

C. N. DEHLINGER.
STONE GATHERING MACHINE.
APPLICATION FILED DEC. 11, 1911.

1,042,653.

Patented Oct. 29, 1912.

5 SHEETS—SHEET 1.

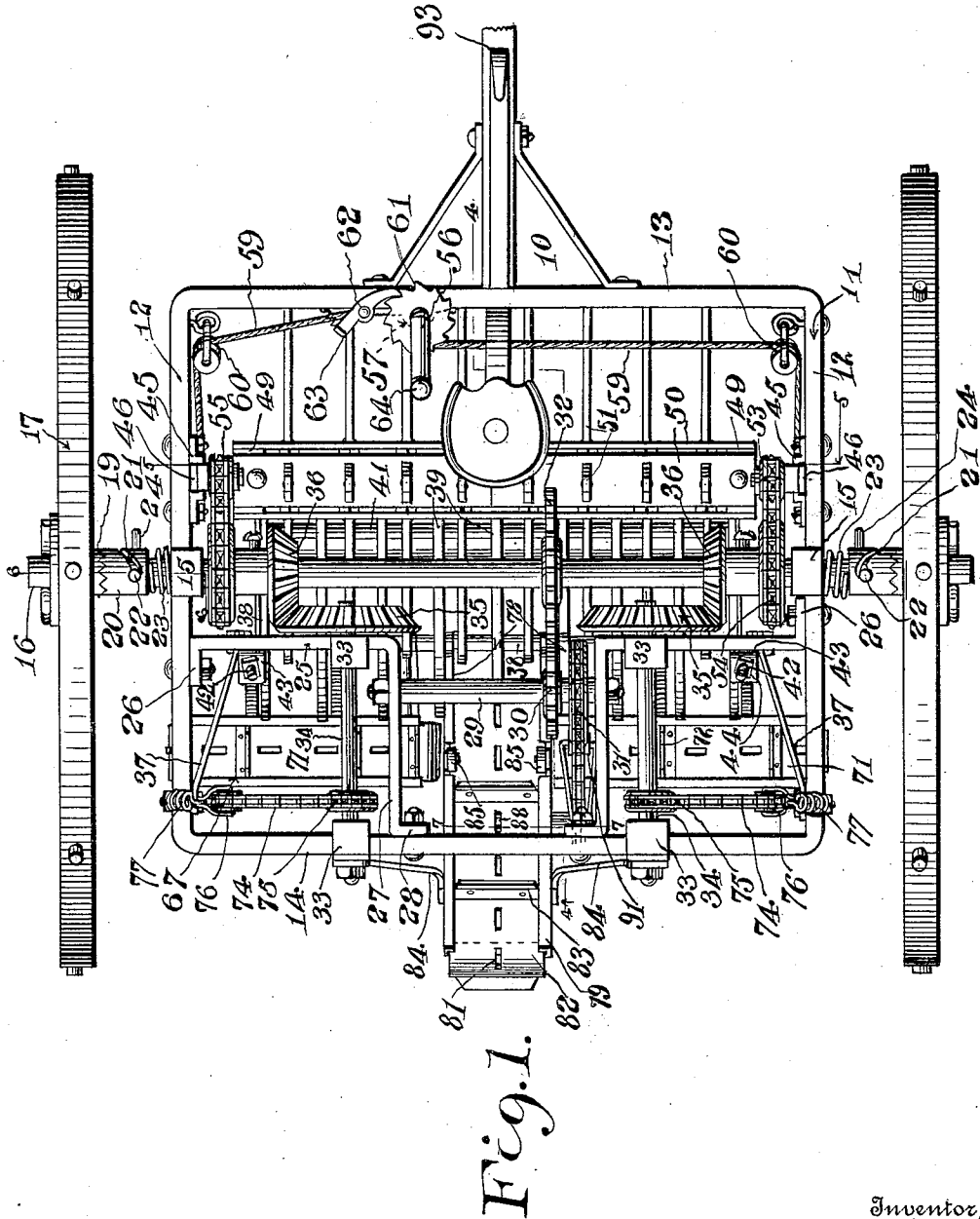


Fig. 1.

Witnesses:
J. C. Mahler.

[Signature]

Inventor,
C. N. Dehlinger

By

[Signature]

Attorney

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5 SHEETS-SHEET 2.

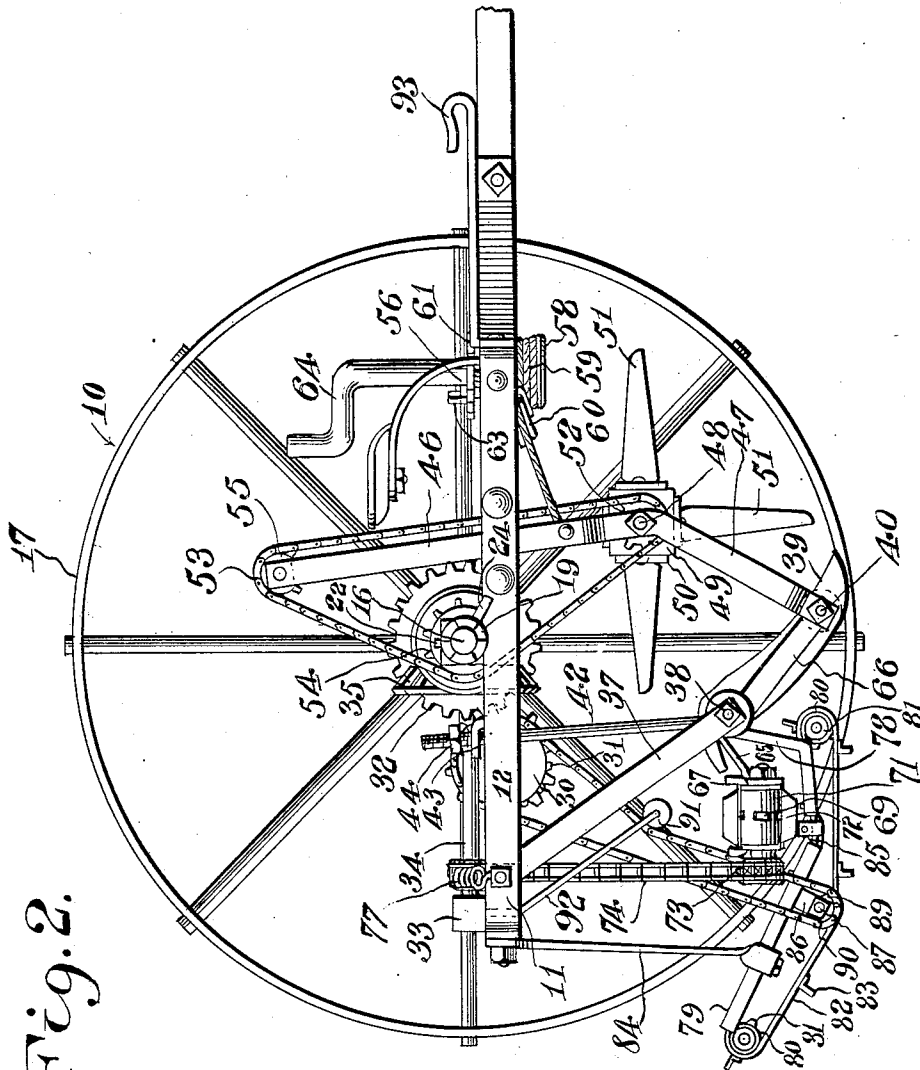


Fig. 2.

Witnesses:—

J. P. Mahler.

[Signature]

Inventor

C. N. Dehlinger.

By

[Signature]

Attorney

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5 SHEETS—SHEET 3.

Fig. 6.

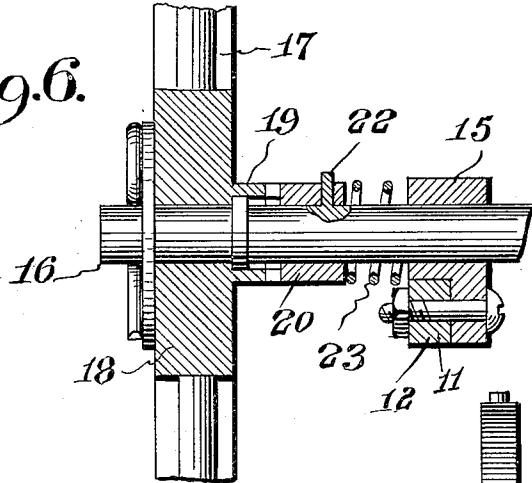
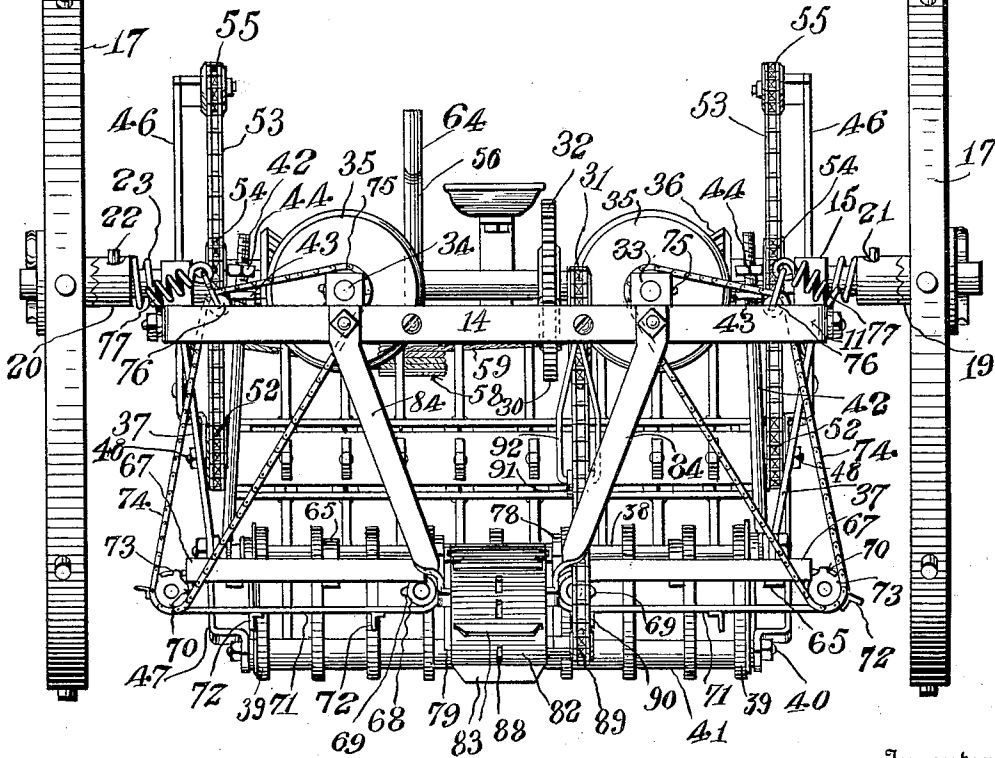


Fig. 3.



Inventor,

C.N. Dehlinger

Witnesses

J.P. Mahler,

[Signature]

By

[Signature]

Attorney

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5 SHEETS—SHEET 4.

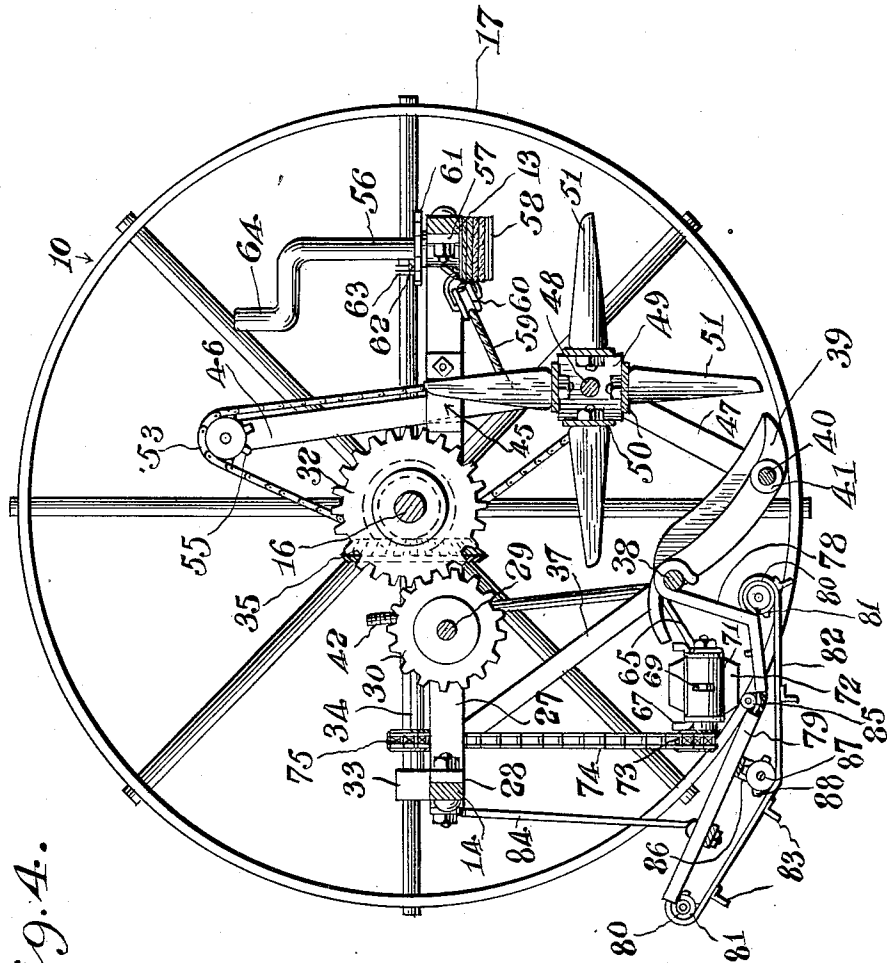


Fig. 4.

Witnesses:—

J. P. Mahler.

Charles Dehlinger.

Inventor

CN Dehlinger:

By

Charles Dehlinger

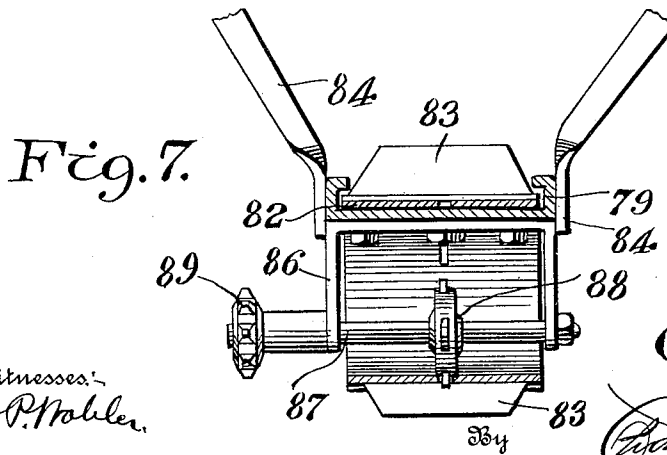
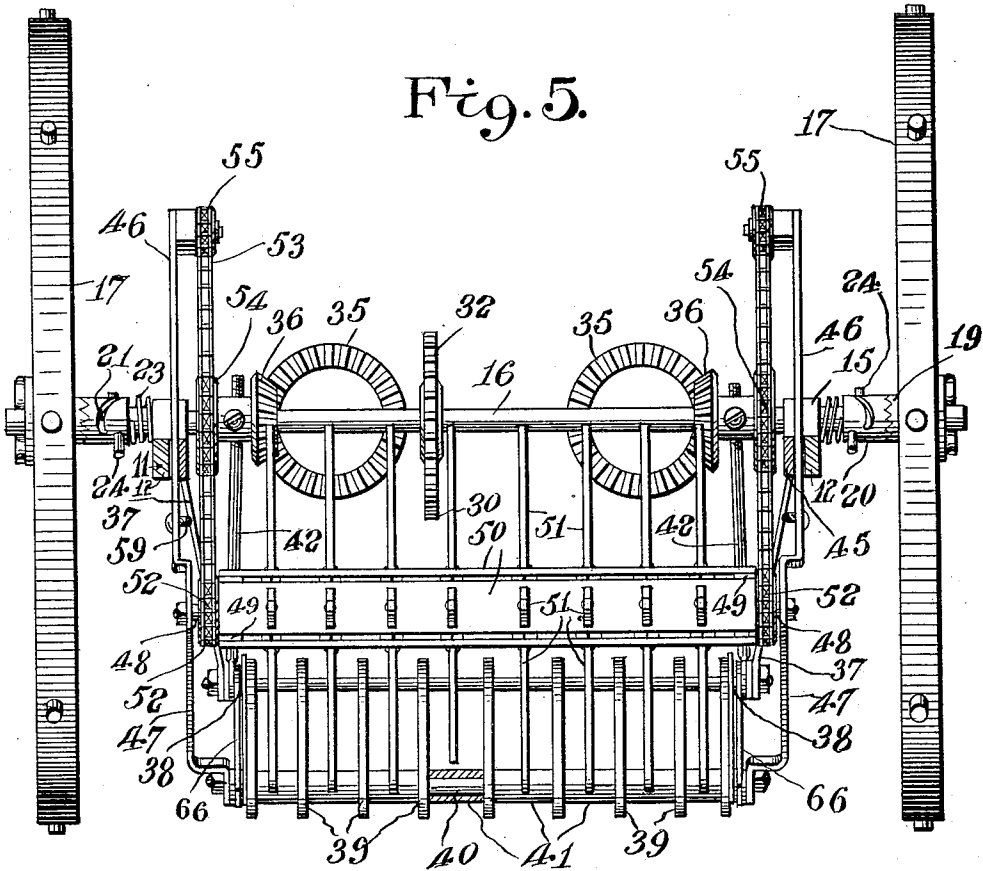
Attorney

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5 SHEETS—SHEET 5.



Witnesses:
J. P. Mahler.
[Signature]

Inventor
C. N. Dehlinger.

[Signature]
Attorney

UNITED STATES PATENT OFFICE.

CARL N. DEHLINGER, OF WAUSAU, WISCONSIN.

STONE-GATHERING MACHINE.

1,042,653.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed December 11, 1911. Serial No. 665,048.

To all whom it may concern:

Be it known that I, CARL N. DEHLINGER, a citizen of the United States, residing at Wausau, in the county of Marathon, State of Wisconsin, have invented certain new and useful Improvements in Stone-Gathering Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in stone gathering machines.

The primary object of this invention is the provision of a machine for clearing the field of stones or other kindred obstacles, which prevents the successful cultivation thereof, although the machine may be employed for clearing surfaces generally of obstructive material.

The machine embodies a rotary gatherer, a plurality of guide fingers, an elevator and a plurality of conveyers arranged adjacent the guide fingers for directing the obstacles thereon.

A further object of this invention is to improve and simplify devices of this character, rendering them comparatively simple and inexpensive to manufacture, reliable and efficient in use and readily operated.

With the above and other objects in view, this invention resides in the novel features of construction, formations, combinations and arrangements of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a top plan view of my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a rear end view thereof. Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 1. Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1, and Figs. 6 and 7 are detailed sectional views taken on the lines 6—6 and 7—7 of Fig. 1.

Referring to the accompanying drawings by similar characters of reference throughout the several views, the numeral 10 designates generally my stone gathering machine which comprises a wheeled frame 11 consisting of opposite side bars 12 connected at their forward ends by a front bar 13 and at their opposite ends by a rear bar 14. The intermediate portions of the side bars 12 have removably secured thereto bearings 15, in which is journaled an

axle 16 carrying loosely mounted upon its opposite ends the traction wheels 17. The hubs 18 of these wheels 17 are provided with inwardly extending clutch sleeves 19 which engage slidable sleeves 20 located upon the axle 16 between the said wheels 17 and the bearings 15. V-shaped slots 21 are formed in the sleeves 20 for engagement with pins 22 which extend laterally from the axle 16.

Springs 23 surround the axle 16 and engage the adjacent ends of the bearings 15 and sleeves 20 and serve to normally force the teeth formed upon the outer ends of the sleeves 20 into engagement with the teeth formed upon the inner ends of the sleeves 19. Laterally extending pins 24 extend from the sleeves 20 and serve when properly operated to force the pins 22 into engagement with the extensions of the slots 21 serving to normally retain the clutch teeth out of engagement so that the wheels 17 will remain loose upon the shaft or axle 16.

A pair of inwardly extending bars 25 are secured at their outer ends to the side bars 12 as at 26 and are off-set at their inner ends at right angles to the bar 14 as at 27 to which bars 14 they are secured as indicated by the numerals 28.

A shaft 29 is journaled between the forward ends of the laterally extending portions 27 of the bars 25 and carries keyed thereto a gear wheel 30 and a sprocket wheel 31, the former of which meshes with a gear wheel 32 keyed to the intermediate portion of the axle 16 in such manner that upon the rotation of the said axle through the medium of the traction wheel 17 a rotary motion will be imparted to the shaft 29 and the sprocket wheel 31 carried thereby.

Bearings 33 are secured to the bar 25 and bar 14 and support rotatably thereon longitudinal counter-shafts 34 which carry keyed to the forward ends beveled pinions 35 for intermeshing engagement with beveled pinions 36 keyed to the axle 16.

Hanger bars 37 are pivotally connected to the rear extremities of the side bars 12 and are connected at their lower ends by a supporting rod 38 to which is pivotally secured a plurality of spaced guide fingers 39, the forwardly curved terminals of which are connected by a shaft 40 and are held in spaced relation to each other by a plurality of spacing sleeves 41 which surround the said shafts 40 with their opposite ends con-

tacting with the adjacent sides of the said guide fingers 39.

Threaded rods 42 are pivotally connected at their lower terminals to the ends of the rods 38 adjacent the hangers 37 and extend through bracket plates 43 secured to the bars 25 in which they are adjustably retained by means of lock nuts 44.

Guide plates 45 are secured to the inner sides of the bars 12 adjacent the forward ends thereof and have slidably located therein bars 46, the lower ends of which are off-set rearwardly at an angle as at 47 and pivotally engage the opposite ends of the rods 40.

A shaft 48 is journaled between the bars 46 in spaced relation from the off-set extensions 47 and has journaled adjacent the inner sides of these bars 46 a pair of blocks 49 which are preferably angular in cross section being connected by a plurality of slats 50 from which extend picker fingers 51 which upon the rotation of the shaft 48 are moved between the guide fingers 39 serving to cause the passage of stones or other foreign objects engaged thereby to be moved rearwardly over the guide fingers 39.

A sprocket wheel 52 is keyed to each end of the shaft 48 for engagement with the chain 53 which passes over sprocket wheels 54 and 55 carried by the axle 16 and upper extremities of the bars 46, serving upon the rotation of the said axle 16 to cause the rotation of the shaft 48 and the rotation of the picker fingers 51.

An operating shaft 56 is journaled in the bearings 57 secured to the inner side of the bar 13 and carries keyed to its lower terminal a drum 58 which supports a cable 59, the opposite ends of which are secured to the bars 46 being guided to these said bars by pulleys 60. The shaft 56 has keyed thereto a ratchet wheel 61 which is engaged by a spring pressed pawl 62 adapted to hold the said shaft 56 against any undesired retrograde movement. The pawl 62 is provided with a foot lever 63 by means of which the same may be forced out of engagement with the teeth of the said ratchet wheel 61. Obviously upon the rotation of the crank 64 formed upon the upper end of the shaft 56 the bars 46 may be raised or lowered thereby raising or lowering the teeth 39 and 51 relative to the wheels 17.

A pair of brackets 65 and 66 are journaled upon the shaft 38, the latter of said brackets being extended to engage the shaft 40 which holds the brackets rigidly relative to the frame 11. Channeled plates 67 are attached to the rear end of the brackets 65 and are bent at their opposite ends to produce bearings 68 which support sprocket wheels 69 and 70 over which pass conveyer belts 71 which have attached to their outer sides conveyer plates 72. The shafts which support the sprocket wheels 70 have keyed

thereon sprocket wheels 73 which engage sprocket chains 74. These sprocket chains 74 pass over sprocket wheels 75 keyed to the shafts 34 and over idlers 76 secured to the rear extremities of the side bars 12 by fastening springs 77 so that upon the rotation of the axle 16, a rotary movement will be imparted to the conveyer belts 71 which causes the conveyer plates 72 to be moved inwardly.

A pair of bracket arms 78 are secured to the central portion of the shaft 38 and support a channeled plate 79 which is formed at its opposite ends with bearings 80 in which are journaled sprocket wheels 81 over which passes a conveyer belt 82 equipped with conveyer plates 83 which are longitudinally movable through the channeled plate 79. The rear extremity of this plate 79 is connected to the bar 14 by U-shaped braces 84, while secured to points in spaced relation to the forward ends thereof is a pair of rollers 85 which engage the upper side of the conveyer belt at its opposite edges, holding the same against displacement.

A yoke 86 is secured to the under side of the plate 79 and has journaled therein a shaft 87 which carries keyed thereto a pair of sprocket wheels 88 and 89 the former of which engages the conveyer belt 82 while the latter engages a sprocket chain 90 which passes over the sprocket wheel 31 and is engaged by a roller 91 which depends from the bar 14 being supported by a hanger 92.

As the machine is propelled over the ground by means of the draft attachment 93 a rotary movement will be imparted to the picker fingers 51 which forces any objects engaged by the guide fingers 39 over the upper ends thereof upon the conveyers 71 which will carry them upon the conveyer 82 from whence they will be directed rearwardly and deposited either in a comparatively straight line governed by the direction in which the machine travels or in a suitable container not shown in the drawings and which could be attached in any suitable manner to the rear end of the machine.

From the foregoing disclosures taken in connection with the accompanying drawings, it will be manifest that a stone gathering machine is provided for which will fulfil all of the necessary requirements of such a device.

Having thus fully described this invention what I claim as new and desire to protect by Letters Patent, is:—

1. The combination with a wheeled frame, of a plurality of guide fingers, a main conveyer located adjacent said guide fingers, a plurality of picker fingers located for co-operation with the guide fingers, supplemental conveyers located adjacent the guide

fingers and leading to the main conveyer and means for adjusting said fingers.

2. The combination with a wheeled frame, of a plurality of guide fingers, supported transversely of the frame, a shaft, picker fingers supported by the shaft and movable between the guide fingers, supplemental conveyers mounted in the rear of the guide fingers, and a main conveyer extending between the first mentioned conveyers.

3. The combination in a device such as described, of a wheeled frame, a rod supported therebelow, guide fingers carried by the rod, a shaft journaled adjacent said rod, picker fingers carried by the shaft for cooperation with the guide fingers, a pair of supplemental conveyers journaled parallel with the rod adjacent the guide fingers, a main conveyer extending from the guide fingers between the supplemental conveyers, means for adjusting the fingers, means for operating said picker fingers, and means for operating the conveyers.

4. The combination in a device such as described of a frame, an axle journaled in said frame, wheels carried by the axle and supporting the frame, a rod supported below the frame, guide fingers carried by the rod, a shaft adjustably supported below the frame, means for adjusting said shaft,

picker fingers carried by the shaft and operating between the said guide fingers, conveyers journaled adjacent the picker fingers, a conveyer extending from the guide fingers between the first named conveyers, means for operating the picker fingers and means for operating the conveyers.

5. The combination in a stone gatherer of a frame, an axle journaled in said frame, wheels carried by the axle and supporting the frame, means for keying said wheels to said axle, a rod supported below the frame, guide fingers supported by said rod, channeled plates supported by the rod parallel thereto, conveyers passing through said plates, a channeled plate supported by the rod and frame and extending at right angles to the rod, a conveyer passing through said channeled plate, a shaft journaled within said frame parallel to the rod, picker fingers carried by the shaft and extending between the guide fingers, means for operatively connecting the shaft and the conveyers to the axle and means for adjusting said fingers.

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

CARL N. DEHLINGER.

Witnesses:

JOHN P. FORD,
JAMES P. RILEY.