

F. C. GREENE.
 AUTOMATIC TRANSFER DUMP.
 APPLICATION FILED APR. 5, 1909.

1,065,325.

Patented June 17, 1913.

5 SHEETS—SHEET 1.

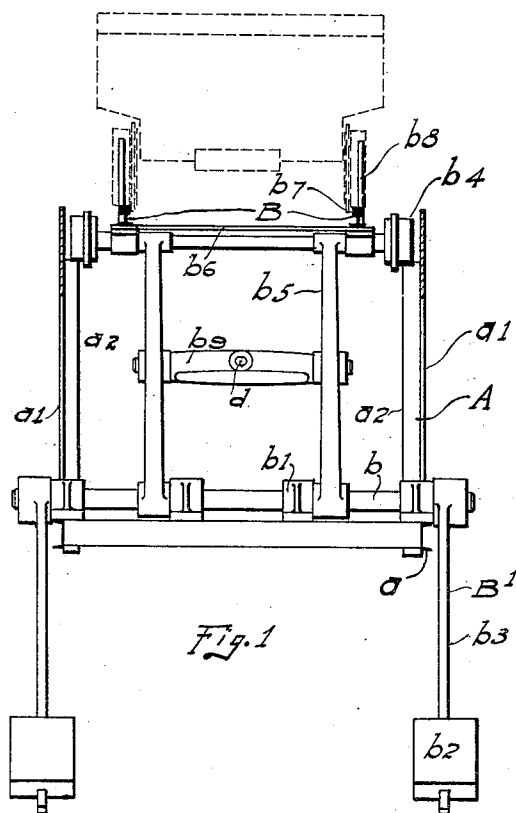


Fig. 1

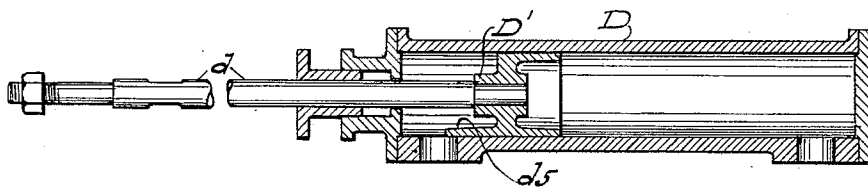


Fig. 8

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5 SHEETS—SHEET 2.

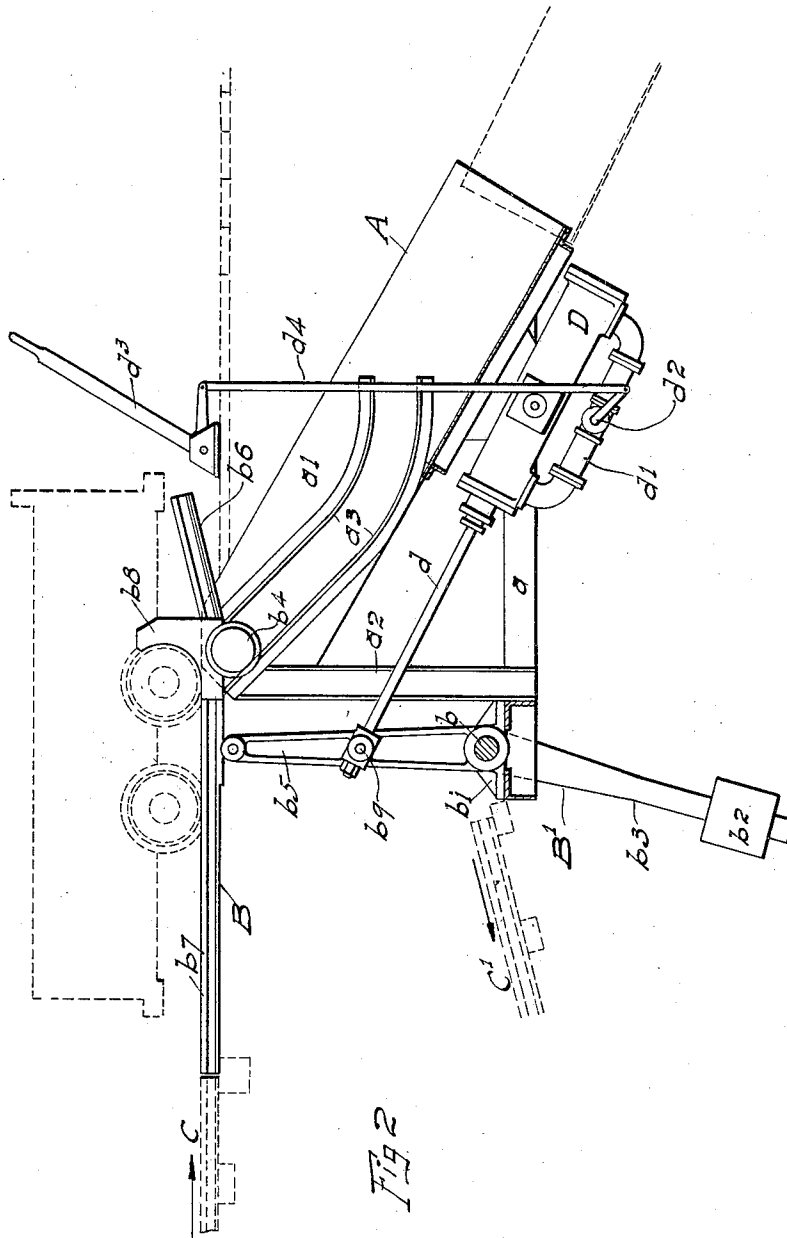


Fig. 2

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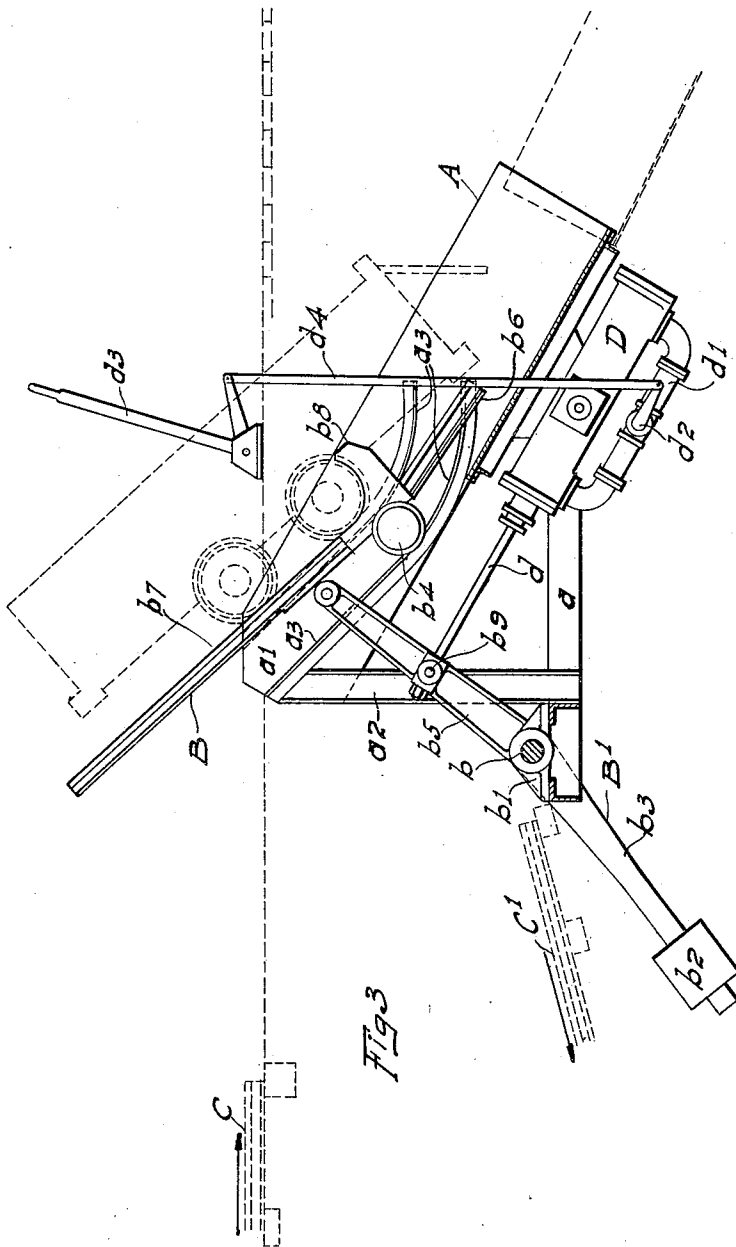
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5 SHEETS—SHEET 3.



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6 SHEETS—SHEET 4.

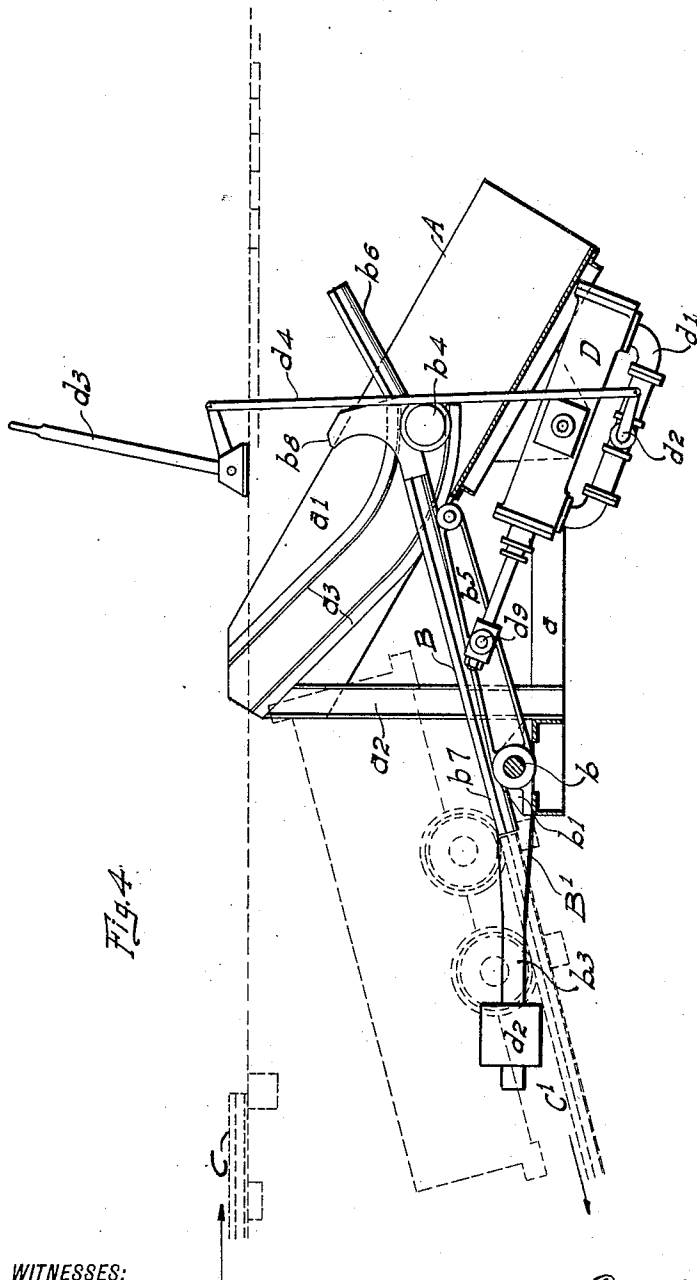


Fig. 4

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5 SHEETS—SHEET 5.

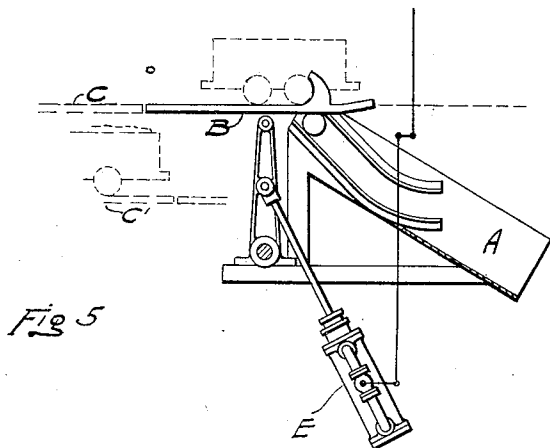


Fig 5

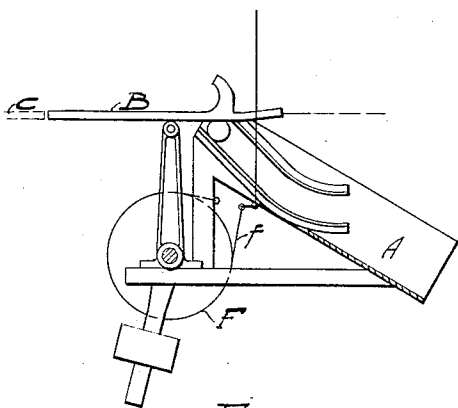


Fig 6

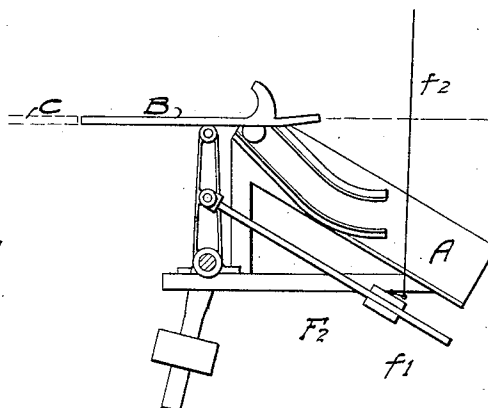


Fig 7

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UNITED STATES PATENT OFFICE.

FRANK C. GREENE, OF CLEVELAND, OHIO.

AUTOMATIC TRANSFER-DUMP.

1,065,325.

Specification of Letters Patent.

Patented June 17, 1913.

Application filed April 5, 1909. Serial No. 487,863.

To all whom it may concern:

Be it known that I, FRANK C. GREENE, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Automatic Transfer-Dumps, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention relates as indicated to dumping mechanism, and while in its particular aspects it has regard to the provision of apparatus for dumping mine cars, such as are employed in coal mines and the like, it will of course, be understood that such apparatus may, by suitable modification all within the spirit of the invention be adapted equally well for the handling of cars of various kinds and sizes other than those just referred to. It should, moreover, be pointed out that the car-transferring and car-dumping features characterizing the apparatus need not necessarily both be joined in the use thereof, but that the apparatus may, for example, be employed simply as a transfer device to handle cars, either loaded or empty, automatically lowering the same from one level to another.

The general principle of operation illustrated in the present invention is the same as that disclosed and broadly claimed in a pending application filed by me August 15, 1906, Serial No. 330,652. In illustration of this principle of operation, the present invention, in common with the one disclosed in the application just referred to, comprises a floating track section oscillatory about two movable axes, by a proper control of the movement of which such track section may not only be made to incline to correspond with the direction of the inclination of the car-delivery and car-discharge tracks with which it is alternately brought into register; but may also be made to tilt, incidentally to its movement from one such position to the other, at an angle such as to cause the contents of a car placed thereon to be discharged or dumped. It should further be remarked that the present invention bears a certain degree of similarity to a specific form of the above identified apparatus that forms the subject matter of a pending application of Oscar V. Greene,

filed April 13, 1908, Serial No. 426,716, such specific modification, however, referring more especially to a cross-over dump, instead of one designed primarily for use with superposed tracks as is the case with the one in hand.

The object of the present invention is the provision of car transferring and dumping mechanism of the character described, in which the construction and operation will be as simple as possible, and all the mechanism involved be embodied in a compact structure capable of construction and installation as a unitary mechanism.

To the accomplishment of the above and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but several of the various mechanical forms in which the principle of the invention may be used.

In said annexed drawings: Figure 1 is a front elevational view of an automatic transfer dump embodying my several improvements; Figs. 2, 3 and 4 are side elevations of the same, showing the parts in successive operative positions; Figs. 5, 6 and 7 are side elevational views of modified forms of construction; and Fig. 8 is a sectional view on a larger scale of a retarding cylinder constituting one of the features of the mechanism.

Having in view particularly the object indicated above of rendering the mechanism as simple and compact as possible, I propose in the present instance to mount the same in effect upon the upper end-section of the discharge chute by which the coal is conducted, in prevailing tippable constructions, from the dumping station to the weigh-pan. Such upper chute section is designated in the several figures of the drawings by reference letter A and is trough-like in form. The bottom of chute section A rests upon a frame work consisting of horizontal channels, a while its lateral portions a' are extended and supported by vertically disposed channels a'' mounted upon horizontal channels a . On the inner faces of such extensions of the lateral chute walls a' are provided guides a^3 spaced to form guide-ways inclining downwardly and forwardly from the up-

per portion of the frame and curving outwardly as shown. Between such lateral extensions of the chute and the guide-ways provided thereon and just described, is supported the floating track-section B upon which the car is carried, pending the dumping of the same and its transfer from the upper to the lower of the two superposed tracks C C'. Upper tracks C, it will be understood, will preferably incline downwardly to the dumping station as shown, while the lower inclines downwardly from such station.

In the specific constructional form of dump illustrated in Figs. 1 to 4 inclusive, which should be first considered, floating-track section B is supported by an oscillatory member B' in the form of two counter-weighted levers b^5 borne by a rock shaft b journaled in suitable bearings b' provided upon the rearwardly extending ends of frame members a . The levers b^5 are unvarying in length so that the distances between the rock shaft b and the outer ends of the levers is always the same. As a matter of convenience, the arms b^3 , upon which the counterweights b^2 for such levers are adjustably secured, are mounted upon the ends of rock shaft b , so as to lie without the frame instead of being alined with said lever arms; in effect, however, they of course constitute a part of the same. Oscillation of this supporting member will be effective to move the floating track-section B from its upper position in register with the upper C of the two superposed tracks to its lower position in which it registers with the lower C' of said tracks. Normally, however, the counterweights provided in connection with arms b^3 will retain the track-section in the first of said positions. To variously dispose the track-section so as to properly incline it when thus in register with aforesaid tracks, and to tilt it in order to dump the car when in an intermediate position between the same, rollers b^4 are provided near its forward end, which rollers travel in the curved guide-ways a^3 on the inner faces of the extended lateral chute walls a' . The degree of inclination and the character of the curvature of these guide-ways are so determined as to oscillate the track-section with respect to its support B', that, as the latter oscillates in turn about its axis, the track-section will describe the desired movements. While such track-section may take on various forms, the construction illustrated is preferred, comprising as it does an imperforate or closed base b^6 of sheet metal upon which are mounted the rails b^7 whereon the car is actually received. Such rails bear upturned horns or stops b^8 , near the forward ends, the function of which is to engage the front wheels of a car as the latter moves on to the track-section off from the upper track and

retain the same against dislodgment pending the subsequent movement of the track-section until the latter is oppositely inclined in its final position. In this position the car is adapted to run freely off the track section on to the lower track. The sheet b^6 constituting the foundation in effect, of the track-section, along with rails b^7 , is extended forwardly beyond stops b^8 far enough to project within that portion of the chute A previously referred to as being incorporated in the structure under consideration, when the track section is in its dumping position. As a result the chute is rendered continuous with and inclusive of the dumping track-section, and any coal that may be accidentally spilt either as the car moves onto the track-section or as the latter tilts, will be discharged into the chute and not scattered.

Since the depression of the track-section is secured by the weight of the car thereon, the normal position of the track-section being, as stated, in register with the upper track C, it is necessary to provide retarding means that such depression of the track-section and car may be suitably regulated. Such retarding means comprise, in the present instance, a liquid-containing cylinder D oscillatorily mounted below the forward ends of guide-ways a^3 , or in other words beneath the chute-section A. The reciprocable piston D' of this cylinder (see Fig. 8) is connected by means of a piston rod d with a cross-head b^9 joining the two lever arms b^5 that compose the oscillatory support B' of the track-section. Cylinder D is provided with a by-pass d' of relatively large diameter, so that when unobstructed the liquid contained in said cylinder may flow freely from one end to the other thereof without perceptibly affecting the movement of the track-section. To stop such flow or control the same, a straight-way valve d^2 is introduced in said by-way, operation of the valve being had from the operator's station through a lever d^3 and connecting rod d^4 , or other suitable manually operable means. The piston rod d , extending, as it does, through one head only of the cylinder, will obviously occupy a variable amount of space within the latter, depending upon the position of the piston therein. The amount of oil or other liquid within the cylinder is gaged so as to substantially fill the same when the piston rod is in its inner position and occupying a maximum amount of space. The cylinder volume remaining over when said piston occupies a minimum space as in its upper position, is taken up by a body of air or other gas which will obviously be compressed as the piston moves downwardly. Such compression of air, I find, affords an admirable cushion, in that it takes up the jar of the on-coming car by permitting a slight movement of the track-section even

when by-pass d' is closed. The effect of the expansion of the air in the return movement of the track-section is that of a "booster" to assist the counter-weighted lever arms, which latter furthermore, are disposed so as to have the greatest leverage when in this position. In order to slow down the movement of the track-section as it nears its upper position, I secure an automatic control of the flow of liquid through the by-pass, by providing the piston D' with a longitudinal extension d^5 that is adapted to gradually close the connection between the by-pass and cylinder as said piston approaches the upper limit of its stroke. That this control may be adjusted, the piston rod (to which the piston is non-rotatably secured) is mounted in the cross-head b^9 so as to be axially adjustable. Rotation thereof, accordingly, in one direction or the other will correspondingly position the extension d^5 of the piston just described, so as to cut off more or less of the by-pass as may be found desirable under actual conditions of operation, see Fig. 8.

It is not deemed necessary to further describe the operation of my improved dump mechanism than to indicate the track-section's cycle of movement, since the operation of the several parts has been fully indicated in connection with the description of their construction. The track-section, normally occupying as it does, a position in register with the upper of the superposed tracks, will be locked in this position, save for the slight movement above referred to, by closing the by-pass valve d^2 of the regulating cylinder, Fig. 2. This is its condition pending the reception thereon of a car from off track C. Such car will then be dumped by opening said by-pass valve, through suitable actuation of the lever d^2 . This opening of the valve may be so regulated as to render the dumping movement as gentle as may be desired, and such movement can be interrupted at any stage with more or less suddenness by simply closing the valve, should it be desired to slightly jar the car in order to dislodge its contents. Upon completion of the dumping movement further oscillation of the track-section support B' brings the track section into register with the lower track C' at an angle such as to cause the car to run off under the influence of gravity. In this position the track-section may be retained as long as it is desired by again completely closing the by-pass of the cylinder. Upon opening such by-pass, however, (and preferably the valve will be completely opened) the track-section is restored to its upper position by the counter-weights b^2 , the final stage of its upper movement being checked automatically, so as to allow it to come to rest without the slightest jar or shock, by the joint action of the air cushion, formed,

as stated, between the body of oil and cylinder head, and the partial closure of the by-pass connection by piston extension d^5 .

The modification in construction illustrated in Fig. 5 consists in the substitution of a power cylinder E for the simple retarding cylinder D, so that the order of car-delivery and car-discharge tracks may be reversed. In other words, the loaded car is designed to be received onto the floating track-section B in the lower position of the latter; upon then admitting a suitable pressure-fluid, as steam or compressed air, into the cylinder E the elevation of such track-section is positively effected and incidentally the car dumped of its contents just as before. The inclination of the track $C C'$ and of the track-section, when in register therewith, will obviously, be readjusted to correspond with this change in the mode of operation. By suitably controlling the exhaust from cylinder E, the descent of the track-section, after the car has been raised and discharged onto track C, can be regulated to prevent any undue jar or shock to the mechanism.

In Figs. 6 and 7, the same general form of device is shown as in Fig. 2, except that for cylinder D other retarding means are employed. Such means comprise, in the first of the two figures in question, a brake-wheel F and band f passing around the same, so that by now tightening now loosening such band, a proper control of the movement of the dump can be secured; while in Fig. 7 such means comprise the familiar "sword-arm" type of brake, including an arm F^2 adapted to be clamped more or less tightly by a pinch-block f' by operation of a lever f^2 .

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:--

1. In mechanism of the class described, the combination of a support of unvarying length oscillatory about a fixed axis, a track-section pivotally attached at one point to said support, and a relatively fixed guide engaging said track-section at another point.

2. In mechanism of the class described, the combination of a support of unvarying length oscillatory about a fixed axis, a track-section pivotally attached at one point to said support, means normally positioning said support and track-section, and a relatively fixed guide engaging said track-section at another point.

3. In mechanism of the class described, the combination of a lever arm of unvarying length oscillatory about a fixed axis, a track-

section pivotally attached at one point to said lever arm and a relatively fixed, inclined guide engaging said track-section at another point.

5 4. In mechanism of the class described, the combination of a lever arm of unvarying length oscillatory about a fixed axis, a counter-weight normally positioning said lever arm and track-section, and a relatively fixed, 10 inclined guide engaging said track-section at another point.

5. In mechanism of the class described, the combination of a floating track-section, a pivotally mounted counter-weighted lever 15 arm pivotally connected with said track-section between the ends of said section, said lever arm being adapted to maintain said track-section in normal position and to oscillate the same upon its being moved from 20 such position, and means connected with said lever arm and adapted to regulate oscillation thereof.

6. In mechanism of the class described, the combination of a floating track-section, a 25 pivotally mounted counter-weighted lever arm pivotally connected with said track-section between the ends of said section, said lever arm being adapted to maintain said track-section in normal position and to oscillate the same upon its being moved from 30 such position, an oscillatorily mounted cylinder provided with a by-pass, and a piston in said cylinder connected with said lever arm, whereby oscillation thereof is regulated.

7. In mechanism of the class described, the combination of a floating track-section, a 35 pivotally mounted counter weighted lever arm pivotally connected with said track-section between the ends of said section, said lever arm being adapted to maintain said track-section in normal position and to oscillate the same upon its being moved from 40 such position, an oscillatorily mounted cylinder provided with a by-pass, a piston in said cylinder connected with said lever arm, a valve in said by-pass, and manually operable means for actuating said valve, whereby 45 oscillation of said lever arm may be variably regulated.

8. In mechanism of the class described, the combination of a fixed axis, a floating 50 track-section, a lever member of unvarying length pivoted thereto and oscillatorily mounted on said fixed axis, means for bodily moving said track-section, and relatively 55 fixed guide means adapted to oscillate said track-section with respect to said member upon such bodily movement of the section.

9. In mechanism of the class described, the combination of a fixed axis, a floating 60 track-section, a lever member of unvarying length pivoted thereto and oscillatorily mounted on said fixed axis, means for bodily moving said track-section, and a relatively 65 moving said track-section, and a relatively

fixed guide-way engaging said track-section and adapted to oscillate the same with respect to said member upon such bodily movement of the section.

10. In mechanism of the class described, 70 the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, and relatively fixed guide 75 means adapted to oscillate said track-section with respect to said lever arm upon movement of the latter.

11. In mechanism of the class described, 80 the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, and relatively fixed guide 85 ways adapted to oscillate the same with respect to said lever arm upon movement of the latter.

12. In mechanism of the class described, 90 the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, and a relatively fixed forwardly and downwardly inclining guide-way engaging said track-section and adapted 95 to oscillate the same with respect to said lever arm upon movement of the latter.

13. In mechanism of the class described, the combination of a fixed axis, a floating 100 track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, and a relatively fixed forwardly and downwardly inclining, outwardly curved guide-way engaging said track-section and adapted to oscillate the 105 same with respect to said lever arm upon movement of the latter.

14. In mechanism of the class described, the combination of a fixed axis, a floating 110 track-section, a lever member of unvarying length pivoted thereto and oscillatorily mounted on said fixed axis, means for bodily moving said track-section, relatively fixed guide-means adapted to oscillate said track-section with respect to said member 120 upon such bodily movement of the section, and means adapted to regulate oscillation of said member.

15. In mechanism of the class described, the combination of a fixed axis, a floating 125 track-section, a lever member of unvarying length pivoted thereto and oscillatorily mounted on said fixed axis, means for bodily moving said track-section, a relatively fixed guide-way engaging said track-section 130

and adapted to oscillate the same with respect to said member upon such bodily movement of the section, and retarding means connected with said member and adapted to regulate oscillation thereof.

16. In mechanism of the class described, the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, relatively fixed guide means adapted to oscillate said track-section with respect to said lever arm upon movement of the latter, a cylinder provided with a by-pass, and a piston in said cylinder connected with said lever arm, whereby oscillation thereof may be regulated.

17. In mechanism of the class described, the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, a relatively fixed guide-way engaging said track-section and adapted to oscillate the same with respect to said lever arm upon movement of the latter, a cylinder provided with a by-pass, a piston in said cylinder connected with said lever arm, and manually operable means for controlling such by-pass, whereby oscillation of said lever arm may be variably regulated.

18. In mechanism of the class described, the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, a relatively fixed forwardly and downwardly inclining guide-way engaging said track-section and adapted to oscillate the same with respect to said lever arm upon movement of the latter, a cylinder oscillatorily mounted below the forward end of said guide-way and provided with a by-pass and a piston in said cylinder connected with said lever arm, whereby oscillation thereof may be regulated.

19. In mechanism of the class described, the combination of a fixed axis, a floating track-section, a counterweighted lever arm of unvarying length pivoted thereto and pivoted on said fixed axis, said lever arm normally retaining said track-section in elevated position, and a relatively fixed forwardly and downwardly inclining, outwardly curved guide-way engaging said track-section and adapted to oscillate the same with respect to said lever arm upon movement of the latter, a cylinder oscillatorily mounted below the forward end of said guide-way and provided with a by-pass, a piston in said cylinder connected with said lever arm, a valve in said by-pass, and man-

ually operable means for actuating said valve, whereby oscillation of said lever arm may be variably regulated.

20. The combination of the two superposed tracks, a support of unvarying length oscillatory about a fixed axis, a track-section pivotally attached at one point to said support and adapted in different positions of the latter about its axis to register with said tracks respectively, and a relatively fixed guide engaging said track-section at another point.

21. The combination of two superposed tracks, a support of unvarying length oscillatory about a fixed axis, a track-section pivotally attached at one point to said support and adapted in different positions of the latter about its axis to register with said tracks respectively, means normally positioning said support with said track-section in register with the upper of said tracks, and a relatively fixed guide engaging said track-section at another point.

22. The combination of two superposed tracks, a lever arm of unvarying length oscillatory about a fixed axis, a track-section pivotally attached at one point to said lever arm and adapted in different positions of the latter about its axis to register with said tracks respectively, and a relatively fixed inclined guide engaging said track-section at another point spaced from the point of attachment of said lever arm thereto.

23. The combination of two superposed tracks, a lever arm of unvarying length oscillatory about a fixed axis, a track-section pivotally attached at one point to said lever arm and adapted in different positions of the latter about its axis to register with said tracks respectively, a counterweight normally positioning said lever arm with said track-section in register with the upper of said tracks, and a relatively fixed, inclined guide engaging said track-section at another point spaced from the point of attachment of said lever arm thereto.

24. The combination of two superposed tracks, a floating track-section adapted in different positions to register with said tracks respectively, an oscillatory support for said track-section of unvarying length pivoted to said section between the ends of the section, and means connected with said support and adapted to regulate oscillation thereof.

25. The combination of two superposed tracks, a floating track-section adapted in different positions to register with said tracks respectively, an oscillatory support for said track-section of unvarying length pivoted to said section between the ends of the section, and retarding means connected with said support and adapted to regulate the oscillation thereof.

26. The combination of two superposed

tracks, a floating track-section adapted in different positions to register with said tracks respectively, an oscillatory support for said track-section of unvarying length
 5 pivoted to said section between the ends of the section, a cylinder provided with a by-pass, and oscillatory about a different axis from that of said support and a piston in said cylinder connected with said support,
 10 whereby oscillation thereof may be regulated.

27. The combination of two superposed tracks; a floating track-section adapted in different positions to register with said
 15 tracks respectively; a counter-weighted lever arm pivotally connected with said track-section between the ends of said section, said lever arm being adapted to normally retain said track-section in register with the upper
 20 of said tracks and to oscillate the same, upon depression thereof into register with the lower track; and means connected with said lever arm and adapted to regulate oscillation thereof.

28. The combination of two superposed tracks; a floating track-section adapted in different positions to register with said
 25 tracks respectively; a counter-weighted lever arm pivotally connected with said track-section between the ends of said section, said lever arm being adapted to normally retain said track-section in register with the upper
 30 of said tracks and to oscillate the same, upon depression thereof into register with the lower track; an oscillatorily mounted cylinder provided with a by-pass, and a piston in said cylinder connected with said lever
 35 arm, whereby oscillation thereof is regulated.

29. The combination of two superposed tracks; a floating track-section adapted in different positions to register with said
 40 tracks respectively; a counter-weighted lever arm pivotally connected with said track-section between the ends of said section, said lever arm being adapted to normally retain said track section in register with the
 45 upper of said tracks and to oscillate the same, upon depression thereof into register with the lower track; an oscillatorily mounted cylinder provided with a by-pass; a piston in said cylinder connected with said
 50 lever arm; a valve in said by-pass; and manually operable means for actuating said
 55 valve, whereby oscillation of said lever arm may be variably regulated.

30. The combination of two superposed tracks; a fixed axis; a floating track-section adapted in different positions to register
 60 with said tracks respectively; a lever member of unvarying length pivoted to said track-section and oscillatorily mounted on said fixed axis; means for bodily moving said track-section; and guide means adapted
 65 to oscillate said track-section with respect to

said member upon such bodily movement of the section.

31. The combination of two superposed tracks; a fixed axis, a floating track-section adapted in different positions to register
 70 with said tracks respectively; a lever member of unvarying length pivoted to said track-section and oscillatorily mounted on said fixed axis; means for bodily moving said track-section; and a relatively fixed
 75 guide-way engaging said track-section and adapted to oscillate the same with respect to said member upon such bodily movement of the section.

32. The combination of two superposed tracks; a fixed axis, a floating track-section adapted in different positions to register
 80 with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with
 85 the upper of said tracks; and guide means adapted to oscillate said track-section with respect to said lever arm upon movement of the latter.

33. The combination of two superposed tracks; a fixed axis, a floating track-section adapted in different positions to register
 90 with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with
 95 the upper of said tracks; and a relatively fixed guide-way engaging said track-section and adapted to oscillate the same with respect to said lever arm upon movement of the latter.

34. The combination of two superposed tracks; a fixed axis; a floating track-section adapted in different positions to register
 100 with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with
 105 the upper of said tracks; and a relatively fixed, forwardly and downwardly inclining guide-way engaging said track-section and
 110 adapted to oscillate the same with respect to said lever arm upon movement of the latter.

35. The combination of two superposed tracks; a fixed axis; a floating track-section adapted in different positions to register
 115 with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with
 120 the upper of said tracks; and a relatively fixed, forwardly and downwardly inclining, outwardly curved guide-way engaging said track-section and adapted to oscillate the
 125 same upon movement of the latter.

36. The combination of two superposed tracks, a fixed axis; the upper inclining downwardly toward, the lower downwardly from, the dumping station; a floating track-section adapted in different positions to register with said tracks respectively; a lever member of unvarying length pivoted to said track-section and oscillatorily mounted on said fixed axis; means for bodily moving said track-section into such different positions; guide means adapted to oscillate said track-section with respect to said member upon such bodily movement of the section; and means adapted to regulate oscillation of said member.

37. The combination of two superposed tracks, a fixed axis; the upper inclining downwardly toward, the lower downwardly from, the dumping station; a floating track-section adapted in different positions to register with said tracks respectively; a lever member of unvarying length pivoted to said track-section and oscillatorily mounted on said fixed axis; means for bodily moving said track-section into such different positions; a relatively fixed guide-way engaging said track-section and adapted to oscillate the same with respect to said member upon such bodily movement of the section; and retarding means connected with said member and adapted to regulate oscillation thereof.

38. The combination of two superposed tracks, a fixed axis; the upper inclining downwardly toward, the lower downwardly from the dumping station; a floating track-section adapted in different positions to register with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with the upper of said tracks; guide means adapted to oscillate said track-section with respect to said lever arm upon movement of the latter; a cylinder provided with a by-pass; and a piston in said cylinder connected with said lever arm, whereby oscillation thereof may be regulated.

39. The combination of two superposed tracks, a fixed axis; the upper inclining downwardly toward, the lower downwardly from the dumping station; a floating track-section adapted in different positions to register with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with the upper of said tracks; a rela-

tively fixed guide-way engaging said track-section and adapted to oscillate the same with respect to said lever arm upon movement of the latter; a cylinder provided with a by-pass; a piston in said cylinder connected with said lever arm; and manually operable means for controlling such by-pass, whereby oscillation of said lever arm may be variably regulated.

40. The combination of two superposed tracks, a fixed axis; the upper inclining downwardly toward, the lower downwardly from the dumping station; a floating track-section adapted in different positions to register with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with the upper of said tracks; two relatively fixed forwardly and downwardly inclining guide ways engaging said track-section, one in each side, and adapted to oscillate the same with respect to said lever arm upon movement of the latter; a cylinder oscillatorily mounted below the forward end of said guide ways, and provided with a by-pass; and a piston in said cylinder connected with said lever arm, whereby oscillation thereof may be regulated.

41. The combination of two superposed tracks, a fixed axis; the upper inclining downwardly toward, the lower downwardly from the dumping station; a floating track-section adapted in different positions to register with said tracks respectively; a counter-weighted lever arm of unvarying length pivoted to said track-section and pivoted on said fixed axis, said lever arm normally retaining said track-section in register with the upper of said tracks; two relatively fixed forwardly and downwardly inclining, outwardly curved guide-ways engaging said track-section, one on each side, and adapted to oscillate the same with respect to said lever arm upon movement of the latter; a cylinder oscillatorily mounted below the forward end of said guide-ways, and provided with a by-pass; a piston in said cylinder connected with said lever arm; a valve in said by-pass; and manually operable means for actuating said valve; whereby oscillation of said lever arm may be variably regulated.

Signed by me this 2nd day of April, 1909.

FRANK C. GREENE.

Attested by—

CHRISTINE E. ARNS,
JNO. F. OBERLIN.