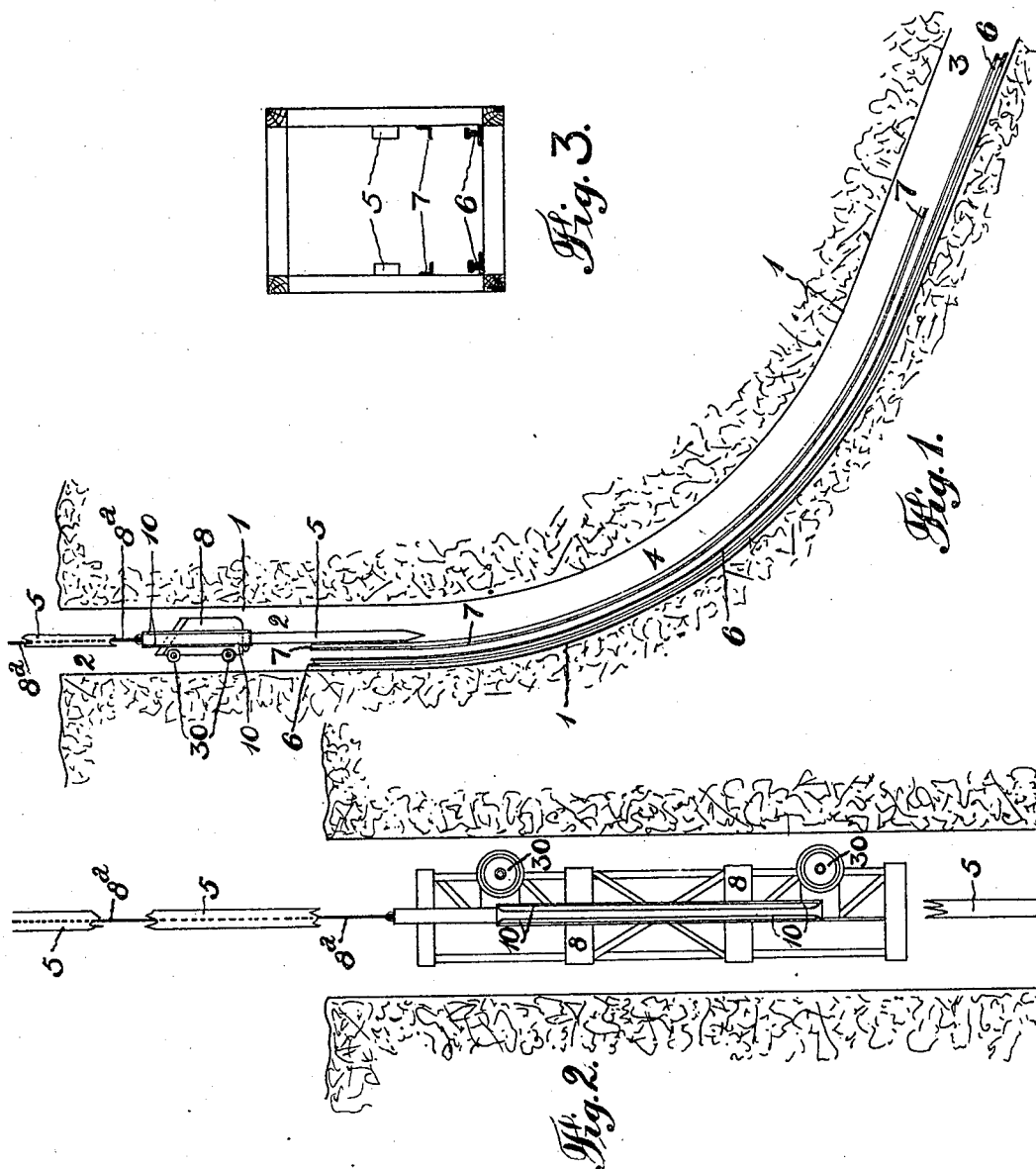


H. L. TEMPLER.
MINE SHAFT EQUIPMENT.
APPLICATION FILED AUG. 21, 1908.

944,113.

Patented Dec. 21, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY LETHBRIDGE TEMPLER, OF CLEVELAND, TRANSVAAL.

MINE-SHAFT EQUIPMENT.

944,113.

Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed August 21, 1906. Serial No. 331,494.

To all whom it may concern:

Be it known that I, HENRY LETHBRIDGE TEMPLER, a subject of the King of Great Britain, and resident of Cleveland, Transvaal, have invented certain new and useful Improvements Relating to Mine-Shaft Equipment, of which the following is a specification.

The present invention relates to the equipment of compound mine shafts or to shafts in which a portion is vertical and a portion inclined. In such shafts it has heretofore been the practice to employ wheeled skips which have been arranged to traverse rails extending throughout the shaft and to employ guiding and retaining rails or angle-irons in the vertical portion between which guiding and retaining rails and the main rails or track the wheels of the vehicles have run, or to equip such shafts with two tracks or sets of rails provided on opposite sides of the shaft, and to equip the vehicle with additional wheels so that it has traversed both tracks. Now the initial cost of equipping such shafts in the manner referred to is exceedingly high, and the tracks and wheel bearings of the vehicles have been subjected to considerable friction and consequently excessive wear and tear. It has also necessitated frequent and careful inspection of the shaft equipment.

Now the object of the present invention is to obviate these and other defects and to provide a simple and efficient equipment which considerably reduces the cost and enables the guides or runners usually installed in sinking the vertical portion of a shaft to be utilized in the permanent equipment.

In the accompanying drawings I illustrate a practical embodiment of the invention and I will proceed with a further description thereof by aid of such drawings.

In the drawings Figure 1 represents a shaft in vertical section. Fig. 2 is a vertical section of the shaft illustrating a man cage. Fig. 3 is a cross sectional view of the shaft.

In the several figures of the drawings corresponding numerals denote the same or corresponding parts.

Referring more particularly to Fig. 1, 1 represents a compound shaft of which the vertical portion 2 is connected to or communicates with the inclined portion 3 by the

curve 4. In the vertical portion 2 of the shaft ordinary guides or runners 5 are provided on two opposite sides. The runners 5 terminate at or about the point where the curved portion 4 of the shaft commences.

6 represent the rails or the track which is laid throughout the inclined portion 3, passes around the bend 4 and extends for a short distance up into the vertical portion 2 of the shaft. In the curved portion of the shaft or in the bend 4 I provide a retaining and guiding track 7 which may consist of angleirons or rails of suitable section fixed to the wall plates or otherwise to the timbering of the shaft. The retaining track 7 follows the curvature of the main track 6 and the distance between said retaining track and the main rails is somewhat greater than the diameter of the wheels of the skip or other vehicle. The retaining track 7 is also extended for a suitable distance up the vertical portion 2 of the shaft, or so that the runners or guides 5 in the vertical portion overlap the main and retaining tracks 6, 7, in or above the bend 4.

8 represents a cage skip or other vehicle which is carried in the ordinary or other suitable manner and is raised and lowered in the shaft 1 by hauling rope or cable 8^a, which is attached to it. The cage or skip 8 is equipped with wheels 30 and slippers 10 which latter are adapted to slidingly engage the runners or guides 5, the vehicle being thereby guided in ascending and descending the vertical portion 2 of the shaft. The slippers 10 may consist of channel or angle-irons riveted or otherwise suitably fixed to the vertical side members of the cage or to the bridle of the skip. The bottom end of the guides or runners 5 in the vertical portion 2 of the shaft are preferably pointed so as to facilitate their engagement with the slippers 10 provided on the cage or skip.

The cage or skip 8 traverses the track rails 6 in the inclined portion 3 of the shaft and as it enters the bend or curved portion 4 the wheels pass between the retaining and guiding rails 7 and rails 6 of the main track and are by that means guided around the bend 4. As the cage or skip 8 passes out of the bend 4 into the vertical portion 2 of the shaft, the slippers 10 on the sides of the cage or on the bail or bridle of the skip engage the ends of the runners or guides 5,

the cage or skip then ascending the vertical portion 2 of the shaft and leaving the track rails 6 as shown in Fig. 1.

What I claim as my invention and desire to protect by Letters Patent is:—

1. In compound mine-shaft equipment, the combination with main track rails in the inclined portion of the shaft extending into the vertical portion, and direct guiding and retaining rails in the inclined portion extending into the vertical portion, of slipper guides in the vertical portion overlapping the main and guiding rails, as set forth.

2. In compound mine-shaft equipment, in combination, main track rails and a direct

guiding and retaining track in the inclined portion of the shaft, slipper guides in the vertical portion of the shaft overlapping said main or guiding and retaining tracks, a vehicle and slippers provided on the vehicle for engaging the slipper guides before the wheels leave the main and guiding tracks, as set forth.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY LETHBRIDGE TEMPLER.

Witnesses:

CHAS. OVENDALE,

R. OVENDALE.