

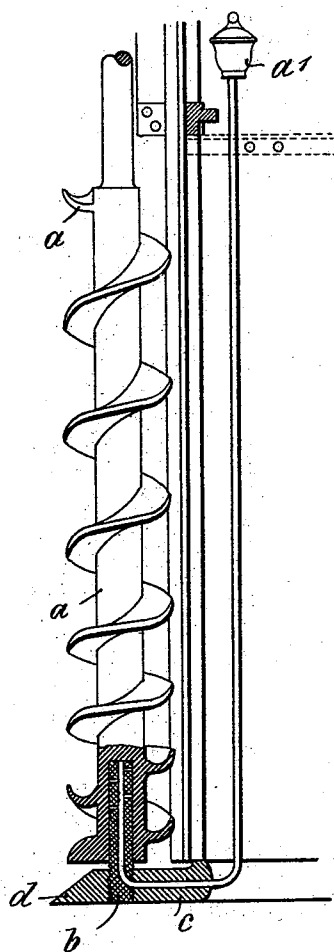
(No Model.)

O. B. H. HANNEBORG.

CUTTER SCREW FOR DITCHING AND TILE LAYING MACHINES.

No. 530,687.

Patented Dec. 11, 1894.



Witnesses:
H. L. Peil
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UNITED STATES PATENT OFFICE.

ODILON BALTZAR HANNIBAL HANNEBORG, OF URSKOUG, NORWAY.

CUTTER-SCREW FOR DITCHING AND TILE-LAYING MACHINES.

SPECIFICATION forming part of Letters Patent No. 530,687, dated December 11, 1894.

Application filed August 31, 1894. Serial No. 521,873. (No model.)

To all whom it may concern:

Be it known that I, ODILON BALTZAR HANNIBAL HANNEBORG, a subject of the King of Sweden and Norway, and a resident of URSKOUG, Norway, have invented certain new and useful Improvements in Cutter-Screws for Ditching and Tile-Laying Machines, of which the following is a specification.

My invention relates to the spiral cutters of machines for ditching or making drains or other trenches such for instance as that described in the specification of my application for Letters Patent, Serial No. 521,872, dated August 31, 1894.

According to my invention I form such cutters of a sharp-edged screw or worm having a thread of increasing pitch whereby the stones and clods of earth cut away by the lower part of the said screw are prevented from adhering thereto or clogging therein.

The accompanying drawing represents an elevation of a cutter for a ditching machine constructed according to my invention.

a is the screw constituting my improved cutter such screw having a pitch which increases from below upward in order that the earth, during the ditching, shall not become pressed into a compact mass and that large stones shall be prevented from becoming fixed or jammed as they are being lifted by the screw.

The thread of the screw is formed with a sharp edge in order that it shall readily cut

into the soil as it is revolved, and at its lower end it is advantageously supported on a steel pivot *b* which is hollow in order that oil from a lubricating cup *a'* may enter through a shoe *c* supporting the pivot and always keep the foot-bearing lubricated.

The shoe is preferably shaped like a plow share at *d* so as to cut the bottom of the trench to the required shape.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a ditching machine, a spiral cutter arranged vertically and having bearings for supporting it in position, the thread of said cutter being formed with an increasing pitch from the lower end upward, substantially as described.

2. In combination, the spiral cutter having a recessed lower end, the hollow pivot located in said recess, and the oil pipe extending up within said hollow pivot, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of July, 1893.

ODILON BALTZAR HANNIBAL HANNEBORG.

Witnesses:

RICHARD EMANUEL STOKKE,
AXEL GOTTFRED GRONN LAHN.