L. E. LUDWIG.

DITCHING PLOW.

APPLICATION FILED MAY 17, 1912.

1,082,641.

Patented Dec. 30, 1913.

3 SHEETS—SHEET 1.

Fig. 1

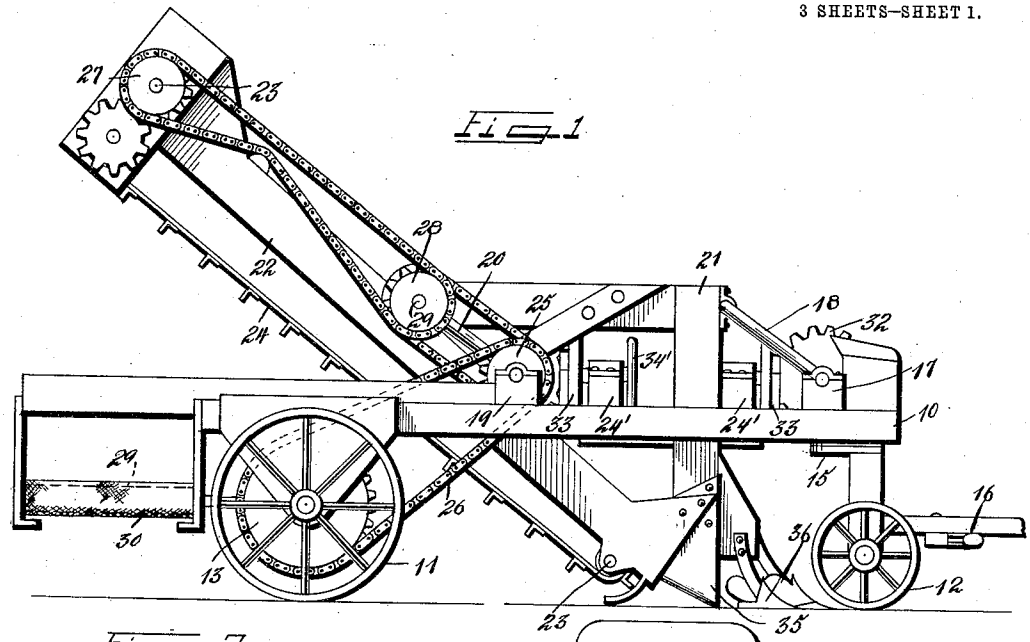


Fig. 2.

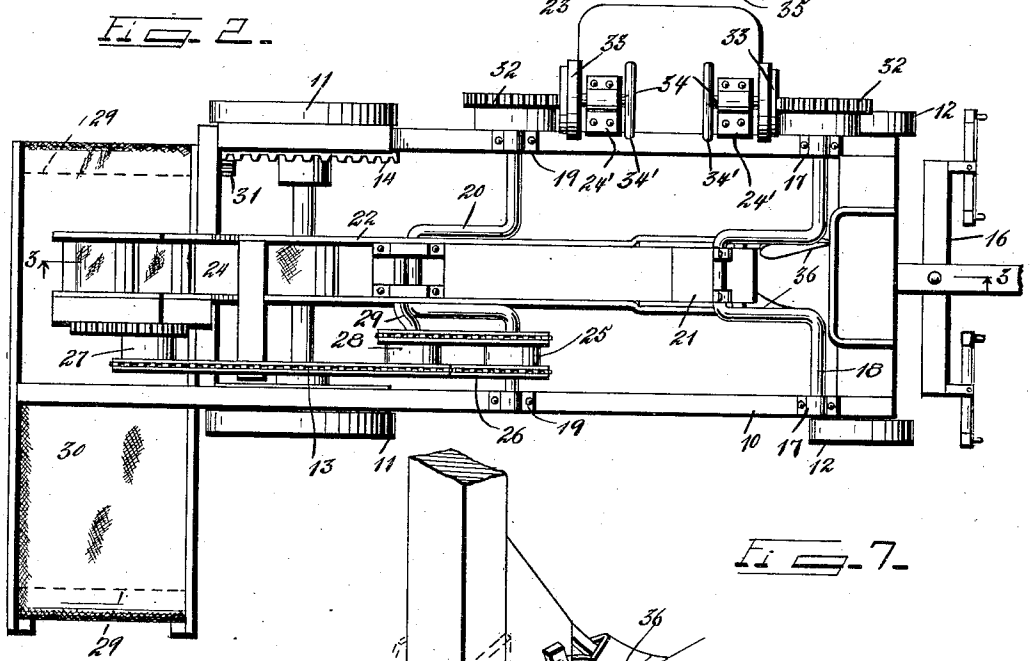
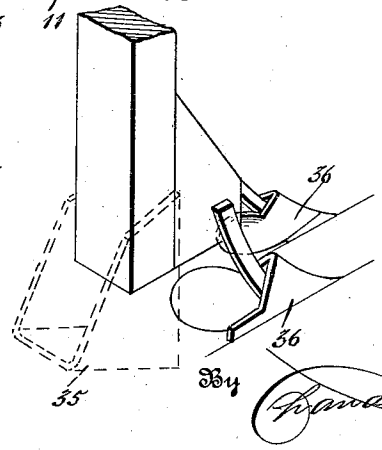


Fig. 7.



Witnesses

J. Elliott

Harry M. Test.

Inventor

L. E. Ludwig.

By Chandlee & Chandlee

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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3 SHEETS—SHEET 2.

Fig. 3.

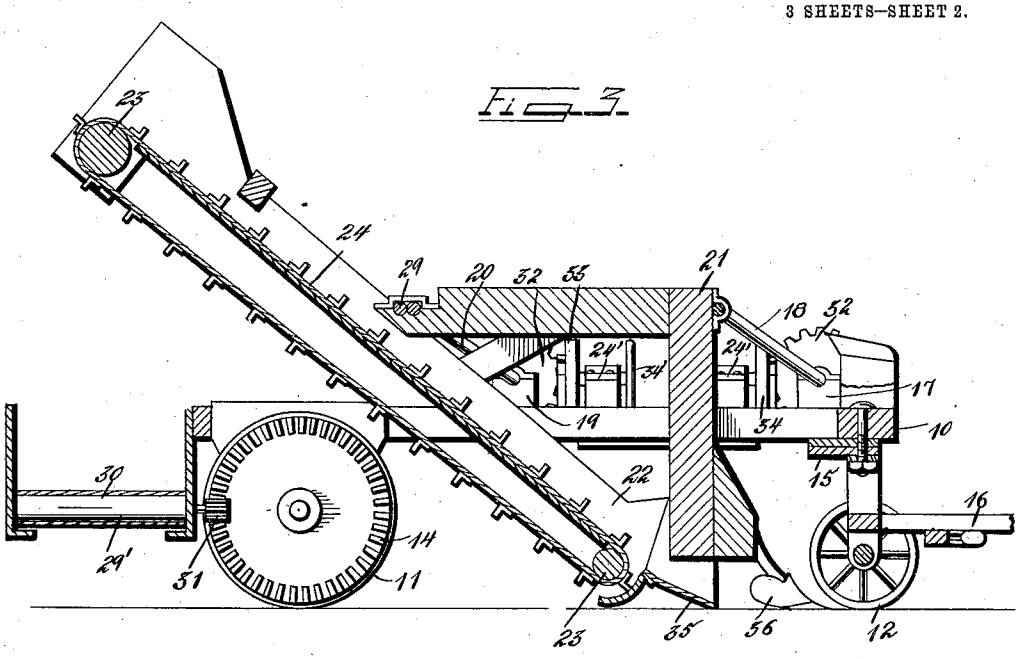
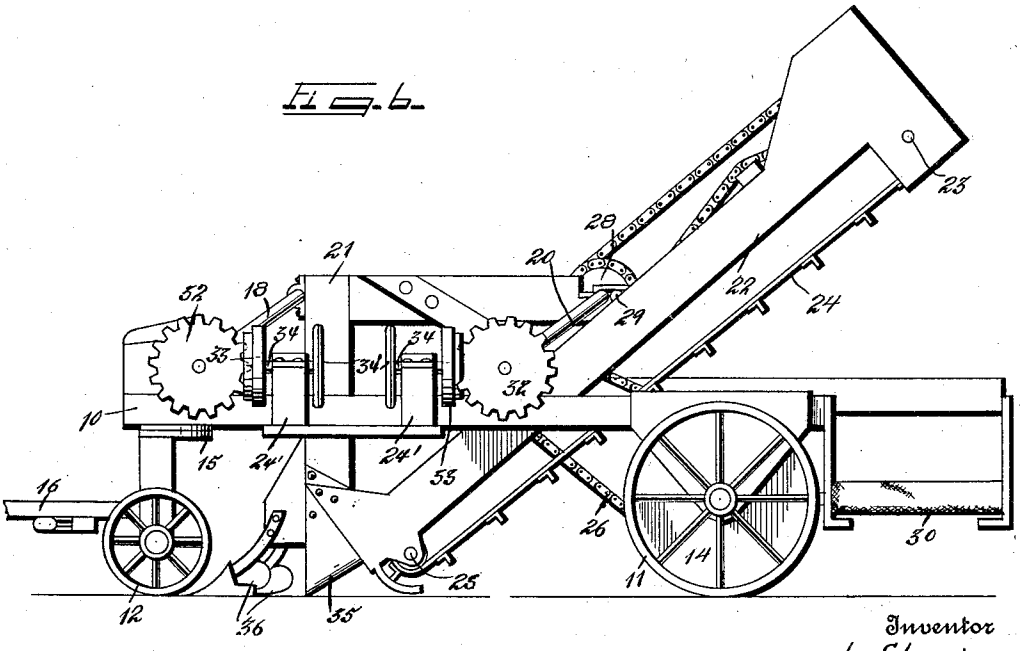


Fig. 6.



Witnesses

E. Ethridge

Harry M. Test

Inventor

L. E. Ludwig

By Crandall & Crandall

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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3 SHEETS—SHEET 3.

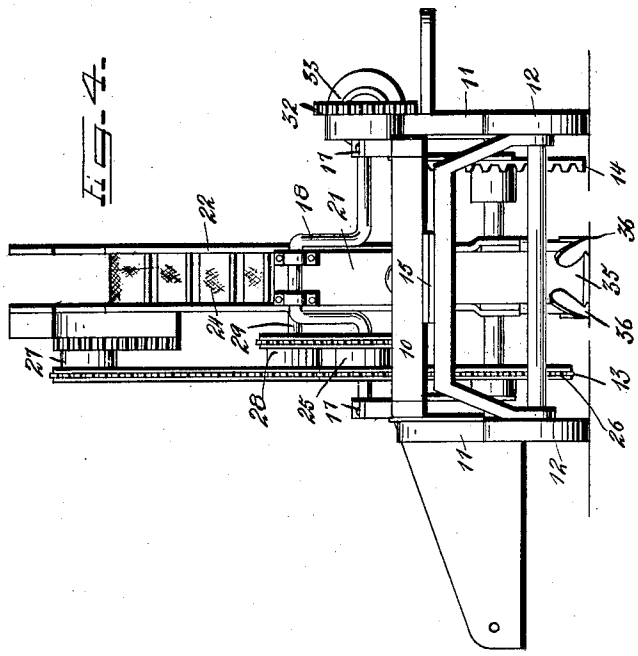

Fig. 4.

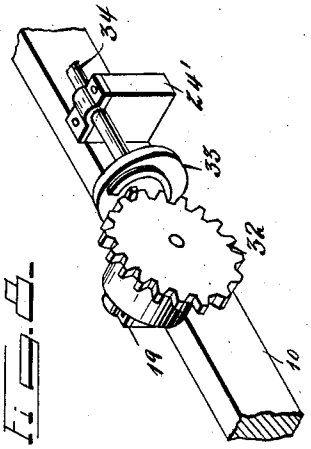

Fig. 6.

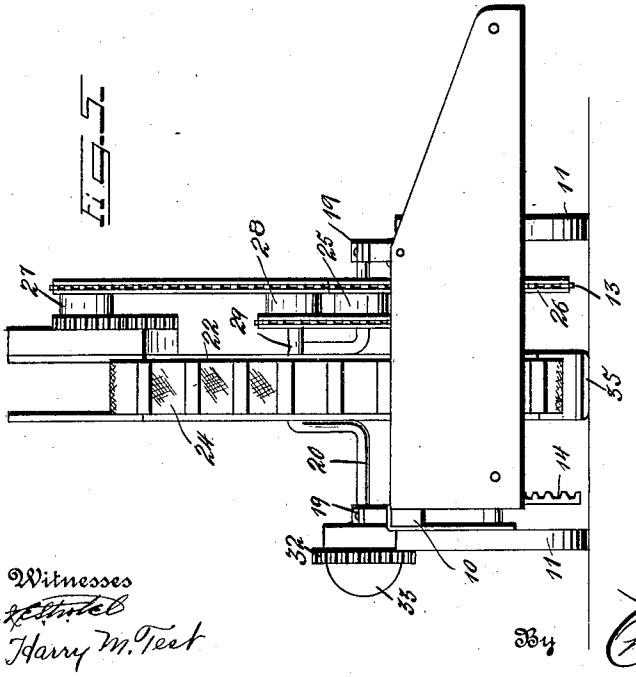

Fig. 5.

Witnesses

Harry M. Test

Inventor

L. E. Ludwig.

By Chandler Chandler

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LOUIS E. LUDWIG, OF DALE, INDIANA.

DITCHING-PLOW.

1,082,641. Specification of Letters Patent. Patented Dec. 30, 1913.

Application filed May 17, 1912. Serial No. 697,993.

To all whom it may concern:

Be it known that I, LOUIS E. LUDWIG, a citizen of the United States, residing at Dale, in the county of Spencer, State of Indiana, have invented certain new and useful Improvements in Ditching-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in ditching plows.

The principal object of the invention is to provide simple and improved means for raising and lowering the digger.

Other objects and advantages will be apparent from the following description and with particular reference to the accompanying drawings.

In the drawings: Figure 1 is a side elevation of my ditching machine, Fig. 2 is a top plan view, Fig. 3 is a vertical longitudinal sectional view on the line 3—3 of Fig. 2, Fig. 4 is a front elevation of the machine, Fig. 5 is a rear elevation, Fig. 6 is a side elevation taken from the other side of the machine, Fig. 7 is a detail view of the digger and scoop, and Fig. 8 is a detail view of the gearing for raising and lowering the digger.

Referring particularly to the drawings, 10 represents a frame, suitably supported by the wheels 11 and 12, the axle of the wheels 11 carrying respectively a sprocket wheel 13 and a crown gear 14, the other axle being mounted with a fifth wheel 15 to guide the machine. Suitable draft connections 16 are connected to the front axle of the machine.

Mounted on opposite sides of the front of the frame are the bearing blocks 17 in which are journaled the ends of a large crank shaft 18. Similar blocks 19 are mounted in the rear of the frame and support a similar crank 20. Swung on these cranks is a triangular frame 21 which carries an upwardly and rearwardly inclined chute 22, in each end of which is mounted a roller 23 around which passes a conveyer belt 24. On one end of the crank 20 within the frame is a double sprocket wheel 25, which receives motion by means of the chain 26 from the sprocket 13 on the wheel 11, said double sprocket wheel being loosely mounted on the crank. The double sprocket 25 transmits motion to the sprocket 27 on the upper roller 23 by means of an intermediate double sprocket 28 carried by a shaft 29 which is mounted in the upper rear portion of the triangular portion 21. By means of the chains and said sprockets, the conveyer belt 24 is operated. Running transversely at the rear of the machine, and mounted on the rollers 29′ is a conveyer belt 30, carrying a pinion 31 for engagement by the crown gear 14 on the rear wheel 11.

Mounted on one end of each of the crank shafts 18 and 20 is a gear 32 which are each engaged by a spiral toothed gear 33 mounted on the ends of the shafts 34, which shafts are suitably supported in bearing blocks 24′. The end of each of the shafts 34 is provided with a hand wheel 34′. In the lower end of the triangular frame 21 and at the lower entrance of the elevator chute is a scoop 35, and in front of the scoop is a pair of plow shovels 36, the shovels 36 loosening the soil and the scoop 35 digging it up and guiding it to the conveyer belt 24. The soil or earth is carried up to the conveyer belt 24, and deposited on the transverse belt 30 which carries the same to one side of the machine, and deposits the same along the side of the ditch which is being dug. The rotation of the crank shafts 34 will transmit rotary motion to the cranks 18 and 20 by means of the gears 32, to raise or lower the triangular frame 21.

What is claimed is:

In a ditching machine including a wheeled frame, transversely extending crank shafts mounted in the intermediate and forward portions of the frame, a digger and elevator disposed in the said frame, the intermediate and forward portions of the digger and elevator being connected respectively to the intermediate and forward crank shafts, and means for rotating the crank shafts to raise and lower the elevator.

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

LOUIS E. LUDWIG.

Witnesses:

L. R. NIEHAUS,

JACOB LUDWIG.

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