Department of Patents
Patents Act 1903-1921
Commonwealth of Australia.

No. 25,348/30.

APPLICATION DATED

26th February, 1930.

Applicants (Actual Inventors) .. .. THOMAS FERDINAND ROSS.
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ANDREW BROUGH MILNE.

Application and Provisional Specification .. Accepted, 20th March, 1930.
Complete Specification .. .. .. Accepted, 18th September, 1930.
Acceptance Advertised (Sec. 50) .. .. 30th September, 1930.

Class 31.1.

Drawing attached.

COMPLETE SPECIFICATION.

"Cutter cane planter."

We, THOMAS FERDINAND ROSS, GEORGE LUDWIG PETERSEN and CARL GUSTAVE PETERSEN, all Farmers of Oakenden via Eton, in the State of Queensland, Commonwealth of Australia, and ANDREW BROUGH MILNE, Motor Mechanic, of North Side, Mackay, in the State of Queensland aforesaid, hereby declare this invention and the manner in which it is to be performed, to be fully described and ascertained in and by the following statement:—

This invention relates to the planting of sugar cane, and its object is to provide a simple machine whereby cane may be cut into plant pieces which are deposited in spaced arrangement in a furrow made by the machine as it progresses, the furrow being subsequently refilled to cover the plant pieces therein.

The invention consists in a machine for the purpose set forth comprising a frame mounted on ground wheels and adapted to be progressed over the soil, a share mounted thereon to form a furrow in the soil, a substantially vertically disposed guide for a cane stick mounted upon the frame and a stop in said guide to regulate the length of a plant piece to be severed from the stick, a knife shear device associated with said guide, and means controlled by the ground wheels for reciprocating the knife to sever a plant piece. Means for filling the furrow in rear of the said guide after the plant piece has been severed and directed into the furrow by the guide are included in the complete outfit.

The invention also consists in the mechanical features and combination hereinafter fully set out with reference to the accompanying drawings which depict a preferred form of the invention and in which—

Fig. 1 is a perspective view thereof,

Fig. 2 a central side sectional elevation of the construction shown in Fig. 1, and

Fig. 3 a plan detail of the knife cutting device.

The machine is built on a substantially triangular framework 1 provided at the forward end with a draglink 2 for connection to a tractor or other prime mover, and a pair

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of parallel rails 3, 3 are longitudinally arranged within the frame and secured at their ends respectively thereto, the frame being carried on ground wheels 2^1, 2^1 on axle 3^1 mounted in the frame.

To the forward end of the frame is pivotted a furrow forming share 4, which when in operation engages the soil as shown in the drawings and is stayed by a chain 5 or other known means as will be understood. When inoperative the share 4 may be swung forwardly clear of the soil and the machine readily progressed.

Mounted on the forward end of the rails 3, 3 is a plate 6 having a shear aperture 7 therein, and a pair of rectangular guide bars 8, 8 are secured at their ends to the rails 3, 3 and to the plate 6 and extend above the latter with a clearance space.

Mounted to reciprocate upon the plate 6 and moving within the guide bars 8, 8 is a rectangular knife-frame 9 to the inner faces of the side walls of which is secured an obliquely disposed double-edged knife blade 10 bearing on the plate 6. A connecting rod 11 is secured at one end to the rear face of frame 9 and at the other end to a short crankshaft 12 mounted at its ends in brackets 13 secured to the rear ends of rails 3, the crankshaft being driven through a pinion gear wheel 14 mounted on one end of the shaft and meshing with and driven from a spur gear wheel 15 rigidly mounted upon axle 3^1, which axle is rotated as the machine progresses by reason of one of the ground wheels 2^1 being keyed thereto; the other ground wheel being free upon the axle to facilitate turning of the machine.

Attached to, and extending above, the guide bars 8, 8 and in alignment with aperture 7 in plate 6 is a flared tubular and vertically disposed upper cane guide 16, and below the plate 6 and in alignment with the upper cane guide is a lower cane guide 17 upon which is adjustably mounted an elbow piece 18, the discharge end of which is directed rearwardly in longitudinal alignment with the share 4. As shown in Fig. 2, a cane stick 20 is inserted in the cane guides, passing through the shear aperture 7, and contacting at its lower end with the bend in the elbow piece.

As will be understood, motion of the machine over the ground causes the knife frame 9 to reciprocate and the blade to sever a plant piece 19 from the cane stick on each forward and rearward movement, the plant piece passing down the elbow piece and being deposited in the furrow 21, as shown in Fig. 2. The length of the plant piece is regulated by adjustment of the elbow 18 up or down on guide 17, as this regulates the length of the cane stick lying below the knife.

In order to cover the furrow after the plant pieces are deposited therein, a scraper 22 of substantially "U" shape is pivotally mounted at its forward end to the share 4 by a pin 23, the rear closed end of the scraper lying in rear of elbow 18 and operating to deposit the soil in the furrow over the plant pieces as shown in Fig. 2.

Suitable clutch gear of known type is provided in association with gear wheel 15 whereby the latter may be clutched to or de-clutched from the axle 3^1 as required.

The machine above described is constructed for traction by a prime mover, but an engine could be readily disposed upon the machine itself to propel same.

Having now fully described and ascertained our said invention and the manner in which it is to be performed, we declare that what we claim is:—

1. A machine for the purpose set forth comprising a frame mounted on ground wheels and equipped with a furrow forming device, in rear of said device a guide for receiving a cane stick to be cut, and a reciprocating knife associated with said guide for severing from the cane stick the required plant pieces, means actuated by the ground wheels for imparting motion to said knife, and a chute to deposit said plant pieces in a furrow formed by the said device.

2. A machine according to Claim 1 and including a device in rear of the chute for refilling the furrow after a plant piece has been deposited therein.

3. A machine according to any of the preceding claims in which the knife is adapted to sever a plant piece from the cane stick during each reciprocation.

4. A machine according to any of the preceding claims in which the furrow forming device is in the form of a share pivoted at one end to the frame and adapted to be swung clear of the ground when the machine is to be rendered inoperative.

5. A machine according to any of the preceding claims, in which the cane guide

is vertically disposed and including means associated with the cane guide below the knife for regulating the length of plant piece to be cut by the knife.

6. A machine for the purpose set forth, comprising, in combination, a frame including a rotatable axle and supported on ground wheels one of which is fixed and the other free on said axle, a crank shaft rotated by gearing from said axle, a horizontally reciprocating double-edged knife blade mounted in guides on frame members and coupled by a connecting rod to said crankshaft, a fixed shear plate associated with said knife blade and formed with an aperture, and upper and lower tubular canestick-guides in register with said aperture, the lower guide being of elbow shape; all adapted to operate and coact as set forth.

7. A machine for the purpoes set forth comprising a framework supported at the rear end upon ground wheels mounted upon a rotatable axle and adapted at its forward end for traction, a furrow forming share at the forward end of the machine, a plate mounted on said frame and provided with a shear aperture, a vertically disposed canestick guide above and below said plate and in register with said aperture, a knife reciprocally mounted on said plate and adapted to sever at each reciprocation a plant piece from the cane stick, a crankshaft and connecting rod drive from the said axle to reciprocate the knife, a stop in the cane guide below the knife to regulate the length of the plant piece, a chute to direct the plant piece into a furrow formed by the share, and a scraper to refill the furrow in rear of the said chute.

8. A machine as and for the purpose herein described and set forth.

Dated this 27th day of May, A.D. 1930.

THOMAS FERDINAND ROSS,
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CARL GUSTAVE PETERSEN, and
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By their Patent Attorney,
ARTHUR GRIFFITH.

Witness—R. Biggs.

Printed and Published for the DEPARTMENT OF PATENTS, COMMONWEALTH OF AUSTRALIA,
by H. J. GREEN, Government Printer, Canberra.

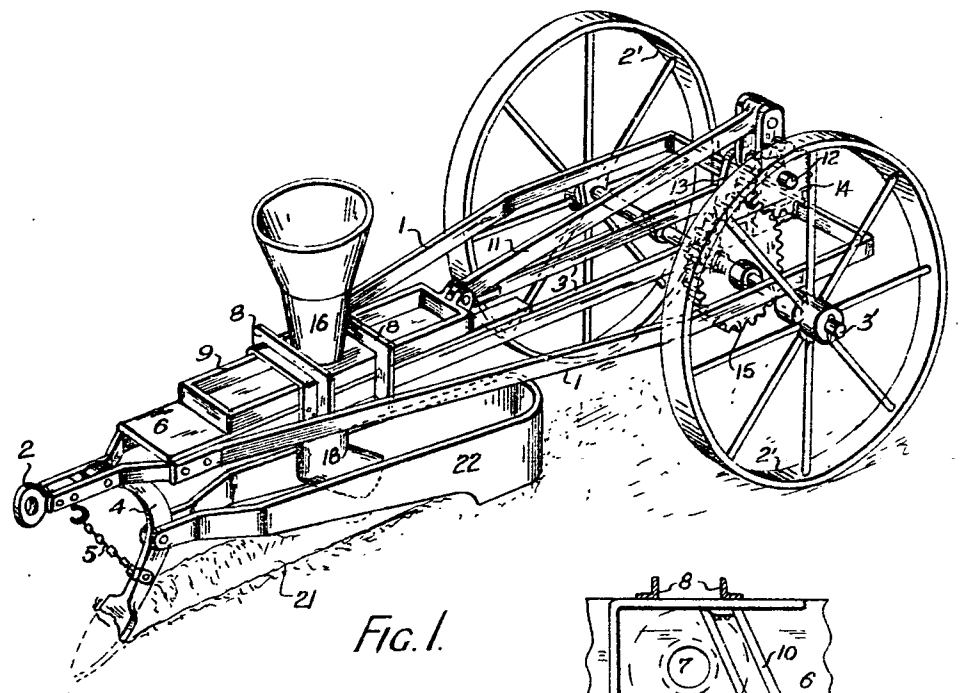

FIG. 1.

FIG. 3.

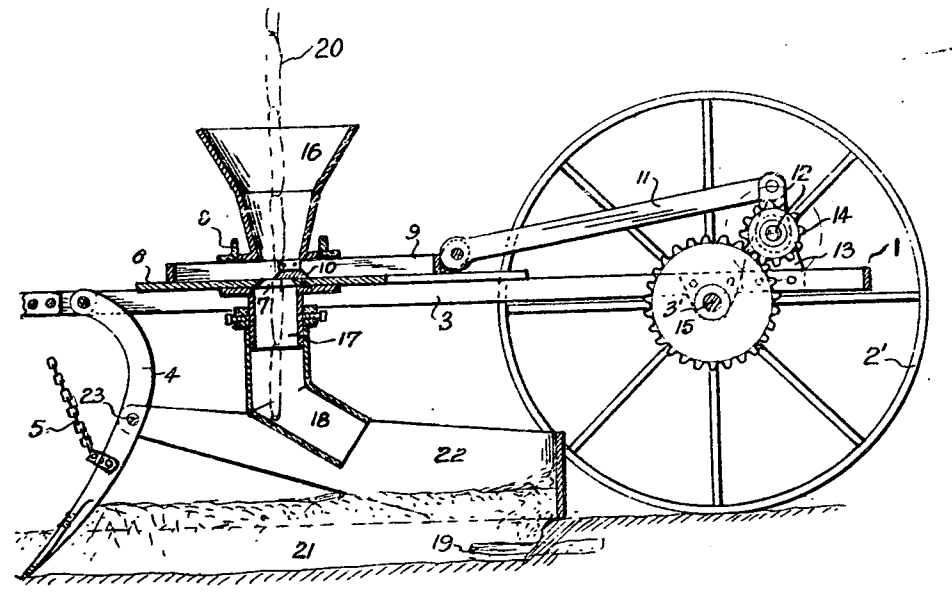

FIG. 2.