

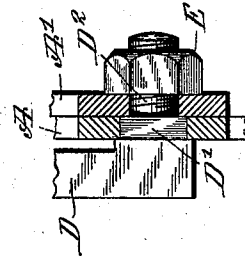
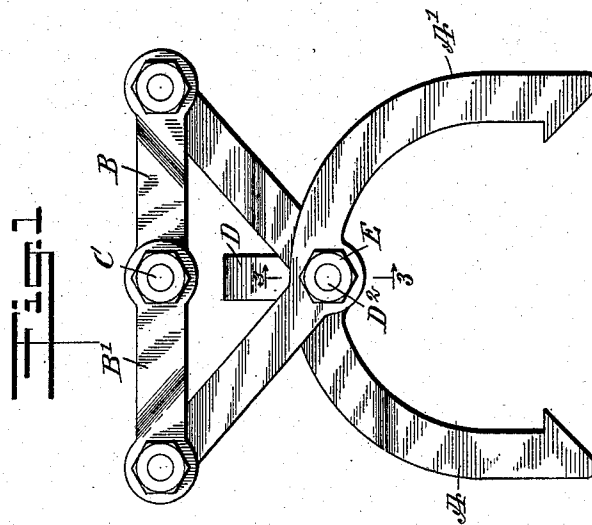
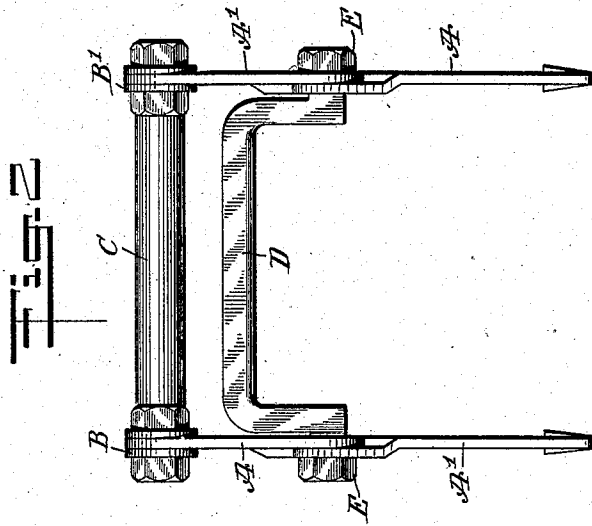
C. L. SIMMONS.
GRAPPLE.

APPLICATION FILED DEC. 28, 1907. RENEWED OCT. 20, 1908.

905,010.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.



WITNESSES
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H. G. Hooper.

INVENTOR
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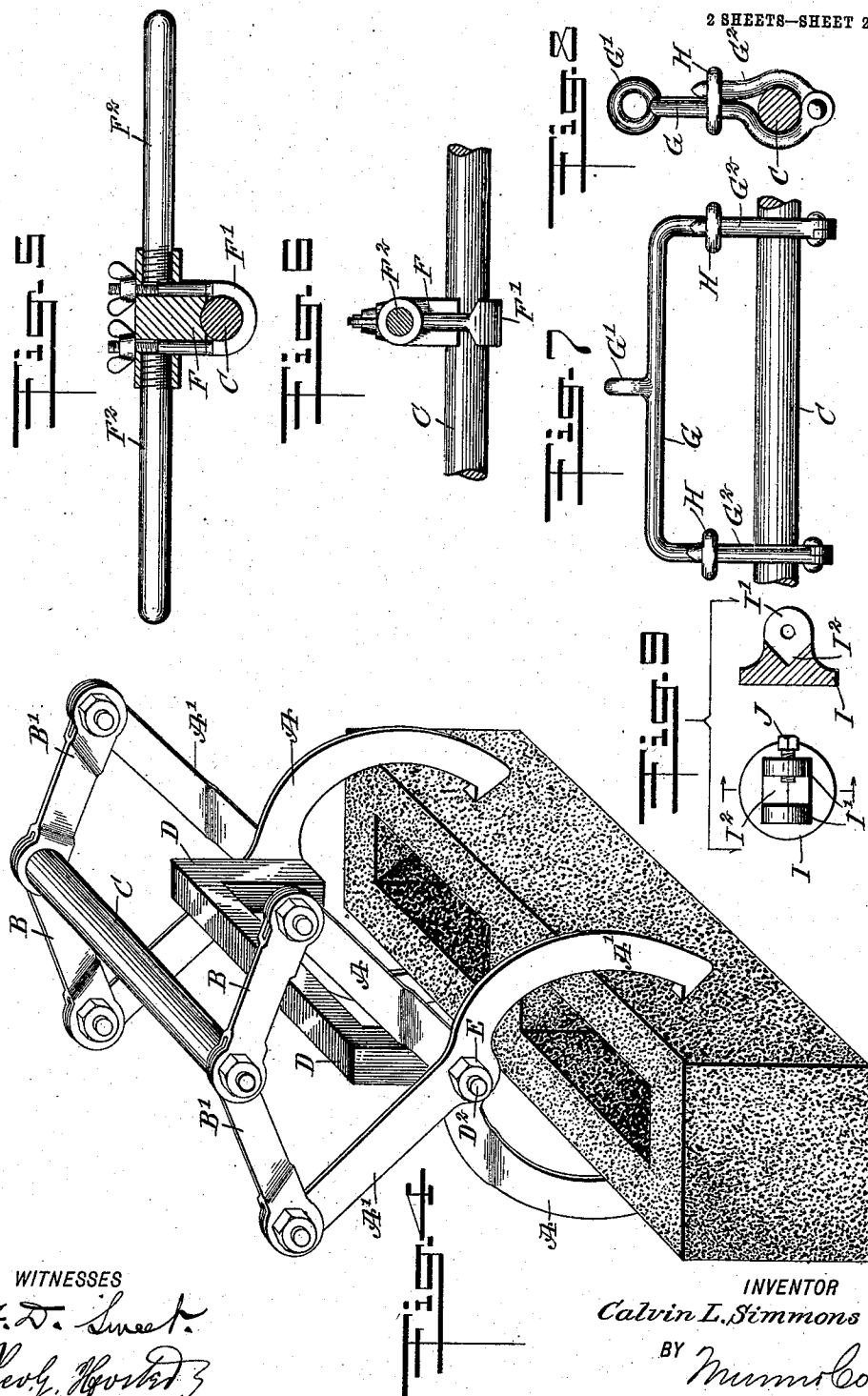
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UNITED STATES PATENT OFFICE.

CALVIN L. SIMMONS, OF SPOKANE, WASHINGTON.

GRAPPLE.

No. 905,010.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed December 26, 1907, Serial No. 408,000. Renewed October 20, 1908. Serial No. 458,671.

To all whom it may concern:

Be it known that I, CALVIN L. SIMMONS, a citizen of the United States, and a resident of Spokane, in the county of Spokane and State of Washington, have invented a new and Improved Grapple, of which the following is a full, clear, and exact description.

The invention relates to hoisting and its object is to provide a new and improved grapple, more especially designed for hoisting concrete blocks and other articles, and arranged to securely grip the article, to permit of carrying the same to the desired destination and to allow the operator to conveniently release the article.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an end view of the improvement; Fig. 2 is a side elevation of the same; Fig. 3 is an enlarged sectional side elevation of part of the improvement on the line 3—3 of Fig. 1; Fig. 4 is a perspective view of the improvement as applied for carrying the concrete block; Fig. 5 is a cross section of the carrying handle of the grapple, provided with an auxiliary carrier attachment; Fig. 6 is a side elevation of the same; Fig. 7 is a similar view of the grapple provided with an auxiliary carrier for engagement with a derrick rope or cable; Fig. 8 is a transverse section of the same, and Fig. 9 is a face view and a cross sectional view of a shoe for removable connection with the grappling levers.

The grappling levers A, A' of two pairs of said levers are pivotally connected at their upper ends by toggle links B, B' with a carrying handle C, below which is arranged a releasing handle D, preferably of inverted U-shape, and having its ends provided with polygonal portions D', from which extend outwardly the pivots D², the said polygonal portions being rigidly connected with the grappling levers A, while the other grappling levers A' are mounted to turn on the pivots D². Nuts E screw on the outer threaded ends of the pivots D², to hold the grappling levers in position on the ends of the releasing handle D, as above described. By

the arrangement described, the two pairs of grappling levers A, A' are connected with each other by the releasing handle D, which has its middle portion within close proximity of the carrying handle C, so that when the operator has hold of the carrying handle C he can conveniently engage the underside of the middle portion of the releasing lever D with one of his fingers, with a view to draw the carrying handle C towards the releasing handle D, whereby the pairs of grappling levers A, A' are caused to swing open, with a view to release the grip block or other article carried by the free ends of the grappling levers, as indicated in Fig. 4.

It is understood that in order to engage an article the carrying handle C is moved first towards the releasing handle D, so as to open the grappling levers A, A' and to permit of engaging the free ends of the grappling levers with the opposite sides of the article to be carried. The operator now on taking hold of the carrying handle C and moving the same upward, causes a closing of the grappling levers A, A' by the action of the toggle links B, B', so that the grappling levers firmly grip the article, to allow the operator to carry the article to its destination and place it in position, after which the operator engages the releasing handle D, as above described, to move the carrying handle C towards the releasing handle D, with a view to swing the grappling levers into an open position and thus release the article.

By having the grappling levers A of the two pairs of the said levers rigidly mounted on the ends of the releasing handle D, the latter always stands in proper relation to the carrying handle C, to permit the operator to conveniently grasp both handles whenever it is desired to release the article from the grappling levers.

When it is desired to carry heavy parts by the grapple, use is made of a carrier attachment shown in Figs. 5 and 6, and consisting of a clip block F operating in conjunction with a U-shaped clip bolt F', to fasten the said clip block F in position on the carrying handle C, the said clip block F being provided with handles F² extending in opposite directions and transversely of the carrying handle C, to permit two operators to take hold of the handles F² on opposite sides of the article to be carried from one place to another.

When it is desired to use the grapple in connection with a derrick or other hoisting device, then the carrying handle C is engaged by a frame G, preferably made U-shaped, and provided with an eye G' for connection with the derrick rope or cable. On the ends of the frame G are fulcrumed clamping arms G², between which and the frame the carrying handle C is clamped, as plainly shown in Figs. 7 and 8, the clamping arms G² being locked in a closed position by suitable links or rings H held on the frame G, and adapted to be slipped over the free ends of the arms G². By the arrangement described the carrier frame G can be readily attached to or detached from the carrying handle C of the grapple.

When it is desired to grapple articles with very smooth surfaces, then use is made of shoes I in the form of disks, and secured by set screws J to the free ends of the grappling levers A, A', the said shoes I being provided at the back with lugs I', between which extends the free end of the corresponding grappling lever A or A'. One of the lugs I' carries the set screw J for securing the shoe in position on the grappling levers, and the back of the shoe I is also provided with an angular recess I² for accommodating the usual hook on the free end of the grappling lever A or A'.

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

35 1. A grapple comprising a carrying handle, two pairs of grappling levers, a pair of links connecting each end of the carrying handle with a pair of grappling levers, and a releasing handle to each end of which a pair of grappling levers is pivoted.

40 2. A grapple comprising a carrying handle, two pairs of grappling levers, toggle links connecting the said carrying handle with the said grappling levers, and a releasing handle provided at each end with a pivot, one of the levers of each pair of grappling levers being fixed on the releasing handle and the other lever of each pair of grappling levers being fulcrumed on the said pivot.

50 3. A grapple comprising a carrying han-

dle, two pairs of grappling levers, toggle links connecting the said carrying handle with the said grappling links, and a U-shaped releasing handle arranged below the said carrying handle and on the ends of which the said grappling levers are mounted.

4. A grapple comprising a carrying handle, two pairs of grappling levers, toggle links connecting the said carrying handle with the said grappling levers, and a releasing handle arranged below the said carrying handle and made of inverted U-shape form, the said grappling levers being mounted on the ends of the releasing handle, each end of which is provided with a polygonal portion and a pivot, one of the levers of each pair of grappling levers being fixed on the polygonal portion and the other lever of the pair being fulcrumed on the pivot.

5. A grapple comprising a carrying handle, two pairs of grappling levers, toggle links connecting the said carrying handle with the said grappling levers, a releasing handle connecting the said grappling levers with each other, and a carrier clamped on the said carrying handle.

6. A grapple comprising a carrying handle, two pairs of grappling levers having hooks on their ends, toggle links connecting the said carrying handle with the said grappling levers, a releasing handle connecting the said grappling levers with each other, and removable shoes having lugs on their rear faces and angular recesses between the lugs, and set screws for securing the ends of the grappling levers between the said lugs.

7. In combination, a grapple having a carrying handle, and a double handle carrier attachment for the said carrying handle, and comprising a clip clamped on the carrying handle, and handles extending from the clip in opposite directions and transversely of the carrying handle.

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

CALVIN L. SIMMONS.

Witnesses:

CHAS. E. PALMER,
RUFUS AMES.