July 16, 1946. J. D. DILLEY 2,404,043

CHECK RETAINER

Filed Aug. 20, 1943

Fig. 2.

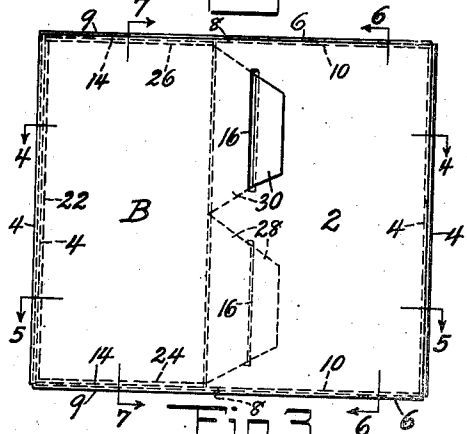


Fig. 6.

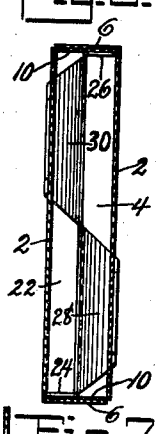


Fig. 1.

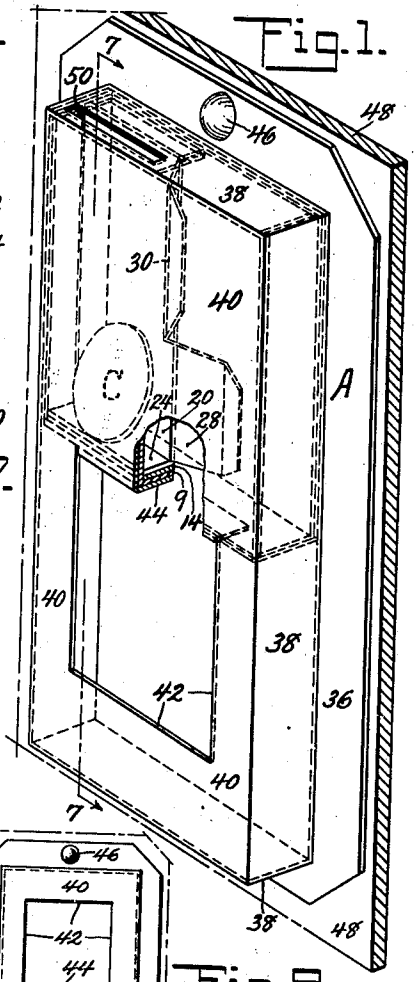


Fig. 3.

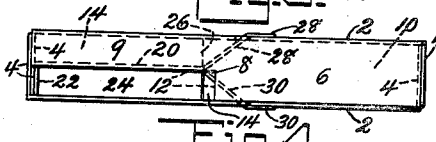


Fig. 7.

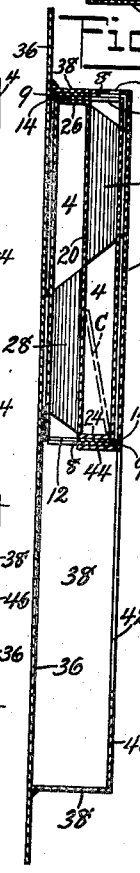


Fig. 4.

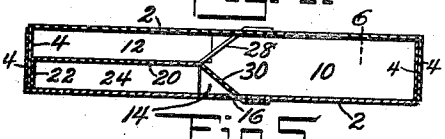


Fig. 5.

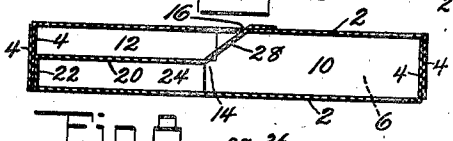


Fig. 8.

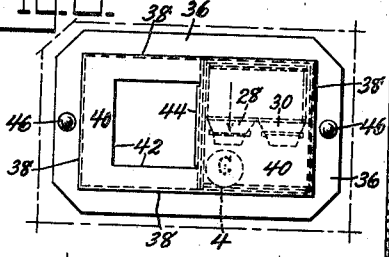


Fig. 9.

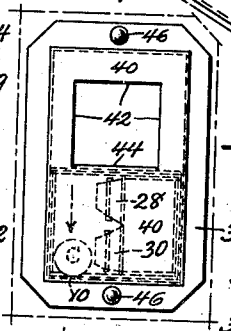


Fig. 10.

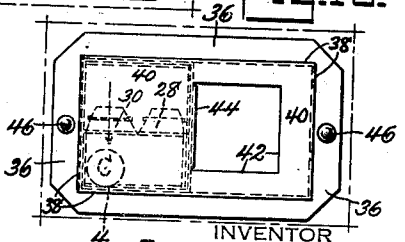
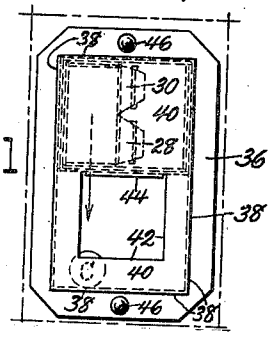


Fig. 11



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CHECK RETAINER

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Application August 20, 1943, Serial No. 499,376

5 Claims. (Cl. 232—1)

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This invention relates to check retainers in general and in particular to such retainers for use on mine cars which are dumped by rotating through a full 360 degrees.

The bulk of the coal and minerals mined is produced on a tonnage basis, that is, men are paid for the amount of coal or minerals which they personally load in the cars. At the dumping station the cars are weighed and then dumped with each man being credited with the proper weight. With such a system not only is the miner credited with the amount of material loaded but the mine operators can keep exact check on the removal of material from the various sections of their mines. Normally, the miners fasten a removable check or other identifying means onto the car, which check is removed by the weighman at the dumping station. Since most of the checks can be readily removed, considerable dishonesty has sprung up among the miners by the switching of identifying tags or checks and even the removal and substitution of the checks. The removal and substitution or switching of checks not only cheats the proper miner out of his just pay but prevents the mine operator from checking exactly the output from various sections of his mine. It is an object, therefore, of the present invention to provide a check retainer which can be rigidly attached to the car and from which a check once inserted cannot be removed except upon rotation of the car through a full 360 degrees.

A further object of the invention is the provision of a check retainer so constructed that the check or other identifying means must move along a predetermined labyrinth path before it can be removed from the retainer.

A still further object of the invention is the provision of a check retainer of the labyrinth path type which may be constructed of simple pressings or stampings securely fastened together to form a unit.

These and other objects of the invention will be apparent to persons skilled in the art from a study of the following description and accompanying drawing, in which

Fig. 1 is a perspective view of the retainer with parts broken away to better disclose the construction;

Fig. 2 is an elevational view of the check controller portion of the retainer;

Fig. 3 is a plan view of the controller;

Figs. 4, 5 and 6 are sectional views taken substantially on lines 4—4, 5—5 and 6—6 respectively of Fig. 2;

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Fig. 7 is a sectional view taken substantially on line 7—7 of Figs. 1 and 2;

Figs. 8, 9, 10 and 11 are elevational views of the check retainer and disclosing the path of movement of the check through the retainer, each figure being progressively rotated 90 degrees from the preceding figure.

Referring now to the drawing in detail, it will be seen that the check retainer as illustrated is made up of a casing A within which is a check controller B and which controls the movement of check C. As clearly shown, the check controller portion B is made up of three parts, two of which are exact duplicates in order to reduce the cost of fabrication. Each of the duplicate stampings or pressings is formed from a flat sheet of metal 2 having its side edges provided with full depth marginal flanges 4 as best shown in Figs. 4 and 5. One of the remaining side edges is formed with a full depth flange 6 extending substantially one-half the width of the plate 2 and the remaining half being notched as at 8 leaving substantially half of a flange 9 extending upwardly from the plate, all as clearly disclosed in Figs. 3, 6 and 7. The other or remaining side is flanged to provide a full depth flange portion 10 extending along substantially half the plate opposite the full depth flange 6, while the remaining half of the flange has the inner portion removed as at 12 to provide a tongue 14 of substantially half the flanged depth and located opposite the cut out portion 8 of the opposite flange. Each of the plate portions is notched as at 16 and at a point adjacent to the inner end of the cut out portion 12 but slightly beyond the center of the plate from such cut out portion. The third part of the check controller is also preferably formed as a stamping from a flat sheet 20, having one side flanged as at 22 and one end flanged in the same direction as at 24. The other end of the plate is flanged in the opposite direction as at 26 and each of the flanges 22, 24 and 26 are of a depth substantially equal to half the depth of the flanges 4 of the pressings or stampings previously described. The side of plate 20 opposite from flange 22 is cut to provide tabs 28 and 30 bent in opposite directions from the plane of plate 20, thus forming inclined portions which in the assembled condition will incline toward the plate portion 2 to which they are attached.

In assembling the check controller the inner or partition stamping is placed within one of the duplicate stampings so that flange 24 is located adjacent tongue 14, while flange 26 is located adjacent flange 9, with the flange 22 being located

adjacent the flange 4 on that side of the stamping which is adjacent the cut out portions 8 and 12. In this position the tongue 28 extends through the slot 16 in plate 2 and its end may be crimped over to a position substantially parallel with plate 2, thereby holding the parts in a temporary assembled position. The other duplicate stamping may now be rotated through 180 degrees and assembled on the other duplicate stamping and the partition member in such a manner that flange 9 is adjacent tongue 14, and flange 6 is adjacent flange 10. At each side of the unit the flanges 6 and 9 of each pressing will be exterior of the flange 10 and tongue 14 of the other pressing. The full depth flanges will be disposed in alternating relationship so that the duplicate pressings will fit together exactly and as clearly shown in the figures. During the assembly of the last mentioned stamping or pressing the tongue 30 will be projected through the slit 16 and its end bent or crimped over parallel to plate 2, thus holding the duplicate stampings in a preliminary assembled condition.

The casing previously referred to is formed with a base plate 36 to which may be attached flanges 38 of a box-shaped pressing having an outer side 40. The upper portion of this box-like part is left solid, while the lower portion is provided with a window or opening 42. As clearly shown in Figs. 1 and 7, the metal adjacent the upper edge of window 42 is flanged inwardly to provide a short flange 44 adapted to retain the controller unit in position. This flange is of a length not exceeding the length of the short flange 9 or tongue 14 of the controller unit. As clearly shown, the base plate 36 is pierced to receive rivets 46 by means of which the entire retainer may be attached to the proper car end wall 48. Also as clearly shown in Figs. 1 and 7, the upper flange 38 of the casing unit is notched to provide a slot 50 which will register with the openings 8 and 12 of the controller unit. In assembling the entire retainer it is only necessary to assemble the controller unit as previously described, after which it may be dropped as a unit into the upper part of the box-like casing member and the casing welded or otherwise attached to the base plate. The base plate and casing, together with its flanges and flange 44, will hold the check controller unit in position in the upper part of the casing.

In some cases it may be advantageous to eliminate the check controller as a unit and in such cases the inner or partition stamping may have certain of its flanges, such as 22, 24, as well as tab 30, attached to the base plate 36. In such cases the flange 44 of the casing would be formed so as to provide a full width partition extending completely between the flanges 38 of the casing and of a form similar to the flange 6 of the duplicate pressings previously described and so positioned that the cut out portion 8 would be located adjacent the base plate 36 and below or inwardly of the slot 50. In this manner the duplicate stampings could be eliminated.

Assuming the retainer to have been assembled in either manner described, its operation will be as follows: The check C having been dropped into the retainer through slot 50 will assume a position resting on flange 24 of the partition stamping and adjacent an opening or passage provided by the tongue 28 being deflected toward the base plate as clearly shown in Fig. 5. As the car starts to dump and has moved through 90 degrees the retainer will be in the position shown in Fig. 8

and the check C will have moved past tongue 28 and will be resting on the flange 4 of the controller unit. Continued rotation through another 90 degrees will cause the check to roll along flange 4 to the position shown in Fig. 9. A further rotation of 90 degrees will cause check C to enter the passage provided by tongue 30 being deflected away from the base plate and the check will then be in the position shown in Fig. 10 wherein it rests upon flange 4 of the controller unit. Rotation of the car through the final 90 degrees to an upright position shown in Fig. 11 will cause the check C to drop through the lower slot of the controller unit and into the lower portion of the casing where it may be reached through window 42. The same sequence of operations will occur in case the partition stamping is attached to the base plate and the duplicate stampings eliminated but with the flange 44 formed as the flanges 6 and 9.

It will thus be seen that the check C must follow a labyrinth path through the controller before it can be discharged into the lower part of the casing where it is accessible through window 42. In other words, once a miner has dropped a check into the retainer it cannot be removed until the car has been rotated through a full 360 degrees. Such a rotation will, of course, be impossible except with special equipment and accordingly other miners cannot substitute checks and the miners and operators will be fully protected.

While the construction has been described more or less in detail, it will be obvious that modifications other than those shown and described may be made and all such modifications are contemplated as will fall within the scope of the appended claims defining my invention.

What is claimed is:

1. A check retainer comprising, a casing including inner and outer walls adapted to be secured to a supporting structure, said casing being formed with a window in the lower portion and a slot in the upper portion thereof, and a partition member housed by said casing and providing a labyrinth path connecting said slot and window, said partition member being formed by a plate portion located substantially midway between the inner and outer walls of the casing and held in place by a lower tab inclined toward and fixed to the inner wall and by an upper tab inclined toward and fixed to the outer wall said tabs forming deflectors for the coin during its movement in said path.

2. A check retainer comprising, a casing adapted to be secured to a supporting structure, an entrance opening into said casing through which a check may be inserted, an exit opening through which a check may be removed, and means in said casing providing a labyrinth path adjoining said openings for gravity passage of a check from the entrance to the exit opening during approximately 360 degree rotation of the supporting structure, said means being constructed as a self-contained unit located in said casing between the entrance opening and the exit opening and consisting of a partition member and duplicate pan-shaped pressings assembled with the flanges of the pan shaped pressings overlapping and joined together by inclined tabs of the partition member.

3. A check retainer comprising, a casing adapted to be secured to a supporting structure and having an entrance opening into said casing through which a check may be inserted and an exit opening through which a check may be re-

moved, and a controller unit mounted in said casing between the entrance and exit openings, said controller unit including duplicate pan-shaped members with side flanges arranged in overlapping relationship and certain of the flanges being formed with openings adapted to register with said entrance and exit openings, and a relatively short partition member formed with flanges and inclined tabs holding said partition member substantially midway between said pan-shaped members to form a labyrinth path for the gravity passage of a check from the entrance to the exit opening during predetermined movement of the supporting structure.

4. A check retainer comprising, a casing adapted to be secured to a supporting structure and having an entrance opening into said casing through which a check may be inserted and an exit opening through which a check may be removed, and a controller unit mounted in said casing between the entrance and exit openings, said controller unit including pan-shaped members having their side flanges directed toward each other with certain of the flanges formed with openings adapted to communicate with said entrance and exit openings, and a partition member extending midway between the nested pan-shaped members to provide spaced channels communicating with the entrance and exit openings

of said unit, said partition terminating medially of the unit and having bent tabs fixed to the opposite walls of the unit and forming guides for the check during its movement through the passageways.

5. A check retainer comprising, a casing adapted to be secured to a supporting structure and having an entrance opening into said casing through which a check may be inserted and an exit opening through which a check may be removed, and a controller unit mounted in said casing between the entrance and exit openings, said controller unit including duplicate pan-shaped members with side flanges arranged in overlapping relationship and certain of the flanges being formed with openings adapted to register with said entrance and exit openings, and a relatively short partition member formed with flanges and inclined tabs holding said partition member substantially midway between said pan-shaped members to form spaced oppositely extending passageways for the gravity passage of a check, said tabs being reversely bent to define partial side walls for each of the oppositely extending passages and deflecting surfaces for the check in its movement through the main chamber of the unit.

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