Dec. 1, 1953 T. LIPPIS 2,660,815

TRENCH DIGGING PLOW

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Fig. 1.

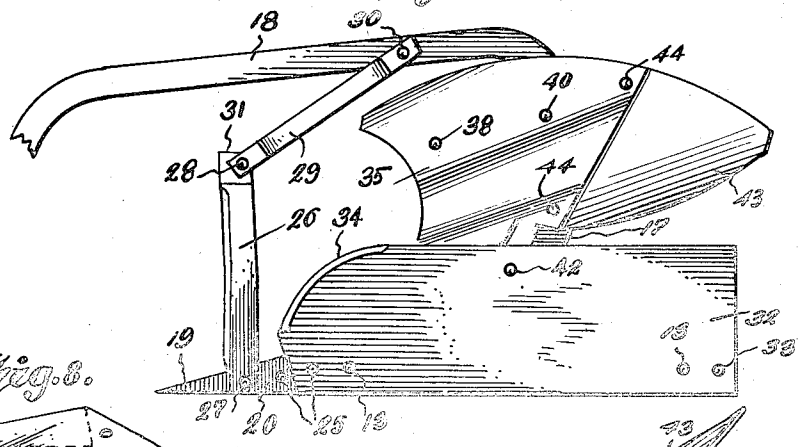


Fig. 3.

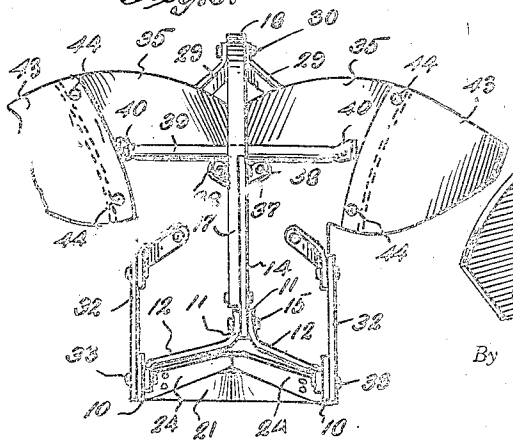


Fig. 2.

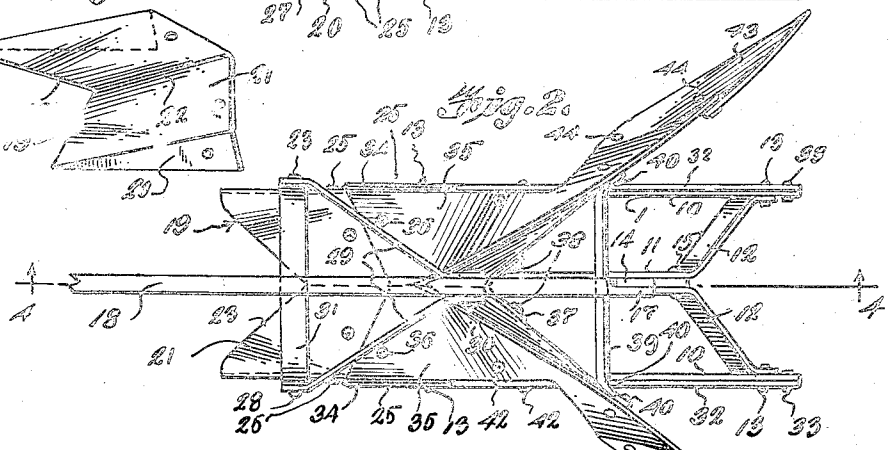


Fig. 4.

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Fig. 4.

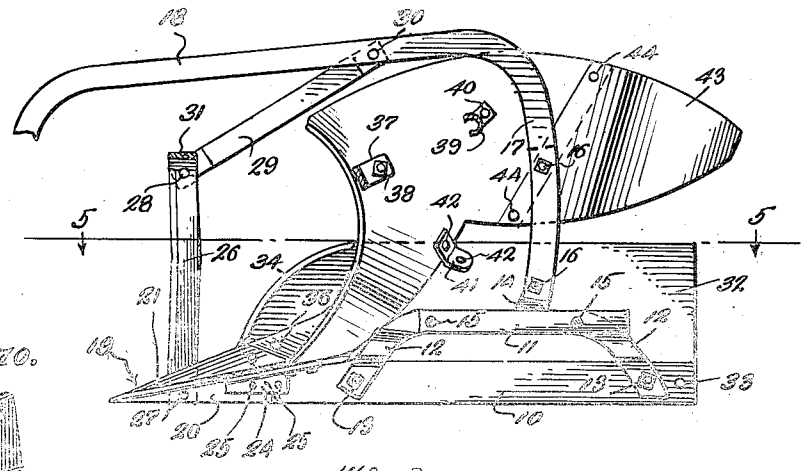


Fig. 10.

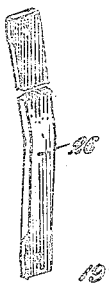


Fig. 5.

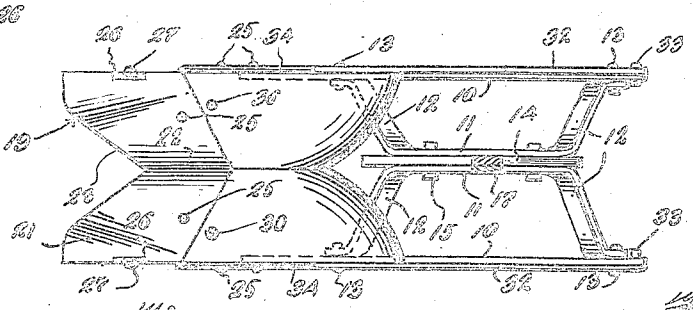


Fig. 6.

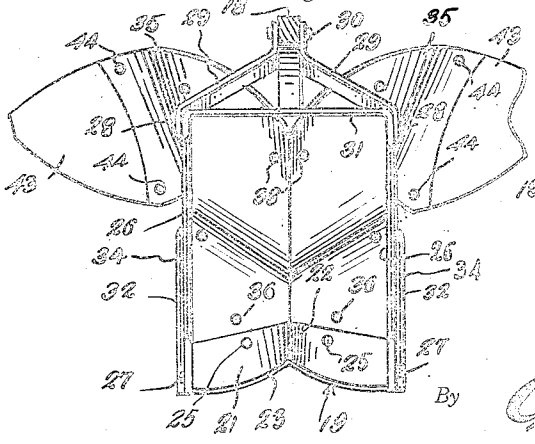
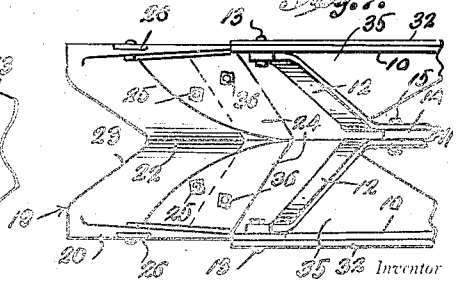


Fig. 7.



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2,660,815

TRENCH DIGGING PLOW

Tony Lippis, Florence, Colo.

Application April 28, 1950, Serial No. 158,659

1 Claim. (Cl. 37—98)

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The present invention relates to a trench digger and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

Generally the invention comprises a ditch digger adapted to be drawn by a tractor or the like and is particularly designed for the continuous formation of ditches for the trenching of celery, especially in cold weather when there is imminent danger of loss. The apparatus includes a frame upon which is mounted at the forward end a pair of plowshares to which are joined a pair of mold boards. At either side of the frame an elongated side cutter is mounted and, forwardly of each of such side cutters is mounted a vertically extending side cutting blade whose purpose will be hereinafter explained. Braces and a draw bar complete the apparatus. The mold boards are each provided with a removable extension or wing whereby the apparatus may be easily assembled and disassembled when necessary.

It is accordingly an object of the invention to provide a trench digger which is simple in construction, comparatively inexpensive to manufacture and yet efficient and effective in use.

Another object of the invention is to provide, in an apparatus of the character set forth, novel removable mold board extensions forming a part of the invention.

A further object of the invention is to provide, in an apparatus of the character set forth, novel side-cutting blades forming a part of the invention.

A still further object of the invention is the provision of a novel trench digger having no moving parts.

Another object of the invention is the provision of a novel plowshare forming a part of the invention.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a side elevational view of an embodiment of the invention,

Figure 2 is a top plan view thereof,

Figure 3 is a fragmentary rear elevational view of the apparatus shown in Figures 1 and 2,

Figure 4 is a sectional view taken along line 4—4 of Figure 2,

Figure 5 is a sectional view taken along line 5—5 of Figure 4,

Figure 6 is a fragmentary front elevational view of the apparatus,

Figure 7 is a fragmentary bottom plan view of the apparatus,

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Figure 8 is a perspective view of a plowshare forming a part of the invention,

Figure 9 is a perspective view of an elongated side cutter and guide forming a part of the invention, and

Figure 10 is a perspective view of an initial side-cutting blade forming a part of the invention.

Referring more particularly to the drawings, there is shown therein a trench digger comprising a frame including a pair of spaced horizontally extending side bars 10, a pair of horizontally extending center bars 11 each having a pair of outwardly and downwardly extending legs 12 each pair of which is connected to adjacent side bar 10 by means of bolts 13.

A substantially inverted T-shaped member 14 has its base affixed between the center bars 11 by means of a pair of bolts 15 and has its leg portion affixed by means of bolts 16 to a dependent portion 17 of a forwardly extending draw bar 18.

A plowshare generally designated at 19 is composed of a pair of vertically extending side portions 20 having downwardly and forwardly sloping upper edges which are integrally interconnected by a blade 21 which is centrally depressed, as indicated at 22 and which is provided at its forward edge with a V-shaped cutaway portion 23.

The side portions 20 of the blade 19 are each connected with the forward end of one of the side bars 10 by means of an L-shaped plate 24 fastened by means of bolts 25.

Countersunk into each of the side portions 20 of the blade 19 is a vertically extending side-cutting blade 26 which is affixed at its lower end of the side portions 20 by a bolt 27 at its upper end by a bolt 28 to the forward end of a brace member 29 which extends upwardly and rearwardly and is affixed to the draw bar 18 by a bolt 30. A cross bar 31 interconnects the upper ends of the blades 26 and is also held in position by means of the bolts 28.

An elongated side cutter and guide plate 32 is affixed upon the outer side of each of the side bars 10 by means of the bolts 13, one of the bolts 25 and an additional bolt 33 and is provided with an upwardly and rearwardly extending rounded blade 34 at its forward end.

A pair of mold boards 35 is affixed by means of bolts 36 to the plates 24 and are interconnected on their inner sides by a V-shaped bracket 37 adjacent the upper ends thereof, the bracket being fastened by bolts 38. A cross bar 39 also interconnects the mold boards 35 by bolts 40. Each of the boards 35 is connected on its inner

side by a bracket 41 to the upper side of the adjacent side cutter and guide plate 32 and the bracket 41 is fastened by bolts 42.

Each of the mold boards 35 is provided with a rearward extension or wing 43 which is removably attached thereto by a pair of bolts 44.

It will be understood that all of the exposed bolt heads may be countersunk to thus present a smooth surface to the ground.

In operation, it will be apparent that the apparatus may be connected to a tractor by means of the draw bar 18 and that the plow share 19 will act to cut the bottom of a ditch to be formed by the apparatus while the sides of such ditch will be initially cut by the blades 26 and that thereafter the blades 34 will follow in the path of the thus cut sides and the side cutters and guides 32 will act to retain the section of earth cut by the blades 26 and plow share 19 within the apparatus and upon the mold boards 35 to be guided thereby upwardly and outwardly to be thereupon delivered at either side of the ditch thus formed.

It will also be seen that the wings 43, being removably mounted at the outer ends of the boards 35, will allow for easy assembly and disassembly of the apparatus when necessary.

The blades 26 being disposed forwardly of the blades 34 of the side cutters 32 will act to precut the sides of the ditch and thus ensure a clean sided ditch which would otherwise be broken if the bottom of such ditch was cut first by the plowshare 19 and the sides cut later by the blades 34 since the earth in such case would break into pieces at its weakest point.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the invention or the scope of the appended claim.

What is claimed is:

An apparatus of the character described comprising a frame, an elongated side cutter affixed to each side of the frame, a plowshare extending forwardly from the lower end of the frame, mold boards extending upwardly and outwardly from said plowshare between and over said side cutters, and a vertically extending blade affixed to each side of said plowshare forwardly and in spaced relation to the forward edge of each of the side cutters, each of said cutters having an upwardly and rearwardly curved blade formed in the upper portion of its forward edge and a downwardly and rearwardly curved blade adjoining said first-mentioned blade in the lower portion of its forward edge, and an extension for each of the mold boards removably connected to said mold boards and, said plowshare having a V-shaped indentation in its cutting edge.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
80,113	Ballard	July 21, 1868
647,198	Rasmussen	Apr. 10, 1900
1,016,998	Johanning et al.	Feb. 13, 1912
1,492,647	Marttal	May 6, 1924
2,311,551	Laird	Feb. 16, 1943
2,528,231	Knapp	Oct. 31, 1950