May 27, 1924. 1,495,886

E. CRAITE

GRAIN SACKER

Filed July 7, 1922 2 Sheets-Sheet 1

Fig. 1,

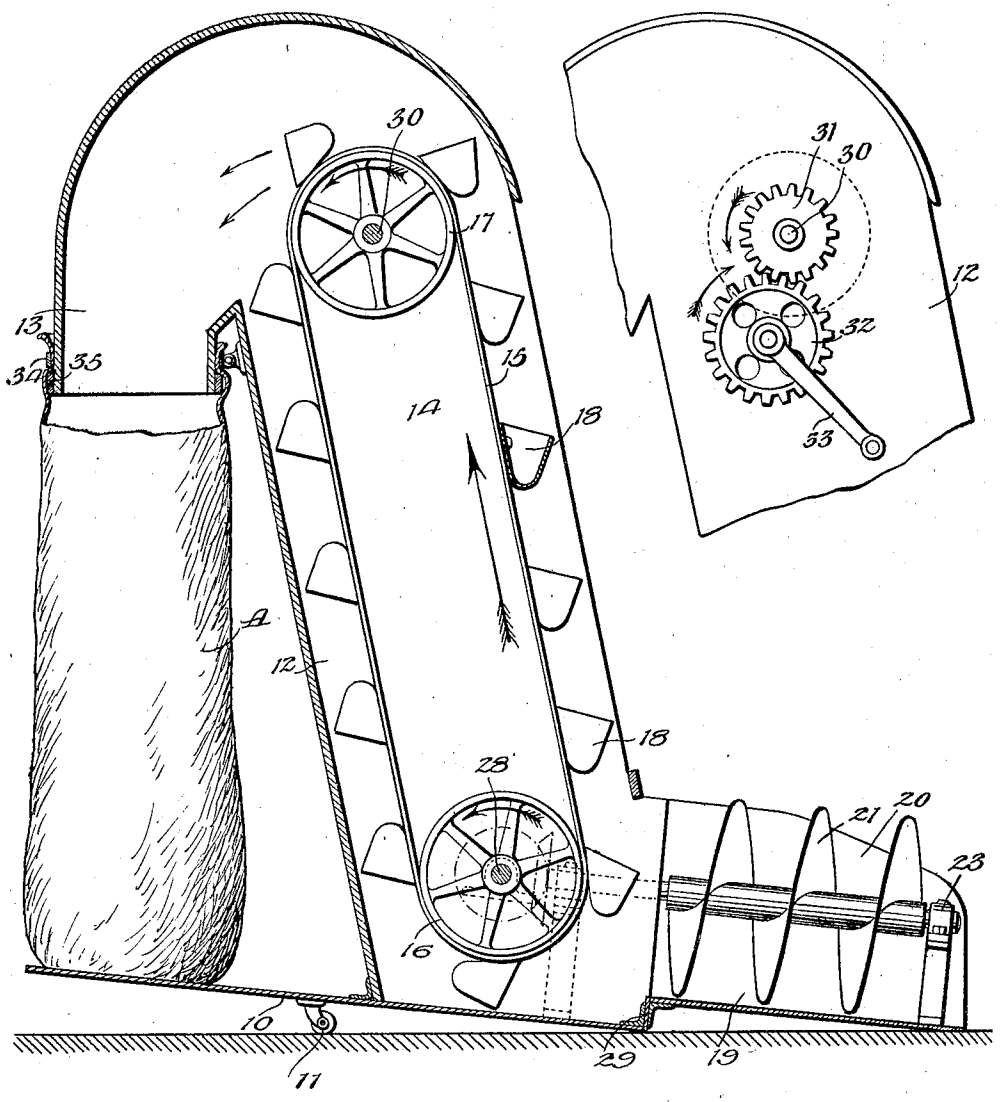


Fig. 2,

WITNESSES

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Fig. 3.

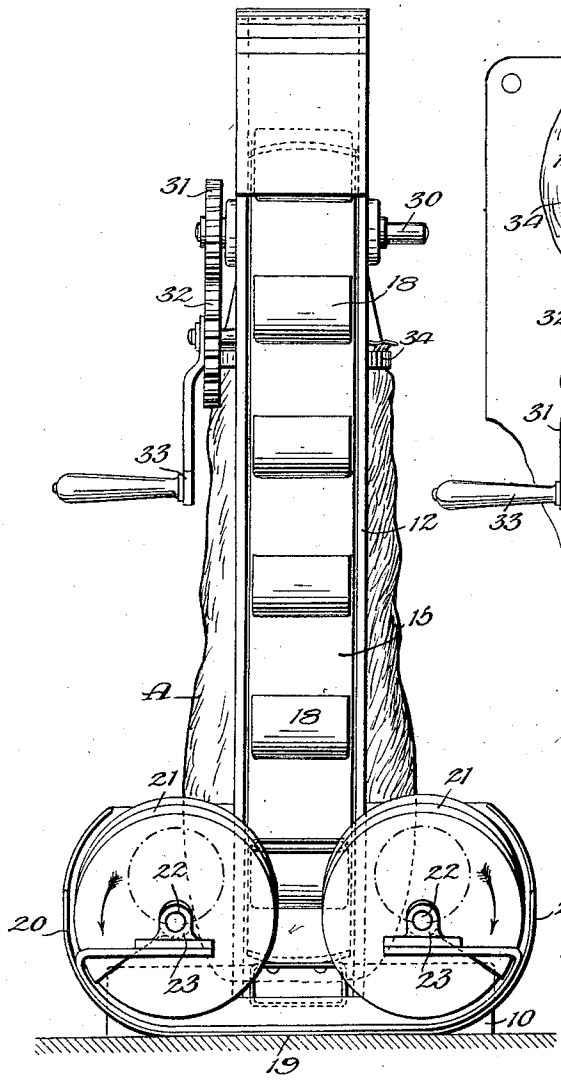
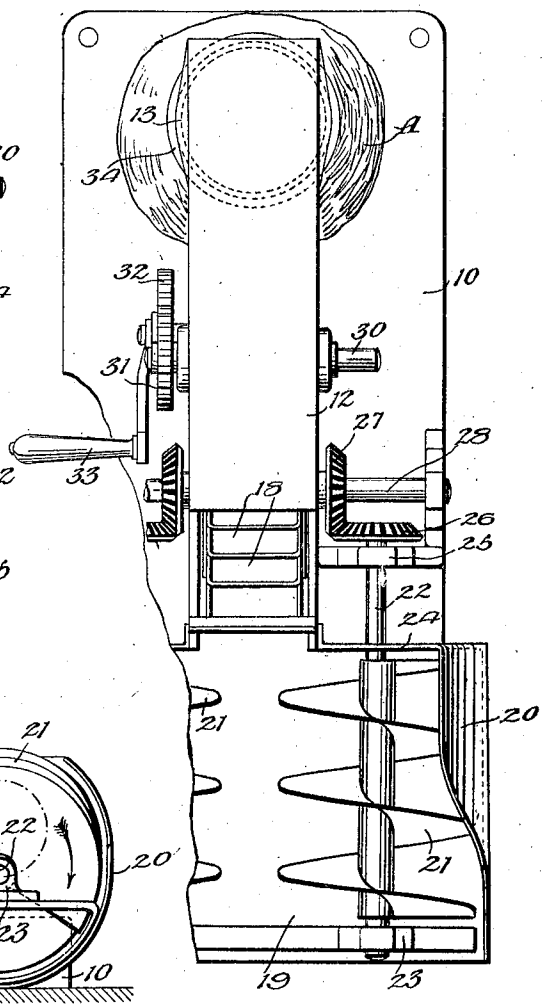


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

EUSEBE CRAITE, OF RICE LAKE, WISCONSIN.

GRAIN SACKER.

Application filed July 7, 1922. Serial No. 573,351.

To all whom it may concern:

Be it known that I, EUSEBE CRAITE, a citizen of the United States, and a resident of Rice Lake, in the county of Barron and State of Wisconsin, have invented a new and Improved Grain Sacker, of which the following is a full, clear, and exact description.

This invention has relation to an apparatus for handling granular materials, and has particular reference to a portable device for sacking grain.

In sacking grain, it is the common practice at the present time to employ two men, one for holding the sack and one for shoveling the grain. The present invention contemplates as an object, an apparatus operable by one man which will expeditiously scoop up and sack the grain, thereby eliminating the extra man and effecting economy of both time and labor.

As a further object the invention contemplates an apparatus of the character set forth, which is extremely simple and inexpensive to manufacture, which is strong and durable in its construction, and which is highly efficient in its purpose.

With the above recited and other objects in view, the invention resides in the novel construction, combination and arrangement of parts set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that variations and modifications which properly fall within the scope of the appended claims may be resorted to when found desirable.

In the drawings—

Figure 1 is a longitudinal sectional view through a grain sacking apparatus constructed in accordance with the invention;

Figure 2 is a fragmentary side elevation thereof;

Figure 3 is a front view of the same; and

Figure 4 is a top plan veiw thereof.

Referring to the drawings by characters of reference, the apparatus embodies a platform 10, which is supported adjacent one end by caster rollers 11, while the opposite end is designed to rest upon the floor. An upstanding rearwardly inclined elevator housing 12 is provided at the forward edge of the platform and is formed at its upper end with a rearwardly and downwardly curved discharge chute 13, which is disposed in vertical alignment with the rear portion of the platform 10. An elevator 14 is arranged within the elevator housing 12 and consists of an endless belt or chain 15 which is trained over a lower driven pulley 16 and an upper drive pulley 17. A plurality of cups or buckets 18 are attached to the belt or chain 15 for scooping up and elevating the grain which is supplied to the lower end of the elevator housing 12, said buckets or cups being designed to discharge their contents into the discharge chute 13 during their passage around the upper drive pulley 17. The forward lower end of the elevator housing 12 is open and has projecting forwardly therefrom a scoop 19, the forward edge of which closely contacts and engages with the floor. The opposite sides 20 of the scoop are of substantially semi-circular formation and said scoop is of substantially greater width than the width of the elevator housing 12. A pair of spiral conveyors 21 are disposed longitudinally of the scoop in transversely spaced relation, said conveyors being partially embraced by the opposite semi-circular side walls 20. The conveyors 21 are mounted on parallel longitudinally extending shafts 22, the forward ends of which are journaled in bearings 23 at the forward end of the scoop, and the rear ends of which extend through the rear walls 24 of the scoop. The extreme rear ends of the shafts 22 are mounted in bearings 25 on the platform 10 and have keyed thereto beveled drive pinions 26, which mesh with beveled gears 27 secured to the transverse shaft 28 which extends through the elevator housing 12 and as mouned thereon the driven pulley 16 of the elevator 14. The gears 27 which drive the pinions 26 are reversely arranged on the shaft 28, whereby the spiral conveyors 21 are oppositely driven to effect the scooping and feeding of the grain toward the center of the scoop 19 and into the lower end of the elevator housing 12. The rear end of the scoop 19 is slightly elevated with respect to the forward end of the platform 10 and the front end of the platform is provided with an upturned extremity or an upstanding wall 29. The upper drive pulley 17 is mounted on a transverse shaft 30 which extends preferably through the right hand wall of the elevator housing 12 and has keyed thereto a pinion 31 arranged exteriorly of the elevator housing. A drive gear 32 having an operating crank 33 is journaled on the side of the elevator housing 12 and meshes with the pinion 31 to afford means

for manually actuating the elevator 14 and the spiral conveyors 21.

In use and operation of the sacker, a sack A is clamped over the lower end of the discharge chute 13 by means of a clamping ring 34 which cooperates with the exterior annular bead 35 on the lower end of the chute. The lower end of the sack A is designed to rest upon the rear portion of the platform 10. The operator advances the scoop 19 into a heap of grain or a bin and turns the crank 33 and the drive gear 32 in the direction indicated by the arrow in Figure 2, thus turning the pinion 31, the shaft 30, the drive pulley 17, the endless belt or chain 15 and the driven pulley 16 in the directions indicated by the arrows in Figures 1 and 2. Simultaneously the shaft 28, the gears and pinions 27 and 26, the shafts 22 and the spiral conveyors 21 will be turned in the directions indicated by the arrows to feed the grain through the scoop 19 into the lower end of the elevator housing 12 where the buckets or cups 18 will scoop up the same, elevate the contents thereof and discharge said contents through the discharge chute 13 into the mouth of the sack A. When the sack is filled, the clamping band 34 is removed and a new sack is applied over the end of the discharge chute 13. The sacker may be moved about on the caster rollers 11 with the forward end resting on the floor.

I claim:

1. A portable apparatus for scooping up, sacking and moving the sacked grain comprising a platform, supporting casters for said platform intermediate its ends, an elevator housing adjacent the forward end, a scoop projecting from and communicating with the lower end of the elevator housing, means within the scoop for moving the grain therethrough into the lower end of the housing, means within the housing for elevating the grain, a rearwardly disposed downturned discharge chute overlying the rear portion of the platform and with which a grain sack is adapted to communicate, said sack resting upon the rear of the platform, whereby upon forcing of the scoop into a pile of grain and actuation of the device the weight of the grain within the filled sack serves to counterbalance the weight of the elevator, housing, scoop and the grain and elevating means to facilitate the movement of the device and transportation of the sacked grain.

2. A portable apparatus for scooping up and sacking grain comprising a platform mounted on supporting casters for longitudinal rocking movement, an upstanding rearwardly inclined housing at the forward end of the platform, an endless upstanding elevator in said housing, a rearwardly disposed down turned discharge chute at the upper end of the housing overlying the rear portion of the platform and adapted to receive thereover the mouth of the sack which rests upon the rear of the platform, a scoop having communication with the lower end of the elevator and projecting forwardly from the platform whereby upon forward tilting the front end of the scoop will engage with the floor, a pair of longitudinally disposed spiral conveyors in opposite sides of the scoop, and means projecting laterally from the side of the housing for simultaneously actuating the elevator and spiral conveyors, whereby upon thrusting of the forward end of the scoop into a pile of grain and actuation of the elevator and spiral conveyors the grain will be scooped up and discharged into the sack.

3. An apparatus for scooping up and sacking grain, comprising a platform mounted on supporting caster rollers for longitudinal swinging movement, an upstanding rearwardly inclined elevator housing on the portion of the platform in front of the caster rollers, an endless elevator in said housing, a rearwardly and downwardly disposed discharge chute at the upper end of the housing adapted to receive thereover the mouth of a sack resting upon the rear platform, a scoop projecting forwardly from the lower end of the housing in a plane above the bottom of the housing and having communication therewith, a pair of longitudinally disposed spiral conveyors at opposite sides of said scoop for feeding the grain through the scoop and into the lower end of the elevator housing when the forward end of the scoop is forced into a pile of grain, and a common means for actuating the elevator and for driving the spiral conveyors simultaneously to scoop up, elevate and discharge the grain into the sack whereby the weight of the grain when the sack is filled serves to counterbalance the weight of the elevator, housing, scoop and conveyors to facilitate the movement of the device.

EUSEBE CRAITE.