TO ALL TO WHOM THESE LETTERS PATENT SHALL COME:

Ezra Cornell, St. Icarus, New York,

has alleged that he has invented a new and useful

Machine for cutting trenches and laying pipes

which he states has not been known or used before his application, has made oath that he is a citizen of the United States that he does and believes that he is the original and first inventor or discoverer of the said machine and that the same hath not to the best of his knowledge and belief been previously known or used has paid into the Treasury of the United States the sum of thirty dollars and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said machine and praying that a patent may be granted for that purpose.

These are therefore granted to the said Ezra Cornell his

he has administered an oath for the term of fourteen years from the twenty-eighth day of February, one thousand eight hundred and forty four to have and enjoy the full and exclusive right and liberty of making, using and vending to others to make and use the said machine and its description whereof is given in the words of the said oath of Ezra Cornell.

In Testimony whereof I have caused these Letters to be made Patent and the seal of the PATENT OFFICE has been hereunto affixed.

GIVEN under my hand at the City of Washington this twenty-eighth day of February, in the year of our Lord one thousand eight hundred and forty four and of the Independence of the United States, fourteen hundred and thirty five.

J. W. Jenks, Secretary of State.

Ezra Cornell, Commissioner of Patents.
schedule referred to in these Letters Patent, and making part of the same.

In all whom it may concern: Be it known that I Ezra Cornell of
Florence in the county of Somers and state of New York have
invented a new and useful machine or implement for laying
cables, pipes, etc. in the earth which I denominate Cornell's Improved
Draleyer. And I do hereby declare that the following is a full
and exact description of the construction and operation of the
machine, there being had to the annexed drawings making
part of this specification, in which Fig. 1 is a perspective view
d of the part thereof marked A is the beam by which the
movement is drawn and making a part thereof the part
marked B is a cast or wrought iron bar, or trench cutter the
part of which is a hollow curvature either cast with the
same body of the cutter or formed separately in plate iron
and affixed to the main body by screws or bolts, and curvature is also
presented by the sectional drawings hereof annexed and made
part of this specification at Fig. 2. It is supplied with sheave
sections, pulleys having concave edges of suitable shape to receive
each section of the pipe so as to pass from the level drum through
fits curvatures to the earth. The part marked C is a drum or
loop from which the pipe is drawn through an aperture in the beam
which aperture is also protected by sheaves or section pulleys
which form a part of the hollow curvature hereof as described.

The part marked D. The part marked E is the frame within
which said drum or reel moves upon its axe and drum or
reel is withdrawn from and replaced on said frame at pleasure
and as necessity may require for loading the same with pipe
from one end of said drum or reel. Stops are affixed to a pin
rod which is attached marked to prevent the pipe from lying
off and disorganizing its coil. And on the opposite end
of said drum are three or more stops or arms which are confined
by a single bolt or screw so as to admit of being shifted to
the center of said drum so that the drum may receive a coil of pipe in a plane and the pipe being thus placed
upon the drum said movable arms on stops which are
marked G in said drawing are turned to a position that
is perpendicular or nearly so to the curved surface of the drum
and thereby confine the coil of pipe upon the drum as hereinafter

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The wheels which may be used to steady the machine and regulate the depth at which the pipes are deposited in the earth represents the braces by which the wheels are attached to the beam of the machine and which are so contrived as to cause the lower end of the wheels and thereby regulate the depth at which the pipe is deposited. It represents a section of the pipe passing from the drum through the hollow curvature in the beam and back part of the trench cutters to the earth.

The motion of the machine when drawn forward with the pipe enclosed in the ground, draws the pipe from said drum axles through the slide before described into further in the beam thence through the hollow curvature above described from the interior surface of which the pipe is defended as well as its progress facilitated by the sheaves or friction pulleys before described and separates from the machine as it passes out of said curvature at the bottom thereof being the point or depth to which the pipe is deposited in the earth. By attaching two trench cutters to the same beam or by multiplying the divisions of the above described curvature the or more pipes may be laid by the same implement as the same pipe.

What I claim as my invention and wish to secure by Letters Patent is a trench or trench cutter in combination with a curved channel a groove of one or more divisions (for laying one or more pipes at the same time) as herein described and the said channel in combination with the drum as above described for the purpose of depositing pipe at any desired depth, the whole being constructed and operating substantially as herein set forth.

Witnesses

[Signatures]

E. Cornell

[Signatures]