2 Sheets—Sheet 1.

W. P. SMITH.

Excavators.

No. 230,358. Patented July 20, 1880.

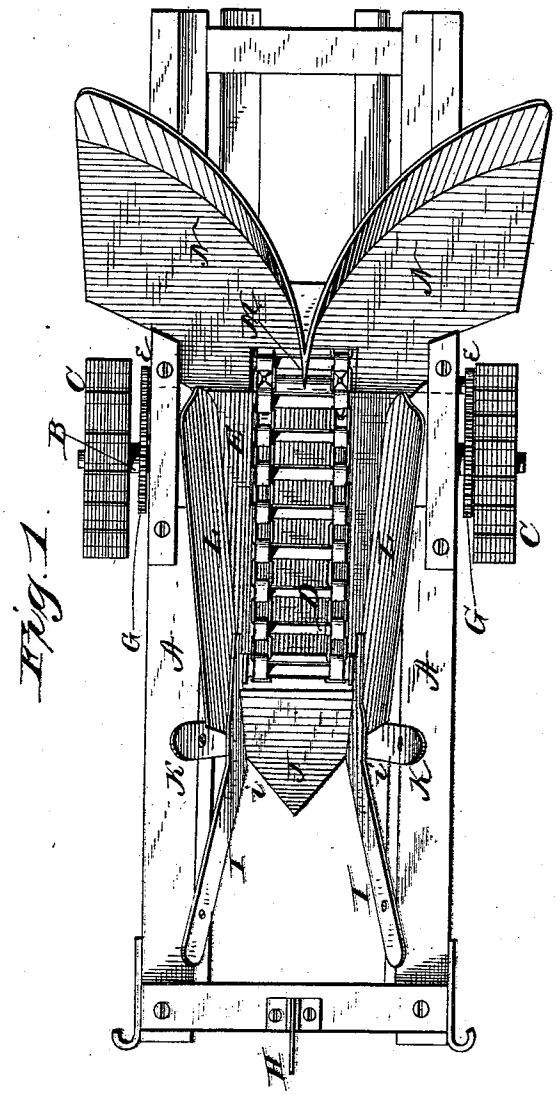


Fig. 1.

WITNESSES

A. L. Ouraud

J. J. McCarthy.

INVENTOR

W. P. Smith

Alexander Duane

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

W. P. SMITH.

Excavators.

No. 230,358. Patented July 20, 1880.

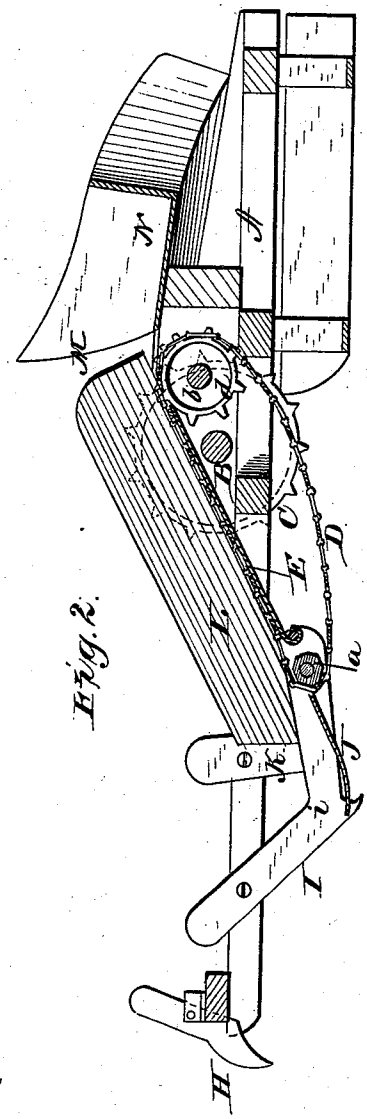


Fig. 2.

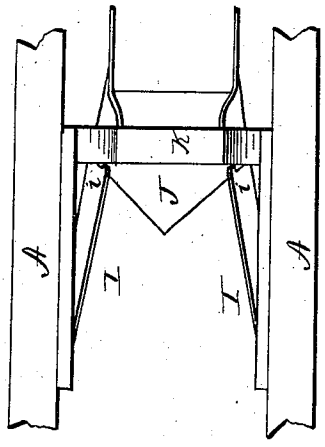
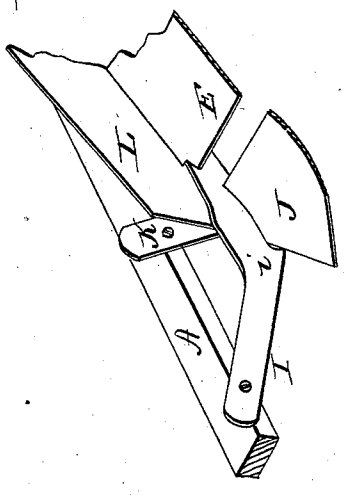


Fig. 3.



WITNESSES

F. L. Ouvaud

J. J. McCarthy.

INVENTOR

W. P. Smith

Alexander Dunlop

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM P. SMITH, OF NEW ORLEANS, LOUISIANA.

EXCAVATOR.

SPECIFICATION forming part of Letters Patent No. 230,358, dated July 20, 1880.

Application filed December 2, 1879.

To all whom it may concern:

Be it known that I, WILLIAM P. SMITH, of New Orleans, in the parish of Orleans, and in the State of Louisiana, have invented certain new and useful Improvements in Ditching-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a ditching-machine, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a plan view of my machine. Fig. 2 is a longitudinal section of the same.

A represents the frame-work of the machine. B is the axle upon which the wheels C C are secured. E is the inclined board, over which the endless chain-carrier D passes. *a* is the drum at the foot of inclined board, around which the endless carrier passes. At the upper end of said inclined board is a shaft, *b*, with spur-wheels *d d* to take into the chain-carrier and propel the same, said shaft *b* obtaining its motion by means of pinions *e e* on its ends meshing with cog-wheels G on the axle.

The elevating-shaft *b* is placed in the rear of the main shaft or axle, as shown, thereby increasing the height at which the dirt is discharged, and allowing it to be deposited farther from the ditch.

On the front cross-bar of the frame is a center knife, H, for splitting the sod. In rear of this knife and in front of the inclined board and chain-carrier are the shovel J, side knives, I I, and supporting-braces K K. With these parts, as ordinarily constructed and arranged in this class of machines, much power was wasted on account of the edges of the knives cutting in a line with the inside edges of the supporting-braces, forcing said braces to cut their own way on the sides of the ditch. I make an offset, as shown at *i*, in each knife, bringing the edge out to and a little beyond the outside of the supporting-brace, thus lessening the draft and enabling me to do more work with the same power.

Upon the inclined board E are two side boards, L L, running parallel with the chain-carrier, and fastened by bolts. By this means the sod gathered by the machine is prevented from falling back into the ditch.

At the top of the machine is a center knife, M, with double chute N, whereby the dirt is divided in the center and discharged equally on both sides of the ditch.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a ditching-machine, the side knives, I I, formed with the offsets *i i*, in combination with the shovel J and supporting-braces K K, substantially as and for the purposes herein set forth.

2. The combination of the front center knife, H, side knives, I, having offsets *i*, shovel J, and braces K, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of October, 1879.

W. P. SMITH.

Witnesses:
CHAS. PLATZ,
D. I. DOWERS.