

J. ROPP.
IRRIGATING MACHINE.
APPLICATION FILED JUNE 20, 1911.

1,019,740.

Patented Mar. 5, 1912.

3 SHEETS—SHEET 1.

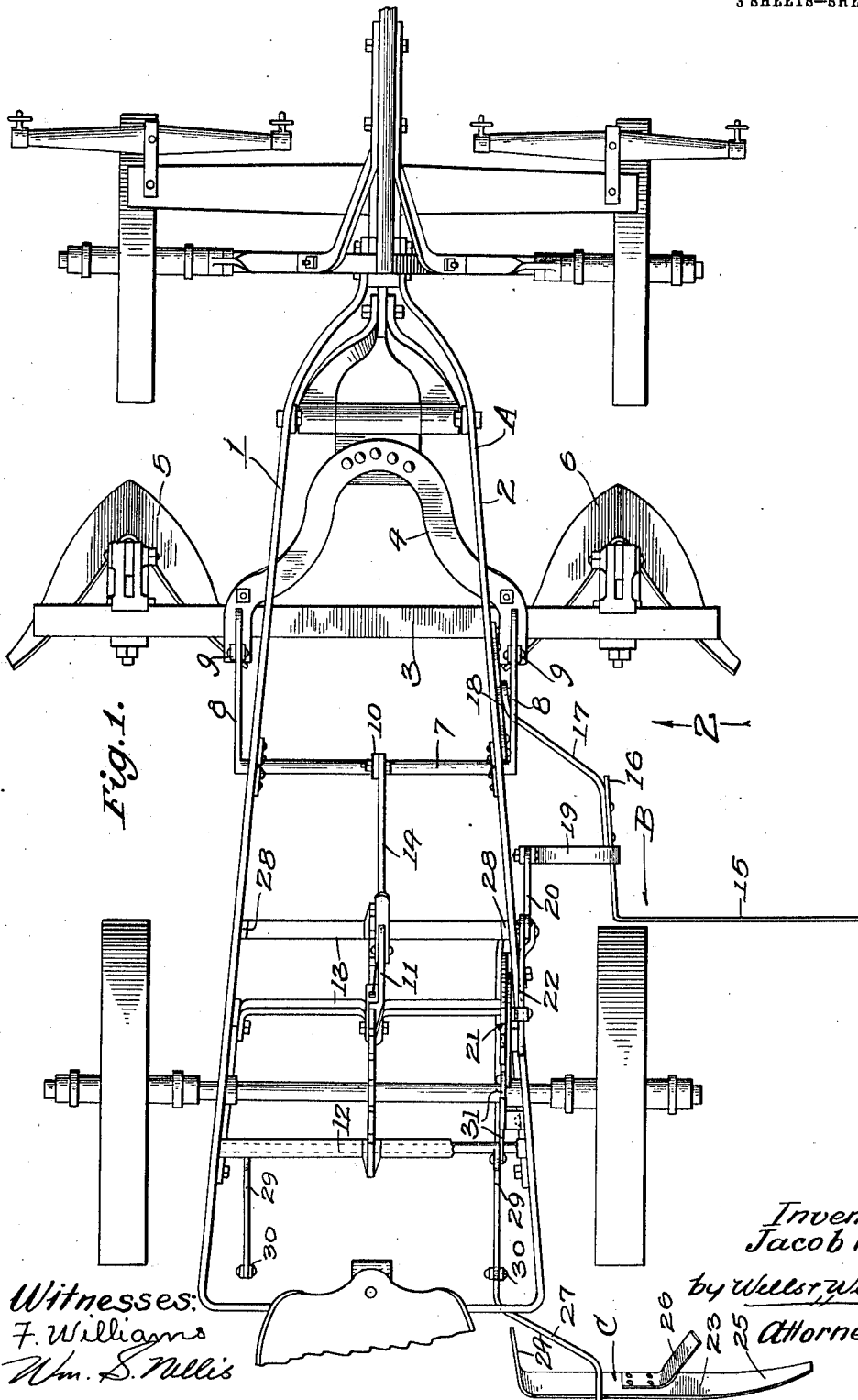


Fig. 1.

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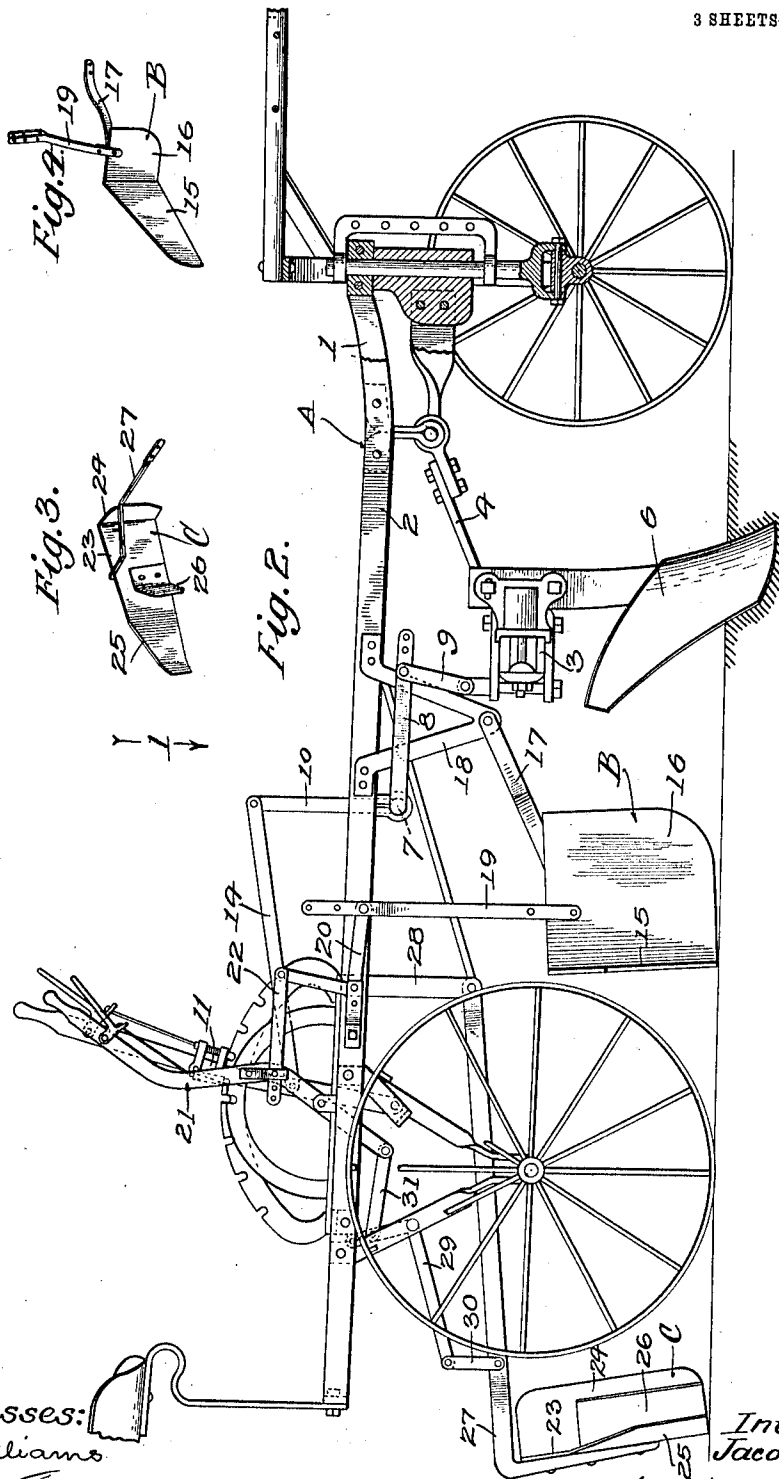
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3 SHEETS—SHEET 3.

Fig. 5.

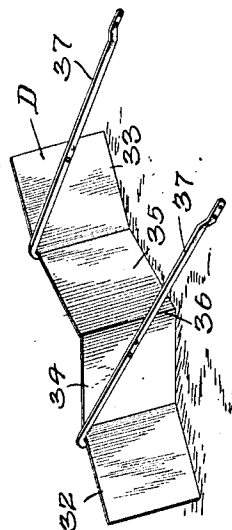
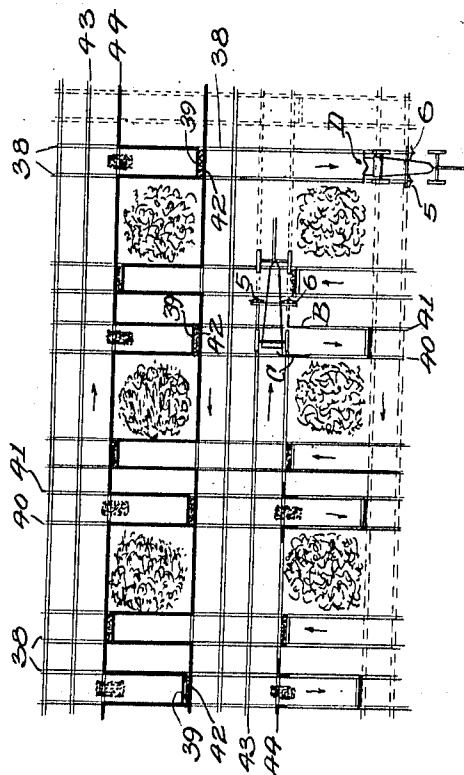


Fig. 6.



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UNITED STATES PATENT OFFICE.

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IRRIGATING-MACHINE.

1,019,740.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Original application filed November 14, 1910, Serial No. 592,244. Divided and this application filed June 20, 1911. Serial No. 634,363.

To all whom it may concern:

Be it known that I, JACOB ROPP, a citizen of the United States, residing at San Dimas, California, have invented a new and useful Irrigating-Machine, of which the following is a specification.

My object is to construct an irrigating machine especially adapted for orange groves and the like and my invention consists of the novel features herein shown, described, and claimed.

In the drawings: Figure 1 is a top plan view of the irrigating machine embodying the principles of my invention. Fig. 2 is the side elevation as seen looking in the direction indicated by the arrow 2 in Fig. 1. Fig. 3 is a perspective of the rear scraper shown in Figs. 1 and 2. Fig. 4 is a perspective of the front scraper shown in Figs. 1 and 2. Fig. 5 is a perspective of a scraper which may be substituted for the scraper shown in Fig. 3. Fig. 6 is a diagrammatic view illustrating my system of irrigating an orange grove with my improved machine.

Referring to the drawing in detail, the carriage frame A is mounted upon four wheels and has side bars 1 and 2 substantially parallel with each other. A beam 3 is connected by a reach or tongue 4 to the side bars 1 and 2 so that the beam may be raised or lowered. The irrigating shovels 5 and 6 extend downwardly and forwardly from the ends of the beam 3. A rock shaft 7 is mounted transversely of the side bars 1 and 2 near the center of the machine, crank arms 8 extend forwardly from the ends of the crank shaft 7 and the forward ends of the crank arms are connected to the ends of the beam 3 by links 9. A crank arm 10 extends upwardly from the center of the rock shaft 7 at right angles to the arms 8. A hand lever rack and pawl 11 is mounted upon braces 12 and 13 and a link 14 connects the hand lever to the upper end of the crank arm 10 so that by manipulating the hand lever the shovels 5 and 6 may be raised and lowered. The front scraper B comprises a piece of heavy sheet iron bent at right angles to form a wing 15 extending crosswise of the furrow and a wing 16 extending longitudinally of the furrow and located directly behind the center of the shovel 6. An arm 17 extends upwardly and forwardly from the wing 16 and is pivotally connected

to a bracket 18 extending downwardly from the side bar 2. An arm 19 extends upwardly from the wing 16 and the upper end of the arm is pivotally connected to a bell crank lever 20. A hand lever rack and pawl 21 is mounted upon the side bar 2 and connected to the bell crank lever 20 by a link 22. The rear scraper C is formed of sheet metal and comprises a wing 23 extending transversely of the furrow, the wing 24 extending longitudinally of the furrow at the inner end of the wing 23, the extension wing 25 extending outwardly from the outer end of the wing 23 and the wing 26 extending forwardly and outwardly from the outer end of the wing 23. A bar 27 is rigidly fixed to the wing 23 and extends forwardly and is pivotally connected to a bracket 28 extending downwardly from the side bar 2. A bell crank lever 29 is pivotally mounted above the bar 27 and the rear end of the bell crank lever 29 as connected to the bar 27 by a link 30 and the upper end of the bell crank lever 29 is connected to the hand lever mechanism 21 by a link 31 so that by manipulating the hand lever mechanism the scrapers B and C may be raised and lowered simultaneously. The scrapers B and C are the same distance apart as the shovels 5 and 6.

The scraper D shown in perspective in Fig. 5 comprises a heavy sheet metal plate bent to form the wings 32 and 33 extending cross-wise of the furrows and the intermediate wings 34 and 35 bent slightly forwardly so as to form a vertical ridge 36. The bars 37 are rigidly fixed to the sheet metal plate and when it is desired to use this scraper the scrapers B and C are removed and the forward ends of the bars 37 are attached to the brackets 28 and to the hand lever mechanism 21.

Referring to the diagram shown in Fig. 6, when it is desired to commence irrigating an orange grove, the scraper D is applied to the machine, said scraper being long enough to reach across the two furrows as they are formed by the shovels 5 and 6. The machine is run through the orchard to make the cross furrows 38 and the scraper D is manipulated at suitable intervals to drop down and make a ditch 39, connecting the two furrows 40 and 41 and the earth scraped out in forming the ditch 39 is left to form

the dam 42 so as to connect the furrows 40 and 41 through the ditch 39 and dam the furrows in front of the ditch.

After the orange grove has been thoroughly furrowed crosswise, the scraper D is removed and the scraper C is substituted. Then the machine is run through the orange grove in the direction crosswise of the furrows 40 and 41, the shovels 5 and 6 making the furrows 43 and 44 and the scrapers B and C are manipulated as the machine crosses the furrows 40 and 41, the scraper B serving to clean the furrow 41 and the scraper C serving to clean the furrow 40 and dam the furrow 44 between the furrows 40 and 41. The scraper B only reaches to the center of the furrow 44 whereas the scraper C reaches entirely across the furrow 44. In this way an orange grove or the like may be thoroughly irrigated so that the water will run entirely around the trees as shown by the black lines in the diagram simply by driving my irrigating machines first one way through the grove, and then the other way.

This application is a division of my application for combination cultivator, filed November 14, 1910, Ser. No. 592,244. In the former application I claim a furrowing apparatus for making two furrows, an angled scraper mounted behind the apparatus for making one furrow, and a second scraper mounted behind the first scraper and extending the width of the two furrows, and I do not wish to make such claim in this application; but in this application I wish to claim a furrowing apparatus for making two furrows, a scraper mounted behind the apparatus for making one furrow and a

second scraper mounted behind the first scraper and extending across the one furrow which is followed by the first scraper.

I claim:

1. In an irrigating machine a suitable carriage, a shovel carried by the carriage, a scraper mounted behind the shovel and extending one way from the center of the furrow, a second scraper behind the first scraper and extending across the furrow, and means for operating the scrapers simultaneously.

2. In an irrigating machine a suitable carriage, two shovels carried by the carriage in transverse alinement, a suitable distance apart, a scraper mounted behind one of the shovels and extending one way from the center of the furrow, a second scraper mounted behind the first scraper a distance equal to the distance between the shovels and extending across the furrow, and means for operating the scrapers simultaneously up and down.

3. In an irrigating machine a suitable carriage, a beam hingedly mounted transversely of the carriage, shovels carried by the ends of the beam, means for raising and lowering the beam, a scraper mounted behind one of the shovels and extending one way from the center of the furrow, a second scraper mounted behind the first scraper a distance equal to the distance between the shovels and extending across the furrow, and means for raising and lowering the scrapers simultaneously.

JACOB ROPP.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."