

(No Model.)

2 Sheets—Sheet 1.

C. NELSON & H. F. S. JUSTESON.
POTATO BUG DESTROYER.

No. 604,631.

Patented May 24, 1898.

Fig. 1.

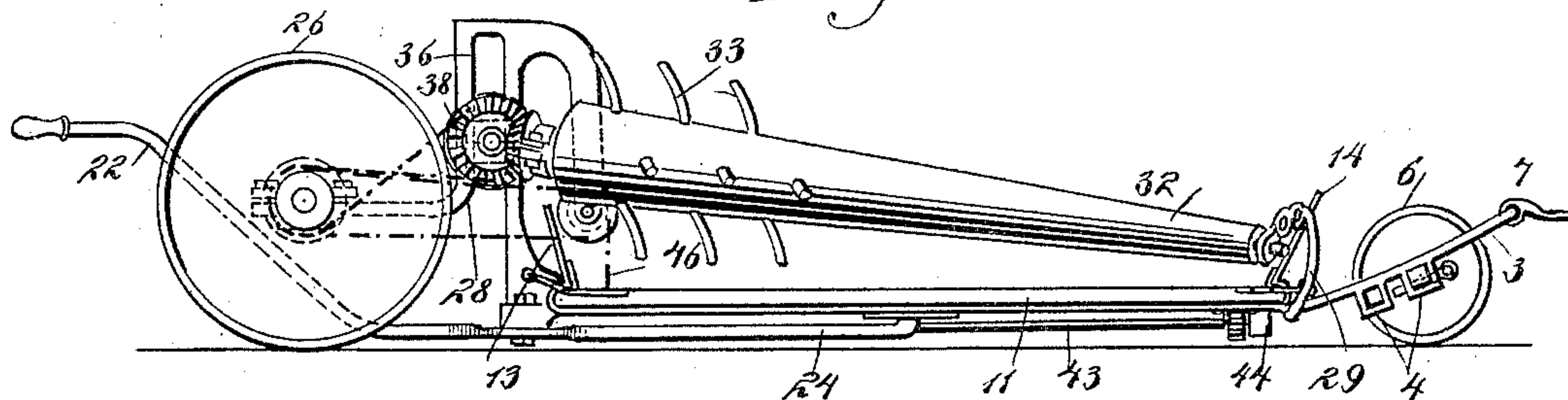


Fig. 2.

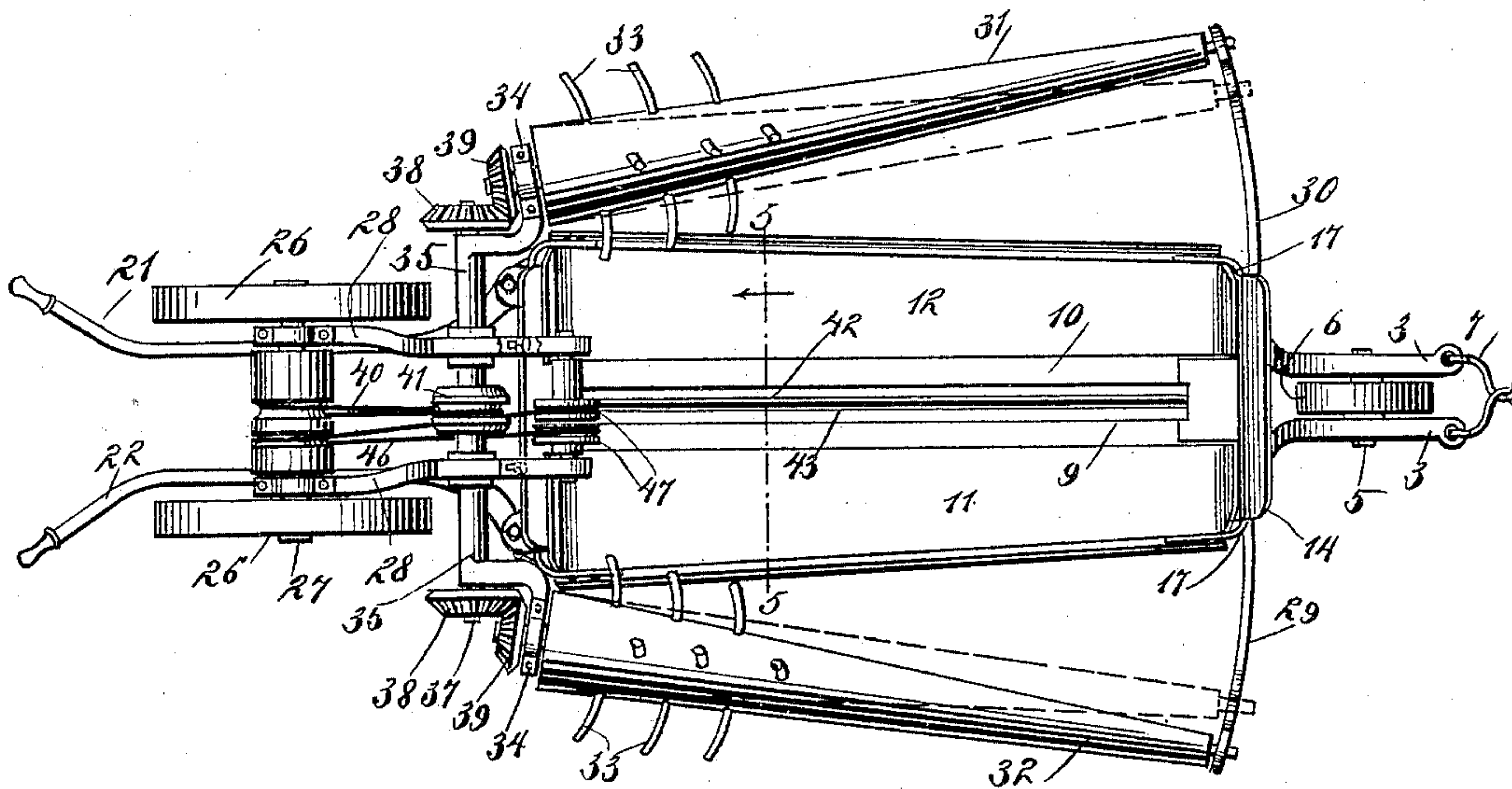
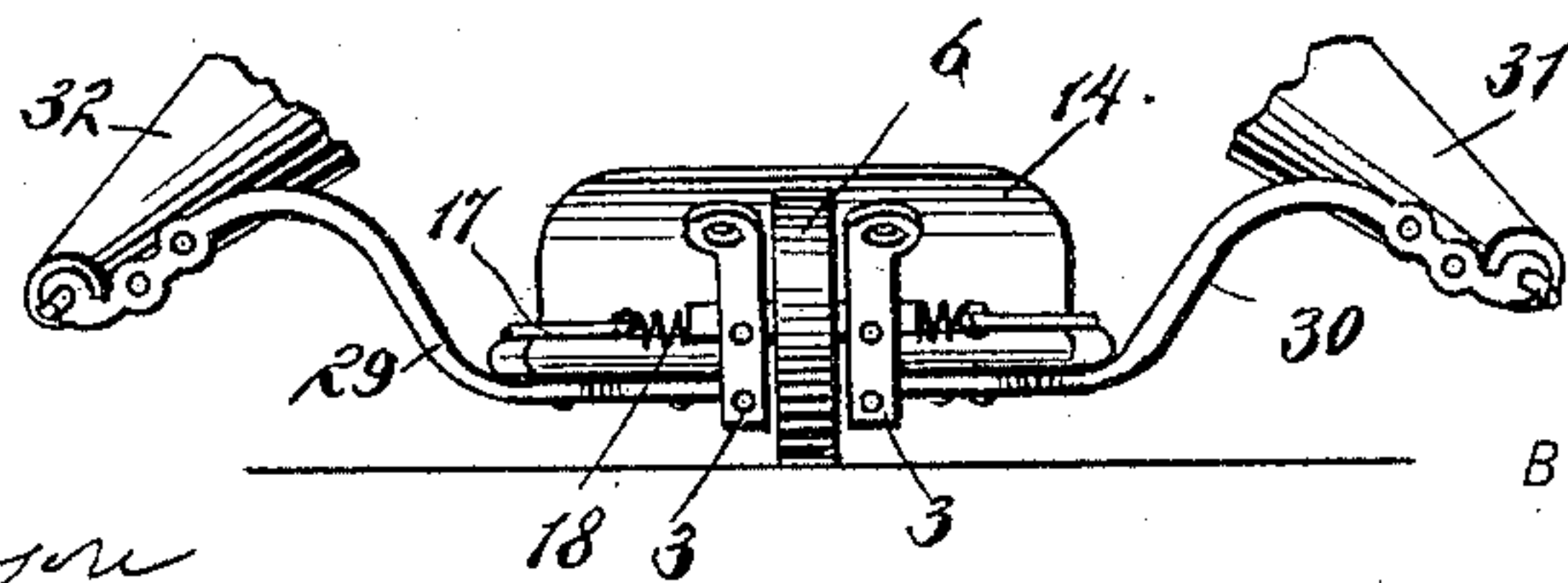


Fig. 3.



WITNESSES:
Paul J. ...
C. R. Ferguson

INVENTORS
C. Nelson
H. F. S. Justeson
BY *Mumy*
ATTORNEYS.

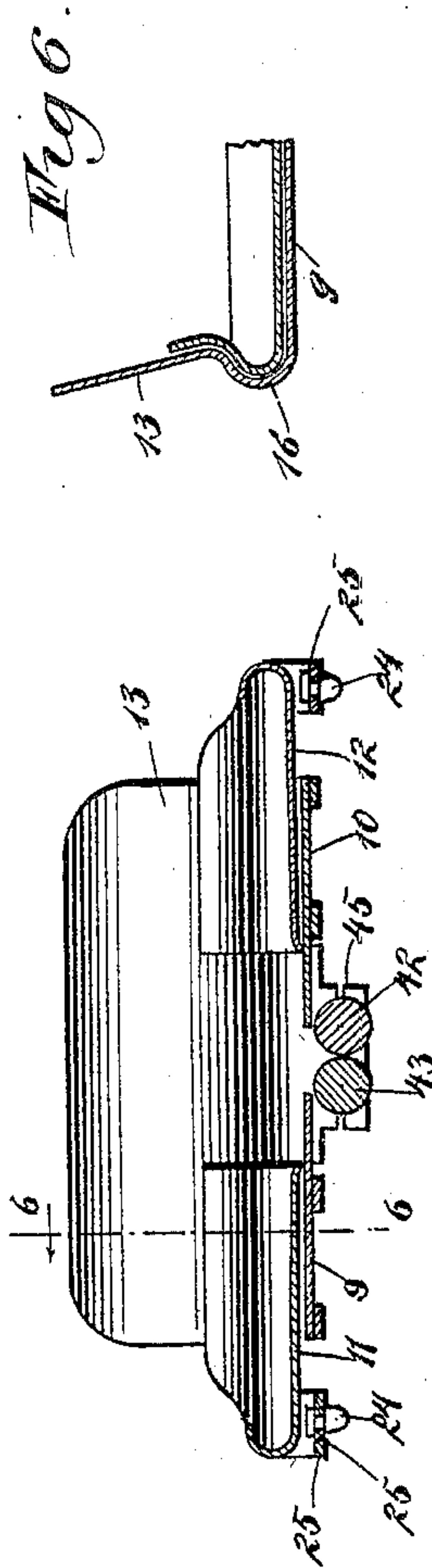
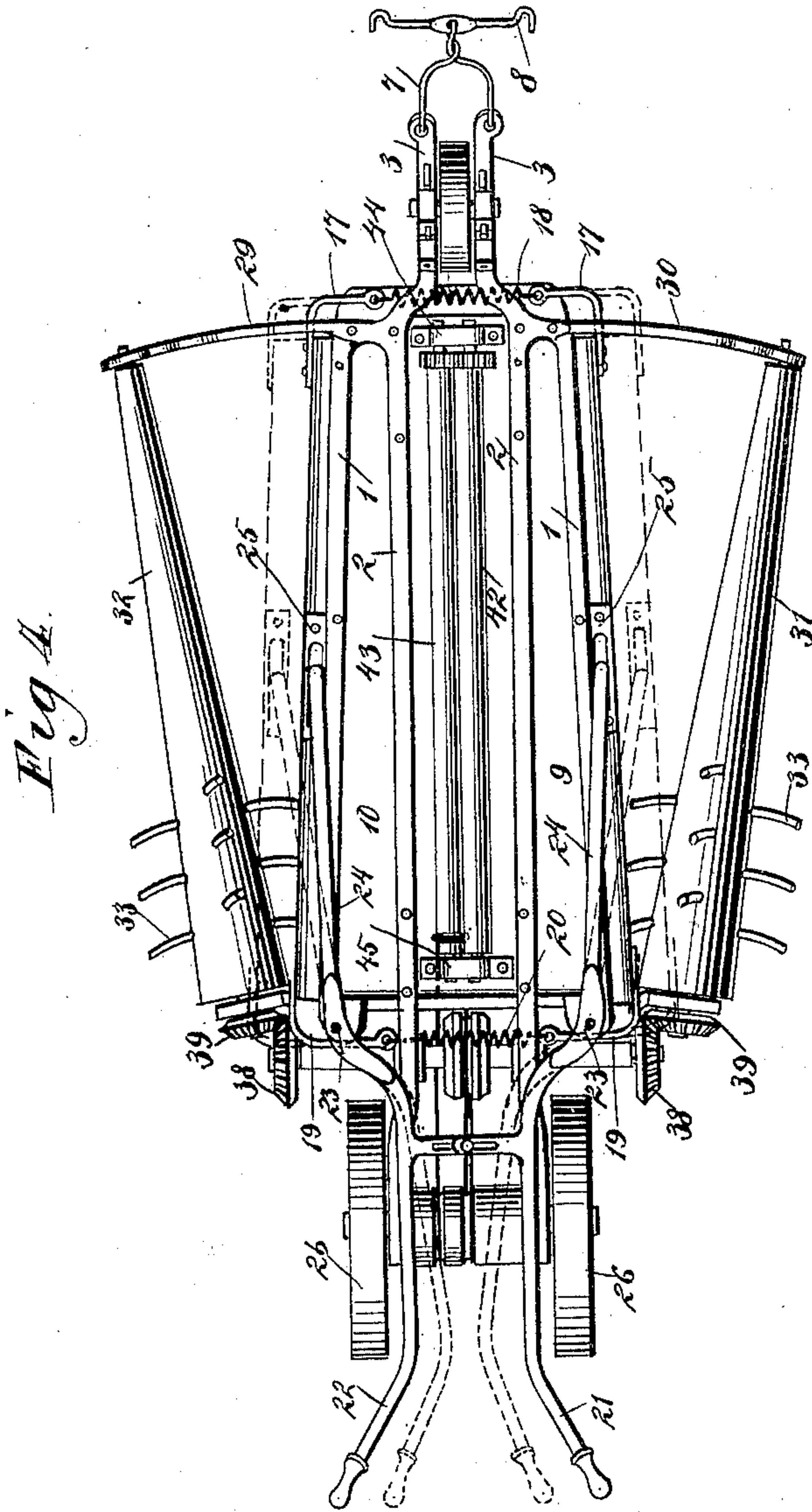
(No Model.)

2 Sheets—Sheet 2.

C. NELSON & H. F. S. JUSTESON.
POTATO BUG DESTROYER.

No. 604,631.

Patented May 24, 1898.



WITNESSES:
Paul Johst
C. R. Ferguson

INVENTORS
C. Nelson
H. F. S. Justeson.
BY *Wm. J. ...*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHRISTIAN NELSON AND HENRY F. S. JUSTESON, OF ARROWSMITH, ILLINOIS.

POTATO-BUG DESTROYER.

SPECIFICATION forming part of Letters Patent No. 604,631, dated May 24, 1898.

Application filed November 10, 1897. Serial No. 658,048. (No model.)

To all whom it may concern:

Be it known that we, CHRISTIAN NELSON and HENRY F. S. JUSTESON, of Arrowsmith, in the county of McLean and State of Illinois, have invented a new and Improved Potato-Bug Destroyer, of which the following is a full, clear, and exact description.

This invention relates to a machine designed to be drawn between rows of potatoes to remove bugs from the vines and to destroy the bugs. Our object is to provide a machine of this character which may be quickly adjusted to the width between rows of vines and by means of which the bugs may be removed from the vines without danger of tearing or breaking the vines.

We will describe a potato-bug destroyer embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a machine embodying our invention. Fig. 2 is a top plan view thereof. Fig. 3 is a front end elevation. Fig. 4 is a bottom plan view. Fig. 5 is a section on the line 5 5 of Fig. 2, and Fig. 6 is a section on the line 6 6 of Fig. 5.

As here shown, the frame of the machine comprises side bars 1 and intermediate bars 2. These several bars extend lengthwise of the machine, and extended forward and upward from the intermediate bars are hangers 3, having bearings 4 to receive the ends of a shaft 5, on which the front wheel 6 rotates between the hangers. By arranging the hangers at an upward incline, as shown in Fig. 1, it is obvious that the wheel may be adjusted so as to elevate or lower the front end of the machine, as may be desired—that is, when the machine-platform is in its lowest position the shaft 5 must be secured in the outer side of the bearings 4, and to raise the platform said shaft of course must be arranged in the bearings on a lower plane. A yoke 7 has swinging connection with the hangers 3, and to this yoke 7 a whiffletree 8 is attached.

Attached to the upper sides of the bars 1 and 2 at one side of the machine is a platform-plate 9, and to the bars 1 and 2 at the opposite side of the machine is attached a

similar platform-plate 10, and it will be noted that there is a space between the inner edges of these two plates, for a purpose to be hereinafter described. Mounted to move laterally on the upper sides of the plates 9 and 10 are the movable platform-plates 11 12, which are curved upward and then inward at their side edges, so as to prevent the potato-bugs from crawling off at the sides. At the upper end an upwardly-extended plate 13 secures the plates 9 and 10 together, and at the lower end there is a similar upwardly-extended plate 14. These plates 13 and 14 at their junction with the plates 9 and 10 are curved outward, as indicated at 16 in Fig. 6. These outwardly-curved portions form guides or slideways for the upwardly-curved ends of the sliding plates. At the forward end each sliding plate is provided with an arm 17, which extends around the front of the platform, and the arms are connected together by a spring 18. The rear ends of the sliding plates are provided with similar arms 19, which are connected together by a spring 20. These springs 18 and 20 obviously will hold the sliding plates yieldingly toward each other.

As a means for moving the sliding plates laterally to adjust the platform to the width or space between two rows of vines so as to bring the outer sides of the sliding plates closely against the vines at the bottom we employ two handles 21 22. These handles are inclined upward from the rear of the platform, and they are pivoted, as at 23, to the bottom of the platform-frame, and from these pivotal points rods 24 extend forward and have their upwardly-turned ends engaged in slots formed in plates 25, secured to the sliding platform-plates.

The rear end of the machine is supported by two wheels 26. These wheels 26 are mounted on an axle 27, having bearings in arms 28, extended rearward from the frame of the machine. Secured to the front end of the machine or its frame are laterally-extended arms 29 and 30. These arms are curved upward and then downward, as plainly shown in Fig. 3, so that said arms may pass over the vines in the rows. These arms form supports or bearings for gathering-rollers 31 32, and to provide for an inward and outward adjustment of the front ends of these rollers the arms

29 and 30 are provided with a series of holes to receive the trunnions of the rollers. The rollers 31 and 32 are tapered from end to end, the front end being the smaller, and to the rear ends beater-fingers 33 are attached. The rear ends of the rollers 31 and 32 have trunnion-bearings in arms 34, extended from sleeves 35, which are adjustable vertically in guideways 36, extended upward from the arms 28, and they may be held as adjusted by means of set-screws. A shaft 37 extends through the sleeves 35, and at its ends is provided with bevel-gears 38, meshing with bevel-gears 39 on the extended trunnions of the gathering-rollers. Obviously by moving the sleeves 35 vertically in the guideways 36 the rear ends of the rollers 31 and 32 may be vertically adjusted. Motion is imparted to the shaft 37 to rotate the rollers by means of a belt 40, engaging with a band-wheel 41 on the shaft 37, and also engaging with the axle 27 or an enlarged portion thereof between the handles 21 and 22.

Extended longitudinally of the platform and underneath the inner edges of the fixed plates are crushing-rollers 42 and 43, geared together at their forward ends and having bearings at their forward ends in a hanger 44 and at their rear ends in a hanger 45. From the axle 27 or its enlarged portion a belt 46 extends over pulleys 47, and thence downward and around one of the crushing-rollers. As here shown, the belt extends around the crushing-roller 43, which will have an annular groove to receive it.

It will be noted that the axes of the gathering-rollers are at an angle relatively to the length of the platform—that is, the forward ends of the rollers are considerably farther apart than are the rear ends.

In operation the machine is to be placed with the platform between two rows of potato-vines, and the forward ends of the gathering-rollers will project over the vines at the side opposite to that in which the platform is placed. Then the movable part of the platform may be moved outward to bring the edges of the rollers closely in contact with the bottom of the vines by moving the ends of the handles 21 22 toward each other. Therefore these movable plates of the platform are under the complete control of a man operating the machine. Now as the machine is drawn forward the gathering-rollers will be

rotated, as will also be the crushing-rollers. The gathering-rollers will gradually force the vines over the platform, and as the vines reach the beater-fingers the bugs that may be on the vines will be beaten off, so as to fall upon the platform of the machine. The upwardly-curved side edges of the movable plates, as before stated, will prevent the bugs from falling off at the side, and they will crawl toward the center and fall between the crushing-rollers, where they will be killed and fall to the ground. These crushing-rollers will be kept clean by the edges of the fixed plates of the platform, which engage closely upon the rollers.

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

1. A machine for gathering and destroying bugs on vines, comprising a platform having laterally-movable side sections, pivoted handles for moving said side sections, wheels upon which the platform is mounted, gathering-rollers at the sides of the platform and above the same, and crushing-rollers underneath the platform, substantially as specified.

2. A machine for gathering and destroying bugs on vines, comprising a platform mounted on wheels, laterally-movable sections on said platform, pivoted handles having connection with said movable sections for moving them in one direction, and springs for moving the sections in the other direction, substantially as specified.

3. A machine for gathering and destroying bugs on vines, comprising a platform having laterally-sliding sections curved upward at the outer edge, means for moving said sections in both directions, longitudinally-tapered gathering-rollers at the sides of the platform, laterally-extended arms at the front of the platform and having holes to receive the front trunnions of the gathering-rollers and whereby the front ends of said rollers may be adjusted outward and inward, means for rotating said rollers, crushing-rollers extended along a slot longitudinally formed in the platform, and means for rotating said crushing-rollers, substantially as specified.

CHRISTIAN NELSON.

HENRY F. S. JUSTESON.

Witnesses:

J. A. PITTSBARGER,
W. R. HOUGHAM.