D. W. MURPHY.

EXCAVATOR SHIELD.

APPLICATION FILED JAN. 5, 1914.

1,149,937. Patented Aug. 10, 1915.

FIG. 1.

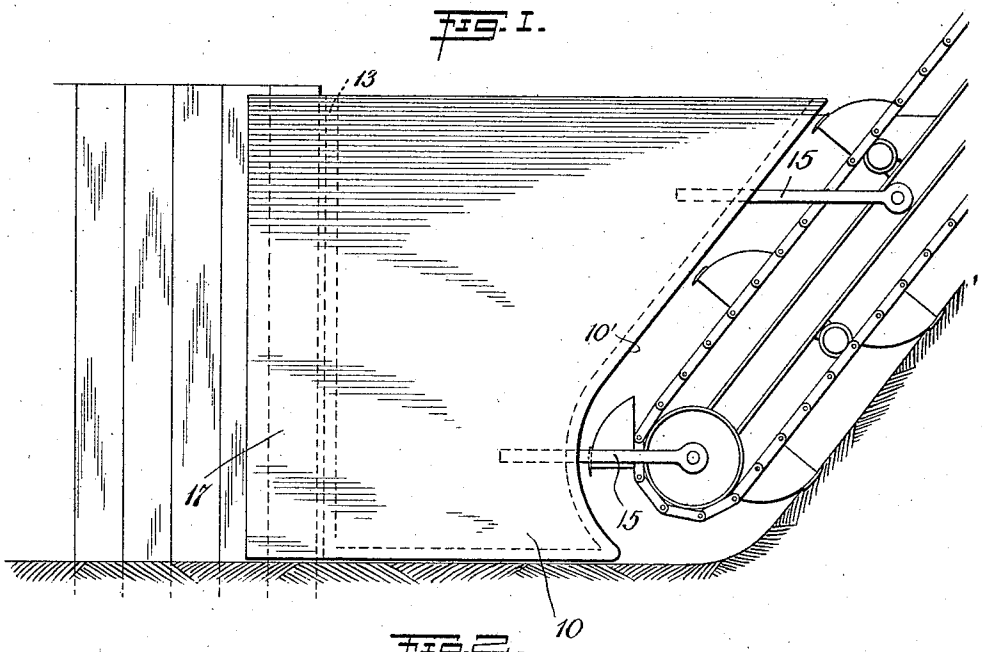


FIG. 2.

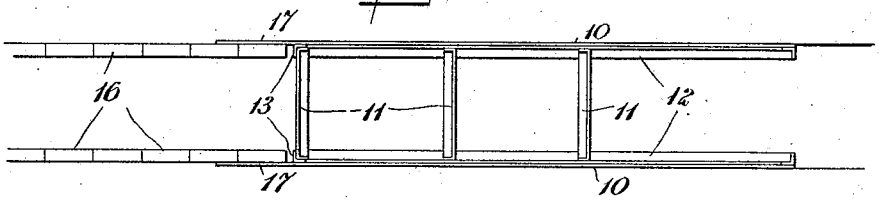
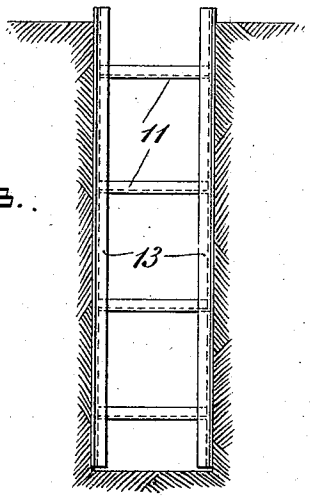


FIG. 3.



WITNESSES

G. Robert Thomas

Geo. L. Beeler

INVENTOR

Daniel W. Murphy

BY Munn & Co

ATTORNEYS

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANIEL W. MURPHY, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO FRANK B. CONNELLY, OF BILLINGS, MONTANA.

EXCAVATOR-SHIELD.

1,149,937. Specification of Letters Patent. Patented Aug. 10, 1915.

Application filed January 5, 1914. Serial No. 810,392.

To all whom it may concern:

Be it known that I, DANIEL W. MURPHY, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented a new and Improved Excavator-Shield, of which the following is a full, clear, and exact description.

This invention relates to trenching or excavating machinery and has particular reference to means for temporarily preventing the caving in of the walls of a trench or excavation and is used in connection with or drawn or propelled behind any usual or approved type of trenching machine or excavator.

Among the objects, therefore, of the invention is to provide a device of the character indicated which is adapted either to be attached to and drawn by a trenching machine or excavator, or to be moved wholly or in part by means of power applied to it in any suitable manner from an external source, such device being of a width and height corresponding substantially to the width and depth of the trench, and the device furthermore to be so arranged as to facilitate the introduction of the fixed supports for the trench walls.

One of the principal purposes of this invention is to produce a device for protecting the banks of a trench between the cutting portion of the machine and said fixed supports which are to be placed in the trench temporarily for supporting the walls of the trench until the tiling, pipes, or other devices to be placed therein, are put into position.

The foregoing and other objects of the invention will hereinafter be more fully described and claimed, and a preferred embodiment of the invention is illustrated in the drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side elevation of a preferred embodiment of the invention, adapted to a common form of trenching machine; Fig. 2 is a plan view of the same; and Fig. 3 is a rear elevation.

The several parts of this device may be made of any suitable materials, and the relative sizes and proportions, as well as the general design of the mechanism, may be varied to a considerable extent without departing from the spirit of the invention hereinafter more fully set forth and specifically claimed.

A device made in accordance with this invention comprises a pair of side plates 10, preferably of metal, and maintained at definite parallel spaced relation to each other by means of a suitable framework to which they are attached. The framework consists of struts 11, connected to side members 12 and 13. The framework is constructed preferably of structural metal and of sufficient strength to prevent the side plates being forced inward by the pressure of the side walls of the excavation. It will be understood that the front edges of the plates 10 will be varied as to shape or inclination to suit the type of machine to which the shield is attached or behind which it may be operated. In other words, said front edges may be vertical, curved or inclined in conformity to the form or type of the cutting devices for making the trench. The rear portions of the plates 10 project some distance back of the rear edges of the supporting frame 13, thus providing a means whereby the fixed piling or supports may be placed against the inner side of the plates.

Any suitable means in the nature of draft devices 15 may be connected to the shield to serve as means for attachment thereof to the trenching machine or otherwise and whereby the shield is drawn along the trench in the rear of such machine. The side plates 10 are substantially smooth on their outer surfaces where they operate close to the vertical side walls of the trench and they serve to prevent the inundation of such walls until a fixed support may be provided therefor. Such fixed support may take the form of planking 16 driven vertically downward into the bottom of the trench and against the side walls thereof, or any other suitable form of piling for temporarily holding the trench walls from premature collapsing or caving in. The rearwardly extending wings 17 of the side plates 10 or those portions of such plates back of the rear edge of the frame 13 constitute definite guides for the planking or sheeting while it is being put into place following the operation of the excavating machine and the shield.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a device of the character set forth, the combination of spaced parallel side plates connected to a framework and including uprights adjacent but spaced from the rear edges of the plates and serving to strengthen the side plates and maintain them in desired position with relation to each other, the rear edge portions of the plates beyond said uprights providing with said uprights guiding and supporting means for planking or sheeting, and draft connections for the side plates as set forth.

2. The herein described trenching excavator shield comprising a pair of parallel spaced side plates having smooth outer surfaces and front edges conforming to the form or position of trenching machine in the rear of which the shield is operating, angle members connected to said side plates adjacent to but spaced from the rear edges thereof and serving as stiffeners therefor and also as guides for fixed supports, and a plurality of cross pieces or struts extending from one plate to the other and serving to maintain them in desired position with relation to each other.

3. In a device of the character set forth, the combination of a pair of spaced parallel side plates, angle members connected to the inner surfaces of said plates and serving to strengthen the same, angle member cross pieces extending from one plate to the other and connected at their ends to said stiffening members, a portion of said plate members being arranged vertically and slightly spaced from the rear ends of the plates providing with said rear ends guiding means for planking, and draft connections for the shield, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL W. MURPHY.

Witnesses:
C. E. HOGLE,
JAS. M. GAYLORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."