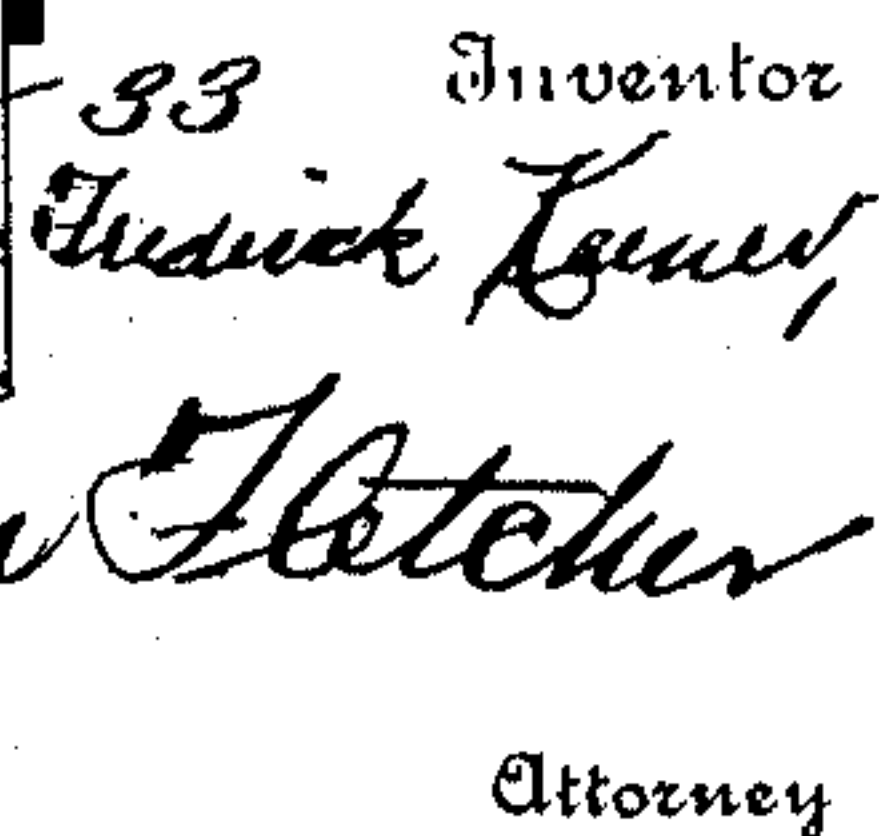


PATENTED APR. 5, 1904.

APPLICATION FILED OCT. 31, 1903.

3 SHEETS—SHEET 1.



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No. 756,650.

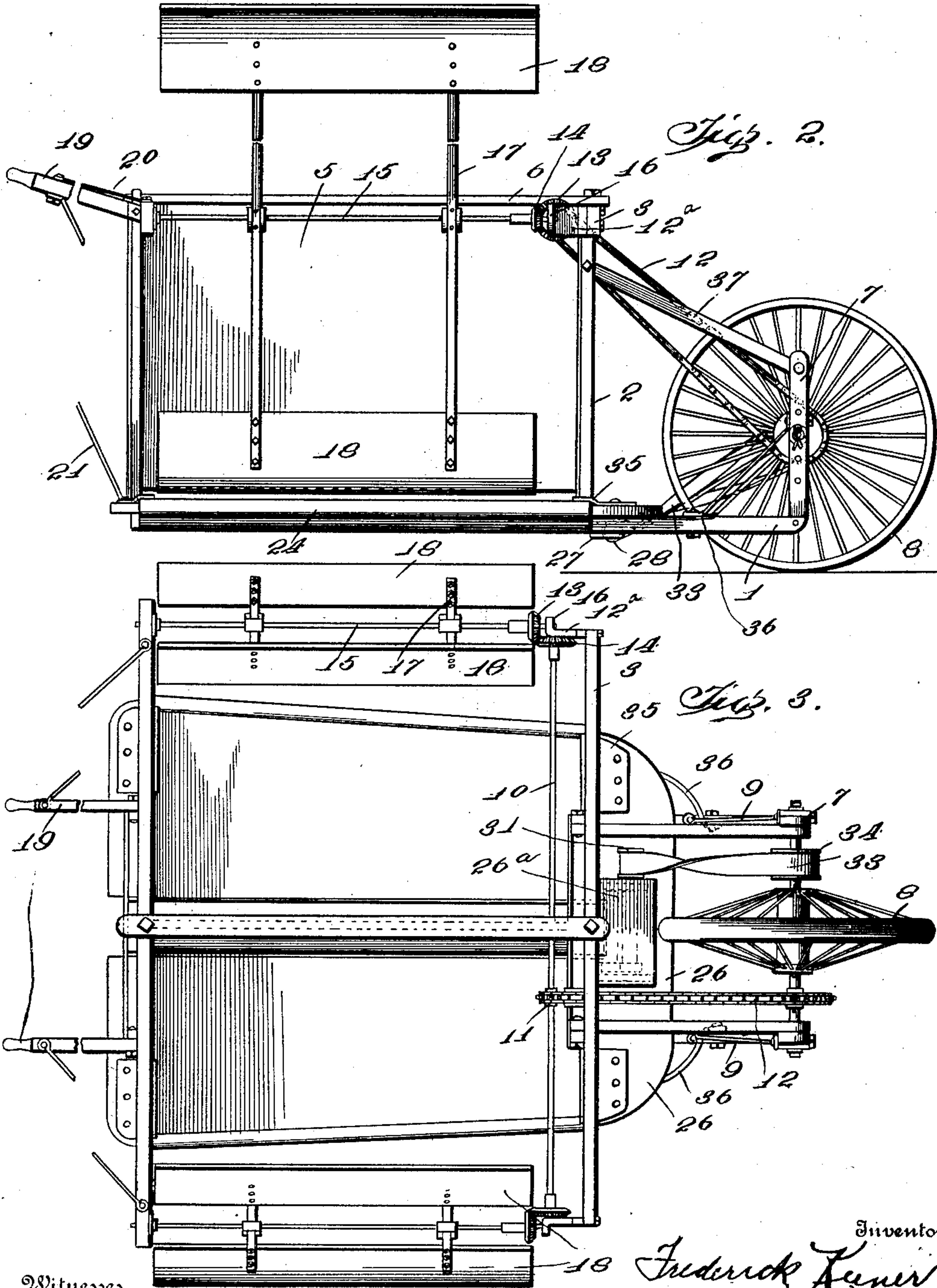
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F. KEENER.
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NO MODEL.

APPLICATION FILED OCT. 31, 1903.

3 SHEETS—SHEET 2.



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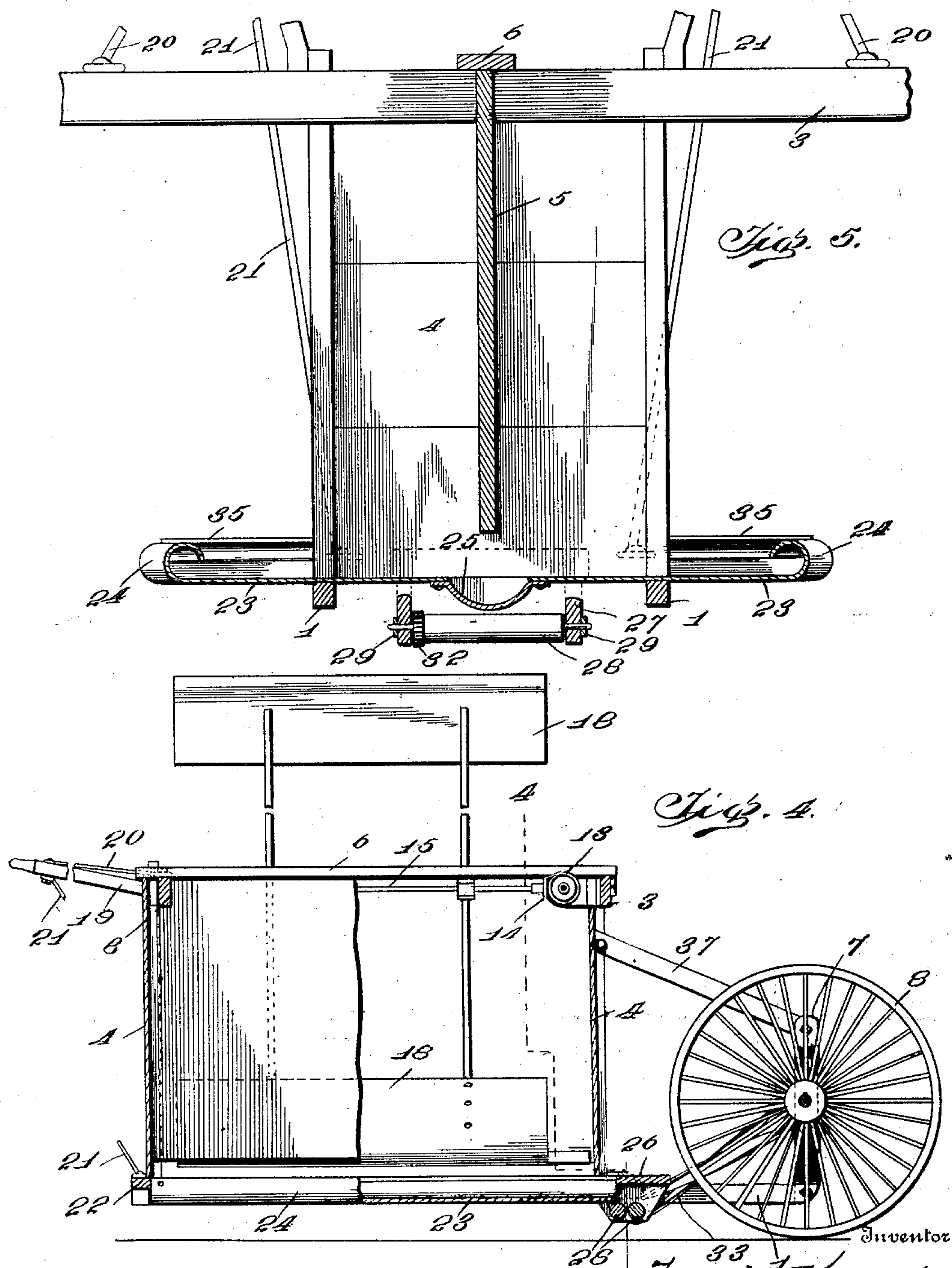
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NO MODEL.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FREDERICK KEENER, OF WORTH, MICHIGAN.

POTATO-BUG GATHERER AND DESTROYER.

SPECIFICATION forming part of Letters Patent No. 756,650, dated April 5, 1904.

Application filed October 31, 1903. Serial No. 179,393. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK KEENER, a citizen of the United States, residing at Worth, in the county of Sanilac and State of Michigan, have invented new and useful Improvements in Potato-Bug Gatherers and Destroyers, of which the following is a specification.

This invention relates to improvements in insect-destroyers.

10 The object of the invention is to construct a wheeled device which is provided with means for gathering the insects from vines and depositing them in a suitable receptacle formed upon the machine, the said receptacle
15 assembled with means for destroying the insects deposited therein.

Another object of the invention is to provide means upon a wheeled destroyer for the adjustment of the same to different horizontal
20 planes by means of an adjustable axle upon which is journaled a wheel which assists in the transportation of the device.

A further object is to provide a suitable adjustable crushing means for destroying in-
25 sects, said means carried centrally upon the device and is in connection at one end with the receptacle into which the insects are deposited.

With these and other objects in view the
30 invention consists in the novel construction, arrangement, and combination of parts, as is hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto ap-
35 pended.

In the drawings, Figure 1 is a perspective view of the invention. Fig. 2 is a side elevation. Fig. 3 is a top plan view. Fig. 4 is a longitudinal vertical sectional view of the
40 device. Fig. 5 is a transverse sectional view taken on line 4 4, Fig. 4. Fig. 6 is a fragmentary plan view of the front of the machine, showing the crushing means and the discharge-chute in assembled position.

45 Referring to the drawings, reference-numerals 1 1 designate parallel bars or beams upon which are secured vertical bars 2, which are provided with transverse connecting-bars 3 for retaining the said bars 2 in their fixed
50 position, and secured between said bars 2 2

is a suitable partition or end portion 4, which is provided with central partition 5, secured to said partitions 4 4 upon their inner surface. The said partition 5 is provided with a longitudinal brace 6, which extends from the
55 forward partition to the rear partition and is also secured to the connecting beam or bar 3, to which is secured part of the braces of the handles.

Secured in vertical position upon the forward end or the parallel bars 1 1 are suitable standards 7, which are provided with a plurality of apertures adapted to receive the shaft upon which is keyed the front wheel 8. A
60 suitable brace 9 is secured to the beams or bars 1 and the vertical standards 7.

Extending transversely of the device and secured near the top of the front partition 4 is a driving-shaft 10, which is provided with a gear-wheel 11. A suitable chain 12 is
70 mounted upon the sprocket carried by the shaft upon which the front wheel 8 is keyed and is also assembled with sprocket-wheel 11, which is keyed to the shaft 10.

The forward bar 3 is provided with extensions 12^a, which project at an angle thereto and which are provided with bearings for receiving the ends of the transverse driving-
shaft 10.

Upon the ends of the shaft 10 are beveled
80 gear-wheels 13 13, which are adapted to mesh with beveled gear-wheels 14, keyed upon the shafts 15 15, which are journaled in the extensions 12^a of the forward bar 3. Upon the shafts 15 15 are mounted parallel brace-rods
85 17, which are provided with concavo-convex horizontal blades 18, said blades providing a scoop-shaped member for facilitating the removal of the insects from the vines or bushes with which they come in contact.
90

Secured to the rear of the machine are a pair of handles 19 19, which are provided with suitable braces 20 20, secured thereto and retained in a fixed position upon the rear bars
95 3. The auxiliary braces 21 are also connected to the transverse beam or bar 22 of the bottom of the machine.

Secured in a longitudinal position upon the parallel beams 1 1 of the machine are metallic plates 23, which are provided at their
100

outer ends or edges with a bent or partially-looped portion 24 and are secured at their inner ends to a suitable trough 25, said trough being made with laterally-extending flanges, which are adapted to engage the inner edges of the plates 23, forming the bottom of the destroyer. It will be apparent upon considering the drawings that the plates 23 can be made integral and with a depressed portion centrally arranged in lieu of the construction of the trough as is shown in the drawings.

Secured between the parallel beams or bars 1 1 is a platform 26, which is provided with brackets 27, upon which are journaled adjustable parallel rolls 28. Each of said rolls is provided with a slotted plate 29, said plates being retained in an adjusted position by means of bolts 30, which are retained upon the parallel brackets 27. If it is desired to increase or decrease the space between the rolls, it will be apparent that by loosening the nut of the bolts 30 upon the bracket which is retained within the slotted plate one of the rollers can be easily adjusted to any predetermined position. Upon one of the rollers 28 an extended shaft is provided, which projects beyond one of the parallel bars 1 1 and upon which is journaled a suitable belt-pulley 31, whereby motion is imparted to said rollers 28 by means of the gear-wheels 32, which are carried by the shafts upon which the said rollers are keyed. The said meshing gear-wheels 32 are provided with comparatively long teeth, which permit of the adjustment of the rollers and also provide an operative structure. Upon the pulley-wheel 31 is mounted a suitable belt 33, which is passed around a like member 34, which is keyed to the shaft carrying the forward wheel 8.

An opening is formed in the forward platform 26 above the crushing mechanism for permitting of the adjustment of said crushing mechanism and for facilitating the cleansing of the rollers and the troughed portion of the bottom of the destroyer. A cover 26^a is removably mounted upon the platform 26 above said rollers and closing said opening when said cover 26^a is in position.

For the purpose of providing flanges upon the machine at each end to prevent the insects from crawling over the sides of the troughed receptacle forming the bottom of the machine I provide a plurality of plates 35, which project over the side of the flanged receptacle forming the bottom.

To strengthen the forward end of the machine and to assist in securing the different parts in an assembled position, I provide a plurality of braces 36, extending in horizontal plane from the forward portion of the bottom and secured to the parallel bars 1 1. Secured to the upper portion of the forward transverse partition or end portion 4 is a plurality of forwardly-extending braces 37, which connect with the upper portion of the vertical

standard 7, upon which the axle or shaft of the adjusted wheel 8 is journaled.

When the device is in operation, horizontal plates 23 and the trough 25 are retained in an inclined position, thereby facilitating the feeding or depositing of the insects retained in the receptacle to the crushing-rolls 28.

It will be apparent upon considering the drawings in view of the foregoing description that when it is desired to raise the machine from the ground to a predetermined position, owing to the unevenness of the surface or the stage of the employment of the machine owing to the condition of the crop, this function can easily be obtained by means of the adjustable front wheel. The beaters when rotated will draw the vines or bushes toward the central longitudinal partition 5 and will knock or brush the insects therefrom and deposit the same against the partition, and the said insects will fall into the flanged receptacle and from there will pass into the trough or depressed portion of the bottom of the receptacle formed for the reception of the insects. The wheel 8 not only supports the machine above the ground and facilitates the transportation thereof, but also imparts motion, by means of the gear-chain 12 and belt 33, to the parallel rotating-beaters and also the crushing-rollers journaled upon the machine. The central partition 5 is not continued to the bottom of the machine, but is spaced apart therefrom for procuring a continuous connection from either side of the machine, as will be apparent upon considering Figs. 1 and 5 of the drawings.

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

1. In a device of the character described the combination of a wheeled frame provided with end portions, a central partition secured to and intermediate the ends of said end portions, beaters rotatably mounted upon said frame, a flanged bottom provided with a depressed portion formed upon said frame, rolls journaled transversely upon said frame and means for imparting motion to said rolls and beaters.

2. In a device of the character described the combination of a wheeled frame provided with a central partition, extending longitudinally of said frame, beaters rotatably mounted upon said frame and at each side of said partition, said beaters provided with concavo-convex blades, transverse crushing-rolls journaled upon said frame, a receptacle secured to the bottom of said frame provided with a trough, said trough provided with an opening discharging above said crushing-rolls and means for simultaneously imparting motion to said rolls and said beaters.

3. In an insect-destroyer the combination of an adjustable wheeled frame, a central partition arranged upon said frame terminating near the bottom thereof, a flanged receptacle

extending laterally beyond said frame and provided with a central depressed portion, adjustable rolls secured transversely to said frame and below the discharge of said depressed portion of the receptacle and means carried by said frame for imparting motion to said rolls and beaters.

4. In an insect-destroyer the combination of a pair of beams secured in parallel position, uprights secured to said beams, partitions secured to said uprights, a central partition secured to the rear and forward uprights and terminating near the bottom of the frame, said bottom comprising a pair of flanged plates secured in horizontal position, a trough centrally secured to said plates, adjustable rolls secured upon said parallel bars and below the discharge end of said trough, rotary beaters provided with scooped blades mounted upon said frame and means carried by said frame for simultaneously actuating said rolls and beaters.

5. An insect-destroyer comprising a partitioned wheeled frame, a plurality of beaters carried thereby, a troughed bottom secured upon said frame and having a discharge-opening, a pair of adjustable rollers secured beneath the discharge-opening of said troughed bottom, an opening above said rollers, a removable cover mounted upon said frame above said opening, and means carried by said frame for actuating said rollers and beaters.

6. In an insect-destroyer the combination of a wheeled frame, a centrally-arranged partition formed upon said frame, beaters carried by said frame, a flanged bottom secured to said frame and provided with a centrally-depressed portion extending the length of said frame and provided with a discharge end, a platform secured to the forward end of said frame, brackets secured beneath said platform, a pair of adjustable rollers journaled upon said brackets, said platform having an opening formed therein, a cover for said opening and means for rotating said rolls and imparting motion to said beaters.

7. In a device of the character described the combination of a flanged depressed bottom, a centrally-arranged partition extending longitudinally of said frame and terminating near the bottom, rotary beaters journaled upon each side of the central partition, an adjustable wheel journaled upon said frame near the forward end thereof, a forward platform formed upon said frame, crushing-rolls secured transverse of said frame and beneath said platform, a cover partly inclosing said rolls and means carried by said wheel and assembled with said beaters and rolls for rotating the same.

8. In an insect-destroyer, the combination of a frame, projections extending forward of the said frame, vertical standards having apertures formed therein and secured to said extensions, an adjustable wheel journaled upon

said standards, a pair of adjustable rolls carried by said extension between said wheel and frame, a flanged bottom secured upon said frame and having an opening for discharging above said rolls, a central partition secured upon said frame and terminating near the bottom thereof, rotary beaters upon either side of said partition said beaters provided with scooped blades secured in parallel position, and means secured to said adjustable wheel and connected with said beaters and rolls for actuating the same.

9. In a device of the character described the combination of a frame comprising transverse forward and rear end portions, a longitudinal central partition secured to said end portions and extending toward the bottom of said frame, said bottom provided with a depressed portion formed beneath the central partition, crushing means secured upon said frame in front of the said forward transverse portion, beaters carried by said frame upon each side of said central partition and means for imparting motion to said beaters and crushing means.

10. In a device of the character described the combination of a frame comprising parallel beams, a depressed bottom secured upon said beams, vertical uprights secured to said beams near the front and rear portion thereof, end portions secured to said uprights, a central partition secured to said end portions and extending part of the vertical length thereof, said partition portion terminating above the depressed portion of the bottom, beaters secured upon the frame at each side of said central partition, adjustable crushing means secured upon said frame in front of said forward end portion, standards secured to said frame having apertures formed therein, a shaft adjustably mounted within said apertures, a wheel keyed upon said shaft, and means assembled with said wheel and crushing means and beaters for imparting motion thereto.

11. In an insect-destroyer the combination of a wheeled frame, handles secured thereto, an adjustable wheel secured to the forward end of said frame, crushing-rolls secured to said frame near said adjustable wheel, a removable cover for said rolls, a central partition secured longitudinally of said frame and extending toward the bottom thereof, a trough formed beneath said central partition and connecting with either side of said frame, rotary beaters secured in parallel position upon said frame, said beaters provided with parallel scooped blades, a transverse driving-shaft secured upon said frame, gear means carried by said beaters, a sprocket-wheel carried by said transverse driving-shaft and the shaft to which the adjustable wheel is keyed, a pulley-wheel journaled upon said shaft carrying the adjustable wheel, a belt carried by said pulley-

wheel and mounted upon the pulley member carried by one of said crushing-rolls and means for adjusting said crushing-rolls.

12. An insect-destroyer comprising a frame, a bottom portion secured to said frame having a central depressed portion, a beating mechanism carried by said frame, crushing means secured transversely of said frame, and means for imparting motion to said beating mechanism and said crushing means.

13. An insect-destroyer, comprising a frame, a bottom portion secured to said frame, a trough carried by said bottom portion, beating means carried by said frame, adjustable transverse crushing means carried by said frame near the forward end thereof, and means for actuating said beating mechanism and crushing means.

14. An insect-destroyer, comprising a wheeled frame, said frame provided with a centrally-troughed bottom, a centrally-arranged partition terminating above said troughed portion of said bottom, rotary beating mechanism mounted upon said frame, adjustable crushing means carried in a transverse position by said frame near the forward end thereof, and means for imparting motion to said beating means and crushing means.

15. An insect-destroyer, comprising a partitioned frame, a bottom portion secured to said frame having a central depression, a beating mechanism carried by said frame, adjustable transverse crushing means carried by said frame, and means for imparting motion to said beating mechanism and crushing means.

16. In combination with a frame, a partition carried thereby, a support for one end of said frame, a bottom portion secured to said frame, rotary transverse crushing means journaled upon said frame, a beating mechanism carried by said frame, and means for imparting motion to said beating mechanism and crushing means.

17. In combination with a frame, a bottom portion secured to said frame, a beating mechanism carried by said frame, rotary, adjustable, crushing means secured transversely of said frame, and means for imparting motion to said beating mechanism and crushing means.

18. In combination, a partitioned frame, a support therefor, a depressed bottom portion secured to said frame, a beating mechanism carried by said frame, rotary, adjustable, crushing means journaled transversely upon said frame near one end thereof, and means for imparting motion to said beating mechanism and crushing means.

19. An insect-destroyer, comprising a frame, a beating mechanism carried by said frame, transverse crushing means assembled with said frame, and means for imparting motion to said beating mechanism and crushing means.

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

FREDERICK KEENER.

Witnesses:

SAML. C. TEWKSBURY,
JOHN W. NORMAN.