N. A. NEWDICK.

TRACKWAY.

APPLICATION FILED JUNE 16, 1919.

1,370,905. Patented Mar. 8, 1921.

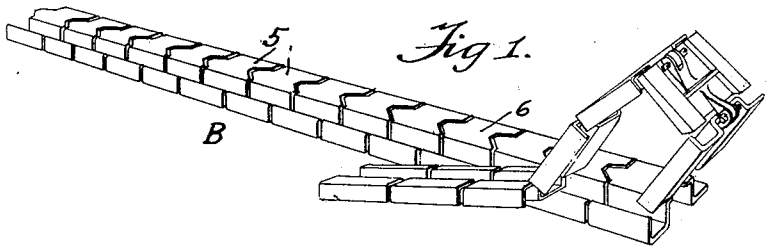

Fig 1.

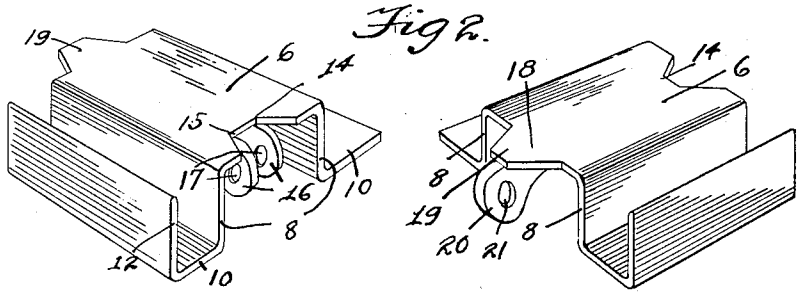

Fig 2.

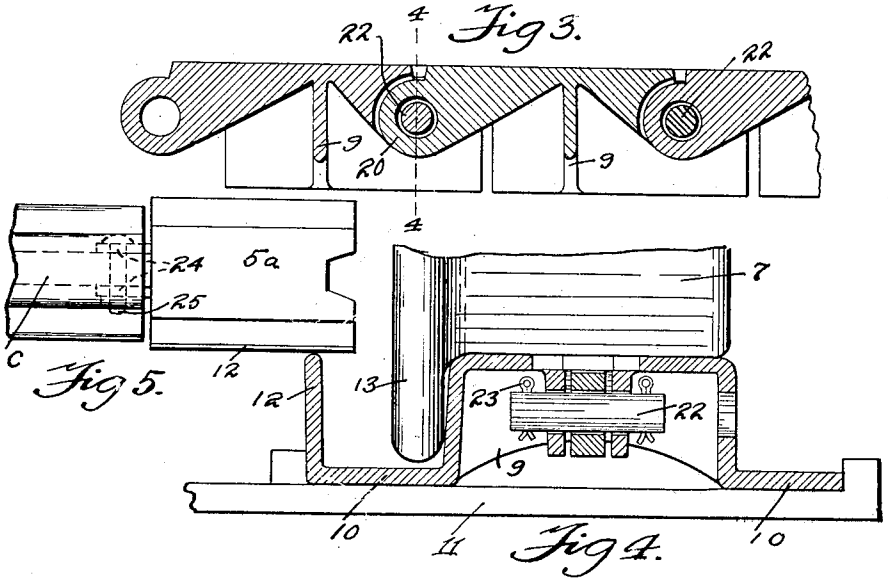

Fig 3.

Fig 5.

Fig 4.

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TRACKWAY.

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To all whom it may concern:

Be it known that I, NORTON A. NEWDICK, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Trackways, of which the following is a specification.

This invention relates to track-ways, and has for its general object to provide a track-way characterized by its mobility and the ease whereby the same may be placed into any desired position.

Another object of the invention resides in a flexible track-way formed from a plurality of sections, which latter having their adjoining ends flexibly connected so that the track-way as a whole may be caused to assume any desired curve, or may be placed at any angle with respect to a main track-way in order to render more portable the vehicles operating thereover.

In the coal mining industry considerable difficulty and expense has been encountered in providing adequate trackage which will extend to the general proximity of workings so that the mine cars will be constantly adjacent to the actual scenes of operation. Hitherto it has been the usual practice after a mine wall has been excavated for a considerable distance to connect "jumper" rails with the ordinary standard length rails so that mine cars will be enabled to closely follow the miners in order to reduce time and labor in conducting coal to the cars. Obviously, the laying of these jumper rails in proper positions has been quite a task and frequently mining operations have been delayed by the failure on part of the track layers to extend the rails the desired distance. Again, the rails usually occupy the center of a mine room so that automatic apparatus, such as mining and loading machines are therefore incapable of cutting the coal along the side walls of a room, thus limiting the utility of such machines to the central portions of the room unless the latter had an extended reach to operate over such extended areas.

Therefore, it is the object of the present invention to provide an improved flexible track particularly adapted for use in connection with mines, whereby the portable apparatus of a mine may be stationed at the most effective position or positions of their operation and in this manner their utility and efficiency increased.

A still further object of the invention rests in connecting the flexible sections of the rail comprising the present invention in such manner that the track may be moved in any desired direction and will be in effect a chain over which a vehicle may operate.

With these and other objects in view, as will appear as the description proceeds, the invention accordingly consists in the novel features of construction, combination of elements and arrangement of parts hereinafter to be fully described and to have the scope thereof pointed out in the appended claims.

In the accompanying drawing:

Figure 1 is a perspective view of a section of the improved track-way comprising the present invention,

Fig. 2 is a perspective view showing a pair of adjacent sections of the track-way,

Fig. 3 is a vertical longitudinal sectional view taken through the track-way,

Fig. 4 is a vertical transverse sectional view taken along the line 4—4 of Fig. 3, and

Fig. 5 is a top plan view of the end section of a track-way employed in securing the latter with a stationary or main track-way.

Referring more particularly to the details of the present invention, use is made of a flexible track-way B, particularly adapted for the purpose above set forth. This track-way in the present instance consists of a plurality of link sections 5 which have their ends so formed as to permit the track-way B as a whole to be flexed in any desired direction, so that a vehicle operating over the same may be placed or brought to any advantageous position of operation. The sections 5 may be formed from any desired material or may be reinforced in any appropriate manner, however, in this instance the same consists of a substantially widened tread portion 6, over which the usual rim of a wheel 7 may operate in the ordinary manner. However, it will be observed that the portion 6 is of relatively extended width, so that the rim of said wheel may secure an excellent tractive grip upon said tread portion and particularly is this true when sand is employed. The width of the portion 6

is of material importance when a loading machine, or other type of machine which forces its way into a coal face is employed.

The tread portion 6 is provided with spaced side walls 8 which extend in a substantially vertical manner and are connected and reinforced by means of depending transverse ribs 9 which depend inwardly from the portion 6 and rigidly connect the side walls 8. This structure is of a very substantial nature and is capable of being conveniently manufactured. The walls 8 terminate in outturned base flanges 10, which are of relatively extended width and may be placed directly on a mine floor if desired, however, bridles or tie plates 11 may be provided for receiving the flanges 10 and maintaining the track-way B in a properly gaged condition. The inner of the flanges 10 are provided with vertical walls 12 disposed in spaced parallelism with respect to the adjacent walls 8, and between the walls 8 and 12 the flange 13 of the wheel 7 is adapted to be received. It will be apparent that a vehicle axle and its flanged wheel 7 may be readily employed in maintaining the track-way B at its proper gage.

To flexibly unite the ends of the sections 5, the sections are provided with female ends 14. These ends are formed to include substantially V shaped recesses 15 and integral and depending spaced ears 16 which are located within the general confines of the side walls 8, said ears being provided with alining openings 17. The coöperating male ends 18 of the sections 5 are provided with longitudinal V shaped projections 19, which are adapted to be positioned within the recesses 15, and integrally protruding from the under portions of the projections 19 are ears 20, which latter are arranged, in this instance, to fit between the ears 16 of the adjoining sections in a substantially loose and free manner. The ears 20 are apertured as at 21 for the reception of pivot pins 22 which also pass through the openings 17 of the ears 16. It will be observed that the diameter of the pins 22 is appreciably less than that of the openings in the ears, in order that the sections may be laterally flexed, sufficient space being provided between the adjacent portions of the adjoining ends of the sections 5 to permit of an appreciable amount of lateral flexing or curving thereof. Cotter pins 23 may be utilized to prevent displacement of the pins 22. By the manner described for connecting the adjoining ends of the sections 5 it will be appreciated that great flexibility of the track-way B is provided without impairing the strength of the latter. Furthermore, the ears are so joined that the tread portions 6 of the track-way are substantially continuous and that the joints defined between sections are of such a compact nature that but slight space is defined between the meeting ends of said sections. This prevents the pounding of the wheel 7 as the latter passes over the joint crevices in the trackway. As shown in Fig. 1 the track-way is so flexible as to permit of the bending of the same rearwardly and laterally of its main portion so that as the wall in advance of the track-way is excavated, said track-way may be lengthened to permit the machine operating over the same to maintain close contact with the wall.

If desired the ends of the track-way B may be connected with the main rails of a track-way C by providing the end link section 5^a with a pair of spaced ears 24, the latter being horizontally apertured to receive a bolt 25, which is adapted to pass through the alining openings in said ears and in the web portion of the track-way C, whereby the track-way B may be quickly connected to form a continuation of the main track-way.

From the foregoing description taken in connection with the accompanying drawing it will be apparent that there is provided a supplementary or auxiliary track-way particularly useful in the mining industry and which is so constructed as to be capable of being quickly connected or disconnected with a main track-way and flexed to assume any desired position so that the wheeled apparatus of a mine may be quickly and efficiently led to any desired scene of operation. The track-way B eliminates the use of jumper rails and the expense attendant the use of the latter and furthermore may be carried about a mine when not in use so that the same may be quickly shifted from one position of operation to another.

What I claim is:

1. A vehicle track-way comprising a series of link sections arranged in longitudinal alinement, means for connecting the adjoining ends of said sections, comprising a pair of ears formed upon one of said sections, a coöperating projection formed upon the adjacent end of a second section and arranged to be received between said ears, and a pin passing through enlarged openings formed in said ears and projection to unite said sections for relative swinging movement.

2. A vehicle track-way comprising a series of link sections disposed in longitudinal alinement, each of said sections including a base portion, depeuding side walls and outturned base flanges, male and female connecting extremities formed upon each of said sections, said female extremity including a recess penetrating the tread portion thereof, spaced ears disposed beneath said recess and situated within the general confines of said side walls, a projection formed upon said male extremity and arranged to

be received within said recess, an ear depending from said projection and arranged to be received within said spaced ears, and connecting means arranged to pass through openings formed in said ears to permit said sections to be perpendicularly and laterally flexed.

3. A vehicle track-way comprising a series of link sections disposed in longitudinal alinement each of said sections including a base portion, depending side walls and outturned base flanges, male and female connecting extremities formed upon each of said sections, said female extremity including a recess penetrating the tread portion thereof, spaced ears disposed beneath said recess and situated within the general confines of said side walls, a projection formed upon said male extremity and arranged to be received within said recess, an ear depending from said projection and arranged to be received within said spaced ears, connecting means arranged to pass through openings formed in said ears to permit said sections to be perpendicularly and laterally flexed, and means for connectiong said track-way with a rigid track-way.

In testimony whereof I affix my signature.

NORTON A. NEWDICK.