

W. D. COLLIER.
CLAM DIGGER.
APPLICATION FILED JUNE 5, 1911.

1,019,601.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.

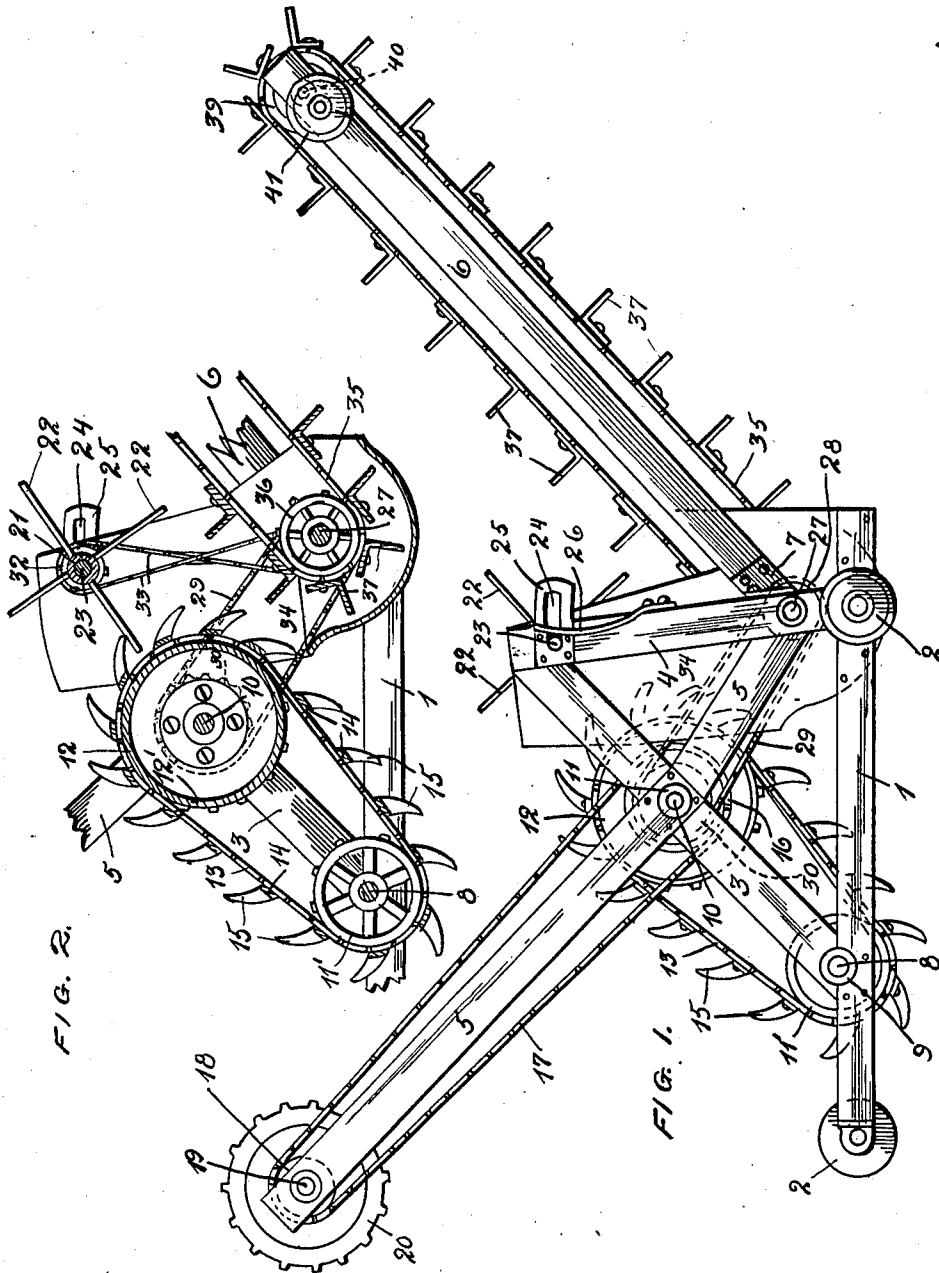


FIG. 2.

FIG. 1.

WITNESSES
C. H. Davies

INVENTOR
Wm. D. Collier,

Myron G. Clear.

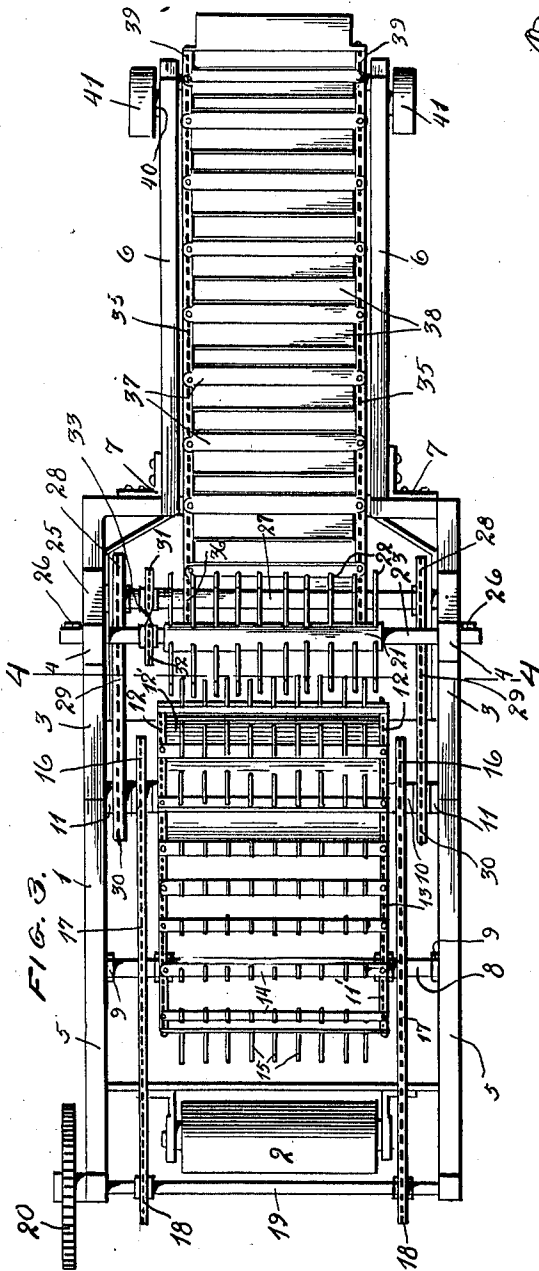
By C. H. Parker.
Attorney

W. D. COLLIER.
CLAM DIGGER.
APPLICATION FILED JUNE 5, 1911.

1,019,601.

Patented Mar. 5, 1912.

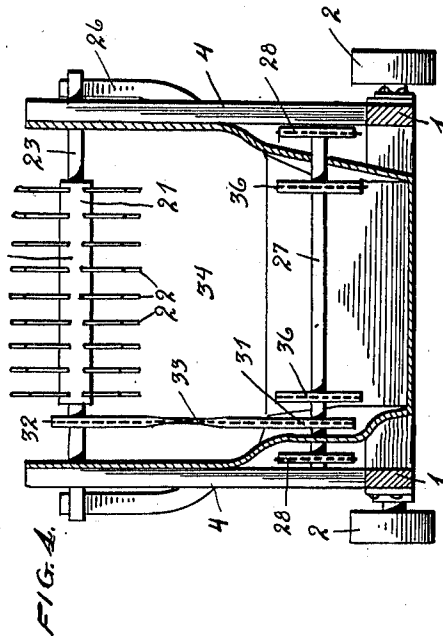
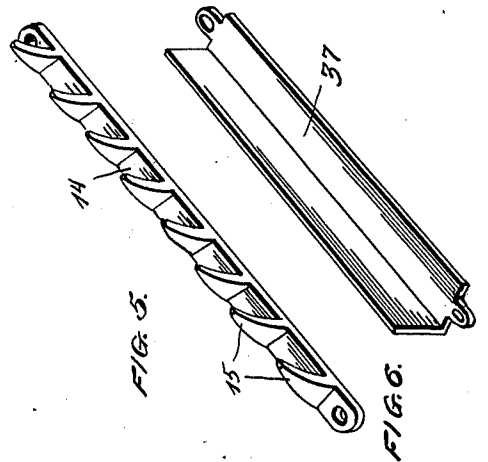
2 SHEETS—SHEET 2.



WITNESSES

C. K. Davis

Myron G. Clear



INVENTOR

Wm. D. Collier

Attorney

By C. L. Parker

UNITED STATES PATENT OFFICE.

WILLIAM D. COLLIER, OF MARCO, FLORIDA.

CLAM-DIGGER.

1,019,601.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed June 5, 1911. Serial No. 631,452.

To all whom it may concern:

Be it known that I, WILLIAM D. COLLIER, a citizen of the United States, residing at Marco, in the county of Lee and State of Florida, have invented certain new and useful Improvements in Clam-Diggers, of which the following is a specification.

The present invention relates to clam diggers and has particular reference to new and useful improvements in such a device upon which I secured Letters Patent No. 897,351.

An important object of this invention is to provide improved means for digging the clams, means for removing the clams from said means and a conveyer for conducting the clams thus removed from proximity to the digging means.

The invention further aims to provide an improved structure whereby the clams may be dug and conveyed to a desired point in a quick and continuous manner.

Other objects and advantages of this invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side view of the machine, Fig. 2 is a transverse sectional view taken through the digging means and associated members, Fig. 3 is a plan view of the entire machine, Fig. 4 is a transverse sectional view taken substantially on the line 4-4 of Fig. 3, Fig. 5 is a perspective view of one of the digger bars, and, Fig. 6 is a similar view of one of the transverse strips of the conveyer.

In the drawings wherein is illustrated a preferred embodiment of my invention, the numeral 1 designates a horizontal main frame, which is supported at its opposite ends by wheels 2. Rigidly mounted upon the horizontal frame 1 is an upstanding supporting structure, comprising diagonal beams 3, connected at their upper ends with approximately vertically disposed beams 4, the beams 3 and 4 being suitably attached to the horizontal frame 1. The supporting structure further comprises inclined rearwardly extending beams 5, the lower ends of which are connected with the lower ends of the beams 4 and said beams 5 are rigidly connected intermediate their ends with the beams 3 at points midway the ends of the latter. The supporting structure also comprises inclined forwardly extending

beams 6, having their lower ends rigidly connected with the forward end of the horizontal frame 1, which connections are reinforced by brackets 7. The beams 6 serve to support a conveyer, to be described.

I provide a novel form of digging means, comprising a transverse shaft 8 journaled through bearings 9 which are mounted upon the rear portion of the horizontal frame 1. Disposed above and spaced from the transverse shaft 8 is a transverse shaft 10, journaled through bearings 11 that are supported by the beams 3 and 5 at their junctions. Rigidly mounted upon the shafts 8 and 10 are pairs of spaced sprocket wheels 11' and 12, respectively, about which are trained sprocket chains 13 carrying spaced transverse digger bars 14, having teeth 15 formed upon their outer faces. The shaft 10 is provided near and outwardly of the sprocket wheel 12 with sprocket wheels 16 rigidly secured thereto and engaged by sprocket chains 17 extending rearwardly and upwardly for engagement with sprocket wheels 18. The sprocket wheels 18 are rigidly mounted upon a shaft 19 suitably journaled through the upper ends of the beams 5 and carrying upon one end a pinion 20 by means of which the shaft 19 receives its rotation. Between the sprocket wheels 12 is disposed a drum 12' which is rigidly connected with the same for rotation therewith.

Disposed above and in cooperative proximity to the upper end of the digging means is a rotatable device for removing the clams from the digger bars 14 and their teeth. This device comprises a roll 21 carrying radially disposed fingers 22 adapted to operate between the longitudinal rolls of the teeth 15. The roll 21 is rigidly mounted upon a shaft 23, which is rotatably and slidably mounted within elongated openings 24 formed through brackets 25, which are suitably attached to the upper ends of the beams 4. The shaft 23 is normally held in one end of the slots 24 by springs 26, whereby said shaft is capable of restricted movement from the digging means.

The numeral 27 designates a shaft which is journaled through the lower ends of the beams 4 and disposed near the lower ends of the beams 6. This shaft is provided near its ends with sprocket wheels 28 engaged by sprocket chains 29 extending rearwardly for engagement with sprocket wheels 30, which are fast upon the shaft 10. The shaft

27 is further provided with a sprocket wheel 31 connected with a sprocket wheel 32, which is fast upon the shaft 23 through the medium of a sprocket chain 33.

5 From the description of the above referred to parts, it is obvious that the rotation of the digging means will be imparted to the shafts 23 and 27. The sprocket chain 33 is crossed as clearly illustrated in Fig. 2
10 whereby the device for removing the clams from the digging means will be rotated in an opposite direction to said means to remove the clams therefrom and discharge the same into a casing 34.

15 The shaft 27 operates in the lower end of the casing 34 and forms a portion of a conveyer to be next described. This conveyer
20 comprises spaced sprocket chains 35, having their rear portions trained about sprocket wheels 36, which are fast upon the shaft 27. Suitably connected with the sprocket chains 35 are transverse spaced conveyer bars 37
25 (see Fig. 6), which are L-shaped in cross-section and have their vertical portions disposed rearmost when said conveyer bars are upon the upper side of the beams 6. The spaces between the conveyer bars 37 are
30 spanned by slats 38, which are suitably attached to the sprocket chains 35. The forward portions of the sprocket chains 35 are trained about sprocket wheels 39, which are rigidly mounted upon a shaft 40 that is journaled through the upper ends of the beams 6. This conveyer may be operated by
35 the rotation imparted to the shaft 27 and the same may be further operated by pulleys 41, adapted to rotate the shaft 40. It is obvious that the conveyer is employed to remove the clams from the proximity of the digging
40 means.

45 In the operation of the machine, the same is moved to a suitable position upon the clam bed, and the pinion 20 set in clock-wise rotation by suitable means (not shown).
50 The digging means is set in operation, the clams removed from the bed and carried upwardly upon the drum, from which the clams are removed by the revolving fingers 22. The clams fall into the lower portion
55 of the casing 34 and are taken up by the conveyer. The rotatable device for removing the clams from the digging means, is capable of restricted movement toward and away from said means, depending upon the
60 volume of the clams which has been gathered by said means.

65 I wish it understood that the form of my invention herewith shown and described is

to be taken as a preferred example of the same and that certain changes in the shape, 60 size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I 65 claim:—

1. In a device of the character described, a supporting structure, digging mechanism in the form of an inclined endless belt, a rotatable device disposed near the upper discharge end of the digging mechanism to remove material therefrom, means whereby said rotatable device may be moved toward or away from the digging mechanism, a spring to oppose the movement of said rotatable device away from the digging mechanism, and a conveyer having its take up end disposed near and below the rotatable device. 70

2. In a device of the character described, 80 a supporting structure, wheels upon which the supporting structure is mounted, digging mechanism in the form of an inclined endless belt and including digger bars provided with teeth adapted to operate below 85 said wheels to primarily engage the clams and subsequently convey the same upwardly, a rotatable device disposed near the upper discharge end of the endless belt digging mechanism to remove the clams from the 90 same and throw them downwardly, brackets provided with elongated slots to receive the shaft of said rotatable device, springs engaging the ends of said shaft to oppose its movement in that direction, a casing disposed below the discharge end of the endless belt digging mechanism and said rotatable device, and an endless belt conveyer having its take up end operating within said casing. 95

3. In a device of the character described, 100 a supporting structure, digging mechanism in the form of an inclined endless belt, a rotatable element disposed near the upper discharge end of the digging mechanism to remove material therefrom, means whereby 105 said rotatable element may be moved toward or away from the digging mechanism, and a conveyer having its take up end disposed near the rotatable element.

In testimony whereof I affix my signature 110 in presence of two witnesses.

WILLIAM D. COLLIER.

Witnesses:

F. H. BRAMAN,
T. R. STEVENS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."