

H. ROHRBACH.

POTATO DIGGER.

APPLICATION FILED NOV. 2, 1909.

947,742.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.

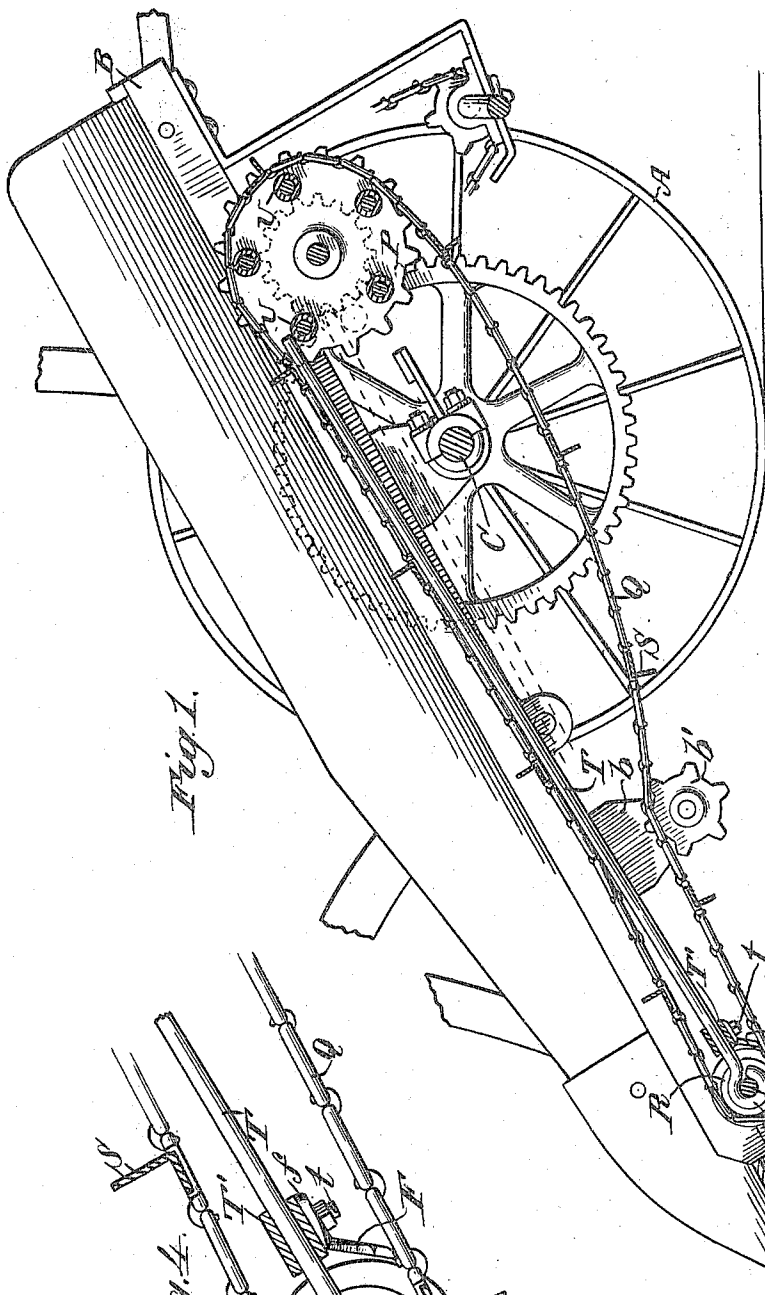


Fig. 1.

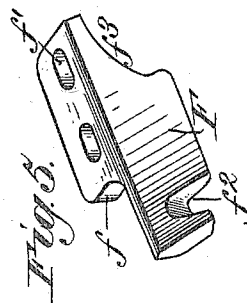


Fig. 2.

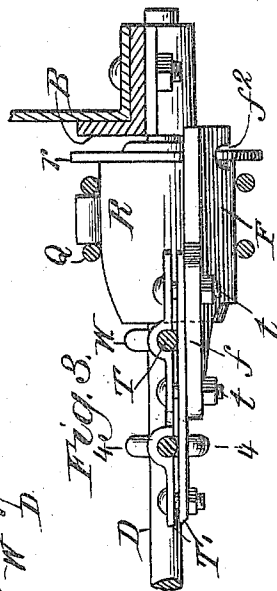


Fig. 3.

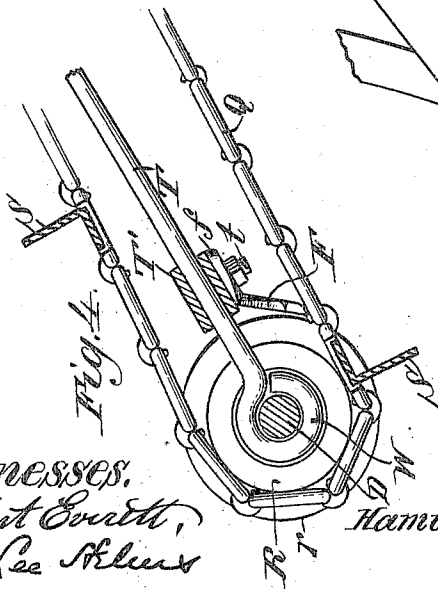


Fig. 4.

Witnesses.
Robert E. Smith,
H. Lee Sklar

Inventor:
Hamilton Rohrbach.

By Marcelus Bailey
his atty.

APPLICATION FILED NOV. 2, 1909.

Patented Jan. 25, 1910.

Fig. 2.

Hamilton Rotbach

Inventor:
Hamilton Rohrbach.
By Maxwell Bailey
his atty.

UNITED STATES PATENT OFFICE.

HAMILTON ROHRBACH, OF YORK, PENNSYLVANIA, ASSIGNOR TO A. B. FARQUHAR COMPANY, LTD., OF YORK, PENNSYLVANIA.

POTATO-DIGGER.

947,742.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed November 2, 1909. Serial No. 525,882.

To all whom it may concern:

Be it known that I, HAMILTON ROHRBACH, of York, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Potato-Diggers, of which the following is a specification.

My invention relates to that class of potato diggers in which there is provided in rear of the scoop or shovel a separator embodying an endless conveyer or elevator which carries off the load which passes back onto it from the scoop.

The object of the invention is to provide a cheap, easily applied and efficient guard or fender to brush aside or scrape off from the endless sprocket chains of the conveyer, stones and other refuse which may fall upon them, and which, unless removed, will be carried along by the chains in between them and the front wheels or pulleys, up around which they pass, with the resultant danger of injuring the links and clogging the action of the sprocket devices.

I am aware that fenders or guards for this and analogous purposes are old in the art and have been used wherever it has been convenient or desirable, to brush from the path of the wheel any material which falls upon the rail or other part over which the wheel may run, or which may run under the wheel, and which material otherwise may be carried in between the two.

My improvement consists in the particular construction and mode of operation of the fender which I shall now proceed to describe in connection with the accompanying drawings forming part of this specification.

In said drawings—Figure 1 is a longitudinal vertical section of so much of a potato digger as needed for purposes of explanation and Fig. 2 is a plan of the same. The remaining figures illustrate structural details on enlarged scale. Fig. 3 is a sectional elevation of the conveyer and separator screen and fender on one side of the elevator looking at the fender from the rear of front pulley. Fig. 4 is a sectional detail on line 4—4 Fig. 3. Fig. 5 is a perspective view of one of the fenders.

My fender or guard has been devised more particularly for use with the elevator and separator illustrated in Letters Patent No. 886,322 of April 28, 1908 for potato digger, and it is in that connection I shall describe it.

of the machine. The main frame consists of the two side bars or rails B B bolted rigidly at the front to the cross connecting shaft D, and connected at their rear ends by the power driven cross shaft on which are secured the sprocket wheels P.

D' is the scoop.

Q are the endless chains of the conveyer, passing at the rear around sprocket wheels P, and at the front around smooth pulleys or wheels R loosely mounted and adapted to revolve upon the cross shaft D. The two chains are connected by cross bars S of angle section which form the flights by which the load is carried along over the face of a separator screen located just beneath the upper run or lap of the endless conveyer, and consisting of a series of parallel evenly spaced rods T extending lengthwise of the conveyer, and connected solidly together at or near their front ends by a cross head consisting of a pair of clamping irons T' or bars (one or both of which may be channeled to receive the rods) between which the shanks of the rods are fitted, the two irons being drawn and secured tightly together by bolts t which cause them to clamp the rods tightly in place. This separator screen is journaled on the front cross shaft D, so as to be capable of bodily vibratory movement in a vertical plane upon the same as an axis, the pivot joint between the two being provided by eyes W formed on the front ends of rods T and journaled upon the cross shaft D. This separator screen which forms the bottom of the elevator, is vertically agitated by locating the rear ends of its rods T over and in the path of movement of the horizontal bars U of a reel formed by extending these bars between, and securing them to, the elevator power-driven sprocket wheels P. As the reel revolves the screen will be bodily agitated and vibrated in a vertical plane by the action of the reel bars U upon it. The usual sprocket wheels b' supported in hangers b are provided to take care of the sag of the under laps or runs of the endless chains. Thus far the machine in no essential particulars differs from the one shown and described in Patent No. 886,322, hereinbefore referred to.

As the load is carried up by the conveyer over the separator screen, dirt, stones etc. separated out from the potatoes will pass down through the screen and lower lap of

the conveyer, and some of this refuse material may lodge on the lower runs of the sprocket chains of the conveyer and thus be carried forward by the latter to where it will enter between the chains and the front pulleys or wheels R, with the consequent disadvantages hereinbefore mentioned. To prevent the occurrence of anything of this kind, I locate in advance of the point where each chain meets and passes under its pulley R, a fender F which overhangs and extends crosswise of the chain in a position to brush or scrape off from the chain, stones, dirt or other refuse which may have lodged upon the chain and which otherwise would, as the chain moves forward, be carried in between it and its front pulley.

The fender is formed conveniently of a flat plate—a casting of malleable iron—which has on its upper edge a flange *f*, having bolt holes *f'*. The flange is secured to the end of the screen cross head T' next to the pulley R which the fender is intended to guard. It is held in place by the same two clamping bolts *t* which clamp the outer screen rod T at that end of the cross head; and the bolt holes in the fender flange *f*, are made slightly oblong so that the fender may be adjusted crosswise of the pulley R in order that it may be brought into its proper relation to the latter.

From the flange *f* the fender plate F extends in an inclined direction forwardly and downwardly, until it reaches the chain beneath it, with which it contacts, and on which it preferably slightly bears. The bottom edge of the fender is quite near to the pulley R, and to permit it to be located in this proximity to the same, the fender plate is slotted as at *f*², where it comes opposite to the outer flange *r* on pulley R, so as to accommodate and avoid interference with the flange. The inner edge of the fender plate is cut away as at *f*³ to reduce weight and material as far as consistent with strength.

The fender, being rigidly attached to the separator screen, partakes of the vibratory up and down motion of the latter. In so doing it necessarily affects the chain which it overhangs, jarring the chain and giving

it a shaking movement which materially assists in the dislodgment and removal of stones and refuse that may lodge upon it. This feature—that is, the agitation of the chain by an overhanging fender, combined with means for imparting to it vibratory up and down movement—I believe to be new with me, beyond its particular embodiment herein illustrated. In potato diggers in which no vibrating separator screen is employed, the fender can be secured to any proper support, and combined with any suitable or convenient means for giving it the up and down vibratory movement needed to produce the requisite agitation of the chain which it overhangs and strikes.

Having described my improvement and the best way now known to me of carrying the same into effect, what I claim herein as new and of my own invention is as follows:

1. In a potato digger, the combination with the endless conveyer and the front pulleys over which the chains of said conveyer run, of fenders which extend crosswise and in proximity to the rear of said pulleys and overhang and contact with the lower laps of the endless chains which travel toward said pulleys, and means for imparting vertical vibratory movement to said fenders, for the purpose of jarring and agitating the chains, substantially as hereinbefore set forth.

2. In a potato digger, the combination with the endless conveyer, the front pulleys over which the chains of said conveyer run, and a vibratory separator screen arranged just below the upper lap of the conveyer, of fenders secured to, and moving with, said vibratory separator screen, extending from the under side of said screen, down to the lower laps of the conveyer chains, at a point in proximity to, and crosswise of, the rear faces of the pulleys, substantially as and for the purposes hereinbefore set forth.

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

HAMILTON ROHRBACH.

Witnesses:

M. C. EVANS,

HAROLD A. RUSSELL.