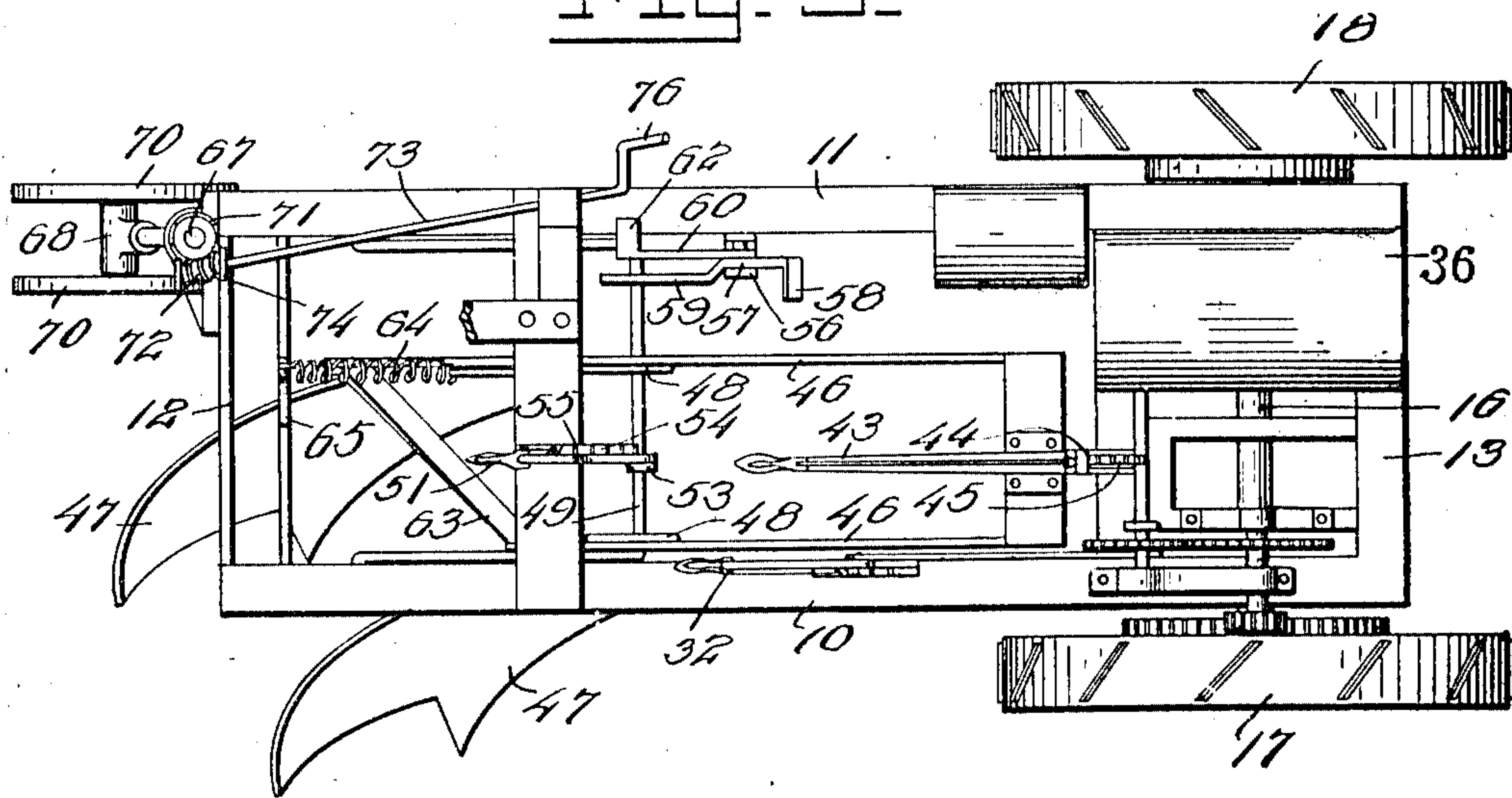


FIG. 2.



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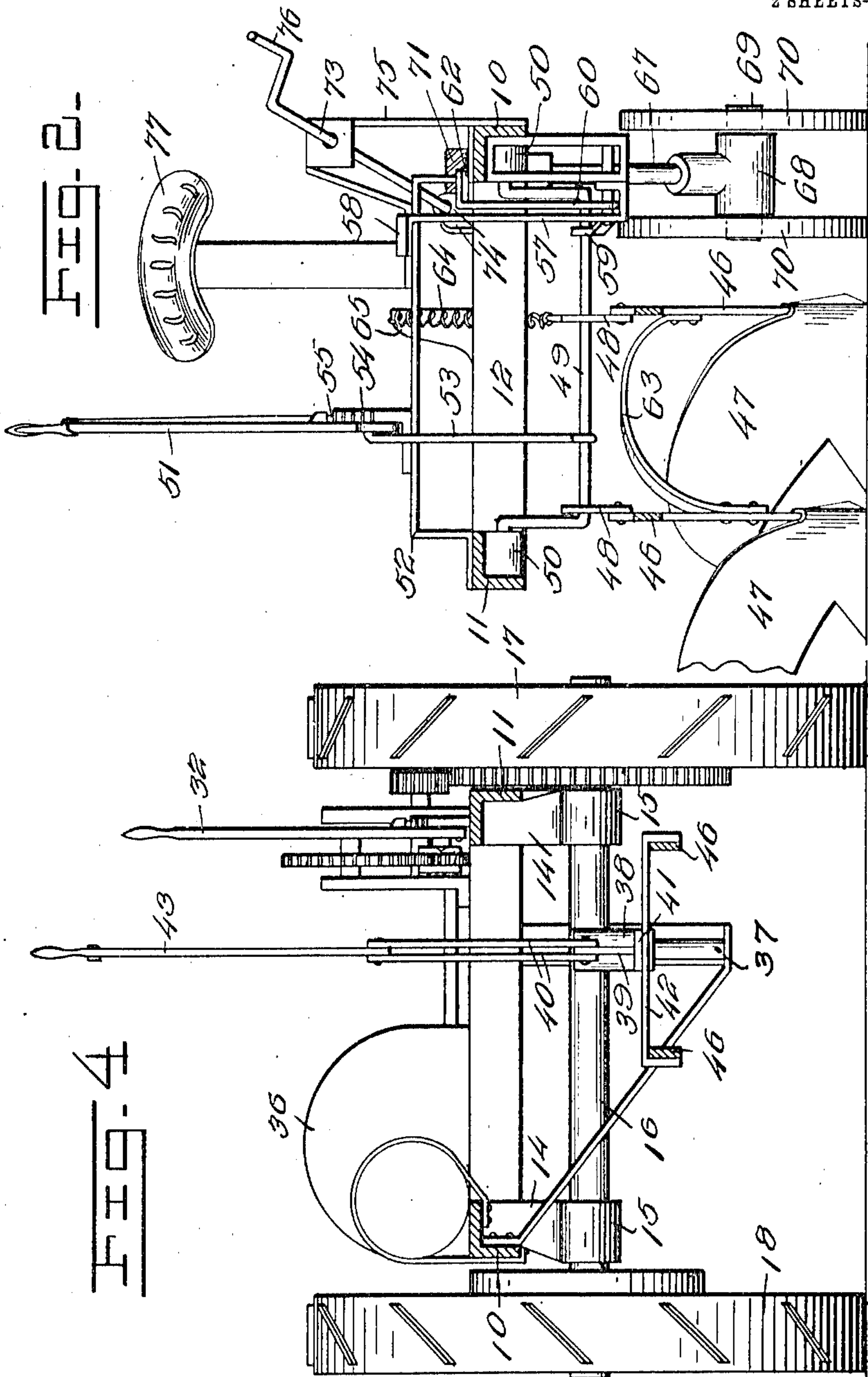
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UNITED STATES PATENT OFFICE.

MARTIN S. OPSATA, OF GRANO, NORTH DAKOTA.

GANG-PLOW.

964,179.

Specification of Letters Patent.

Patented July 12, 1910.

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To all whom it may concern:

Be it known that I, MARTIN S. OPSATA, a citizen of the United States, residing at Grano, in the county of Ward and State of North Dakota, have invented certain new and useful Improvements in Gang-Plows, of which the following is a specification:

This invention relates to plows and has special reference to such devices as are known as gang plows.

An object of the invention is to provide a device of this character with means whereby the plows carried by the same may be adjusted vertically and angularly.

The invention has for a further object the provision of a frame of peculiar construction mounted upon supporting wheels which is peculiarly adapted to be used as a vehicle when the plows have been detached.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the complete device, Fig. 2 is a transverse section of a device looking toward the rear of the machine, Fig. 3 is a top plan view of the device, Fig. 4 is a transverse vertical section looking forward of the machine.

Referring to the drawings, 10 and 11 designate the sides of the device which are preferably formed of angle iron and which are held in parallel relation by means of the cross braces 12 and 13 positioned across the opposite extremities thereof. The sides 10 and 11 are provided with depending bearings 14 which are provided with journal boxes 15 at their lower ends for the reception of a shaft 16 which is loosely journaled therethrough and is provided with the supporting wheels 17 and 18.

The shaft 16 is connected to an engine 36 of any suitable construction which is mounted upon the brace 13 and beam 33 longitudinally of the sides 10 and 11 and is operated by means of the lever 32.

The beam 33, which is disposed intermediately across the sides 10 and 11 is provided with a depending shaft 37 upon which is disposed a sleeve 38 adapted for slidable

movement thereon and which is provided with ears 39 for the reception of the lower extremity of the links 40 and for the reception of the extremities of the clevis 41 carried upon a cross head 42. The link 40 is extended upwardly where it is pivotally engaged intermediately upon a hand lever 43 which is fulcrumed at its lower extremity to the beam 33 and extended rearwardly therefrom to be held in adjusted position by a dog 44 carried by the lever 43 and engaged within a segment 45. The cross head 42 is so formed as to receive the forward extremities of the plow beams 46 which are provided with plows 47 of any construction. The plow beams 46 are provided with keepers 48 longitudinally mounted thereon in transverse parallel relation through which is loosely positioned a bail 49 which is journaled in bearings 50 positioned upon the inner faces of the sides 10 and 11 at the rear extremities of the same.

For the purpose of raising the bail 49 and plow beams 46 a hand lever 51 is fulcrumed upon a raised bracket 52 transversely positioned across the sides 10 and 11, which is provided with a forwardly extended arm at its lower extremity which carries a depended rod 53 which is rotatably disposed intermediately of the crank shaft 49. It is thus seen that by the reciprocation of the lever 51 the bail 49 is vertically reciprocated. A segment 54 is vertically disposed in juxtaposition to the lever 51 for the purpose of locking the lever 51 in adjusted position by the engagement of the dog 55, carried by the lever 51, with the segment 54. The side 10 is provided with a depended brace 56 which pivotally supports a bell crank lever 57, the upper extremity of the longer arm of which is provided with a pedal 58 which is adapted to be operated by the foot of the operator. The opposite arm 59 of the bell-crank lever is slotted as at 59' shown in Fig. 1 and engaged with the bail 49 for the purpose of raising the same upon the forward movement of the pedal 58. The brace 56 is also provided with a lock lever 60 which is concentrically disposed in relation to the bell-crank lever 57 and which is provided with a shoulder 61 for engagement with the bail 49 when the same is in a raised position. The lock lever 60 is provided with a pedal 62 by which the same is adapted to be operated. The rear extremities of the plow

beams 46 are provided with a cross brace 63 for securing the same in parallel. A spring 64 is carried by an arm 65 vertically positioned intermediately of the ends of the rear brace 12. The spring 64 is employed for the purpose of assisting the operator to return the plows to their normal upward position on account of the weight of the same. This spring is secured at its lower end to the keeper 48. A journal box 66 is vertically disposed at the rear extremity of the beam 11 for the reception of the upper extremity of a shaft 67 which is curved rearwardly at its lower end and provided with an axle box 68 which carries an axle 69 upon which are disposed the wheels 70 for supporting the rear extremity of the device. A worm gear 71 is carried upon the upper extremity of the shaft 67 and is engaged with a worm 72 carried upon the rear extremity of a shaft 73 mounted in the arms 74 which are upwardly extended from the journal box 66. The forward extremity of the shaft 73 is mounted in a standard 75 positioned upon the side 10 and is provided with a crank arm 76 for engagement by the operator. The raised bracket 52 is provided with a seat 77 for the operator.

The device is steered through the shaft 73 which actuates the vertically disposed shaft 67 through the worm 72 to throw the wheels 70 into the desired angle. The angle of the plows with respect to the ground is regulated by the operation of the lever 43 which vertically reciprocates the sleeve 37 to raise or lower the forward extremities of the plow beams 46 while the rear extremities are supported from vertical movement upon the bail 49. Should it be desired to adjust the height of the plows the lever 51 is actuated to raise or lower the bail 49 and hold the same in locked position by means of the dog 55 in engagement with the rack 54.

If desired the driving engine may be eliminated, and the plow be drawn by means of suitable draft animals.

What is claimed is:—

1. A device of the class described com-

prising a body portion, means for propelling said body portion carried thereby, a bail mounted in the rear end of said body portion and extended forwardly therefrom, plow beams carried upon said bail at their rear extremities, levers carried by said body portion for raising and lowering said bail, a shaft depended from the forward end of said body portion, a sleeve slidably disposed on said shaft, a cross head carried by said sleeve for engagement with the forward extremities of said plow beams, a lever mounted upon said body portion connected to said sleeve for raising and lowering the same and a spring carried by said body portion secured at its lower end to said beams for normally holding the same in an upward position.

2. A device of the class described comprising a body portion, a shaft depended from the forward extremity of said body portion, a sleeve slidably mounted on said shaft, a hand lever mounted on said body portion connected to said sleeve for reciprocating the same, a cross head pivotally connected to the lower end of said sleeve, plow beams carried by said cross head at the lower extremity thereof, a bail mounted in the rear end of said body portion, keepers disposed on said plow beams at the rear extremities thereof engaged over said bail, a hand lever carried by said body portion connected to said bail for raising and lowering the same, a bell crank lever carried by said body portion having one arm thereof engaged with said bail, a pedal disposed upon the opposite arm for engagement with the foot of the operator and a lock lever concentrically mounted on said body portion with said bell-crank lever for engaging said bail.

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

MARTIN S. OPSATA.

Witnesses:

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