J. C. Osgood.

Excavator.

No. 48,581. Patented Jul. 4, 1865.

Fig. 1.

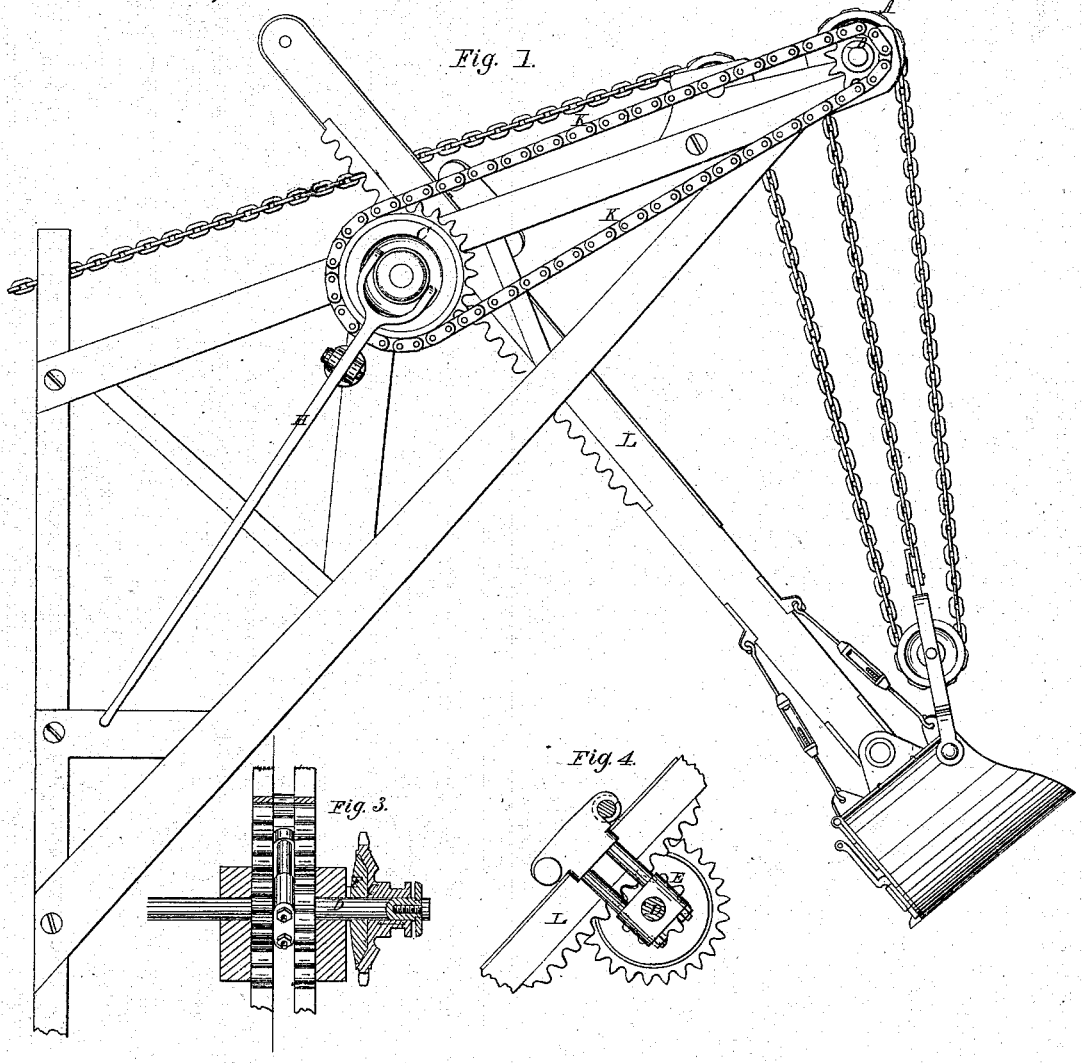
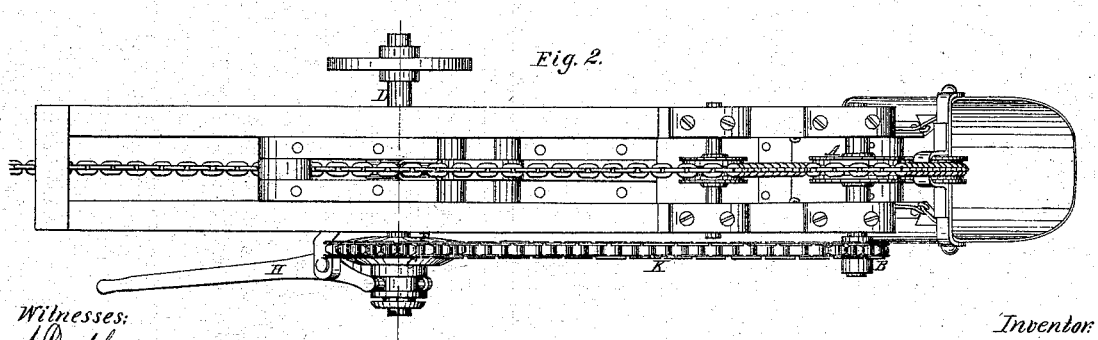


Fig. 3.

Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

JASON C. OSGOOD, OF TROY, NEW YORK.

IMPROVED EXCAVATOR.

Specification forming part of Letters Patent No. **48,581**, dated July 4, 1865.

To all whom it may concern:

Be it known that I, JASON C. OSGOOD, of the city of Troy, county of Rensselaer, and State of New York, have invented a new and useful improvement on the excavator-machine used for excavating earth, rock, &c., under water and on land, said improvement being more particularly applicable to the excavator-machine known as the "Carmichael and Osgood Excavator;" and I do hereby declare that the following is a full and exact description of said improvement, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a side view of the crane, dipper-handle, dipper, (including said improvements,) and tackle for raising and lowering the dipper. Fig. 2 is a view of the top of the crane, including said improved portions. Fig. 3 is a transverse section of the friction-wheels and shaft, and Fig. 4 an end view of the dipper-handle shaft and a side view of a portion of the dipper-handle and the toothed wheel by which the dipper-handle is forced outward.

The said improvement consists in the manner of constructing said machine, so that the dipper-tender is enabled to make use of the motive power of the excavator to extend or force out the dipper, and thus excavate over a larger space without moving the machine.

To enable others skilled in the art I will proceed to describe the construction and operation of said improvement, referring more particularly to said improvement as an improvement on the excavator known as the "Carmichael and Osgood" excavator.

The mode of transferring power from the engine to the crane-gearing is not described here, because the same does not differ materially from the ordinary modes. The construction of the crane and its operations is not described, only so far as the said improvement is applicable thereto, because the crane does not differ from many excavator-cranes now in use, except the changes made by said improvement, hereinafter described.

I make the forward sheave-wheel, A, on the end of the crane a toothed wheel, so constructed that the teeth will fit the links of the chain, and thus prevent the chain from slipping on the wheel. Then I construct the shaft of this sheave-wheel so that the same will project through and beyond the outside of the crane, and on the outer end key a small toothed chain-wheel, B, which I connect by a chain or belt, K, with a larger toothed concave friction-wheel C. I then construct the dipper-handle shaft D, to which is attached the pinions E, on which the dipper-handle L runs, of sufficient length to project through and beyond the outside of the crane and through the concave friction-wheel C. On this shaft, and inside of the concave friction wheel C, I construct a convex friction-wheel, F. The toothed concave friction-wheel C is so constructed as to run loose on the shaft D when not in use. On the end of shaft D, I place a lever, H, the short arm of which runs in a groove cut on the outer side of the concave friction-wheel C, by means of which lever the inner face of the concave friction-wheel C is forced against the outer face of the convex friction-wheel F, causing the shaft D and pinions E to revolve, and thus forcing the dipper-handle outward as the dipper is being forced into and through the material to be excavated. By this means a larger space can be excavated without moving the machine, and the dipper can also be made to fill in shallow cutting.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the toothed chain friction-wheel C with the friction-wheel F, the belt, chain, and toothed wheel B, and toothed sheave-wheel A, for the purposes as herein set forth.

JASON C. OSGOOD.

Witnesses:

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