Dec. 20, 1932. C. LE BLEU 1,891,427

SCRAPER AND APRON

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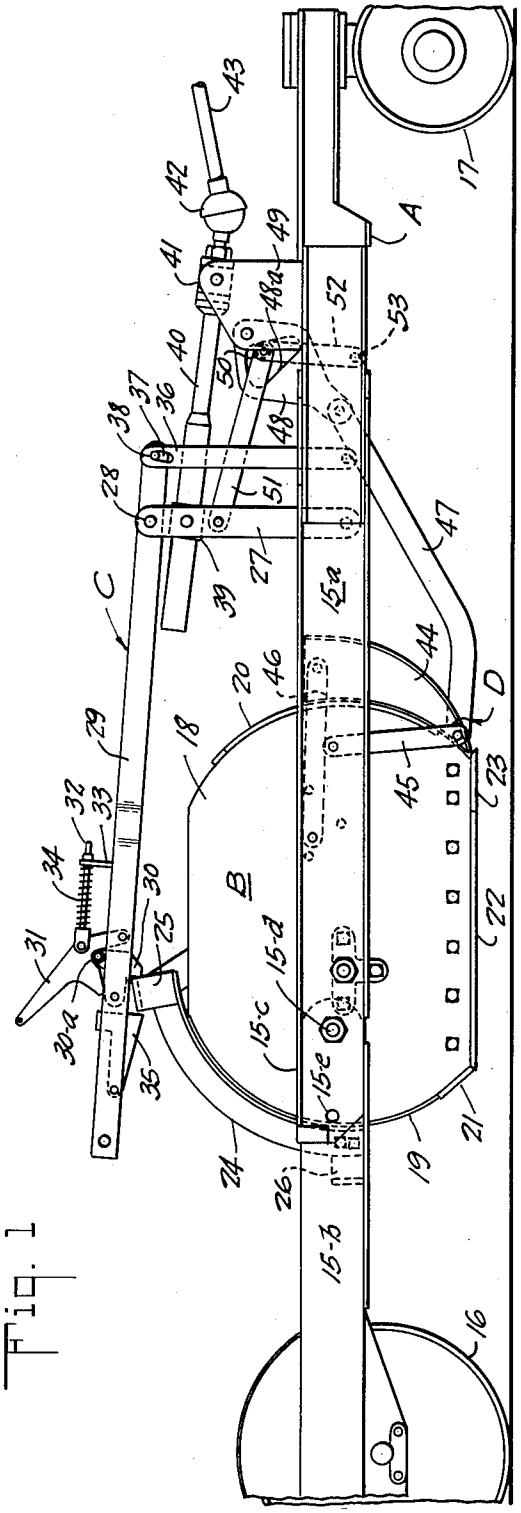


Fig. 1

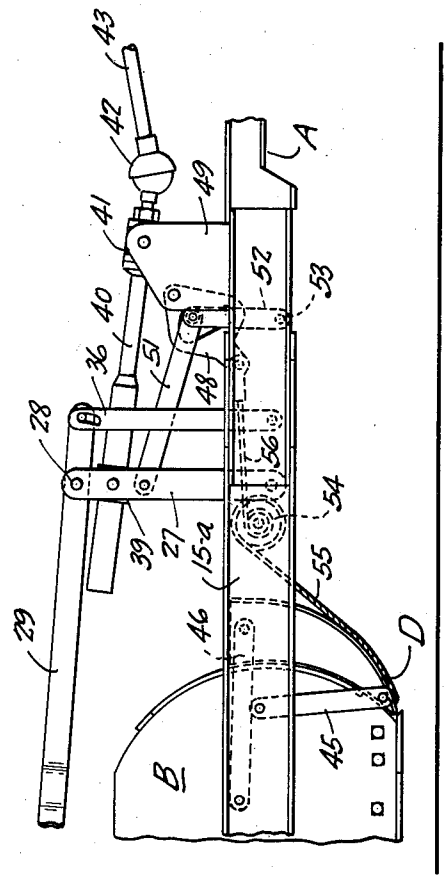


Fig. 2

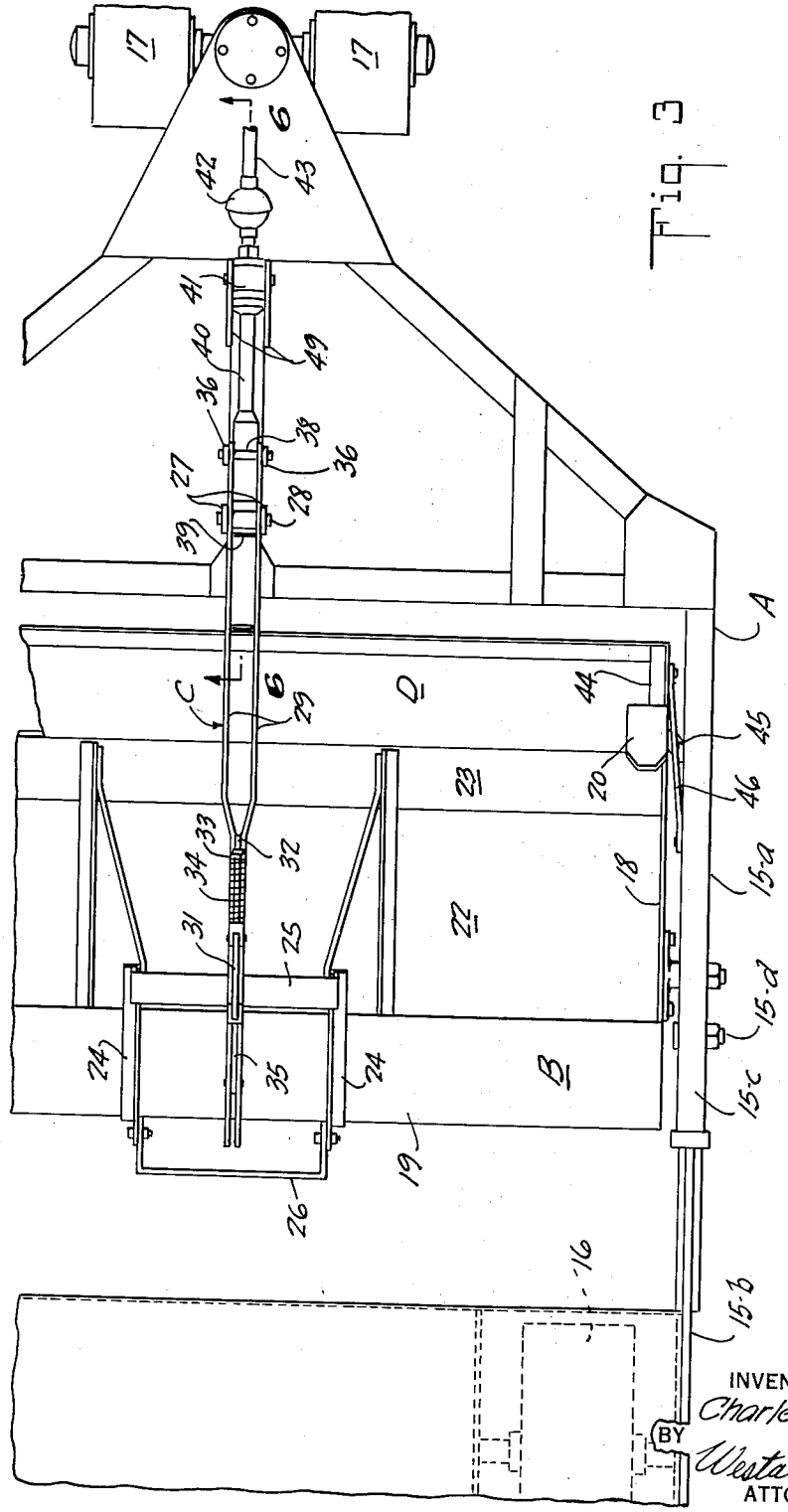
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Fig. 3




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Fig. 4

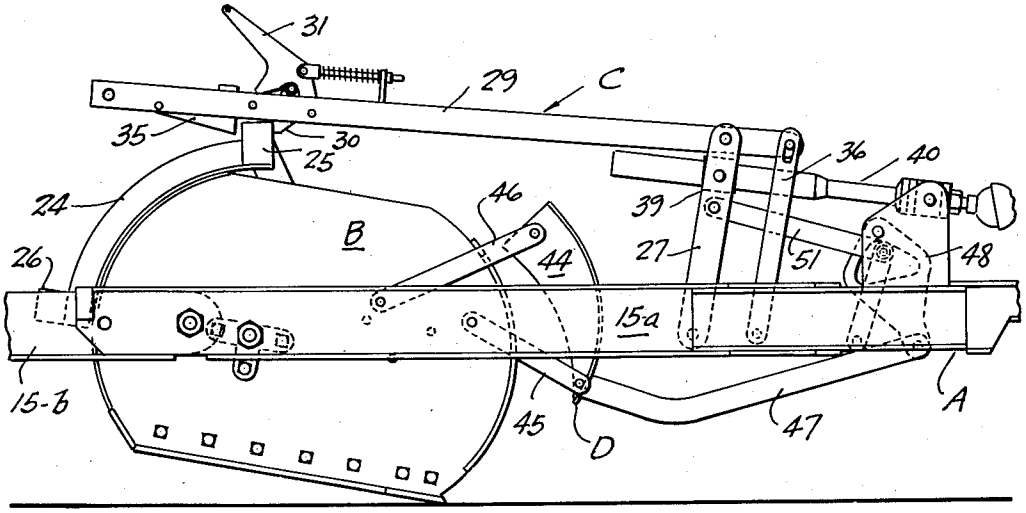
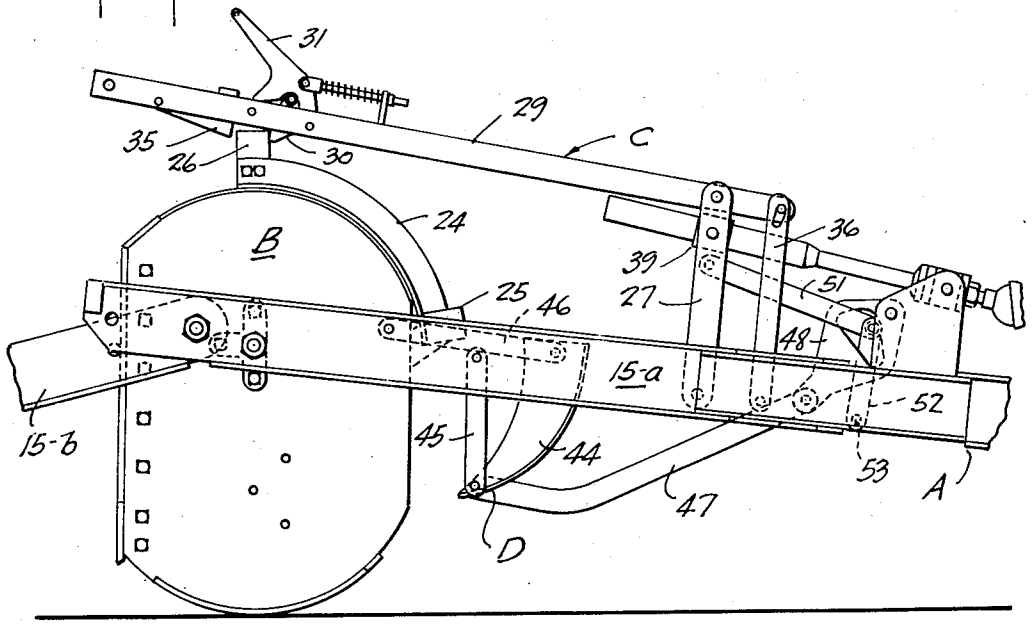



Fig. 5




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Fig. 6

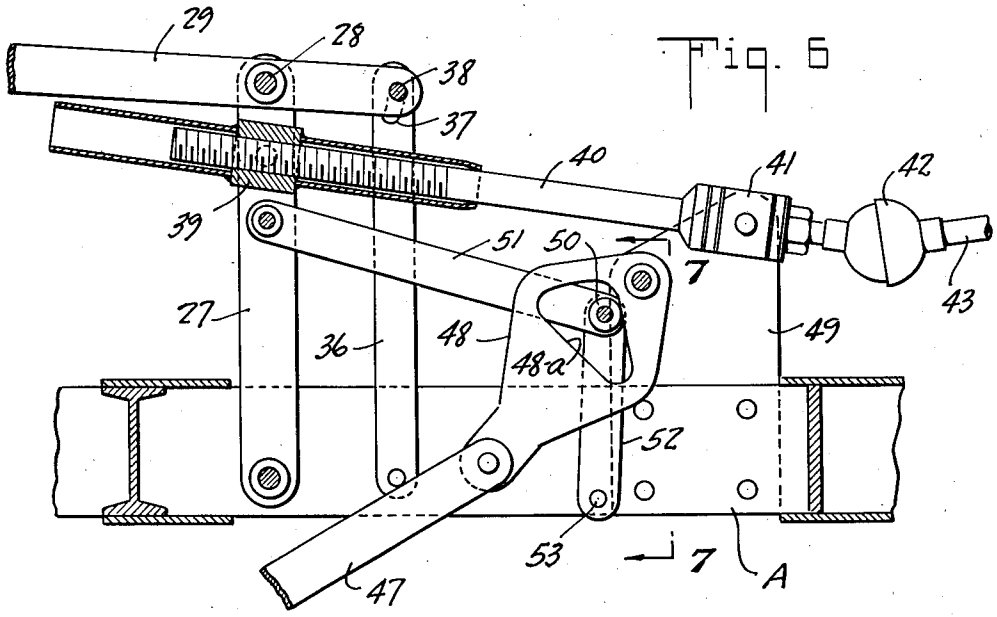



Fig. 7

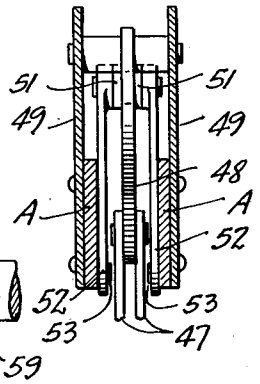
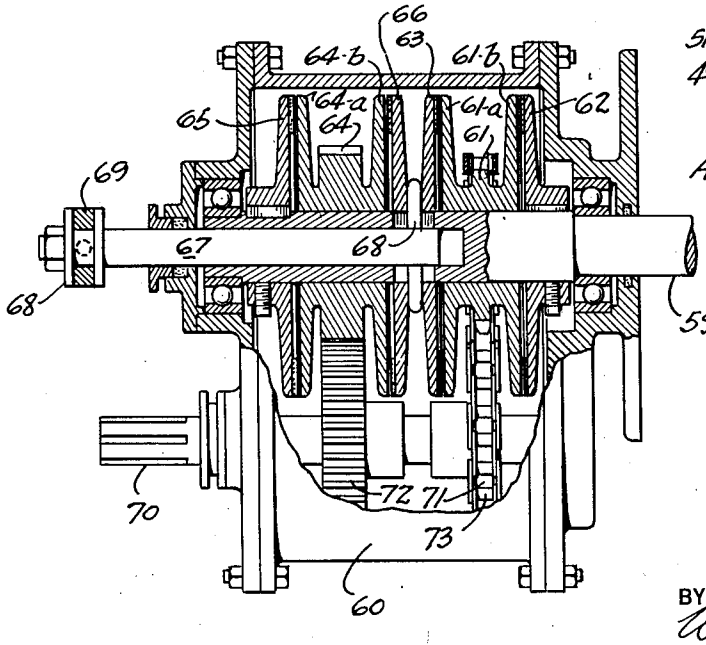



Fig. 8




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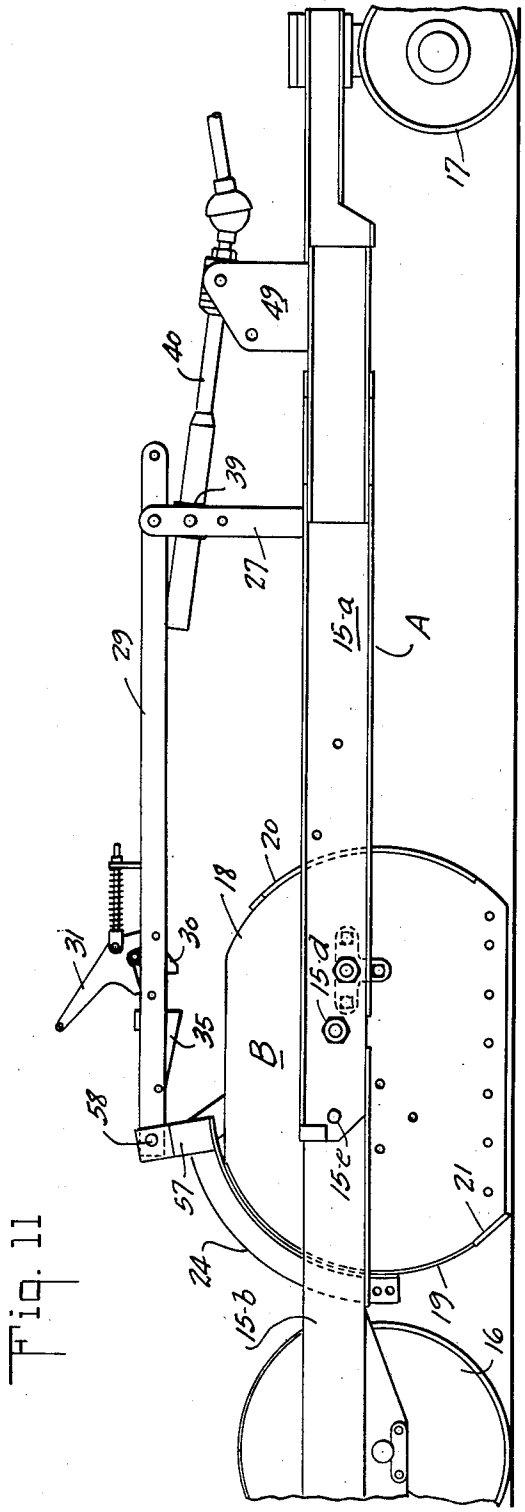



Fig. 11

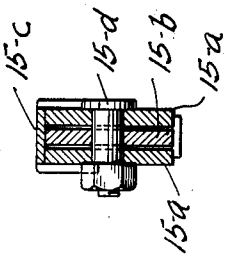



Fig. 10

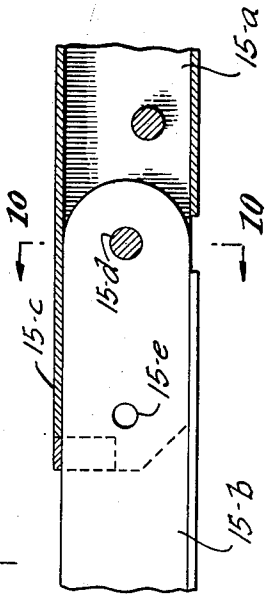



Fig. 9

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# UNITED STATES PATENT OFFICE

CHARLES LE BLEU, OF LOS ANGELES, CALIFORNIA

## SCRAPER AND APRON

Application filed August 10, 1931. Serial No. 556,058.

This invention relates to a scraper and leveller having a revoluble bucket. Such devices are commonly constructed so that they fall in one of three classes, namely, "long haul", "short haul" and "levelling". Long haul scrapers are deemed to be those which operate most efficiently on distances of from six hundred feet upward; short haul fifty to six hundred feet and levelling those for finish work. A scraper falling in any one of the three classes does not operate efficiently when used for work in the other classes. For this reason and in view of the fact that nearly all jobs of earth moving involve all three classes of work, equipment including all three types is required. This results in a large investment in scrapers by those performing such work.

The present invention has for its primary object the provision of a scraper adaptable to all three classes of work. Another more specific object is to provide a scraper of the wheeled type having a jointed frame adaptable to raising and lowering and tilting the bucket without lifting the wheels from the ground. A further object of this invention is the provision of a scraper having an apron to close the front of the bucket in carrying position and to open the front in digging and dumping positions; means to hold the bucket in any of these three positions and to adjust the tilt within the three positions; and automatic means to swing the apron. A still further object of this invention is to provide power actuated mechanism to operate the adjustment, and manually controlled means for said mechanism.

These objects are accomplished by the embodiment of my invention illustrated in the accompanying drawings, in which:—

Fig. 1 is a side view of a scraper with bucket in load carrying position; Fig. 2 is a fragmentary side view of a scraper having a modified form of apron operating mechanism; Fig. 3 is a fragmentary plan view of the structure shown in Fig. 1; Figs. 4 and 5 are fragmentary side views of the structure shown in Fig. 1 in digging and dumping positions respectively; Fig. 6 is a section as seen on the plane designated 6—6 in Fig. 3; Fig. 7 is a section as seen on the line 7—7 in Fig. 6; Fig. 8 is a section through a reversing gear set used in the scraper; Fig. 9 is a fragmentary section through a frame side bar at the knuckle; Fig. 10 is a sectional view as seen on the plane designated 10—10 in Fig. 9, and Fig. 11 is a side view of the scraper set up for levelling.

Referring more particularly to Figs. 1 to 10 inclusive, a frame A is provided with articulated side bars comprising sections 15*a* and 15*b*. Rear wheels 16 support the rear part of the frame and the front is provided with bridles at the apex of which front wheels 17 are mounted on any suitable king bolt structure. The frame is adapted to be towed by a tractor or like machine. Mounted upon the frame is a revoluble bucket B which is held in adjustable position by control mechanism indicated generally by C. An apron for closing the front of the bucket in carrying position and linkage for operating the same is indicated by D.

A joint which breaks in one direction is provided between sections 15*a* and 15*b* of the side bars, section 15*a* having an overhanging wall as best shown in Figs. 9 and 10, and denoted 15*c*. Section 15*c* extends under the wall and is pivotally secured to section 15*a* by a bolt 15*d*. Bolt openings 15*e* are provided in sections 15*a* and 15*b* so as to be in registration when the sections are in alinement. The joint is a knuckle of the rule type.

The bucket B comprises side plates 18 of substantially ovoid form with a flat lower edge. The back of the bucket is closed by arcuate plate 19. At the front and opposite to the back plate are rail plates 20. At the bottom of the back plate 19 is a digging blade 21. The bottom of the bucket may be closed by a plate 22 detachably bolted to the end plates 18 and having a digging blade 23 at the front. Passing about the back plate 19 between the sides of the bucket are outstanding rib bars 24 having catch bars 25 and 26 secured thereto.

Pivotally mounted on the frame is a rocker arm comprising parallel bars 27. Extending between the bars at the upper end is a pivot

bolt 28 having mounted thereon a longitudinally movable rod 29 consisting of a pair of bars with a front dog 30 pivotally mounted thereon. Engaging the front dog is an operating lever 31 having a stem 32 pivotally secured thereto and passing through a bracket 33. A compression spring 34 tends to hold lever 31 to maintain the dog 30 projecting below rod 29. Dog 30 has a roller 30*a* riding in a recess in lever 31. Thus, the leverage applied to the handle 31*a* is multiplied in its transmission to dog 30. Spaced from and to the rear of dog 30 is a gravity dog 35. The space between the dogs is for accommodation of either catch 25 or 26. A catch may pass from the rear and raise dog 35 so as to pass thereover. The dog 35 prevents the catch from moving in the opposite direction. A catch cannot pass dog 30 unless the latter is raised which may be accomplished by swinging lever 31 toward the front.

Rod 29 overhangs rocker 27 and is further supported by an auxiliary two bar rocker 36 having elongated openings 37 for reception of a pin 38 secured to rod 29. The elongated openings 37 allow rod 29 to swing on pivot pin 28 and the rear end to follow the bucket in its revolution. Mounted between the bars comprising rocker arms 27 and swivelled thereto is a nut 39 having sleeve ends. Threaded into the nut 39 is an actuating shaft 40 mounted in the swivelled thrust bearing 41 secured to the frame. The shaft 40 is connected by a universal joint 42 to an operating shaft 43 which may be secured to any suitable smaller actuated mechanism for turning the shaft. In the present instance, the reversing gear set shown in Fig. 8 is connected to shaft 43. The rod C may have its latch mechanism engaging the upper projection or catch 25 on the bucket and will thereby hold the bucket in a suitable carrying or digging position as shown in Figs. 1 and 4. Assuming that the bucket is in the carrying position shown in Fig. 1, by operation of the actuating shaft, the rod 29 may be moved forwardly to swing a bucket into digging position shown in Fig. 4. To return the bucket to carrying position, the shaft is rotated in the opposite direction. If the bucket is in carrying position and it is desired to dump the load, actuator 31 is moved to release the dog 30 and the scraper is continued in its forward movement. The bucket will roll over and in doing so will break the frame knuckles as shown in Fig. 5. This will accommodate the position of the bucket with respect to the frame without lifting the wheels. The operator lever 31 may be swung to release dog 30 and rolling over of the bucket continued until catch 25 engages between the dogs and the scraper is ready for another cycle of operations.

In carrying position, in order to avoid loss of the load, an apron is provided. This apron indicated generally by D comprises a shield 44 having side plates registering with the side plates 18 of the bucket. The apron is mounted on the frame A by a pair of link arms 45 pivotally secured at the lip of shield 44 and to the sidebar sections 15*a*. Link arms 46 also pivotally secure the apron at its top to the side bar sections 15*a*. Secured to the apron at about the center of its lip is an arm 47 having pivotally attached thereto a cam 48 which is also pivotally attached to the frame at the standard of 49. Cam 48 has an opening 48*a* for a follower roller 50 mounted between the bars of a follower link 51 secured to rocker arm 27. The roller 49 is also pivotally mounted upon a guide arm 52 secured to the frame by a pivot pin 53. The construction is such that with the bucket in carrying position as shown in Fig. 1, the follower 50 is disposed in cam 48 in such a position to hold arm 47 with the apron 44 in closed position. When it is desired to dig, the shaft 40 is rotated to pull rod 29 forwardly and thereby tip the bucket to a position such as shown in Fig. 4. Movement of the follower and transmission of motion through the cam 48 and bar 47 to the apron causes the latter to be swung upwardly and away from the bucket. The bucket may be released from the latch on rod 29 and allowed to roll over to such a position as shown in Fig. 5, the apron being returned from the position shown in Fig. 4, but still being away from the bucket.

In Fig. 2, a modification of the means for transmitting motion from the cam 48 to the apron 44 is shown. It comprises a winding drum 54 journalled on the frame with a cable section 55 wound thereon and connected to the apron and a cable section 56 wound on the drum and connected to the cam. It will be noted that the motion from the cam to the apron may be multiplied by this construction.

It may be desired to operate the device as a leveller. In this instance, a locking pin is passed through openings 15*e* as shown in Fig. 11. This locks the knuckle of the frame. The trunnion mounts are moved from a position back of the center of the bucket to a position forward as shown in Fig. 11. The bottom plate 22 of the bucket is removed. Catches 25 and 26 are removed from rib plates 24 and a projection 57 substituted for catch 25. Rod 29 is bolted at 58 to projection 55. The auxiliary rocker arms 36 are removed and the device is now ready to be operated as a leveller, the digging plates 21 engaging the ground, and adjustment of the bucket being effected by operation of the latch bar 29.

Shaft 43 may be power actuated from the tractor motor or an auxiliary motor. Referring to Fig. 8 a reversing gear set is shown. The prime mover or motor is con-

nected to shaft 59. The shaft is journalled in a housing on suitable bearings. Shaft 59 has a bore at one end and a cross slot at the center. Idly mounted on shaft 59 is a sprocket 61 having end flanges 61*a* and 61*b* forming clutch faces. Fixed on shaft 59 is a clutch plate 62 for engagement by clutch flange 61*b*. Idly mounted on the shaft is a clutch operating plate 63. At the side of sprocket 61 and idly mounted on the shaft 59 is a gear 64 having end clutch flanges 64*a* and 64*b* coacting with a clutch plate 65 and a clutch operating plate 66 which are counterparts of those coacting with the sprocket 61. Slidably mounted in the bore of shaft 59 is a rod 67 having a cross pin 68 for engagement with either clutch operating plate 63 or 66. When plate 63 is forced against flange 61*a*, the sprocket 61 is moved to dispose flange 61*b* in clutching contact with clutch plate 62 and the sprocket is rotated with the shaft. When plate 66 is forced against flange 64*a*, gear 64 is rotated. When one sprocket is clutched, the other is unclutched and vice versa. Shaft 59 has a collar 68 and strap 69 enabling the use of a hand lever to operate the clutches. A countershaft 70 is journalled in the housing 60 and carries a sprocket wheel 71 and a gear 72. Sprocket wheel 71 is geared to sprocket 61 by a sprocket chain 73 and gear 72 meshes with gear 64. When sprocket 61 is turned, the countershaft is rotated in one direction and when gear 64 is rotated the countershaft is turned in the opposite direction. Thus, by operating rod 67 the direction of rotation of the shaft 70 may be controlled and when the rod 67 is in an intermediate position the shaft 70 is idle. Shaft 70 is connected to actuating shaft 43. Thus, the rotation of shaft 43 may be controlled.

What I claim is:—

1. A scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly, restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of gravity of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position.

2. A scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly, restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of gravity of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; and means to selectively hold said bucket and to positively move it in both directions to a plurality of positions.

3. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear to be turned to carrying, digging and dumping positions; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly, restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of gravity of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket and positively tilt the latter to carrying or digging positions; an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a mechanical movement connected to said member for swinging said apron from closed position when said bucket is in carrying position to open position when said bucket is in digging position; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

4. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear to be turned to carrying, digging and dumping positions; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly, restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of gravity of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket and positively tilt the latter to carrying or digging positions; a rocker arm pivotally secured at its ends on said frame and to said member, a connecting link pivotally secured at one end to said arm, an apron for the front of said bucket, sup-

porting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a connecting arm pivotally secured at one end to said apron, a mechanical movement connected between the other end of said connecting arm and said member for swinging said apron from closed position when said bucket is in carrying position to open position when said bucket is in digging position; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

5. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly, restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of gravity of said bucket whereby the bucket in rolling over to dump will engage the ground and brake said joints and may be disposed to clear the ground in carrying position; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket and positively tilt the latter; guide means for said member on said frame and movable therewith, connecting means having a cam follower at one end and being secured at the other end to said guide means, an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a connecting arm pivotally secured at one end to said apron and having a cam secured to its other end and to said frame for pivotal movement, said follower riding in said cam; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

6. A scraper adapted to be drawn across the surface of the ground comprising a frame, and a revoluble bucket mounted on said frame; a movable actuating member carried by said frame adapted to be selectively coupled to said bucket and positively tilt the latter to digging or carrying positions; an apron for the front of said bucket, supporting arms pivotally secured to said apron and mounting said apron on said frame, a mechanical movement secured to said frame and connected to said member for swinging said apron from closed position when said bucket is in carrying position to open position when said bucket is in digging position; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

7. A scraper adapted to be drawn across the surface of the ground comprising a frame and a revoluble bucket mounted on said frame; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket to hold the latter in and to positively tilt it to carrying and digging positions; guide means for supporting said member on said frame and movable with said member, a connecting link secured at one end to said guide means, an apron for the front of said bucket, supporting arms pivotally secured to said apron on and pivotally mounting said apron on said frame, a connecting arm pivotally secured at one end to said apron, a mechanical movement secured to said link, said connecting arm and to said frame for swinging said apron from closed position when said bucket is in carrying position to open position when said bucket is in digging position; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

8. A scraper adapted to be drawn across the surface of the ground comprising a frame and a revoluble bucket mounted on said frame; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket to hold the latter in and to positively tilt it to carrying and digging positions; a rocker arm pivotally secured at its ends on said frame and to said member, a connecting link pivotally secured at one end to said arm, an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes, and pivotally mounting said apron on said frame on spaced axes, a connecting arm pivotally secured at one end to said second supporting arm, a mechanical movement secured to the other end of said connecting arm and to said frame for swinging said apron from open position when said bucket is in digging position or to closed position when said bucket is in carrying position; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

9. A scraper adapted to be drawn across the surface of the ground comprising a frame and a revoluble bucket mounted on said frame; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket to hold the latter in and to positively tilt it to carrying and digging positions; guide means for said member on said frame and movable therewith, connecting means having a cam follower at one end and being secured at the other end to said guide means, an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a con-

necting arm pivotally secured at one end to said apron and having a cam secured to its other end and to said frame for pivotal movement, said follower riding in said cam; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

10. An earth moving device adapted to be moved across the surface of the ground comprising a supporting frame; a revoluble bucket on said frame adapted to be disposed in carrying, digging or dumping position, an apron adapted to close or open the mouth of said bucket; means connecting said apron, and frame, and mechanism for engagement with said bucket to tilt the latter and connected to said apron to maintain the latter in position closing said mouth in carrying position of said bucket and to maintain said apron in open position in dumping and digging position of said bucket.

11. An earth moving device adapted to be moved across the surface of the ground comprising a supporting frame and a revoluble bucket mounted on said frame to have a load carrying, digging or dumping position; a longitudinally movable actuating member carried by said frame adapted to be selectively coupled to said bucket and positively tilt the latter; a rocker arm pivotally secured at its ends on said frame and to said member, a connecting link having a cam follower at one end and being pivotally secured at the other end to said arm, an apron for the front of said bucket, a supporting arm pivotally mounting said apron on said bucket, a second supporting arm pivotally mounting said apron on said frame, a connecting arm pivotally secured at one end to said apron and having a cam secured to its other end and to said frame for pivotal movement, said follower riding in said cam; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

12. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly and restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; arcuately spaced stops on said bucket, a longitudinally movable actuating member carried by said frame adapted to extend over said stops and be coupled to said bucket, latch means on said member comprising dogs facing one another, the rear dog enabling a stop to pass thereover toward the front dog, manually operable means to selectively hold the front dog in latching position or to enable lifting thereof to release a stop; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to revolve or hold the latter.

13. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly and restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; arcuately spaced stops on said bucket, a longitudinally movable actuating member carried by said frame adapted to extend over said stops and be coupled to said bucket, latch means on said member comprising dogs facing one another, the rear dog enabling a stop to pass thereover toward the front dog, manually operable means to selectively hold the front dog in latching position or to enable lifting thereof to release a stop; a rocker arm pivotally secured at one end on said frame and pivoted at its other end to said rod; power actuated mechanism to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter; and manually operable control means for said power actuated mechanism to cause said actuating member to travel longitudinally in either direction a selected distance.

14. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly and restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; arcuately spaced stops on said bucket, a longitudinally movable actuating member carried by said frame adapted to extend over said stops and be coupled to said bucket, latch means on said member comprising dogs facing one another, the rear dog enabling a stop to pass thereover toward the front dog, manually operable means to selectively hold the front dog in latching position

or to enable lifting thereof to release a stop; a rocker arm pivotally secured at one end on said frame and pivoted at its other end to said rod, a connecting link pivotally secured at one end to said arm, an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a connecting arm pivotally secured at one end to said apron, a mechanical movement connected to said frame and link and to said connecting arm to swing said apron away from said bucket on tilting the latter from loading position; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

15. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly and restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; arcuately spaced stops on said bucket, a longitudinally movable actuating member carried by said frame adapted to extend over said stops and be coupled to said bucket, latch means on said member comprising dogs facing one another, the rear dog enabling a stop to pass thereover toward the front dog, manually operable means to selectively hold the front dog in latching position or to enable lifting thereof to release a stop; guide means for said member on said frame movable with said member, a connecting link having a cam follower at one end and secured at the other end to said guide means, an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a connecting arm pivotally secured at one end to said second supporting arm and having a cam secured to its other end and to said frame for pivotal movement, said follower riding in said cam; and means to cause said actuating member to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

16. A wheeled scraper comprising a frame supported at the front and rear, and a revoluble bucket mounted on said frame between the front and rear; said frame having side bars with rule joints intermediate the ends to enable said joints to break upwardly and restrain downward breaking and hold the sections of said side bars in alinement; a revoluble bucket journalled on opposite like sections of said side bars on axes offset rearwardly of the center of said bucket whereby the bucket in rolling over to dump will engage the ground and break said joints and may be disposed to clear the ground in carrying position; arcuately spaced stops on said bucket, a longitudinally movable actuating rod carried by said frame adapted to extend over said stops and be coupled to said bucket, latch means on said rod comprising dogs facing one another, the rear dog being a pawl to enable a stop to pass thereover toward the front dog, manually operable means to selectively hold the front dog in latching position or to enable lifting thereof to release a stop; a rocker arm pivotally secured at one end on said frame and pivoted at its other end to said rod, connecting means having a cam follower at one end and being secured at the other end to said arm, an apron for the front of said bucket, supporting arms pivotally secured to said apron on spaced axes and pivotally mounting said apron on said frame on spaced axes, a connecting arm pivotally secured at one end to said apron for pivotal movement and having a cam secured to its other end and to said frame for pivotal movement, said follower riding on said cam; and means to cause said actuating rod to be moved longitudinally and when coupled to said bowl to hold or revolve the latter.

In witness that I claim the foregoing I have hereunto subscribed my name this 23rd day of July, 1931.

CHARLES LE BLEU.