

F. H. De Tray

Ditching and Grading Machine

PATENTED

JAN 21 1868

73441

Figure 1

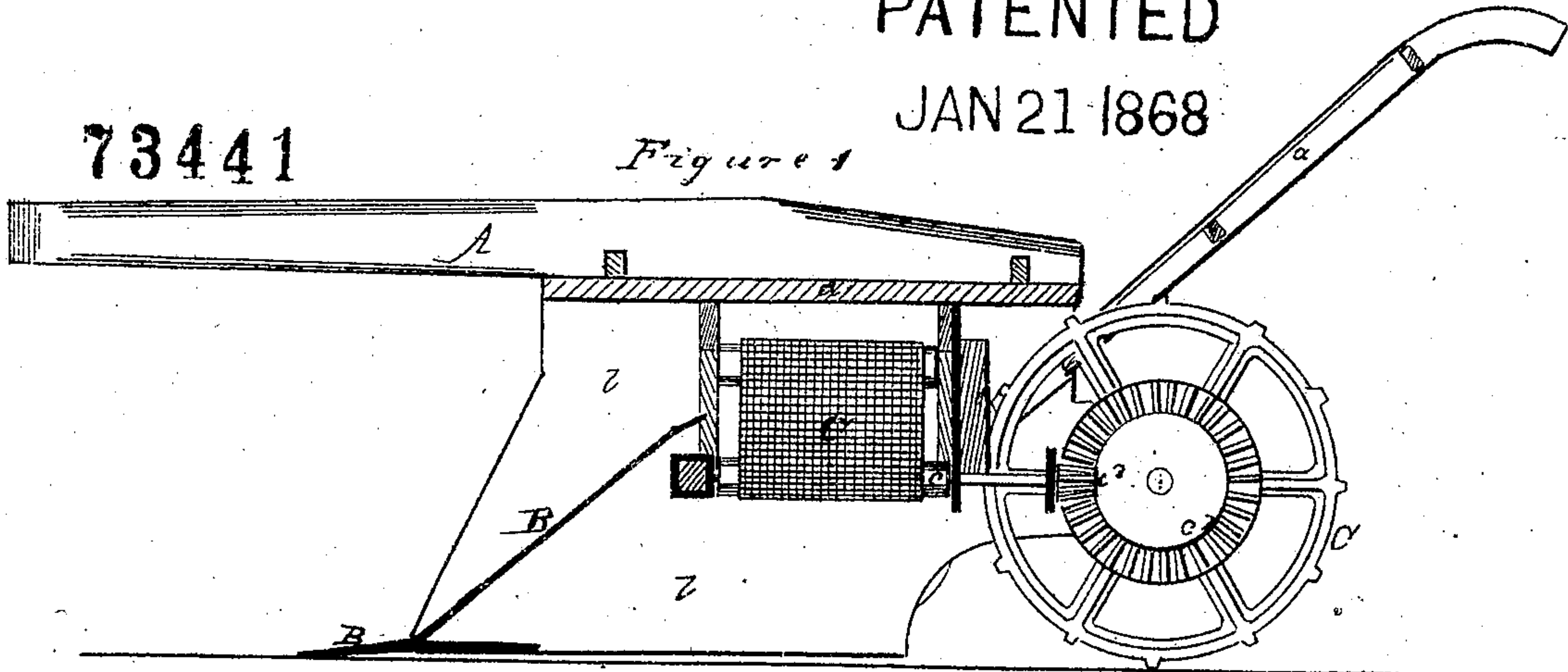


Figure 2

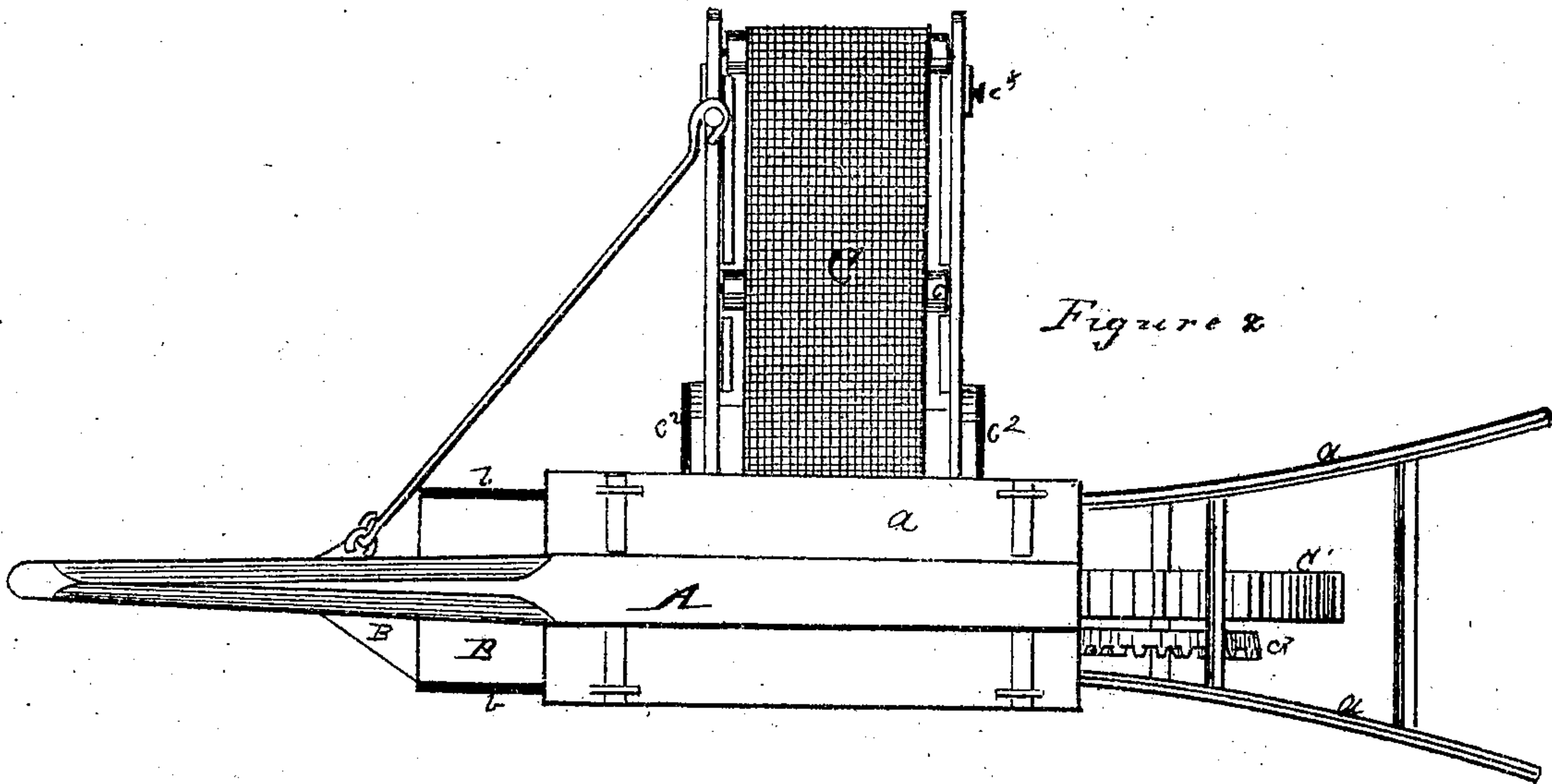
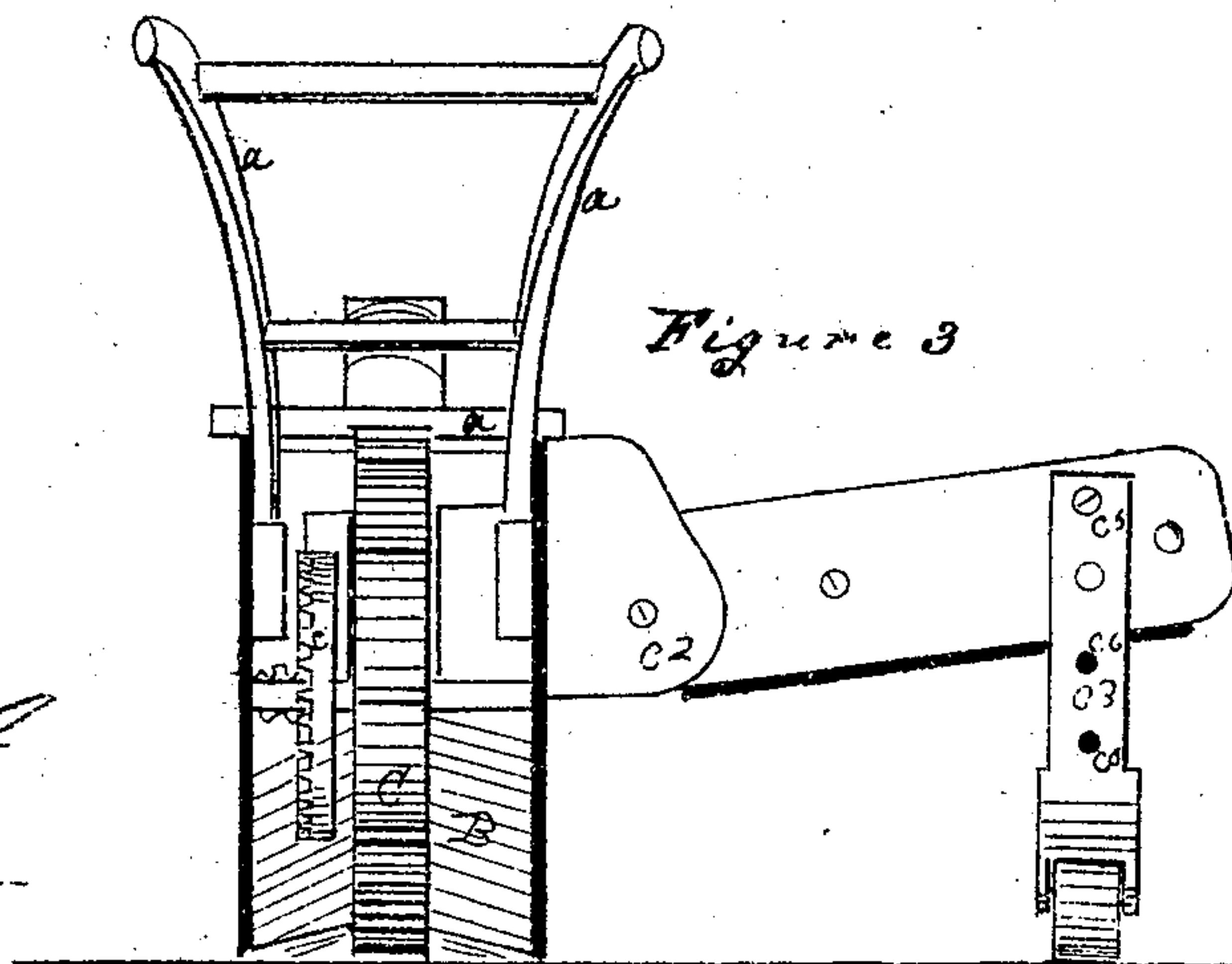


Figure 3



Witnesses:

H. Paul
R. Simon

Inventor:

F. H. De Tray
By his Attys
M. Randolph & Co

United States Patent Office.

F. H. DE TRAY, OF ODIN, ILLINOIS.

Letters Patent No. 73,441, dated January 21, 1868.

IMPROVEMENT IN DITCHING AND GRADING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, F. H. DE TRAY, of Odin, in the county of Marion, and State of Illinois, have made certain new and useful Improvements in Ditching and Grading-Machines; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to provide a machine for digging up the soil from one place, so as to form a ditch, and for transferring the dug soil to another place, in a line parallel with the ditch, so as to form an embankment or roadway.

The machine consists of a plough or scraper, for digging up the dirt, and a conveyer, for distributing it in the required location.

To enable those skilled in the art to make and use my improved ditching and grading-machine, I will proceed to describe its construction and operation.

Figure 1 of the drawings is a longitudinal sectional elevation of the machine.

Figure 2 is a plan of it.

Figure 3 is a rear end elevation.

The machine consists of a beam, A, (similar to a plough-beam,) a plough or ditcher B, having vertical side pieces or cutters *b*, and a conveyer, C, for transferring the dirt dug from the ditch to the embankment beside the ditch, or the roadway that is to be graded. The propelling-power is to be attached to the plough-beam A in the usual manner, and the handles *a* (similar to plough-handles) are used for guiding the machine the same as if it were a plough. The two side pieces or cutters *b* are simply two pieces of metal, having their front edges sharpened, so as to cut down the sides of the ditch; and these pieces, in conjunction with a cap-piece or cover, *a'*, which is attached to the bottom side of the beam, form a kind of box, which retains and guides the earth on its passage from the plough to the conveyer C.

The earth cut from the ditch by the plough B and side cutters *b* slides up behind the plough on the inclined way B' until it arrives at that point where it may be delivered to the conveyer. The inclined way B' may be either a fixed plate, attached to the side plates of the cutters *b*, or it may be a travelling conveyer, similar to C. A stationary plate will be best adapted to use in dry, good-working ground, but the travelling conveyer will be indispensable for working wet, heavy ground.

The conveyer C is an endless belt, travelling over the rollers *c* and *c'*, the latter of these having its bearings provided in the out-hangers *c''*, which are attached to the side of the box *b a'*. The outer ends of these out-hangers rest on the stand *c'''*, which has a single wheel, *c''''*, the said hangers being capable of a vertical adjustment by means of the bolts *c'''''* and a set of adjustable poles, *c''''''*. The roller *c* which drives the conveyer receives its motion from the spur-wheel C', through the medium of the cog-gearing *c'''''' c''''''''*, the wheel C' being arranged to travel on the bottom of the furrow or ditch.

As the conveyer C will be in operation all the time the machine is at work, the dirt delivered to it over the way B' will by it be transferred in a lateral direction, and dumped off outside of the wheel, at *c''''*.

Of course the conveyer C may be attached to either side of the machine, so as to make it either a right or a left machine.

Having described my invention, what I claim, is—

1. The ditcher or plough B *b*, in combination with the inclined way or dirt-slide B', as described, and for the purpose set forth.
2. I claim the conveyer C, in combination with the ditcher B *b* and slide B', as and for the purpose set forth and described.
3. I claim the stand *c'''*, wheel *c''''*, and the out-hangers *c''*, when combined and arranged in an adjustable manner, so as to regulate the vertical height of the out end of the pieces *c''*, as described, and for the purpose set forth.

In testimony of which invention, I hereunto set my hand, in presence of—

F. H. DE TRAY.

Witnesses:

M. RANDOLPH,

H. PAULI.