No. 812,061. PATENTED FEB. 6, 1906.

A. MELLQUIST & O. A. WESTERSON.

GRAPPLE FORK.

APPLICATION FILED MAR. 23, 1905.

Fig. 1.

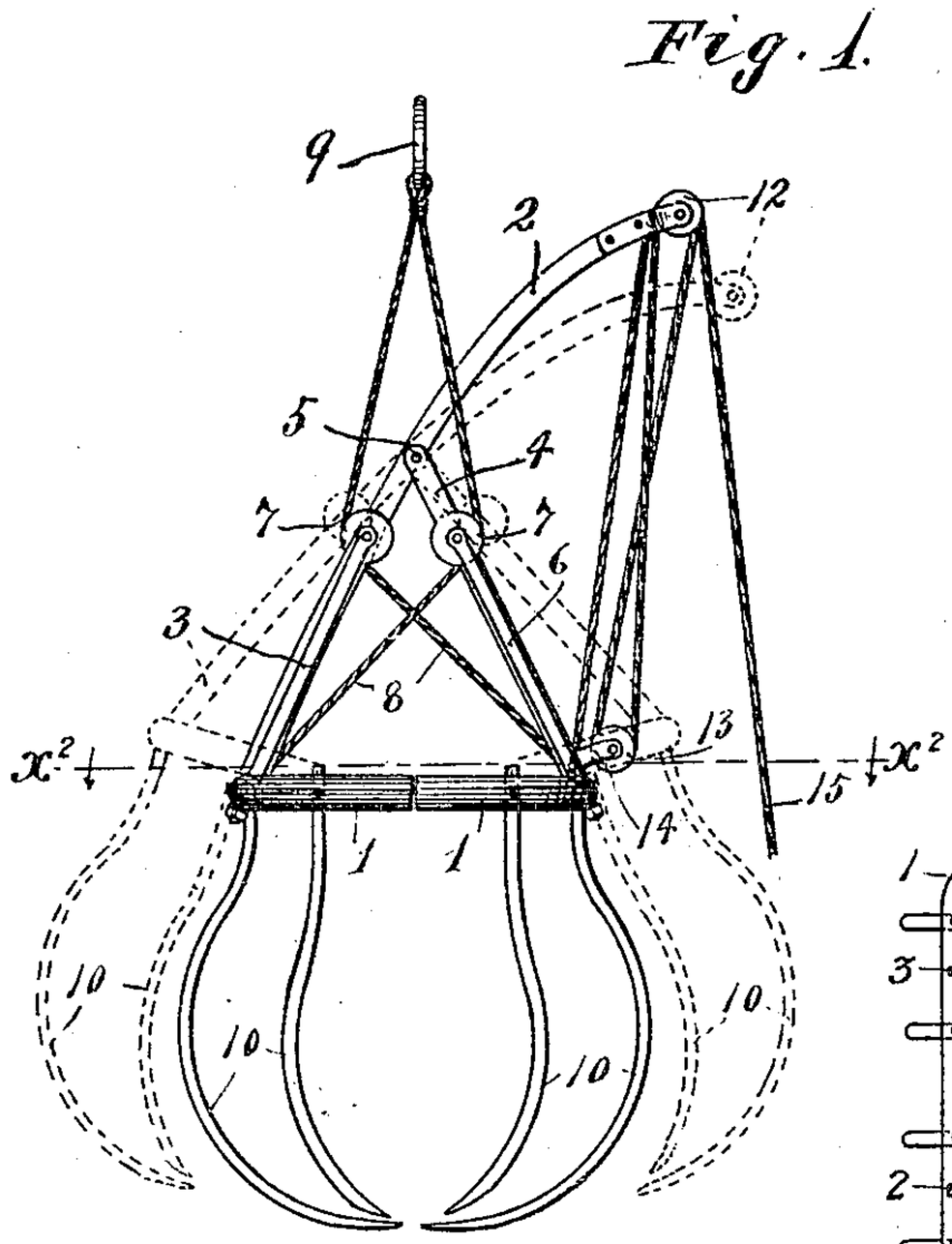


Fig. 2.

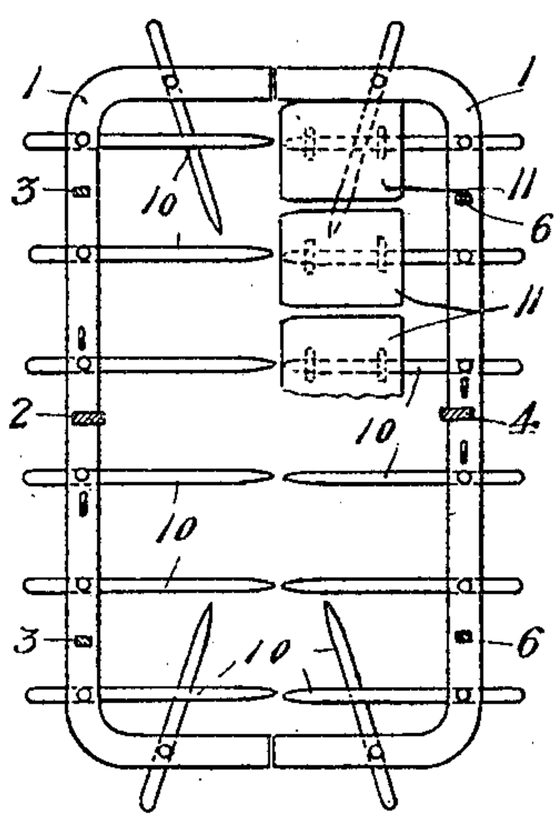
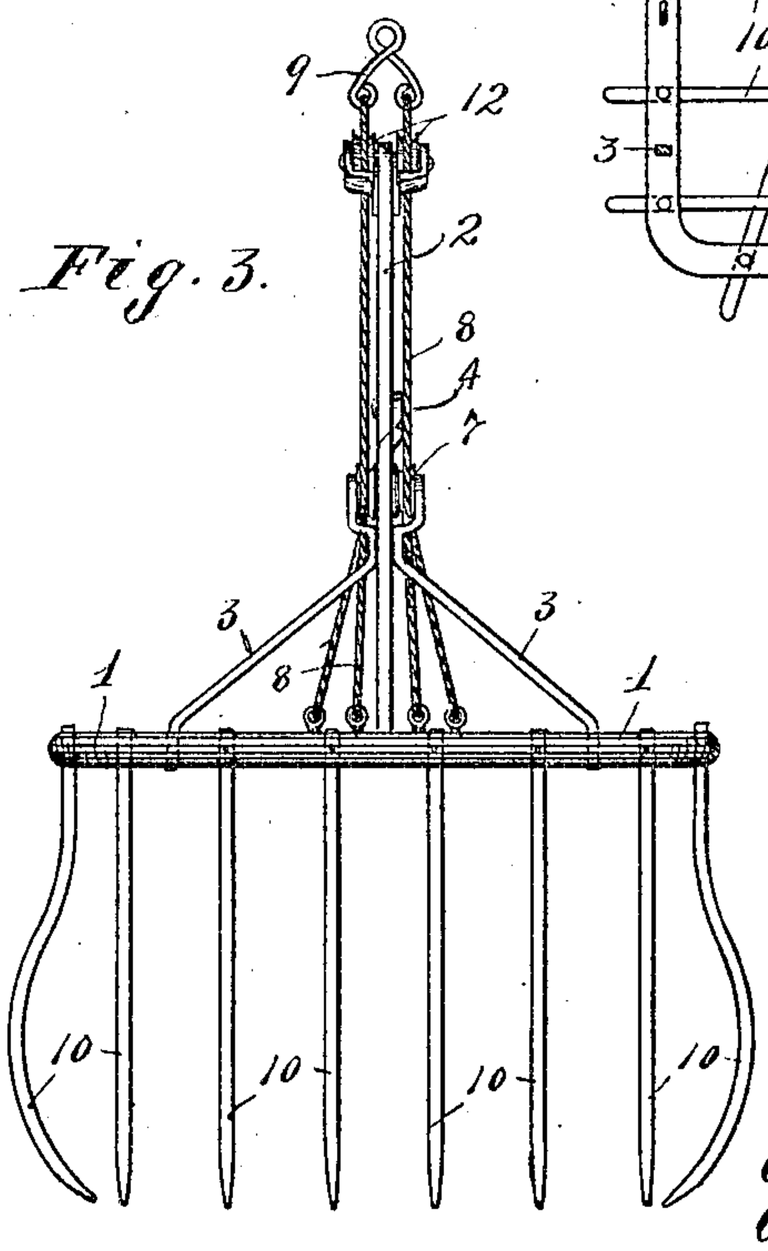


Fig. 3.



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UNITED STATES PATENT OFFICE.

ADOLPH MELLQUIST AND OSCAR A. WESTERSON, OF CANNON FALLS, MINNESOTA.

GRAPPLE-FORK.

No. 812,061. Specification of Letters Patent. Patented Feb. 6, 1906.

Application filed March 23, 1905. Serial No. 251,703.

To all whom it may concern:

Be it known that we, ADOLPH MELLQUIST and OSCAR A. WESTERSON, citizens of the United States, residing at Cannon Falls, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Grapple-Forks; and we 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.

Our invention relates to the so-called "grapple-forks," especially adapted for use in handling hay, manure, &c., and has for its object to improve the same in the several parts hereinafter noted.

To the above ends the invention consists of the novel devices and combination of devices hereinafter described, and defined in the claims.

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

Figure 1 is a view in end elevation, showing the improved so-called "grapple-fork." Fig. 2 is a view taken on the line x^2 x^2 of Fig. 1, and Fig. 3 is a view in side elevation of the parts shown in Fig. 1.

The numeral 1 indicates a pair of yoke-like frame-sections which when placed with their ends together afford an approximately rectangular frame. One of these frame-sections 1 is rigidly secured to the lower end of the long lever 2, having braces 3 at its lower end, which braces are also rigidly attached to the said frame-section. The other frame-section 1 is rigidly attached to a short arm 4, which at its upper end is pivoted at 5 to the intermediate arm portion of the arm 2. The arm 4 is also provided with braces 6, that are rigidly attached at their lower ends to the said latter-noted frame-section 1. Guide-sheaves 7 are loosely mounted, in the one instance, between the upper ends of the braces 3 and the body of the lever 2 and, in the other instance, between the upper ends of the braces 6 and the body of the arm 4. Cables 8, which are attached at their lower ends to the frame-sections 1, are extended diagonally therefrom and are passed over the guide-sheaves 7, which overlie the opposite frame-section. Otherwise stated, the cables attached to the one frame-section 1 are made to cross those that are adapted to the other frame-section, and at their upper ends the four cables 8 are united to a common link or coupling 9. This coupling 9 will be attached to the device that is intended to support the grapple or fork.

Curved tines 10 are attached at their upper ends to the frame-sections 1 and together form two opposite forks or skeleton scoops. To adapt the device for use to elevate dirt or similar material, curved plates 11 (indicated in part in Fig. 2) may be applied to the tines 10. To the upper end of the long arm 2 a guide-sheave 12 is applied, and another guide-sheave 13 is journaled in the bracket 14, rigidly secured in the lower portion of the short arm 4. An operating-cable 15 is attached at one end to the lower portion of the said arm 4 and is passed through the two guide-sheaves 12 and 13, and its free end is free to drop downward, so that it may be reached from the ground.

This device is especially intended for use in connection with the "hoisting and conveying device" disclosed and claimed in the companion application, Serial No. 251,702, filed by us of even date herewith.

As is evident, when the device is suspended from the coupling 9 the entire weight of the device is exerted in the force tending to close the fork member onto its load. However, by drawing on the cable 15 the free end of the arm 4 will be drawn upward, thereby opening up and supporting the fork members, as indicated by dotted line in Fig. 1. Hence by drawing on said cables 15 the device may be opened up so as to drop the load, and when the opened members stand in position to engage a load and the cable 15 is released gravity will act to close the said members onto the load.

The device described has in practice been found to be efficient for the purpose had in view. It is of course capable of modification within the scope of our invention as herein set forth and claimed.

From a broad point of view the two forked members constitute "scoops," and this term is used broadly to describe the same, whether the same be formed with tines or in the form of plates.

What we claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a pair of scoops, a long arm rigidly secured to one thereof, and

a short arm, rigidly secured to the other thereof, the said two arms being pivotally connected, of suspending cables arranged to cause scoops to close onto the load, under the action of gravity, and a cable connection between the upper end of said long arm and one of the scoop portions, for opening the scoops, substantially as described.

2. The combination with a pair of scoops, of a long arm rigidly secured to one thereof, a short arm rigidly secured to the other thereof, said short arm being pivoted to the intermediate portion of said long arm, a sheave on the upper end of the said long arm, a sheave connected to the lower end of said short arm, a cable running over said two sheaves and arranged to separate said scoop-sections, other sheaves on said two arms, and crossed cables attached to said scoops, passed over said latter-noted sheaves and connected at their upper end, said suspended cables operating to close the scoops under the action of gravity, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ADOLPH MELLQUIST.
OSCAR A. WESTERSON.

Witnesses:
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