

No. 764,889.

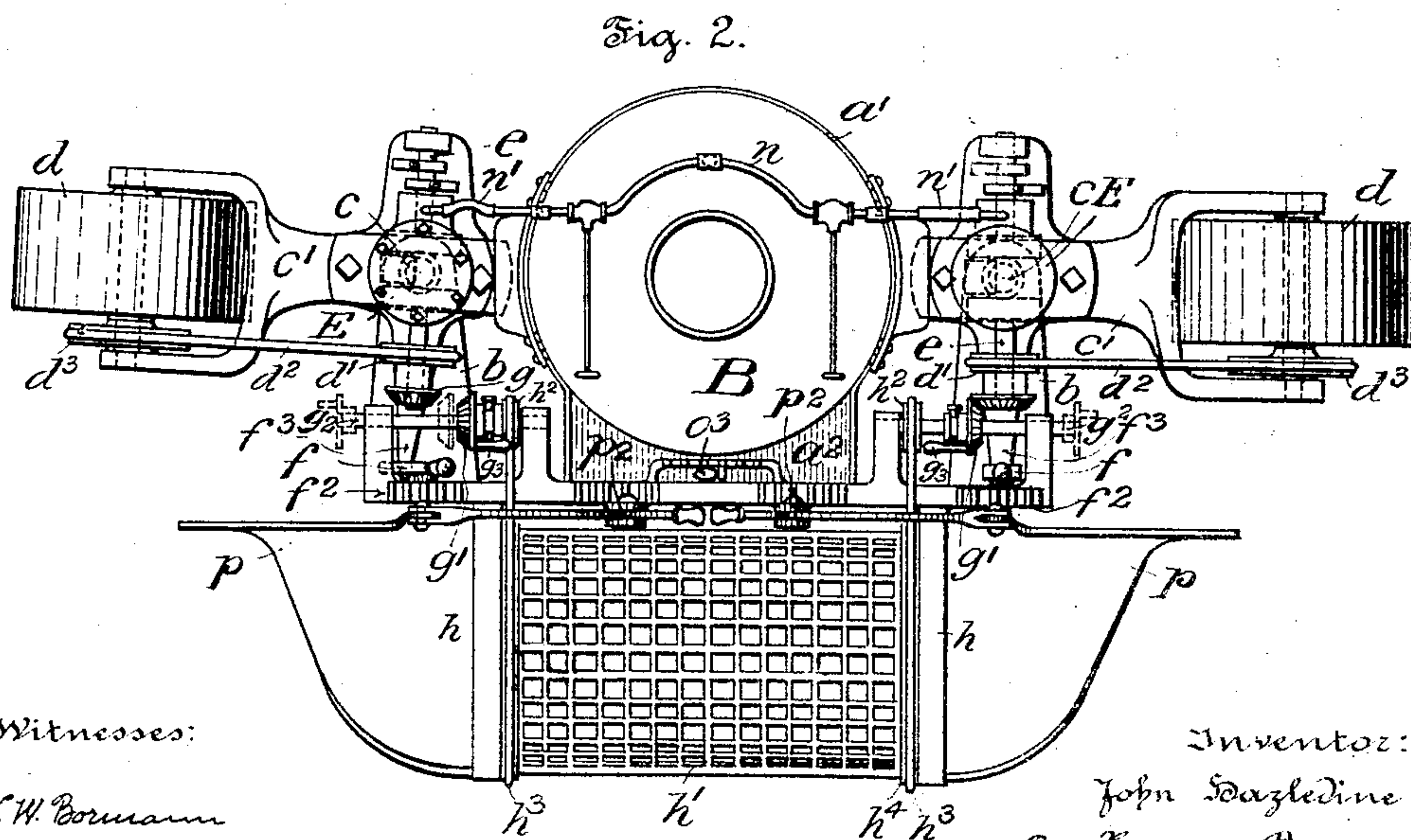
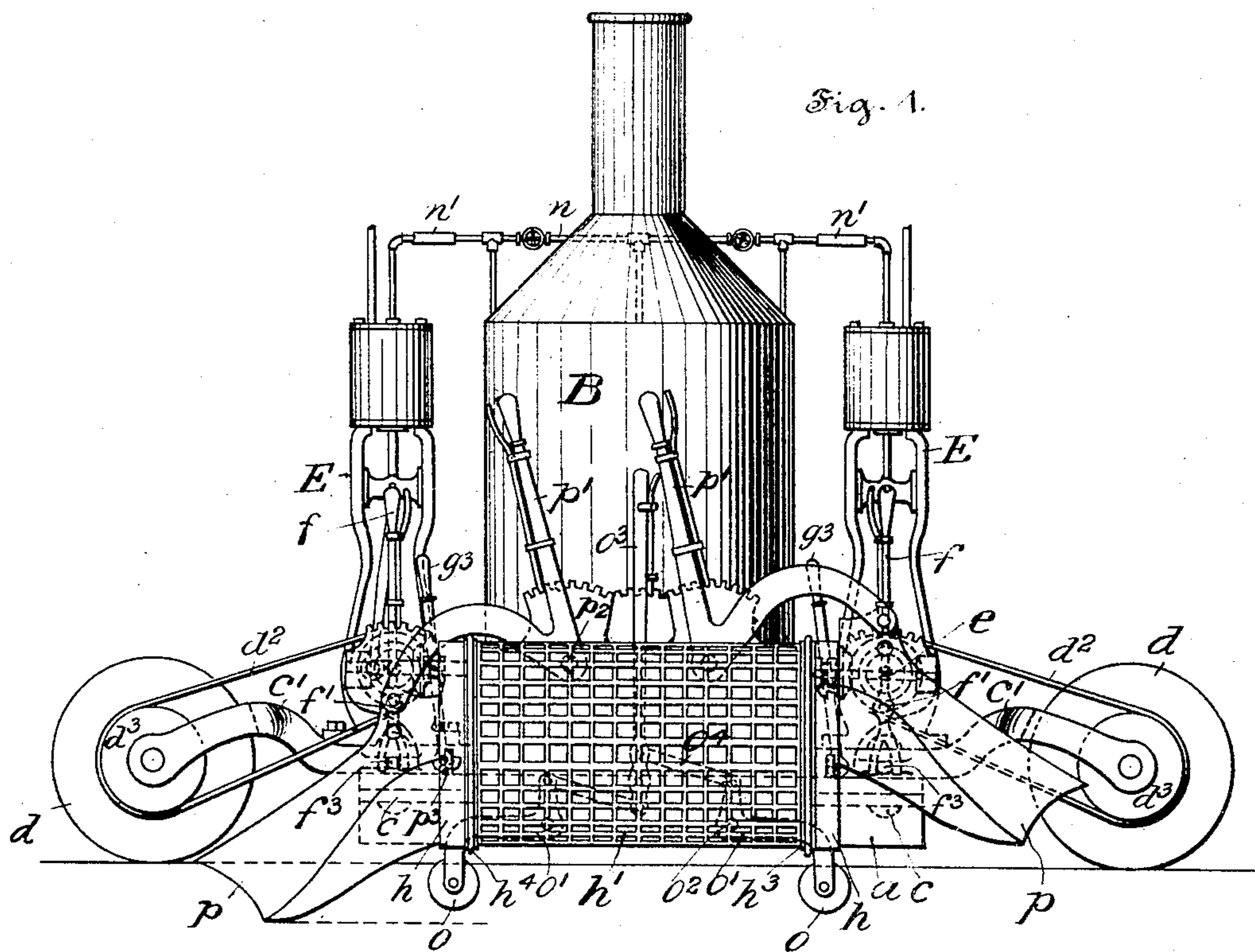
PATENTED JULY 12, 1904.

J. HAZLEDINE.  
POTATO DIGGER AND GATHERER.

APPLICATION FILED MAR. 1, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 5.

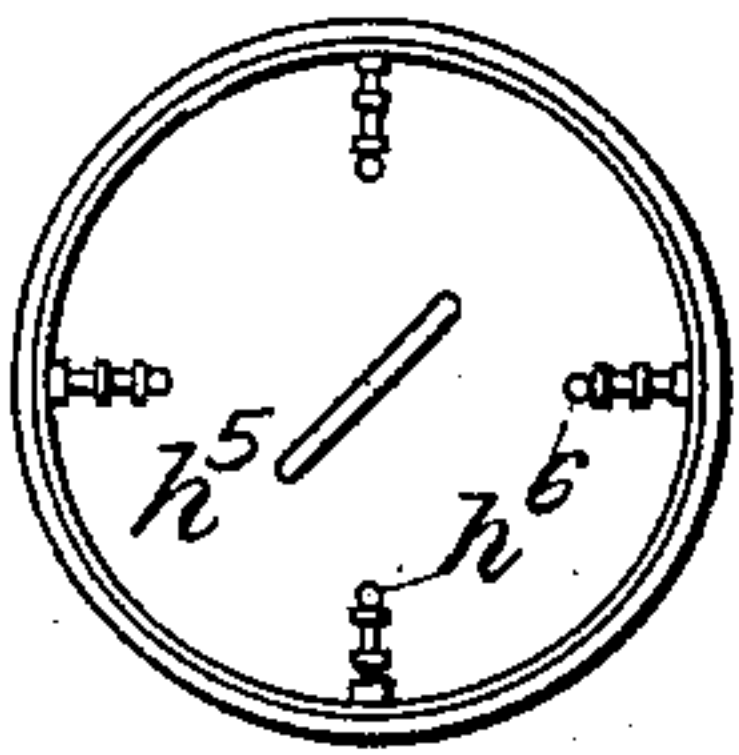


Fig. 4.

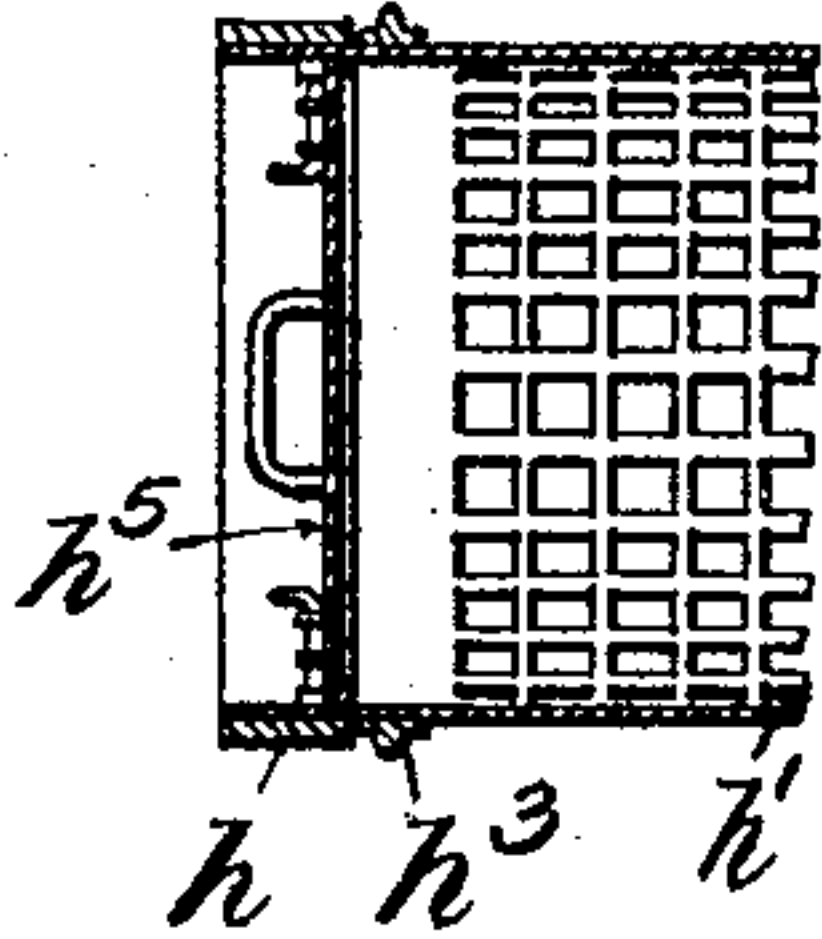
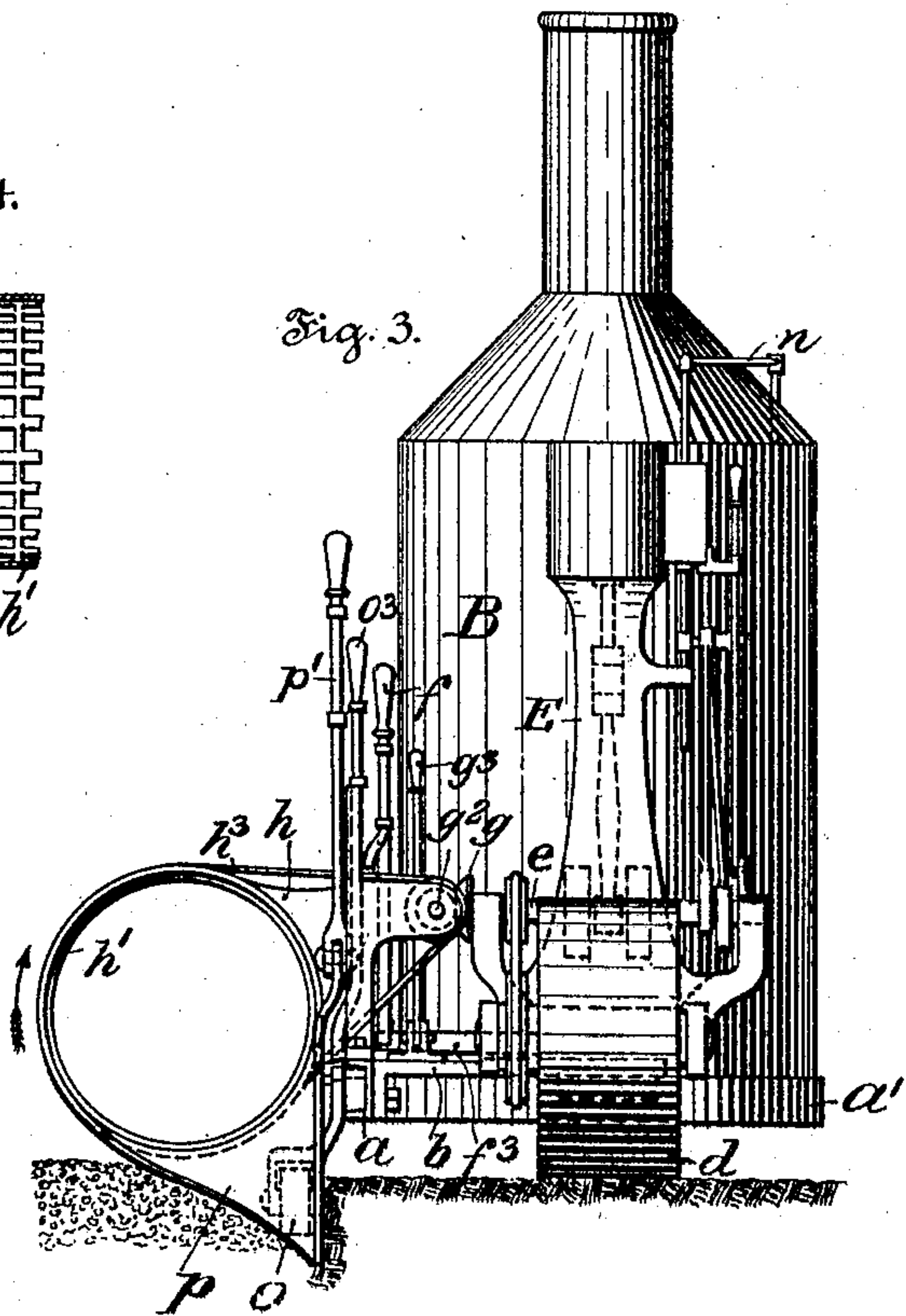


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JOHN HAZLEDINE, OF PHILADELPHIA, PENNSYLVANIA.

## POTATO DIGGER AND GATHERER.

SPECIFICATION forming part of Letters Patent No. 764,889, dated July 12, 1904.

Application filed March 1, 1904. Serial No. 196,089. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HAZLEDINE, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Potato Diggers and Gatherers, of which the following is a specification.

The object of my invention is to provide a potato-digger capable of digging or plowing up and gathering the potatoes and distributing the soil which may enter the digger evenly over the field.

My improved potato-digger consists of a frame, a rotary screen mounted on said frame and driven from any suitable power, a plowshare at each end of said screen, means for raising and lowering the plowshares, and a removable cover at the ends of said screen. My improved potato-digger is preferably driven by steam-engines; but any other power may be used to propel the said digger and also furnish means for rotating the said screen; and my invention further consists of the improvements hereinafter more fully set forth, and pointed out in the claims.

My invention will be more fully understood taken in connection with the accompanying drawings, forming part hereof, and in which—  
Figure 1 is a side elevation of my improved potato-digger, showing the steam-boiler, the engines, the driving-wheels, the guide-wheels, the rotary screen, a plowshare at each end of said screen, and means for raising and lowering the same. Fig. 2 is a top view of my potato-digger. Fig. 3 is an elevation of the same; and Figs. 4 and 5 are a section and end elevation of the rotary screen, showing a removable cover for closing either end of said screen.

Referring now to the drawings for a further description of my invention, B is a steam-boiler securely fastened to a channel-iron *a* by means of a strap *a'* and a block *a''*. From each end of the channel-iron *a* are extended brackets *b*, to which are fulcrumed at *c* the frames *c'* of the driving-wheels *d*, so that the latter may be steered, as shown at the left-hand end of Fig. 2, by devices to be presently described.

Directly above the fulcrums *c* and secured to the wheel-frames *c'* are bolted the vertical reversible-link-motion engines E, which turn about their vertical axis whenever the driving-wheel is moved out of its normal or straight position for steering purposes. The steering of either driving-wheel *d* is accomplished by a hand-lever *f*, pivoted at *f'* to the frame *f''*, secured to the channel-iron *a*. The lower end of this lever *f* is bifurcated and engages the free end of a lever *f''*, extending from the driving-wheel frame *c'* toward the channel-iron *a*, as shown in Figs. 1, 2, and 3.

Each of the driving-wheels *d* is driven from the crank-shaft *e* of its respective engine E by means of a sprocket-chain *d''* and wheels *d'* and *d'''*. On the crank-shafts *e* of the engines E are secured miter-wheels *g*, which normally mesh with miter-wheels *g'* on the counter-shafts *g''*, journaled in the bearings of the frame-plate *f''*. The miter-wheels *g'* are provided with grooves and may be disengaged from the miter-wheels *g* by moving the lever *g''* for the purpose of clearing the wheels *g* when steering the potato-digger.

On the outside of the frame-plate *f''* and the channel-iron *a* are secured two journals *h*, encircling the rotary screen *h'*, which is driven from the counter-shafts *g''* by the sprocket-wheels *h''*, chain *h'''*, and rim *h''''* on the screen *h'*. The ends of the screen are provided with apertures, so that a cover *h''''* may be held in place therein by spring-catches *h'''''*, as shown in Figs. 4 and 5, for a purpose to be described.

At each end of the screen *h'* is arranged a plowshare *p*, which may be raised and lowered at will, and for this purpose they are hung on bent levers *p'*, pivoted at *p''* to the frame-plate *f''*. The plowshares *p* serve a twofold duty, first, to cut the soil, and, secondly, to scoop up the same and deliver it with the potatoes, &c., into the rotary screen *h'*, so that the soil may be broken up and delivered through the meshes of the screen in almost a pulverized state, as will be more fully explained, and the potatoes retained in said screen. When plowing, only one plowshare will be in use and in its lowest position, which may be regulated by the lever *p'* and its mechanism for securing it in place. The plowshare in operat-



ing position bears against the screen-journal  $h$  and may be further secured thereto by the hooks  $p^3$ , as shown in Fig. 1, on the left-hand side.

5 As there are only two driving-wheels  $d$  to support and steer the potato-digger, it is advisable to have a set of guide-wheels  $c$  adapted to travel in the furrow, and in order to adjust the same either to the depth of the furrow or to the surface of the soil when the digger is moving over the field they are so arranged as that they may be raised or lowered at will, and for this purpose they are hung in bell-crank levers  $o'$ , which are pivoted to the channel-iron  $a$  at  $o^2$  and operated by the lever  $o^3$  and links  $o^4$ .

The operation of my improved potato digger and gatherer may be briefly described as follows: In traversing fields to points where potato digging should be done with my improved apparatus both plowshares  $p$  and guide-wheels  $c$  are raised by their respective levers, and the miter-wheels  $g'$  are moved out of contact with the miter-wheels  $g$  by the levers  $g^3$ , so that the steering of the plow may be accomplished. In traversing fields or digging potatoes both of the engines  $E$  are operated, steam being admitted from the boiler  $B$  by the pipes  $n$  and flexible connections  $n'$ .  
30 When desiring to plow up potatoes, the forward plowshare  $p$  is lowered by its lever  $p'$ , and the cover  $h^5$  is placed in the rear end of the screen  $h'$ , which latter, rotating in the direction indicated by the arrow in Fig. 3, serves to break up the soil and distributes the same evenly into the furrow, while the potatoes and stones larger than the meshes in the screen are retained therein. At the end of the furrow the potatoes and stones may be removed  
40 by hand or otherwise, and the plowshares are reversed—that is, the digger going in a direction reverse to the previous one, the forward

plowshare is lowered and the rearward raised, while the cover  $h^5$  is placed in the rear end of the screen. The engines being reversed and started, the digger will operate in an opposite direction.

It will be understood by those versed in the arts that modifications may be made in the shape and arrangements of the parts constituting my improved potato digger and gatherer and that any other power than steam may be used for the propelling and driving of the said digger, and

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

1. A potato digger and gatherer, comprising a frame, means for propelling said frame, a rotary screen journaled to said frame, means for rotating said screen, a plowshare arranged at each end of said screen, means for raising and lowering said shares, and a cover adapted to be inserted in either end of said screen, substantially as and for the purposes set forth.

2. A potato digger and gatherer, comprising a frame, a set of wheels journaled to said frame and carrying the said frame and all devices connected thereto, means for propelling said wheels, a rotary screen journaled to said frame, means for rotating said screen, a plowshare arranged at each end of said screen, means for raising and lowering said shares, and a cover adapted to be inserted in either end of said screen, substantially as and for the purposes set forth.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN HAZLEDINE.

Witnesses:

CHAS. H. DOUGHERTY,  
HERMANN W. BORMANN.