

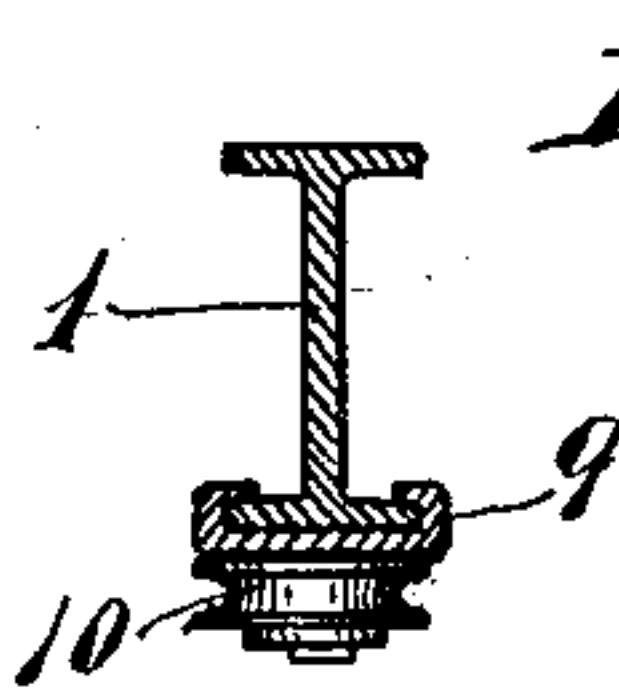
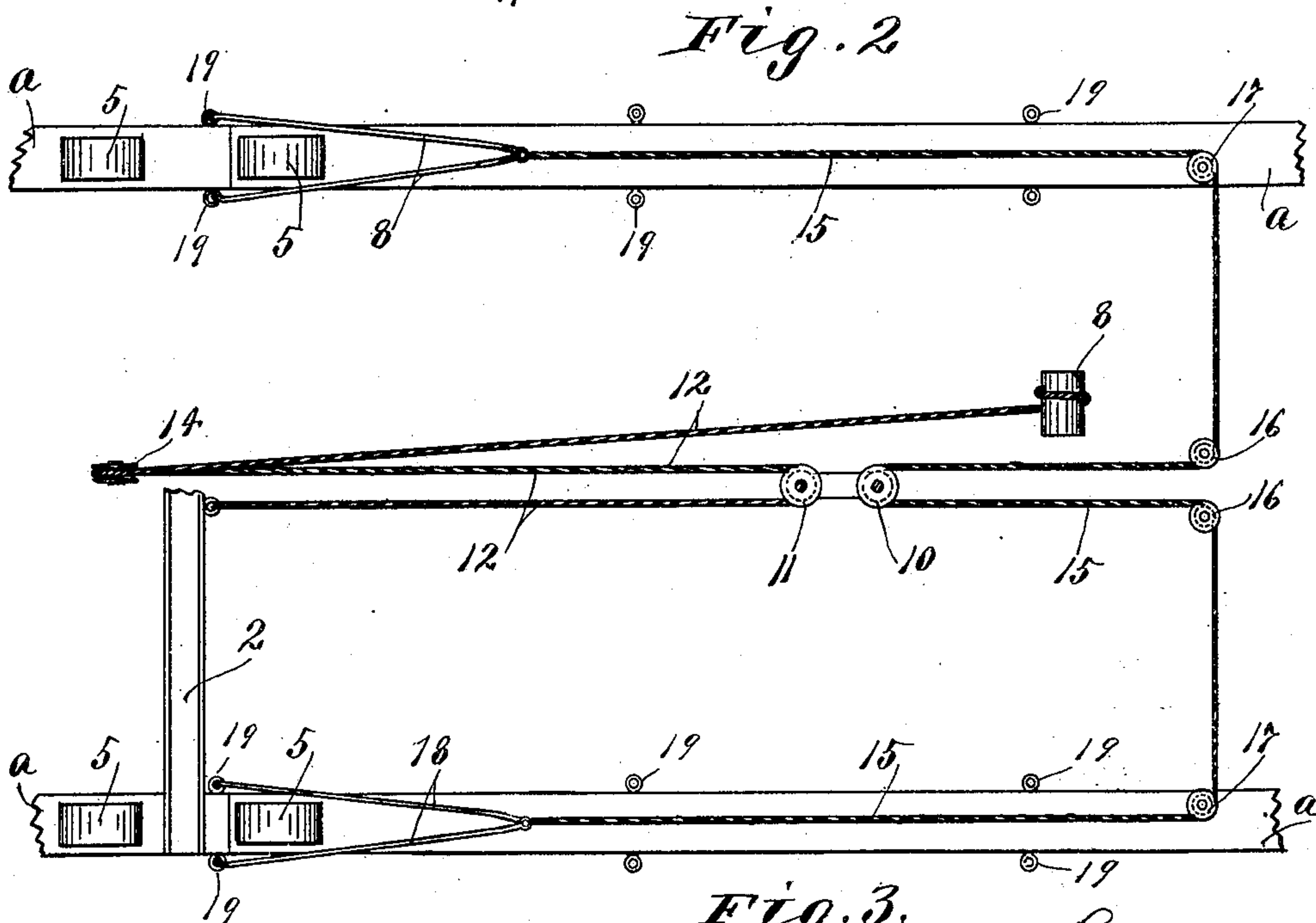
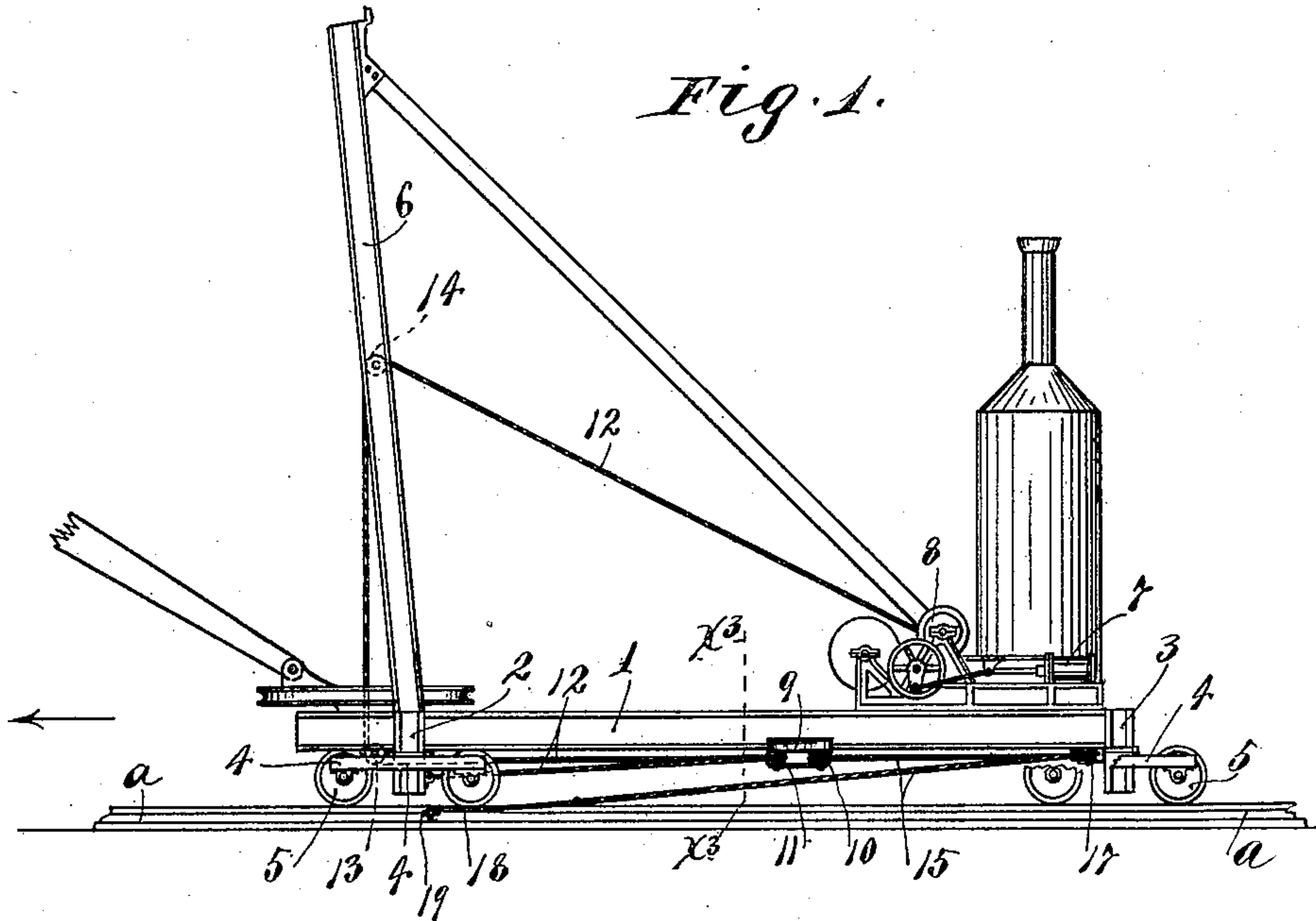
L. MAYER.

WINDLASS AND GRAPPLE DEVICE FOR MOVING EXCAVATING APPARATUS.

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903,597.

Patented Nov. 10, 1908.



Witnesses,
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UNITED STATES PATENT OFFICE.

LOUIS MAYER, OF MANKATO, MINNESOTA.

WINDLASS AND GRAPPLE DEVICE FOR MOVING EXCAVATING APPARATUS.

No. 903,597.

Specification of Letters Patent.

Patented Nov. 10, 1908.

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To all whom it may concern:

Be it known that I, LOUIS MAYER, a citizen of the United States, residing at Mankato, in the county of Blue Earth and State of Minnesota, have invented certain new and useful Improvements in Windlass and Grapple Devices for Moving Excavating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to excavating apparatus of the general character disclosed and claimed in my prior U. S. Patent No. 835,029, Serial Number 304,678, issued of date November 6th, 1906. In an excavating apparatus of this character, the track sections, over which the trucks have passed, are drawn forward and used as forward extensions of the track onto which the trucks are caused to run when the apparatus is moved forward.

My invention has for its especial object to provide an efficient and simple device for causing the apparatus to move forward on these sectional tracks, and to this end, it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings; Figure 1 is a view in side elevation, with some parts broken away and some parts removed, showing an excavating apparatus of the character indicated and illustrating my improved windlass and grapple mechanism for drawing the apparatus forward on the tracks. Fig. 2 is a diagrammatic plan view with the main body portion of the excavating apparatus removed, showing in detail the so-called windlass and grapple mechanism; and Fig. 3 is an enlarged transverse section taken on the line $x^3 x^3$ of Fig. 1.

The character a indicates the track sections which, as is usual, are made up of planks nailed or otherwise secured together. Of the parts of the excavating apparatus, the numeral 1 indicates the platform structure which is made up of a multiplicity of longitudinally extended eye-beams suitably secured together and to the customary transversely extended ditch-spanning beams 2 and 3, the ends of which beams are sup-

ported by trucks made up of small frames 4 and wheels 5.

The numeral 6 indicates the usual upright mast or "A" frame of the excavator, and the numeral 7 indicates the usual engine mounted on the platform structure 1.

For the purposes of this case, it is only necessary to note that this engine, through the usual or any suitable connections, is arranged to drive a windlass drum 8.

Mounted to slide on the lower flange of one of the platform eye-beams 1 (see particularly Fig. 3) is a sheave support 9 that carries two sheaves 10 and 11. A cable 12 is attached at one end to the front beam 2, is passed around the sheave 11, under a sheave 13 suitably mounted at the front of the platform structure, over a sheave 14 mounted on the "A" frame 6 and at its other end is attached to and adapted to be wound upon the windlass drum 8. The intermediate portion of a second cable 15 is passed around the sheave 10 and around sheaves 16 and 17 that are suitably supported by the rear beam 3. The ends of this cable 15 are brought forward and are secured to grapples 18. Each of these grapples is made up of a pair of pivotally connected grapple arms, the free ends of which are in the form of hooks that are adapted to engage eyes 19 that are arranged in pairs and secured on opposite sides of the wooden track sections a . The hooked ends of these grapples 18 are adapted to straddle the wheels of the forward truck and engage with the ends of the track sections onto which the wheels of the said forward truck have not yet run. Then, by winding the cable 12 onto the windlass drum 8, the sheave support 9 will be caused to travel forward on its engaged eye-beam, and the entire machine will be forced to travel forward on the tracks. With this arrangement, it is evident that the grapples will pull the track sections just in front of the forward trucks tightly against the front ends of the track sections upon which the trucks of the apparatus are then located, and, in this way, separation of the said abutting track sections is prevented while the truck wheels are being forced from the rear onto the forward track sections.

This windless and grapple device affords an extremely simple and efficient means for utilizing the power of the engine on the excavating apparatus to draw the entire apparatus forward on the tracks. In prac-

tice, it has been found to be highly efficient for the purposes had in view.

What I claim is:—

1. In an excavating apparatus, means for
5 drawing the said apparatus forward on its track, comprising a windlass and a pair of connected grapples, the said grapples having arms adapted to straddle the wheels of the two forward trucks and to be engaged
10 with the track sections on the opposite sides of the embraced wheels, substantially as described.

2. In an excavating apparatus, the combination with a windlass having cables extended on each side thereof, and grapples
15 applied to the ends of said cables, each grapple comprising a pair of arms adapted to straddle the wheels of the forward truck and having hooked ends adapted to engage
20 with the sides of the two tracks on opposite sides of the embraced truck wheels, substantially as described.

3. In an excavating apparatus, the combination with a platform structure, front
25 and rear transversely extended ditch-spanning beams, trucks applied to the ends of said beams and adapted to run over sec-

tional tracks, of a sheave support mounted to slide longitudinally on said platform structure and provided with a pair of 30 sheaves, an engine driven windlass drum on said platform structure, a cable anchored at one end to the forward portion of the frame structure, passed over the forward sheave on said sheave support, over intermediate 35 guide sheaves on the machine structure and attached to said windlass drum, a second cable passed around the rear sheave on said sheave support and over other guide sheaves on the machine frame structure, to opposite 40 sides of the machine, and grapples applied to the ends of said latter noted cable, each grapple comprising a pair of arms adapted to straddle the wheels of the forward trucks and having hooked ends adapted to be en- 45 gaged with the track sections on opposite sides of the embraced truck wheels, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS MAYER.

Witnesses:

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M. E. RONEY.