

No. 692,113.

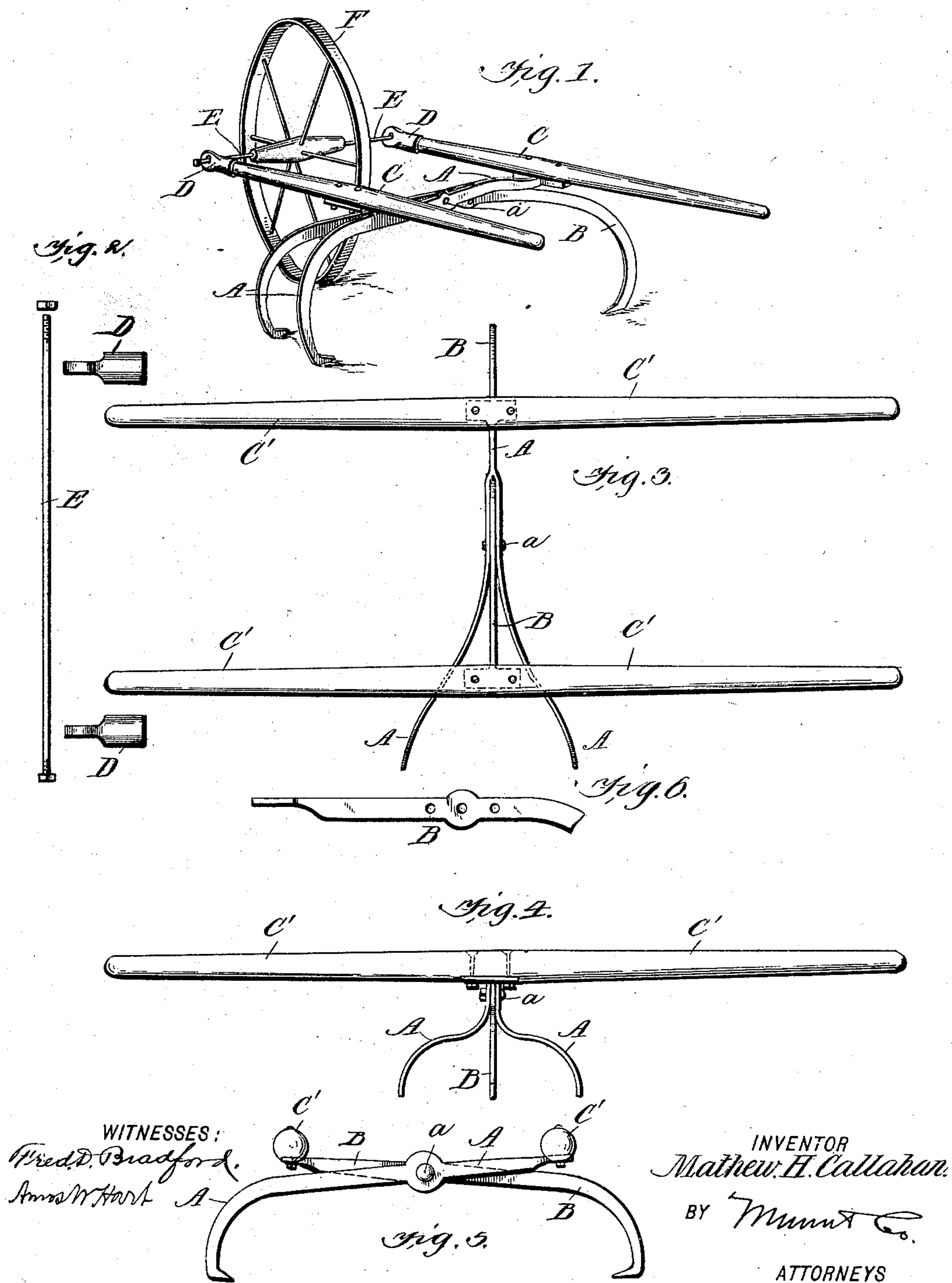
Patented Jan. 28, 1902.

M. H. CALLAHAN.

GRAPPLE.

(Application filed Aug. 20, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

MATTHEW H. CALLAHAN, OF ASPEN, COLORADO.

GRAPPLE.

SPECIFICATION forming part of Letters Patent No. 692,113, dated January 28, 1902.

Application filed August 20, 1901. Serial No. 72,673. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW H. CALLAHAN, a citizen of the United States, residing at Aspen, in the county of Pitkin and State of Colorado, have made certain new and useful Improvements in Grapples, of which the following is a specification.

It is the object of my invention to provide an improvement in that form of grapples or lifting-tongs which are adapted for gripping, supporting, and carrying various objects.

The invention is embodied in two allied forms. In the one two handle-bars or levers are connected with the shanks of the jaws or hooks composing the grapple proper and are supported at one end by means of a rotatable wheel. In the other form the levers are similarly attached to the hooks, but are adapted to be held and supported manually at both ends.

Details of construction, arrangement, and operation are as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of one form of my invention. Fig. 2 is a plan view of the wheel-axle and connected parts. Fig. 3 is a plan view of the other form of my invention. Fig. 4 is a side view of the same, and Fig. 5 is an end view. Fig. 6 is a detail view of a portion of one of the jaws or hooks.

Referring in the first instance to Figs. 1 and 2, A indicates a double jaw or hook, and B a single one, the two being pivoted together and having T-shaped heads formed on the ends of their shanks. These heads are permanently and rigidly connected with handles or levers C C at about the middle of their length. The lower portions of the jaws or hooks A B curve downward and inward to adapt them to seize and hold blocks of ice or other objects. The single hook B passes between the branches or bifurcations of the double hook A and is provided (see Fig. 6) with two or more holes to adapt the hooks for adjustment as may be required for gripping objects or articles of different diameters. It will be understood that for this purpose the pivot *a* is adapted for convenient removal and insertion, and it preferably consists of a screw-bolt having a nut attached, as shown in Fig. 2. The levers C enter sockets D, which are

provided with flattened heads or extensions having transverse perforations to receive the axle E of the wheel F. The said axle is screw-threaded at each end and provided with nuts for securing it in the bearings D. It will be understood that the wheel F is suitably keyed centrally upon the axle E.

The operation of the invention as far as described is apparent. It will be seen that by raising the free ends of the levers C the jaws A B will be brought in contact with and grip the article to be raised and transported and that while thus raised the apparatus is used practically like a wheelbarrow, there being two points of support—to wit, the wheel F and the hands of the operator. When the connection *a* between the hooks or jaws A B is adjusted, it is obvious that the levers C will be brought nearer each other or pushed farther apart and that to provide for this the sockets D must be adapted to slide upon the axle E and the latter be made of a length sufficient to afford the desired accommodation. It is further apparent that since in this operation the levers C must rotate more or less upon their axes the axle must be adapted to accommodate this movement. For this purpose various expedients may be adopted; but I prefer to enlarge the openings in the sockets D so that they may turn on the axle to the required degree. In other words, the openings for the axle E in the sockets D may be made funnel shape on the outer side to allow the slight rotation of the sockets incident to the swinging movement of the hooks A B.

In the form of my invention shown in Figs. 3, 4, and 5 a wheel is dispensed with, and levers C' C' extend to an equal length on each side of the hooks A B and are adapted to be seized and supported manually at each end. In other respects the two forms of the invention are practically similar.

It will be seen that the grapple can be conveniently used by one man when constructed in the form shown in Fig. 1—in other words, that one man can by means of it pick up and remove a weight which would be impossible for him to carry manually. In the form shown in Figs. 3, 4, and 5 two men are required to operate the grapple. The grapple is particularly adapted for carrying ice, for removing castings from the mold in the foundry, and

for transporting them to any required place; also, in placer-mining for removing boulders or loose rocks which are constantly found; likewise for handling ice and for various other analogous purposes.

What I claim is—

1. The improved grapple, comprising two hooks arranged side by side and pivoted together, their shanks extending in opposite directions, and two levers arranged at right angles to the said hooks and secured to their shanks and extending therefrom in opposite directions, substantially as shown and described.

2. The improved grapple comprising two hooks pivoted together and two lifting-bars or levers secured to the shanks of the same at right angles thereto, and the wheel arranged between and connected with the said levers at one end, substantially as shown and described.

3. The improved grapple, comprising two hooks pivoted together and adapted for adjustment as described, two levers or lifting-bars secured to the shanks of said hooks and arranged parallel to each other and at right

angles to the hooks, and a transporting-wheel arranged between the said levers at one end and having an axle which is adjustably connected with the levers, substantially as shown and described.

4. The improved grapple comprising two jaws or hooks pivoted together and adapted for adjustment as described, two levers attached to the shanks of said hooks and extending at right angles thereto, sockets applied to the said levers at one end, an axle passing through the outer ends of said sockets and adjustably connected therewith, and the wheel secured upon the axle, substantially as shown and described.

5. The improved grapple, comprising a double hook and a single hook pivoted together and having T-shaped heads formed on the ends of their shanks, two levers or lifting-bars secured to the said heads and extending an equal length on opposite sides of the same, substantially as shown and described.

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Witnesses:

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