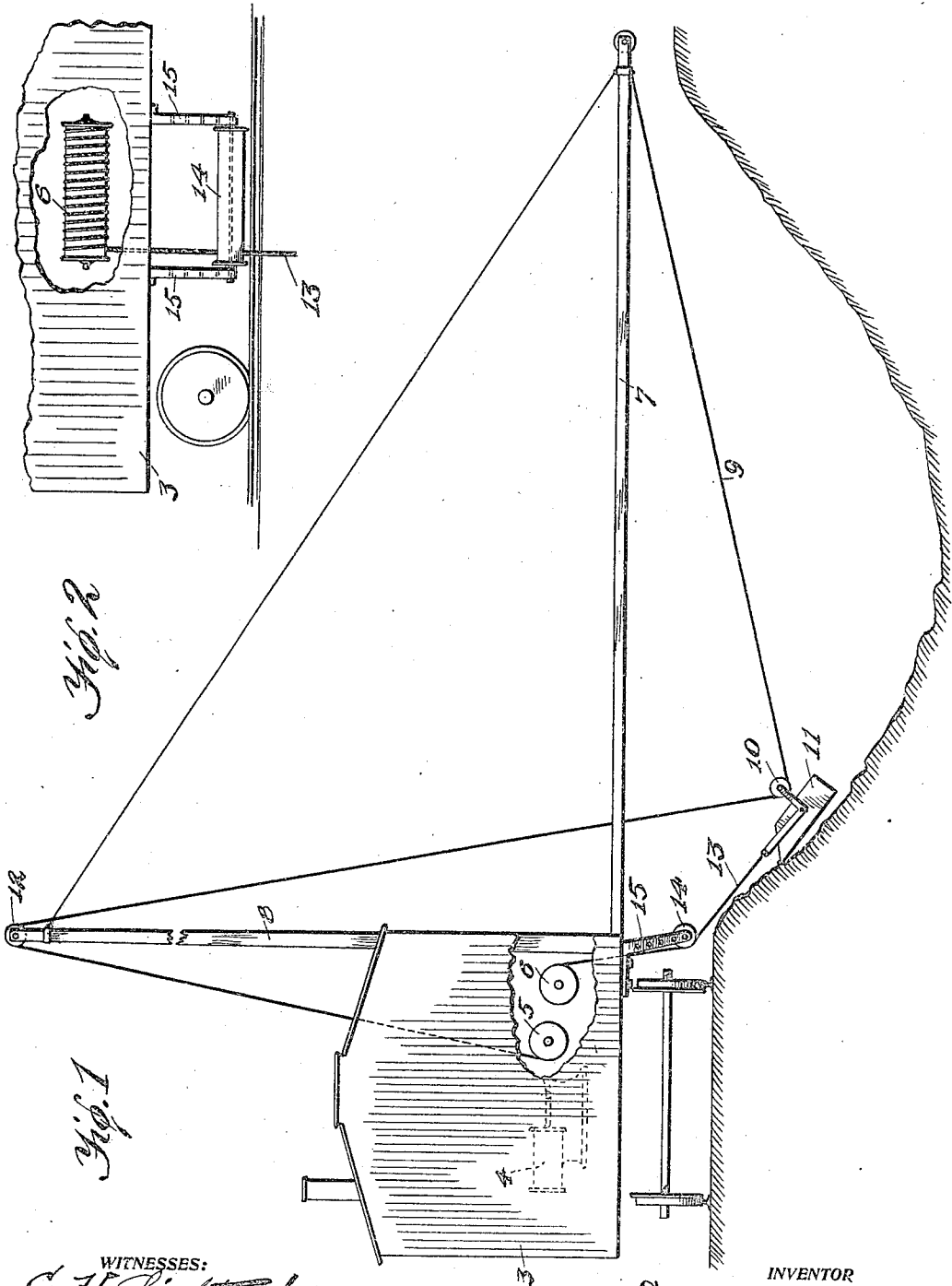


S. B. FLEMING.
DIGGING APPARATUS.
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951,907.

Patented Mar. 15, 1910.



WITNESSES:
E. H. Liehtenberg
Att. Gen. Stenographer

INVENTOR
Samuel B. Fleming
BY
Glen S. Noble
ATTORNEY

UNITED STATES PATENT OFFICE.

SAMUEL B. FLEMING, OF CHICAGO, ILLINOIS.

DIGGING APPARATUS.

951,907.

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To all whom it may concern:

Be it known that I, SAMUEL B. FLEMING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Digging Apparatus, of which the following is a specification.

This invention relates more particularly to digging apparatus, such, for instance, as is used for making burnt clay ballast where it is particularly desirable that the digging scoop or shovel may be operated to dig close to the track carrying the excavating apparatus. Heretofore, it has been the usual custom to build special trucks for carrying the excavating apparatus, these trucks being made very low, so that the drag-cable from the winding drum to the bucket will pass close to the ground adjacent to the track. In order to avoid the necessity of making such special trucks, I have provided the improved apparatus shown in the accompanying drawings, in which—

Figure 1 represents a somewhat diagrammatical end view of a car provided with my digging apparatus; and Fig. 2 is a side view showing the arrangement of the cable guiding drum.

As shown in these drawings, 3 represents a car of any ordinary construction, preferably such as a freight car, on the platform of which is mounted a hoisting engine 4, having winding drums 5 and 6. At the side of the car is a projecting boom 7, and extending upwardly from the car is a mast 8, this being for the purpose of supporting the shovel carrying cable 9. This cable may be arranged in any desired manner, for instance, as shown in Fig. 1, where the outer end of the cable is secured to the outer end of the boom and then passes under a sheave 10 on the digging shovel or bucket 11, then up and over a sheave 12 on the mast 8, and then down to the winding drum 5. The drag cable 13 is secured to the forward end of the shovel 11 in any desired manner, and then passes up and under a guide roller or drum 14 which is adjustably mounted on brackets or bearings 15 secured to the frame of the car 3, and then passes to the winding drum 6. By means of the guide roller or

drum 14, the drag cable 13 is directed downwardly a sufficient distance so that the shovel may be caused to dig close up to the side of the track. This avoids the necessity of frequent changes of the track, and furthermore enables the bucket to operate over a substantially wider area, with a given length of boom 7, than would be possible were this roller or drum not provided. Of course, some other form of guide might be provided, but I prefer to use the roller, as the cable will always remain in engagement therewith as it is reeled onto or off from the winding drum 6.

Having thus described my invention, which I do not wish to limit to the exact arrangement shown and described, what I claim and desire to secure by Letters Patent is:

1. In an excavating apparatus, the combination with a car, of a winding drum, a drag cable from said drum, a shovel to which said drag cable is attached, supports extending downwardly from the side of the car and a guide roller carried by said supports for directing the cable downwardly from said winding drum whereby the shovel may be directed to excavate close to the car.

2. In an excavating apparatus of the character set forth, the combination with a car provided with a winding drum and cable for operating an excavating shovel, of a guide roller carried by the car and arranged adjacent to and below said winding drum for guiding the cable downwardly therefrom as it passes from the winding drum to the digging shovel.

3. In an excavating apparatus, the combination of a car and winding drum mounted on said car, a digging shovel, a cable from said drum to said shovel, and an adjustable guide arranged adjacent to the winding drum for directing the cable downwardly as it passes from the drum to the shovel.

4. In an excavating apparatus, the combination of a car, winding drums mounted on said car, a boom extending laterally from said car, a mast on said car, an excavating shovel having a sheave at the top thereof, a supporting and carrying cable having one end secured to said boom, then passing under the sheave on said drum, then up and

over a sheave on said mast, and then down to one of the said winding drums; a guide roller adjustably secured to the lower side of said car, adjacent to the second winding drum, and a drag cable from said excavating shovel, which passes underneath said guide roller and then up to the second-

named winding drum, substantially as described.

SAMUEL B. FLEMING.

Witnesses:

O. J. THIME,

A. W. FENSTERMAKER.