

(No Model.)

I. W. HOOVER.

POTATO DIGGER.

No. 396,818.

Patented Jan. 29, 1889.

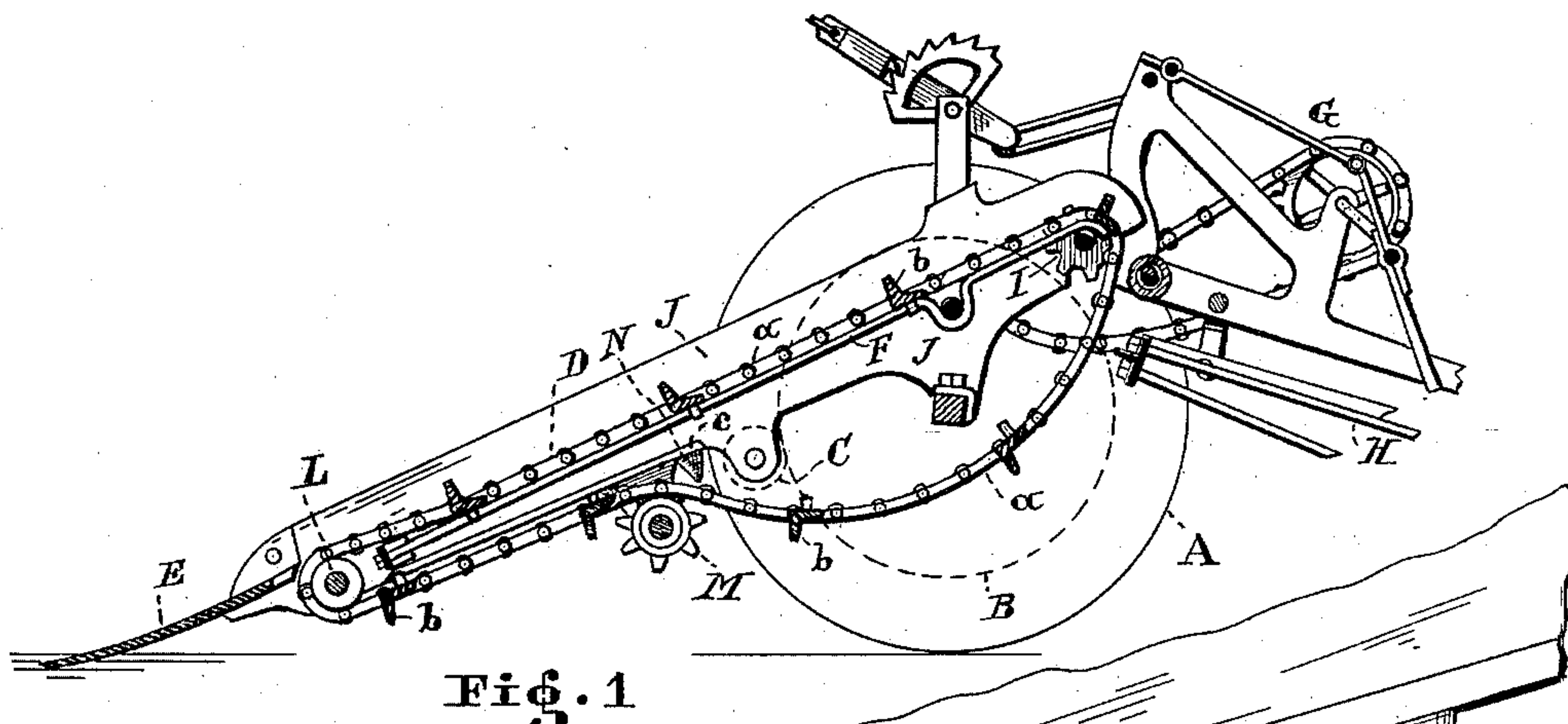


Fig. 1

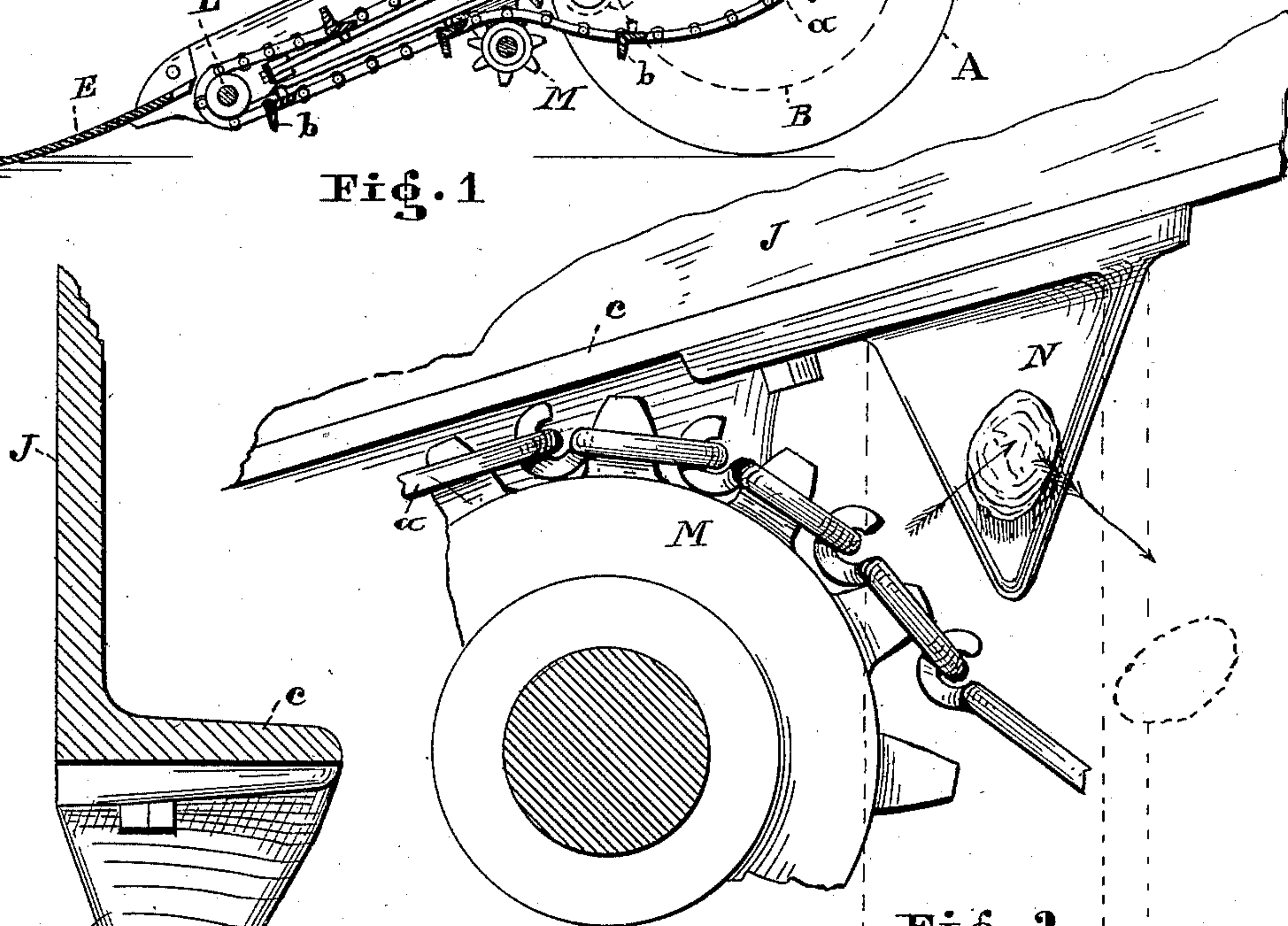


Fig. 2

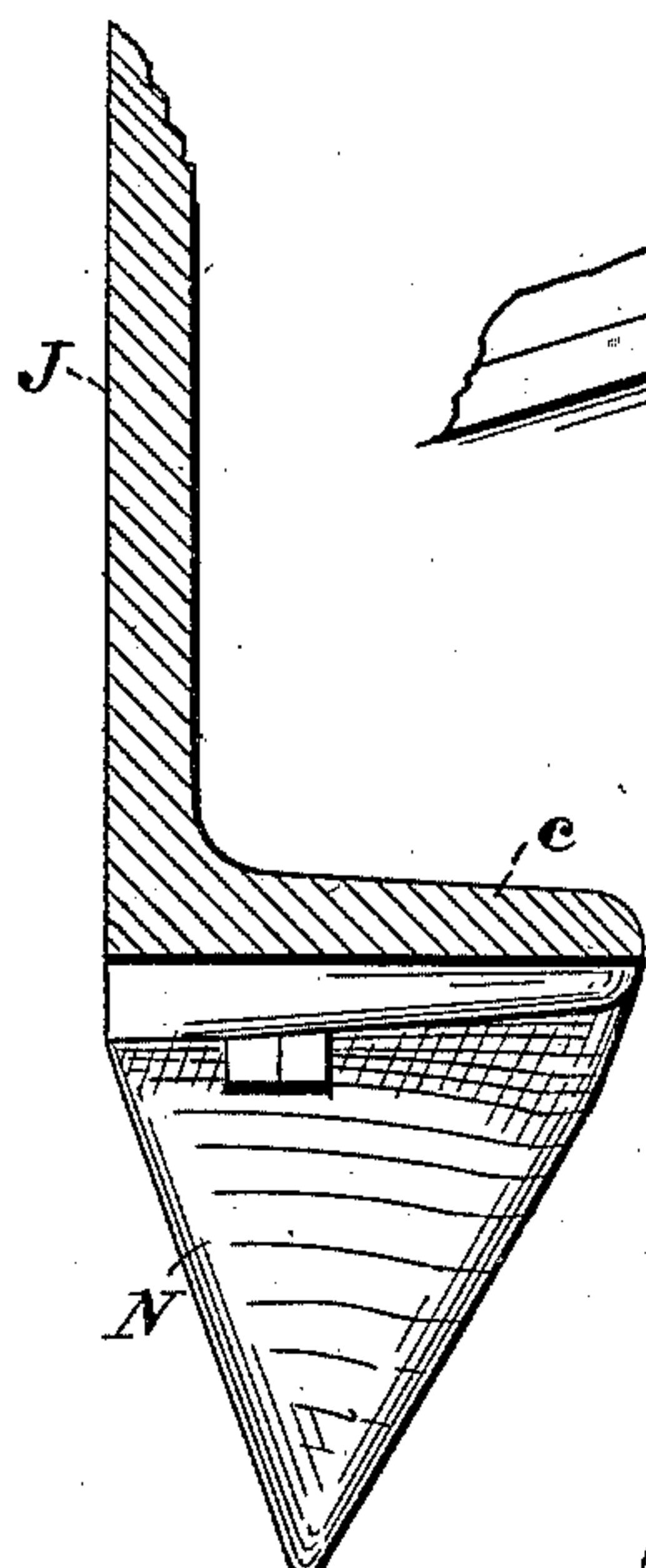


Fig. 3

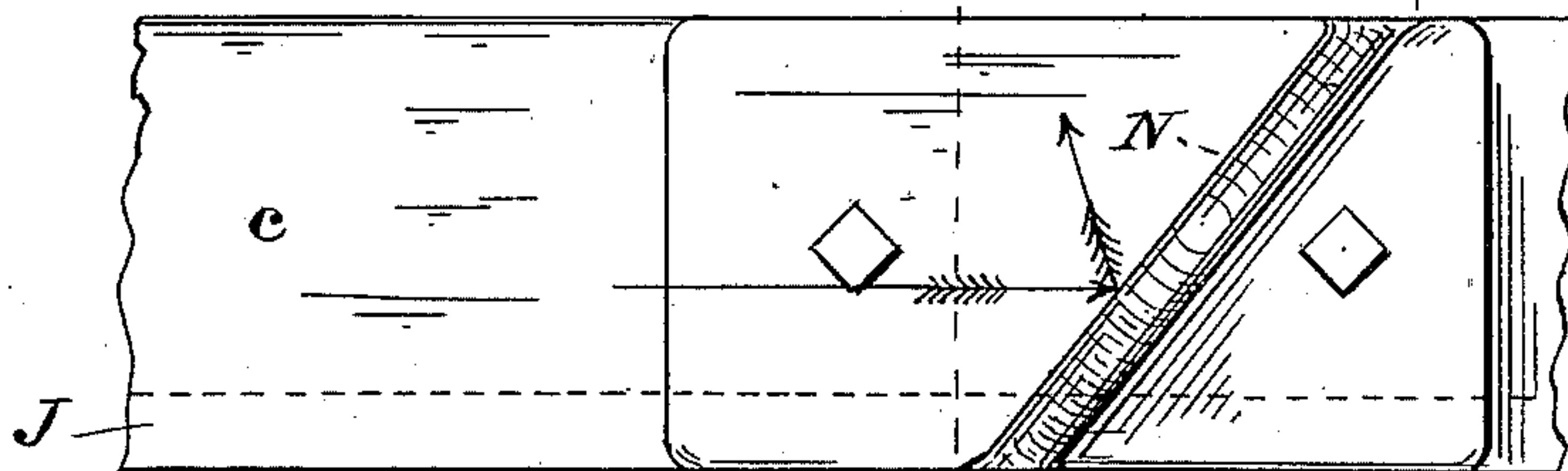


Fig. 4

WITNESSES

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UNITED STATES PATENT OFFICE.

ISAAC W. HOOVER, OF AVERY, OHIO.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 396,818, dated January 29, 1889.

Application filed October 17, 1888. Serial No. 288,381. (No model.)

To all whom it may concern:

Be it known that I, ISAAC W. HOOVER, of Avery, county of Erie, and State of Ohio, have invented certain new and useful Improvements on a Potato-Digger, for which I have obtained a patent, May 8, 1888, No. 382,363; and I do hereby declare that the following is a full, true, and exact description thereof.

The improvement consists of certain protective arrangements made with a view of increasing the durability as well as reliability of the operative parts of said potato-digger; and that the invention may be fully understood, reference will be had to the annexed specification and the accompanying drawings, in which—

Figure 1 is a partial vertical section of the potato-digger provided with the improvement above referred to. Fig. 2 illustrates a face view of the improvement detached from the machine. Fig. 3 is a partial cross-section of the improved side of the machine and parts attached thereto. Fig. 4 illustrates a face view of parts shown in Fig. 2.

Like letters of reference refer to like parts in the drawings and specification.

The machine to which this improvement is applied having been fully described in my former patents, and more particularly so in the patent above cited, it is not deemed necessary to repeat the full description thereof, but only to refer to those parts which are influenced by or brought in direct contact with the said improvements.

In Fig. 1, A represents one of the drivers, which, by means of the gears B C and a sprocket-wheel with chain, (not shown in the drawings,) sets in motion the elevator D when the machine is drawn along over the field. The scoop-shovel E digs the potatoes out of the ground, to be carried up by the elevator D over the rack F onto the separator G and screen H, which are located at the rear of the machine and only partially indicated in Fig. 1.

The elevator D consists of two endless chains, *a*, which are connected by the cross-bars *b*. The chains *a* engage into sprocket-wheels I at the upper end of the side plates, J, and are guided over the roller L at the lower end of the machine, near the scoop-shovel E, and over the sprocket-wheels M, located below

the rack F. This departure from my former patents for driving the elevator has the advantage of rendering it impossible by the sprocket-wheels to press in stones in the chains of said elevator, and thereby cause a breakage of the same. Another advantage is to place the said wheels as shown in Fig. 1 and to take up the "slack" of the chains or elevator before the roller L is reached, in order to prevent dragging of the elevator on the ground. In passing over the roller L it is necessary that the chain should be kept free from the stones, gravel, and earth, which fall through the rack F onto the ground again, and it is thus that the catch-iron N is provided for. Said catch-iron may be either bolted onto the inwardly-projecting flange *c* of the side piece, J, as seen in Figs. 2 and 3, or it may directly be cast onto the side piece, J, as seen in Fig. 1. In either instance it projects down in front of the wheel M, with the face side thereof depending in an oblique direction to the face of the wheel or line of the chain, as indicated in Fig. 4. The flange *c* of the side plates, J, extends from the catch-iron N close onto the roller L, as seen in Fig. 1, so that after the chains are once freed from the stones, gravel, or earth by the wheels M engaging into the links of the chain no more deposits of gravel or earth are possible until that part of the chain has passed around the roller L.

When the machine is running, the speed with which the wheels M engage into the links of the chains is such that any substance—such as stones or gravel—will be thrown off with a force sufficient to strike the catch-iron N and to be rebounded by the same. The stones will be rebounded from the said iron under the same angle as they strike the face thereof; hence any variation from a right angle of the face of the catch-iron N from the plane in which the wheel moves and the stones are thrown must necessarily cause the stones to be rebounded in a direction out of that plane and fall down to the ground. In Fig. 4 the inclination of the catch-iron face to the wheels M is indicated and the angles pointed out by arrows, in which the stones will be thrown and rebounded. That, if the deposits were left on the chain while it passes around the roller L, serious injuries to the machine were liable

to occur at any time can readily be seen; hence the utility of the improvement above referred to.

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

1. In a potato-digger, catch-irons N, secured to the side plates of said digger with the face side thereof depending in front of the sprocket-wheels M in an oblique direction to the plane
10 in which said wheels revolve, in combination with the flanges c of said plates, constructed and arranged in the manner as shown, and for the purpose described.

2. In a potato-digger, the endless elevator
15 D, located between the side plates, J, sliding

upon the stationary rack F, driven from the sprocket-wheels I I, and guided over the roller L, sprocket-wheels M M, arranged to carry the elevator on the return course and to free the chains thereof from deposits thereon, the
20 catch-irons N, suspended from said side plates toward off said deposits, and the side-plate flanges, c, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in
25 presence of two witnesses.

ISAAC W. HOOVER.

Witnesses:

B. F. EIBLER,
WM. H. FORD.