Jan. 1, 1935. G. B. NORRIS 1,986,596

CONVEYER MECHANISM

Filed July 22, 1931 2 Sheets-Sheet 1

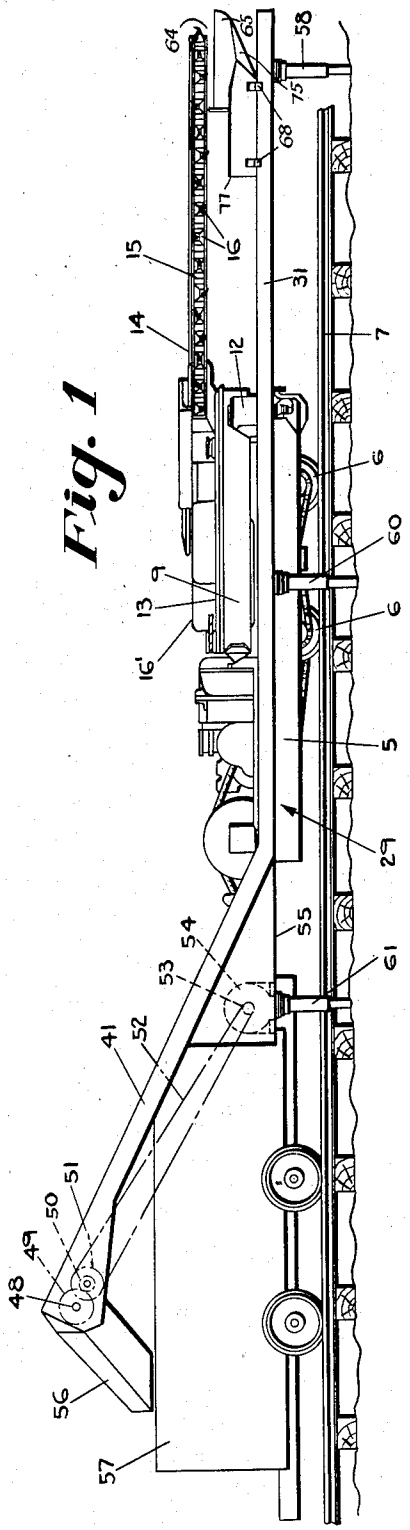


Fig. 1

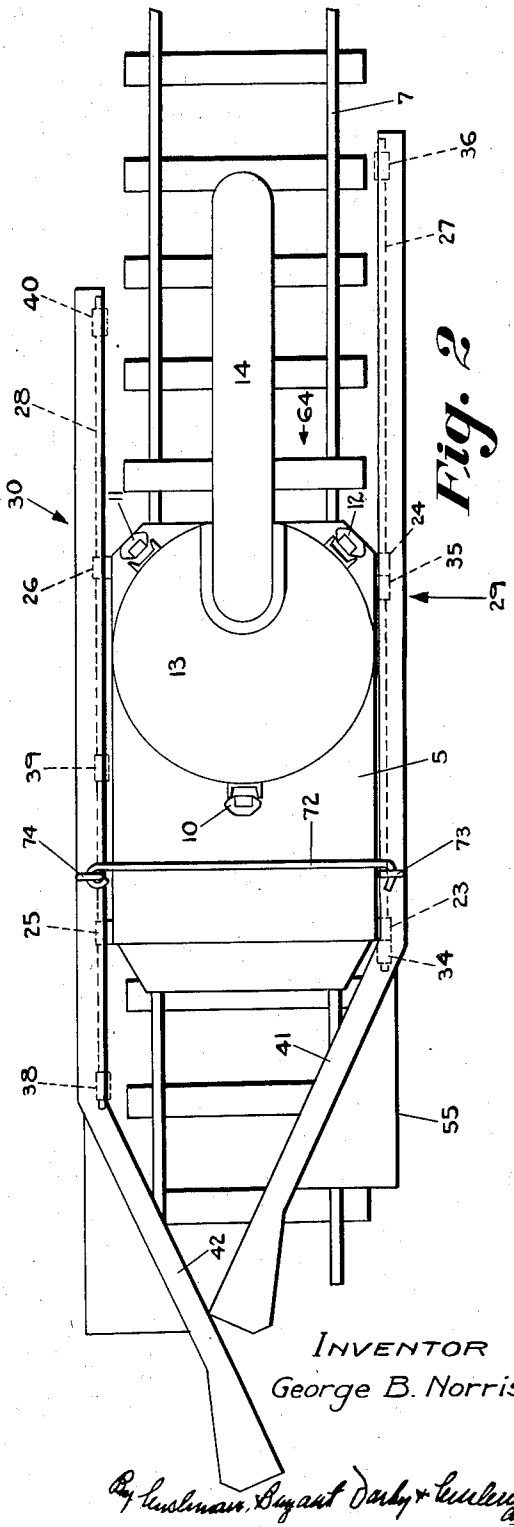


Fig. 2

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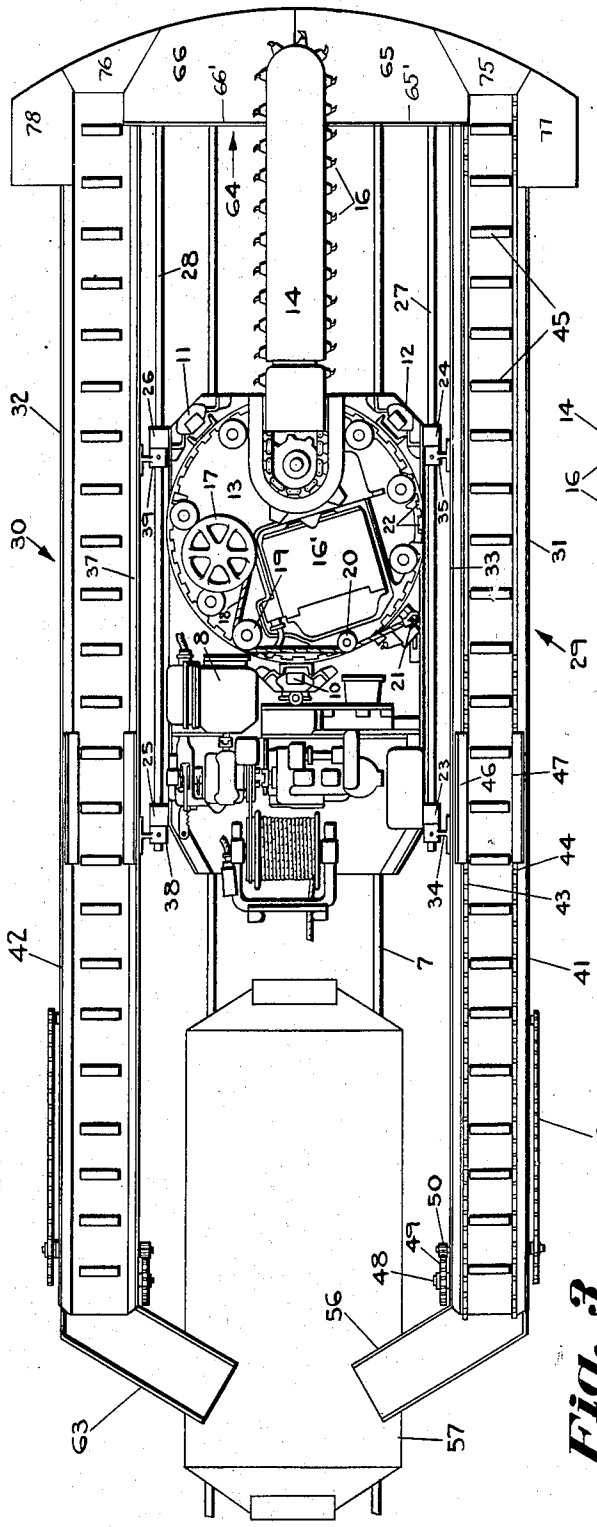


Fig. 3

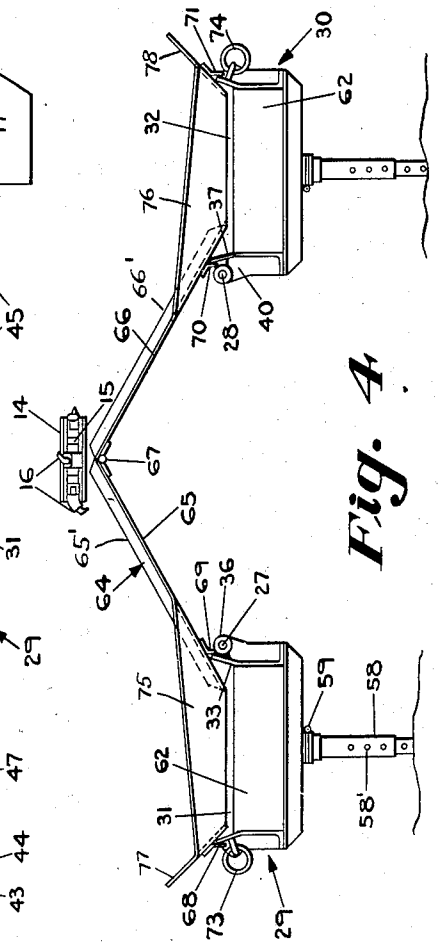


Fig. 4

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UNITED STATES PATENT OFFICE

1,986,596

CONVEYER MECHANISM

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Application July 22, 1931, Serial No. 552,449

29 Claims. (Cl. 262—29)

The present invention relates to conveying mechanisms particularly adapted for use in coal mines and the like, and, more particularly, to such mechanisms in combination with a kerf cutting mining machine to receive the cuttings or slack produced by the latter and to remove same from the immediate vicinity of the cutting operations.

The invention will be described with reference to a mining system employing a track mounted machine presenting a forwardly projecting cutter bar and adapted to be sumped or inserted in a coal face and then, while so inserted, moved transversely of the machine to cut a horizontal kerf. The kerf thus developed has an arcuate inner wall and upon disrupting and removing the kerfed increment, the arcuateness of the kerf is substantially imposed upon the new face from floor to roof, or, to use another form of expression, an "arcwall" is presented. Successive cuts develop successive "arcwalls" until the entry or room has been extended as far as desired. This procedure constitutes the "arcwall" system of mining.

According to the present invention, a conveyer or receiver is associated with the mining machine in advance and extending transversely thereof and having a forward arcuate edge adapted to be positioned against an arcuate face in conformation therewith to receive the cuttings as the succeeding increment is kerfed. Preferably at least one conveyer is provided extending longitudinally of the machine with its forward end in receiving relation to the transverse conveyer. Preferably the longitudinal conveyer is hinged on a longitudinal axis to the machine so as to be swung between operating and transport positions and the transverse conveyer has a disengageable supporting connection with the longitudinal conveyer.

Without further reference to the general characteristics of the invention, I shall proceed to describe a preferred specific embodiment thereof which is shown in the accompanying drawings. In the drawings:

Figure 1 is a side elevation of mining equipment embodying the invention, the conveyers being shown in operative position.

Figure 2 is a diagrammatic plan view of the mining machine of Figure 1 with the conveyers in transport position.

Figure 3 is a plan view of the devices as shown in Figure 1, and

Figure 4 is an end elevation of the mining machine and conveyers.

Referring to the drawings, reference numeral 5 designates generally a truck mounted on wheels 6 which engage a mine track 7. A motor 8 on the truck is connectible through suitable trains with the wheels 6 to drive the latter at a transporting speed to move the truck from place to place in the mine or at a working speed during the cutting operation.

A ring 9 supported on pedestals 10, 11 and 12, is vertically adjustable and tiltable through controllable mechanism driven from motor 8. A turntable 13 mounted on the ring 9 supports a normally forwardly projecting cutter bar 14 whose cutter chain 15, provided with bits 16, is driven from a motor 16' on the turntable. The motor 16' through controllable connections also drives a drum 17 on the turntable, the drum having windable thereon a cable 18 which, as shown in Figure 3, is trained about sheaves 19 and 20 mounted at the edge of the turntable and secured to an anchor lug 21 external to the turntable. The winding direction of the cable may be reversed on the drum and the cable trained in the opposite direction from that shown about suitably disposed sheaves, and its end anchored so that the turntable may be swung from the motor 16' in either direction without reversing the motor. Locking means for the turntable including the peripheral notches 22 are also provided so that the cutter bar 14 may be rigidly held in the desired angular relation to the turntable axis.

In the cutting operation the machine is run up to the mine face on the track 7 at a transporting speed. With the cutter bits disposed as shown in Figure 3, the cutter chain will be driven in a counterclockwise direction and under these circumstances the cutter bar is swung to the right hand corner of the room or entry and the turntable locked. Hereupon the machine is advanced at working speed by the wheels 6 and the cutter bar sumped or inserted in the mine face. When the cutter bar has been sumped to the desired extent, forward movement of the machine is arrested and the machine braked or braced to hold it against movement. The turntable is now unlocked and the drum 17 rotated to swing the kerf cutter across the front of the machine to the left hand side of the room. Hereupon rotation of the turntable is arrested and the locking means again applied, the truck then being backed away from the face with the cutter chain still running. By the described operation a kerf has been formed at the desired height having parallel ribs and an arcuate end wall. Further description of the ma-

chine and its mode of operation is unnecessary since both are well known in the art and the above brief description will suffice for the purposes of the present disclosure.

Projecting laterally at each side of the truck body are pairs of lugs 23, 24, and 25, 26 respectively, these lugs being provided with aligned horizontal bores, which oscillably receive rods or shafts 27, 28 respectively, the rods being considerably longer than the distance between their supporting lugs. Conveyers 29 and 30, each comprising elongated horizontal trough portions 31 and 32 are respectively arranged at the sides of the truck. The side wall 33 of trough 31 has fixed thereto brackets 34, 35 and 36, Figures 2 and 3, and have boss portions provided with aligned bores in which rod 27 is received and fixed. It will be noted that brackets 34 and 35 are spaced as brackets 23 and 24, but lie behind the latter. Bracket 36 is spaced from bracket 24 at a distance at least equal to the distance between brackets 35 and 23. With brackets 34 and 35 in abutment with brackets 23 and 24, as shown in Figure 3, the conveyer trough 31 projects forwardly of the machine a distance equal to the maximum projection of the cutter bar 14.

The inner wall 37 of trough 32 has fixed thereto brackets 38, 39 and 40 similar in form and arrangement to brackets 34, 35 and 36 and secured to rod 28.

Troughs 31 and 32 have rearward extensions 41 and 42 which, with the conveyers in the operative position of Figures 1 and 3, are upwardly inclined. Endless chains 43 and 44 circulate throughout the length of conveyer 29 in superposed runs and are connected by means of material engaging flights 45. At the juncture of the horizontal and inclined trough portions the chains are held to the trough bottom by means of superposed guides 46 and 47 secured to the side walls of the trough. The chains at the rear end of the conveyer engage sprocket wheels secured to a shaft 48 which, through a gear 49, a pinion 50, a sprocket 51 and a chain 52, is driven from a sprocket 53 on the armature shaft of a motor 54. Motor 54 is mounted in a frame 55 beneath the lower end of the inclined trough portion 41, the bottom of the frame being coplanar with the bottom of the horizontal trough portion 31. At its upper end the trough portion 41 has removably attached thereto in receiving relation an inwardly directed spout 56 which in the operative position of the conveyer 29, that is, with the bottom of trough portion 31 transversely substantially horizontal, projects over a mine car 57 on the track to the rear of the mining machine.

A longitudinally adjustable pedestal 58 is in pivotal connection with the bottom of trough portion 31 at its forward end, the pivotal connection being in the nature of an elbow joint including a pivot pin parallel to rod 27 and on the side of the pedestal adjacent the rod. Similar pedestals 60 and 61 are provided rearwardly of pedestal 58, pedestal 61 being mounted directly below motor 54. With the conveyer in the operative position of Figures 1 and 3, the lower ends of the pedestals rest on the mine floor to provide exterior support for the conveyer, each pedestal being adjusted to the proper height by telescopic movement of its sections and retained by means of pins passed through registering apertures as at 58', Figure 4, in the pedestal sections. The forward end of trough 31 is preferably closed as by means of a plate 62.

The construction of conveyer 30 is substantially identical with that of conveyer 29 so that its further description is thought to be unnecessary. At its upper end it is provided with a detachable chute 63 projecting inwardly over the car 57.

The two conveyers extend forwardly of the machine to their maximum extent as particularly shown in Figure 3, and a transverse conveyer 64 is arranged between them at their extremities. Conveyer 64 comprises a pair of chutes 65 and 66 pivoted together on a pin 67 and in the operative position of the conveyer the chutes are substantially in the form of an inverted V, as shown in Figure 4. At their lower ends the chute bottoms are provided with transverse cleats 69 and 70, which engage the upper edges of the trough side walls 33 and 37 to support the conveyer 64 thereon. The forward portions of the chute ends have upwardly and outwardly inclined extensions 75 and 76, which terminate in rearwardly extending upwardly and outwardly inclined wings 77 and 78, supported on the outer side walls of troughs 31 and 32 through cleats 68 and 71. The lower ends of the chutes with the extensions and wings define, in effect, three-walled rearwardly open hoppers.

It will be noted from Figure 3, that the front edge of the conveyer 64 is of arcuate outline in plan view, its arc being the arc described by the free end of the cutter bar. When an arcuate cut has been made, therefore, and the increment removed, the front edge of conveyer 64 is adapted to conform closely to the new face. The mine face may thus be said to constitute a front confining wall for chutes 65 and 66, the rear marginal portions of the chutes being upturned as at 65' and 66' to constitute rear confining walls. The apex of conveyer 64 lies beneath the lowest plane of adjustment of the cutter bar, so as not to interfere with the swinging movements of the latter.

With the parts in the position shown particularly in Figure 3, the transverse conveyer 64 and the ends of the longitudinal conveyers 29 and 30 may be assumed to be substantially against the mine face in advance of the machine. The cutter bar is angled as has been previously described and the machine advanced to sump it in the face. During this operation, the conveyers remain stationary, brackets 23, 24 and 25, 26 sliding along the rods 27 and 28 respectively. As the cutter bar is inserted, the cuttings carried out by the bits will be delivered to the end of conveyer 29 by the hopper-like arrangement at the lower end of chute 65, the cuttings being moved along conveyor 29 and being deposited in the mine car through chute 56. When the sumping operation is completed, brackets 24 and 26 will have advanced to a position in contact with or adjacent brackets 36 and 40. The cutter bar is now swung across the face and as it moves, cuttings are eventually passed to chute 66 and the hopper-like arrangement at its lower end to be guided into the end of conveyer 30 for transfer rearwardly by the latter end through chute 63 into the mine car. It will thus be evident that throughout the cutting operation the great majoriy of the cuttings will fall upon the conveyers to be removed thereby, so that when the kerf has been cut and the machine moved back the face is ready to be shot without the preliminary of shoveling the slack aside. Chute portions 65 and 66 catch the cuttings between the longitudinal conveyers, extensions 75 and 76, catch the cuttings at the ends of the longitudinal conveyers, and wings 77 and

78, catch cuttings falling to the outside of the longitudinal conveyers.

When the machine is to be transported, conveyer 64 is disengaged from the trough side walls 33 and 37 and the troughs are then swung upwardly about the pivot rods to bring the trough bottoms into substantially transverse vertical position. As has been shown in Figure 2, in transportation, the troughs occupy a somewhat staggered relation so that the rear end portion of one lies somewhat forward of the rear end portion of the other so as not to interfere therewith, chutes 56 and 63 being removed. With the troughs in this position, a link 72 is engaged with rings as at 73 and 74 attached to respective side wall reinforcing brackets to hold the conveyers in transporting position. It will be understood that when the troughs are swung upwardly, the supporting pedestals therefor gravitate into a vertical position close to the trough bottoms so as to be out of the way. The transverse conveyer 64 may be folded and placed in any convenient location on the machine for transportation.

Two longitudinal conveyers are preferably, although not necessarily provided. The use of two, however, gives a balanced machine and also provides convenient means for supporting both ends of the transverse conveyer. While the transfer conveyer has been shown as being constituted by two chute portions, it is to be understood that I do not limit myself to this type of conveyer. In the use of a chute conveyer, it is preferable to construct the conveyer in the form of an inverted V, as shown, since thus fairly steep inclines are securable with a small overall height. The chutes may be constituted by steel plates and hence as compared to a mechanical conveyer are cheaply constructed and easily handled.

It will be evident that the invention is capable of embodiment without departure from its scope, in forms other than that shown and described and, consequently, I do not limit myself to structure except as in the following claims.

I claim:

1. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a conveyer extending transversely in front of the machine below the cutter and disposable against the face and comprising a plate adapted to receive the cuttings from the cutter, a supporting connection between the conveyer and machine permitting movement of the support toward and away from the conveyer, and means for receiving material from the conveyer and transferring it rearwardly of the machine.

2. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a conveyer extending transversely in front of the machine below the cutter and disposable against the face and comprising a plate adapted to receive the cuttings from the cutter, a supporting connection between the conveyer and machine permitting movement of the support toward and away from the conveyer, and a second conveyer extending longitudinally of the machine in receiving relation to the first conveyer.

3. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a conveyer extending longitudinally of the machine, a supporting connection between the conveyer and the machine permitting relative movement of the support longitudinally of the conveyer, and a transverse conveyer at the receiving end of the first mentioned conveyer and adapted to deliver to the latter, said transverse conveyer being disposable against the mine face beneath the cutter and comprising a plate adapted to receive the cuttings therefrom.

4. The combination with a mining machine, said machine comprising a support movable with the machine toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a conveyer extending longitudinally of the machine and having a sliding connection with the machine to permit relative movement of the machine longitudinally of the conveyer, and a transverse conveyer at the receiving end of the first mentioned conveyer and adapted to deliver to the latter, said transverse conveyer being disposable against the mine face beneath the cutter to receive the cuttings therefrom.

5. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers extending longitudinally of the machine one at each side thereof and relative to which the machine is longitudinally movable, and a transverse conveyer supported at the forward ends of said first mentioned conveyers and adapted to deliver to both of the latter, said transverse conveyer being disposable against the mine face beneath the cutter to receive the cuttings therefrom.

6. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers extending longitudinally of the machine one at each side thereof and relative to which the machine is longitudinally movable, and a transverse conveyer comprising end portions downwardly inclined from its central portion supported at the forward ends of said first mentioned conveyers and adapted to deliver to both of the latter, said transverse conveyer being disposable against the mine face beneath the cutter to receive the cuttings therefrom.

7. The combination with a mining machine,

said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers extending longitudinally of the machine one at each side thereof and relative to which the machine is longitudinally movable, and a transverse conveyer supported by the first mentioned conveyers at their forward ends to deliver to the latter, said transverse conveyer being disposable against the mine face beneath the cutter to receive the cuttings therefrom.

8. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers extending longitudinally of the machine one at each side thereof and relative to which the machine is longitudinally movable, and a transverse conveyer comprising chutes arranged substantially in the form of an inverted V supported by the first mentioned conveyers at their forward ends to deliver to the latter, said transverse conveyer being disposable against the mine face beneath the cutter to receive the cuttings therefrom.

9. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, material transporting means operable in the trough, motor means for driving said material transporting means, and hinge means slidably connecting the trough adjacent one side thereof to one side of the base whereby the trough is slidable with respect to the base and is swingable from an operative position in which the trough bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical.

10. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, hinge means connecting the trough adjacent one side thereof to one side of the base whereby the trough is swingable from an operative position in which the trough bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical, and a pedestal hinged to the underside of the trough for engaging an external supporting surface when the trough is in operative position.

11. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, material transporting means operable in the trough, motor means for driving said material transporting means, a hinge rod extending longitudinally of the trough adjacent one side thereof and connected thereto, and brackets on the movable base oscillably supporting said rod whereby the trough is swingable from an operative position in which the trough bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical, the rear end of the trough being upwardly and rearwardly inclined relative to the forward portion when in operative position, and a drive motor for said transporting means carried by said trough beneath its inclined rear end.

12. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, a hinge rod extending longitudinally of the trough adjacent one side thereof and connected thereto, and brackets on the movable base oscillably and slidably supporting said rod whereby the trough is swingable from an operative position in which the trough bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical.

13. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, and means connecting said trough and base whereby the latter is swingable relative to the former about a longitudinally extending axis and slidable relative thereto along said axis, the useful swinging range of the trough being from an operative position in which the conveyer bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical.

14. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, and hinge means connecting the trough adjacent one side thereof to one side of the base whereby the trough is swingable from an operative position in which the trough bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical, said trough comprising a portion inclined upwardly and rearwardly when the trough is in operative position and which lies rearwardly of the base when the trough is in transporting position.

15. Mechanism of the class described comprising a movable base, a conveyer comprising an elongated horizontally extending trough, and means connecting said trough and base whereby the latter is swingable relative to the former about a longitudinally extending axis and slidable relative thereto along said axis, the useful swinging range of the trough being from an operative position in which the conveyer bottom is transversely substantially horizontal to a transporting position in which it is transversely substantially vertical, said trough comprising a portion inclined upwardly and rearwardly when the trough is in operative position and which lies rearwardly of the base when the trough is in transporting position.

16. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a conveyer comprising a pair of chutes arranged in substantially the form of an inverted V and extending transversely in front of the machine below the cutter and disposable against the face to receive the cuttings from the cutter, and a supporting connection between the conveyer and machine permitting movement of the support toward and away from the conveyer.

17. The combination with a mining machine, said machine comprising a support movable toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face

upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a conveyer comprising a pair of chutes arranged in substantially the form of an inverted V and extending transversely in front of the machine below the cutter and disposable against the face to receive the cuttings from the cutter, a supporting connection between the conveyer and machine permitting movement of the support toward and away from the conveyer, and means for receiving material from both ends of said conveyer and transferring it rearwardly of the machine.

18. The combination with a mining machine, said machine comprising a support movable with the machine toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers comprising elongated troughs extending longitudinally of the machine one at each side thereof, hinge rods extending longitudinally of the inner edges of the troughs and connected thereto, brackets on the machine oscillably and slidably supporting said rods whereby the troughs are swingable from operating positions wherein their bottoms are transversely substantially horizontal to transporting positions wherein the bottoms are transversely substantially vertical, and a transverse conveyer disposable against the mine face below the cutter to deliver the cuttings to both of the first mentioned conveyers when the latter are in operating position.

19. The combination with a mining machine, said machine comprising a support movable with the machine toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers comprising elongated troughs extending longitudinally of the machine one at each side thereof, hinge rods extending longitudinally of the inner edges of the troughs and connected thereto, brackets on the machine oscillably and slidably supporting said rods whereby the troughs are swingable from operating positions wherein their bottoms are transversely substantially horizontal to transporting positions wherein the bottoms are transversely substantially vertical, a transverse conveyer disposable against the mine face below the cutter to deliver the cuttings to both of the first mentioned conveyers when the latter are in operating position, and means for operatively supporting said transverse conveyer on the first mentioned conveyers.

20. The combination with a mining machine, said machine comprising a support movable with the machine toward a mine face in a rectilinear path substantially normal to the face, a kerf cutter projecting forwardly of the support to be inserted in the face upon such movement of the support, and means for moving the cutter horizontally across the front of the machine while inserted in the face, of a pair of conveyers comprising elongated troughs extending longitudinally of the machine one at each side thereof, hinge rods extending longitudinally of the inner edges of the troughs and connected thereto, brackets on the machine oscillably and slidably supporting said rods whereby the troughs are swingable from operating positions wherein their bottoms are transversely substantially horizontal to transporting positions wherein the bottoms are transversely substantially vertical, a transverse conveyer comprising a pair of chutes arranged in substantially the form of an inverted V disposable against the mine face below the cutter to deliver the cuttings to the first mentioned conveyers when the latter are in operating position, and means for supporting the lower portions of said chutes on the first mentioned conveyers.

21. A receiver for the cuttings of a swingable cutter mining machine operated on the arcwall system, said receiver being constituted by a conveyer adapted to be positioned across and against the face in front of the machine and below the cutter, said conveyer having an arcuate forward edge substantially conforming to the outline of the face and having a delivery direction transverse to the longitudinal axis of the machine to deliver cuttings to the side of the machine.

22. A receiver for the cuttings of a swingable cutter mining machine operated on the arcwall system, said receiver being constituted by a conveyer adapted to be positioned across and against the face in front of the machine and below the cutter, said conveyer having an arcuate forward edge substantially conforming to the outline of the face and having a delivery direction transverse to the longitudinal axis of the machine to deliver cuttings to the side of the machine, and a hopper formation at its delivery end.

23. A receiver for the cuttings of a swingable cutter mining machine operated on the arcwall system, said receiver being constituted by an inclined chute adapted to be positioned transversely against the face in front of the machine and below the cutter, said chute having an arcuate forward edge substantially conforming to the outline of the face and having a delivery direction transverse to the longitudinal axis of the machine to deliver cuttings to the side of the machine.

24. A receiver for the cuttings of a swingable cutter mining machine operated on the arcwall system, said receiver being constituted by an inclined chute adapted to be positioned transversely against the face in front of the machine and below the cutter, said chute having an arcuate forward edge substantially conforming to the outline of the face and having a delivery direction transverse to the longitudinal axis of the machine to deliver cuttings to the side of the machine, and having hopper defining walls at its lower end.

25. A receiver for the cuttings of a swingable cutter mining machine operated on the arcwall system, said receiver being constituted by a chute in the form of an inverted V adapted to be positioned across and against the face in front of the machine with its apex below the cutter, said chute having an arcuate forward edge substantially conforming to the outline of the face.

26. A receiver for the cuttings of a swingable cutter mining machine operated on the arcwall system, said receiver being constituted by a chute in the form of an inverted V adapted to be positioned across and against the face in front of the machine with its apex below the cutter, said chute having an arcuate forward edge substantially conforming to the outline of the face, and means pivotally connecting the

chute sides at the apex of the chute, whereby the sides may be brought together for the purpose of transportation.

27. In a machine of the class described, a wheel mounted base structure, conveyer troughs extending longitudinally of said base structure one at each side of the latter, material transporting means operable in the troughs to move material rearwardly in each trough, motor means for driving said transporting means, and a receiving conveyor at the front of the machine adapted to deliver to both of said conveyer troughs, said receiving conveyer being supported by said troughs, said troughs having support external of the machine and the machine being movable relative to the troughs longitudinally thereof.

28. In a machine of the class described, a wheel mounted base structure, conveyer troughs extending longitudinally of said base structure one at each side of the latter and supported thereby for swinging movement about longitudinal axes, material transporting means operable in the troughs to move material rearwardly in each trough, motor means for driving said transporting means, and a receiving conveyer at the front of the machine adapted to deliver to both of said conveyer troughs.

29. In a machine of the class described, a wheel mounted base structure, conveyer troughs extending longitudinally of said base structure one at each side of the latter and supported thereby for swinging movement about longitudinal axes, material transporting means operable in the troughs to move material rearwardly in each trough, motor means for driving said transporting means, and a receiving conveyer at the front of the machine adapted to deliver to both of said conveyer troughs and for longitudinal movement of the machine relative thereto.

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