

(No Model.)

3 Sheets—Sheet 1.

T. HOLT, Jr.  
TRUCK.

No. 281,071.

Patented July 10, 1883.

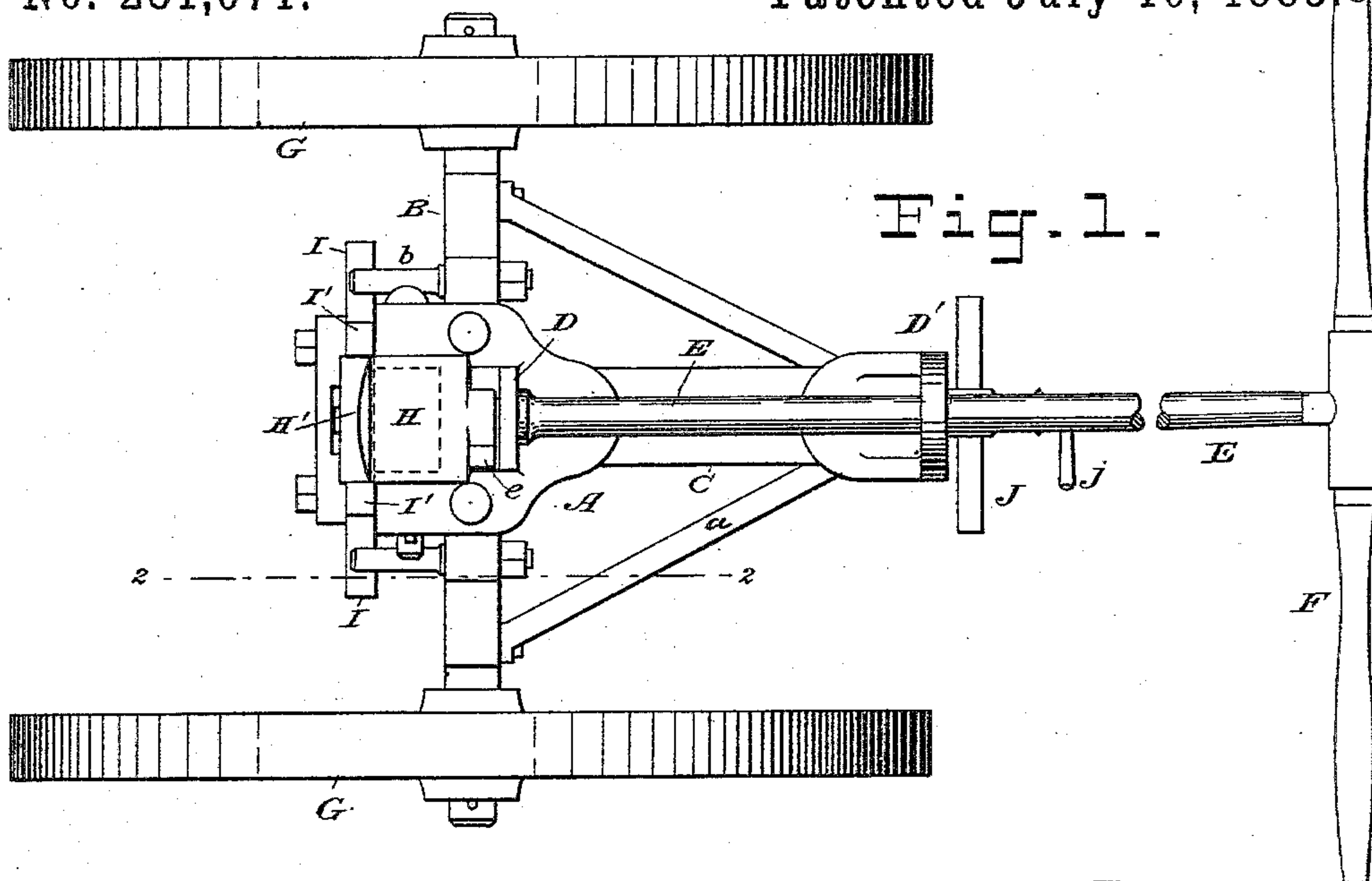


Fig. 1.

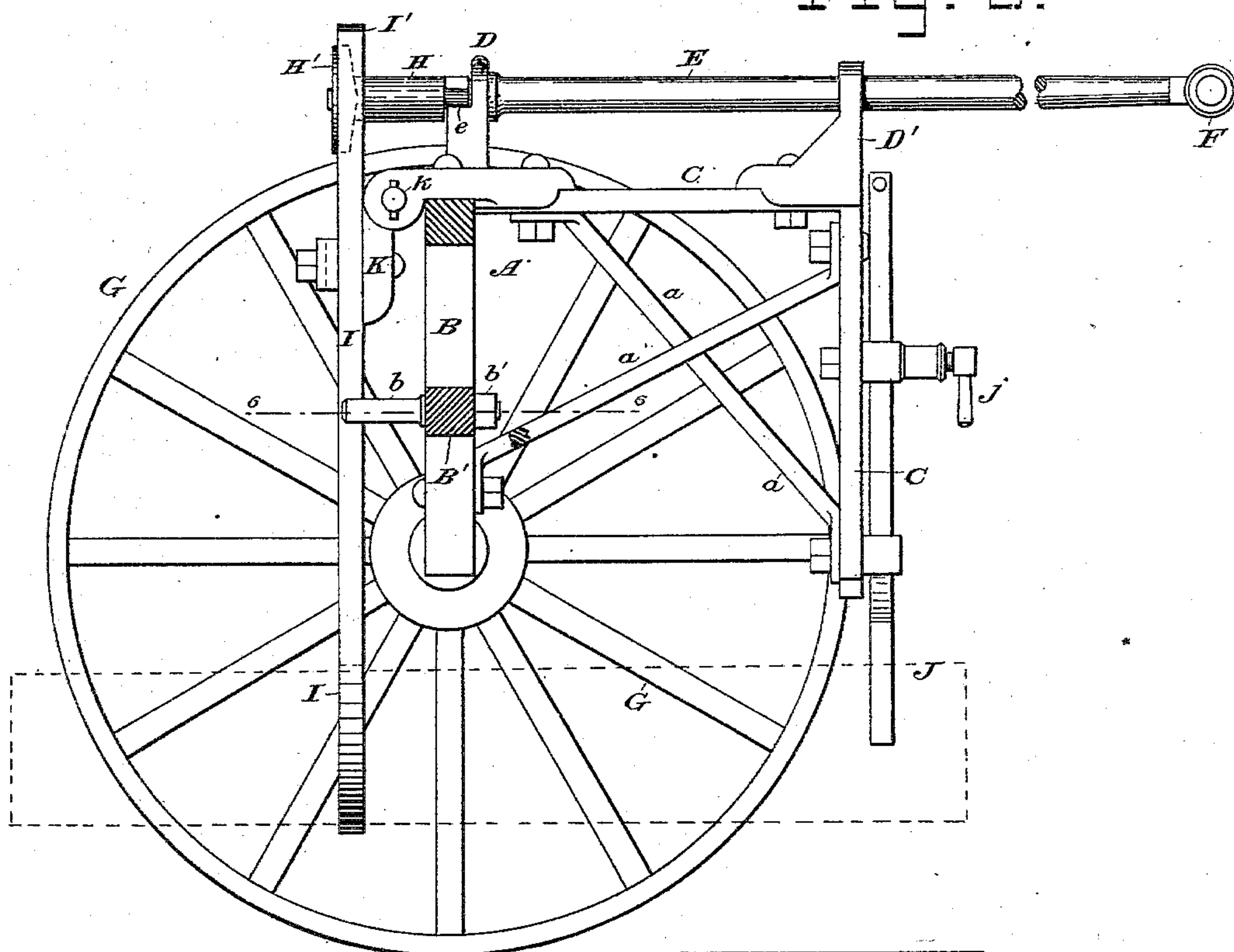


Fig. 2.

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By his Attorneys,

Burke & Fraser Connell

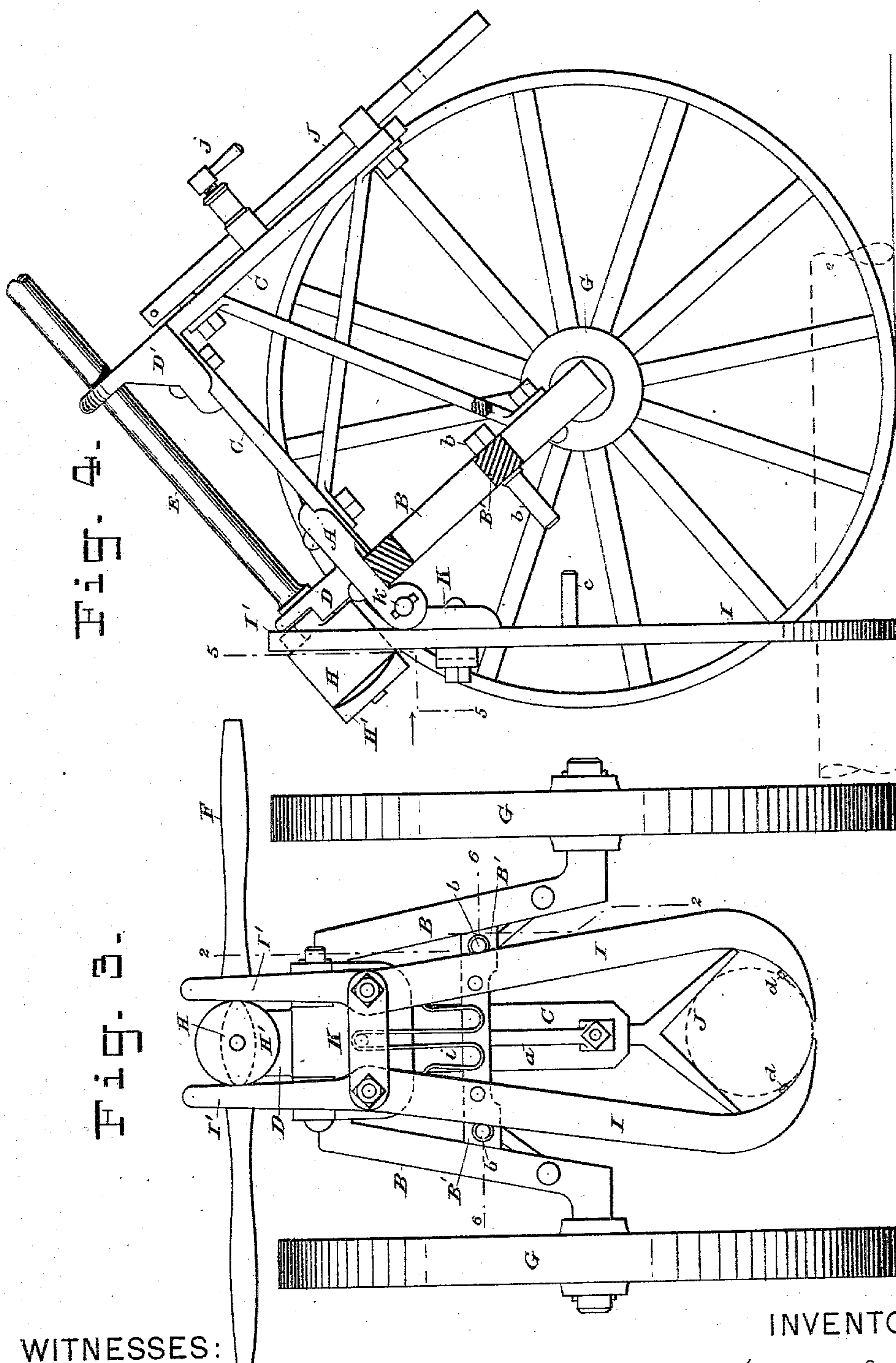
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Fig. 5.

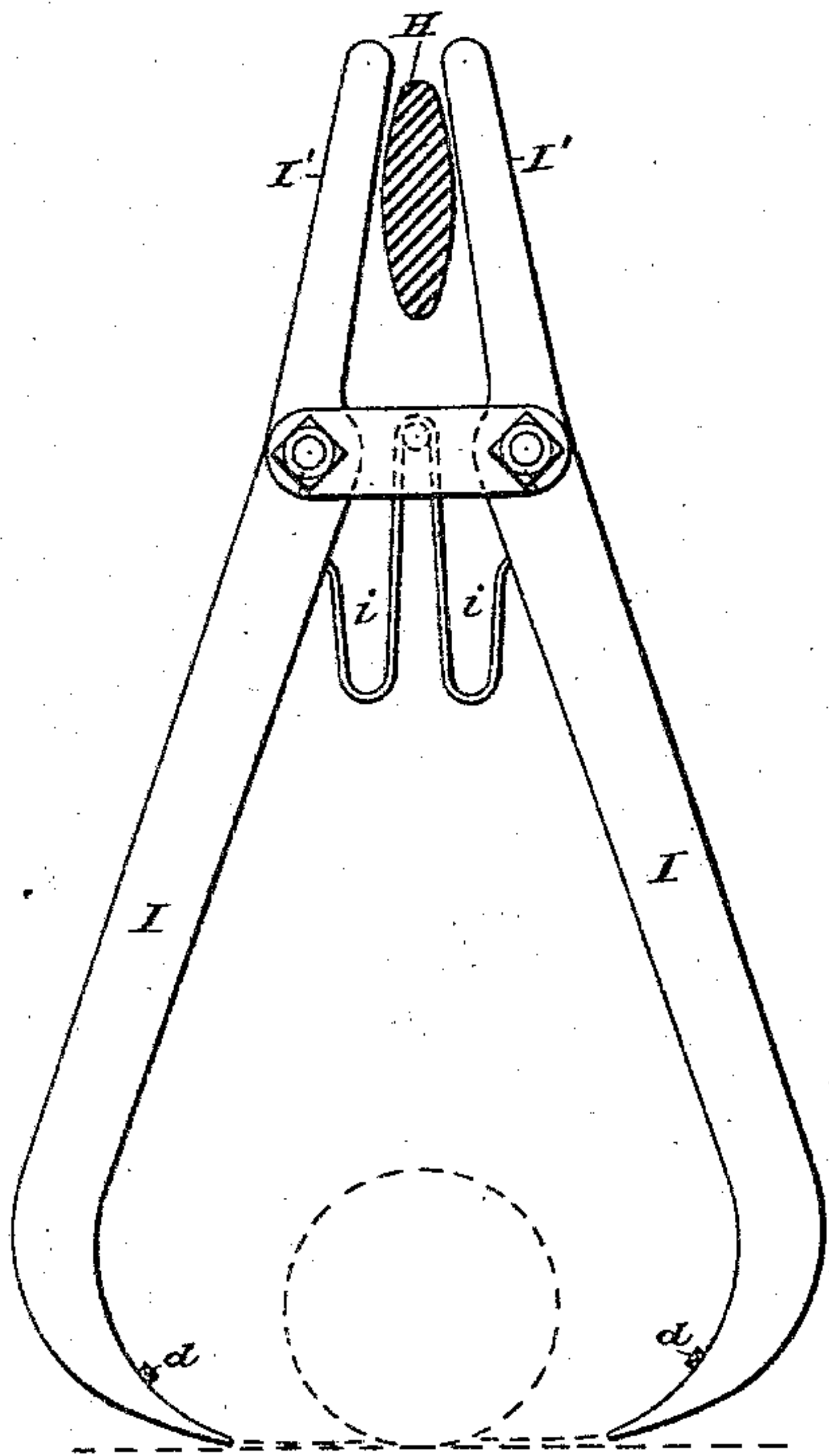


Fig. 6.

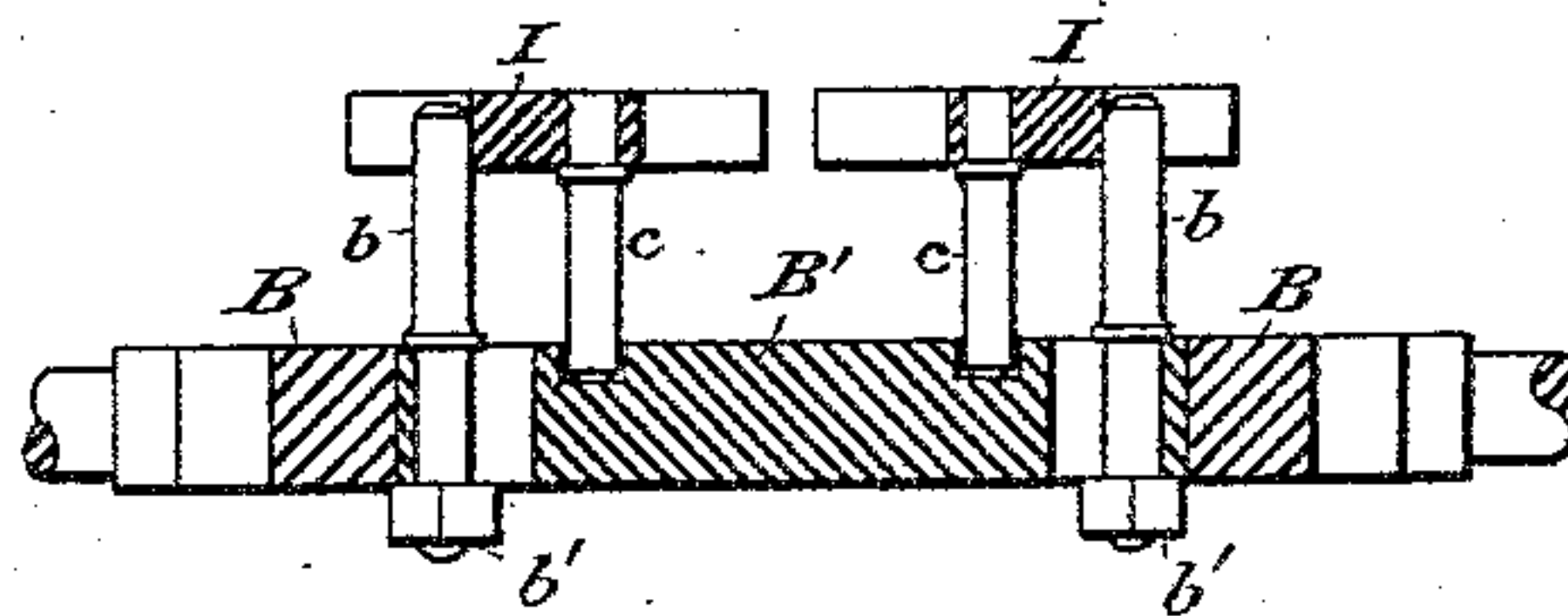


Fig. 7.

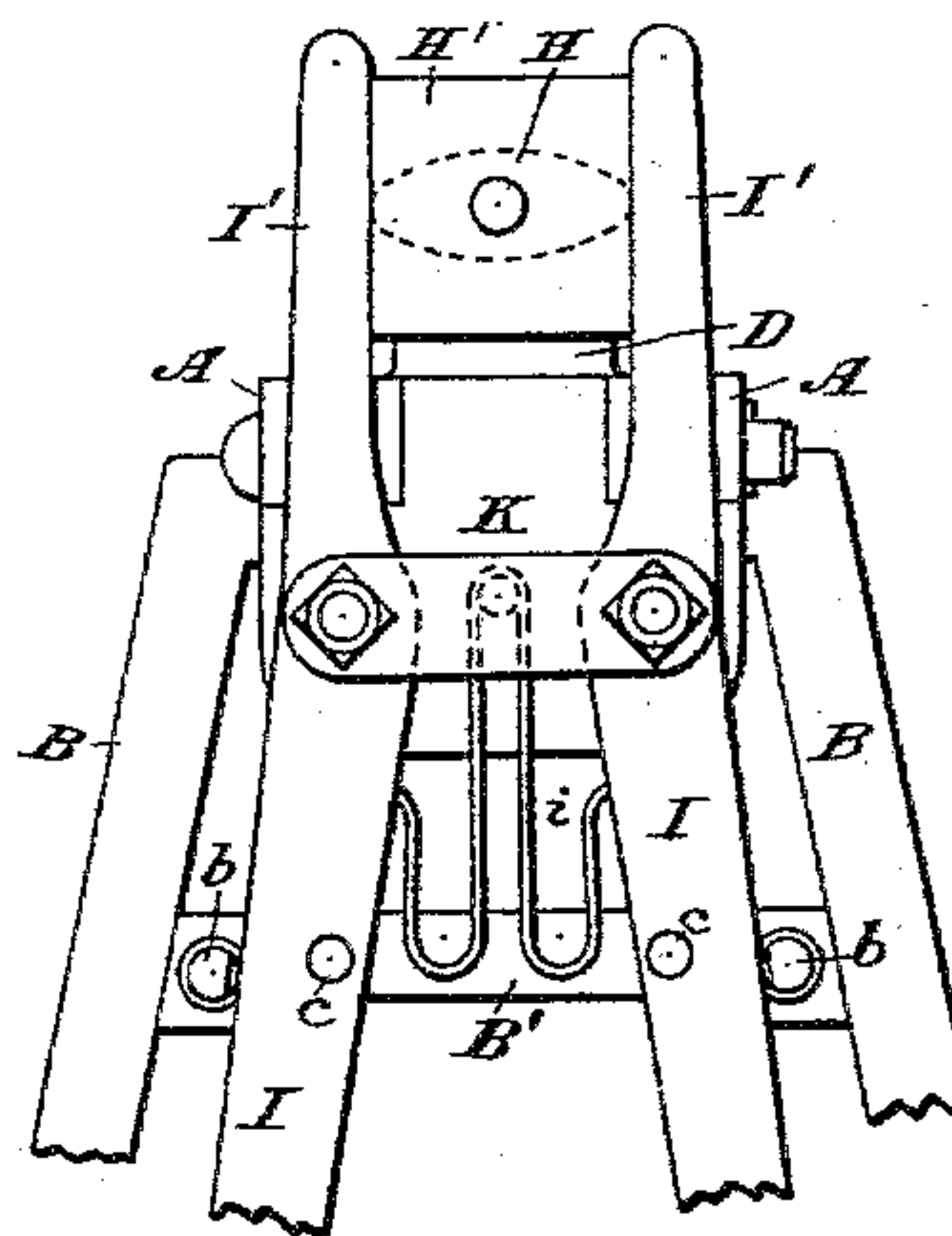


Fig. 8.

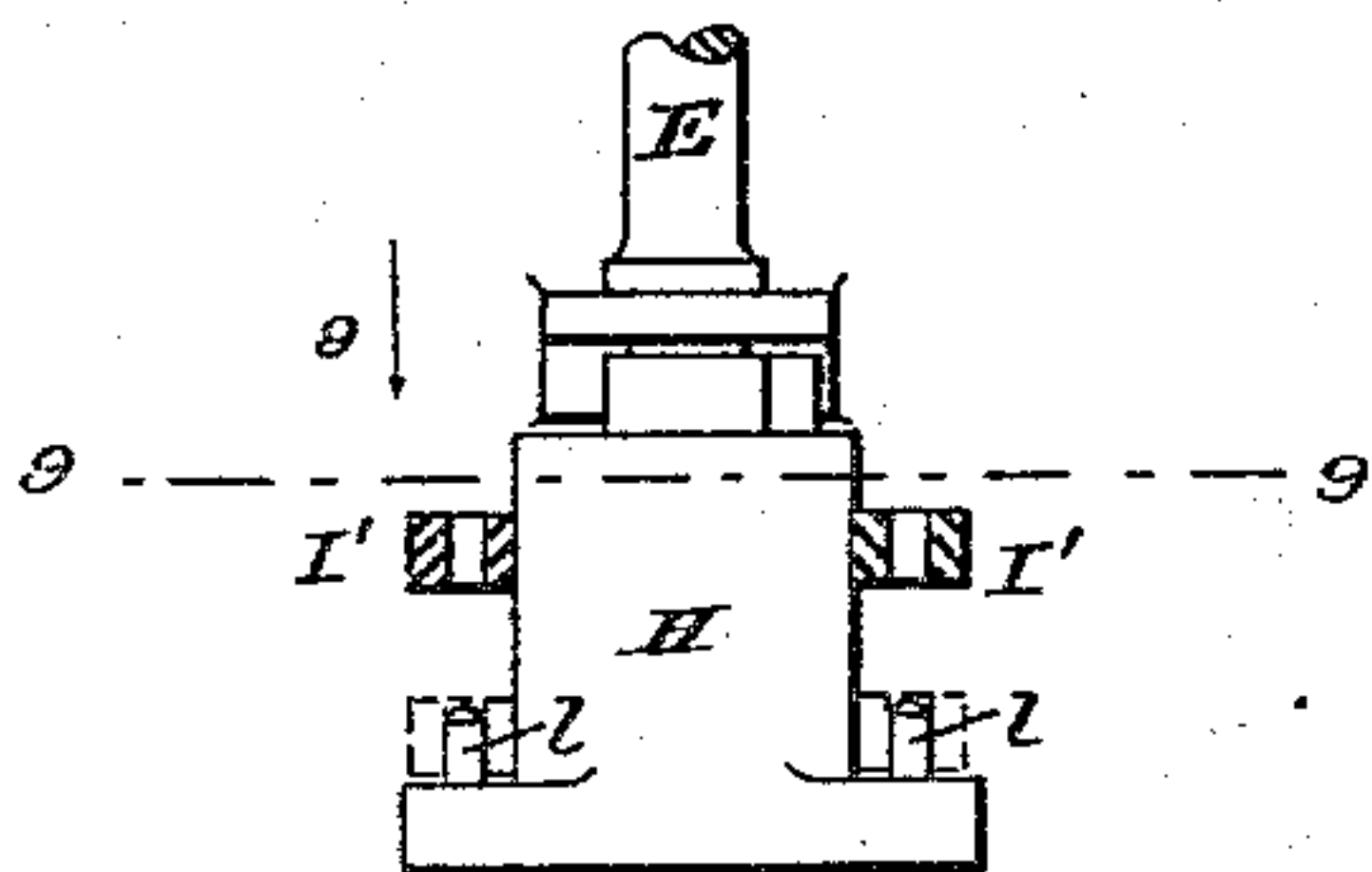
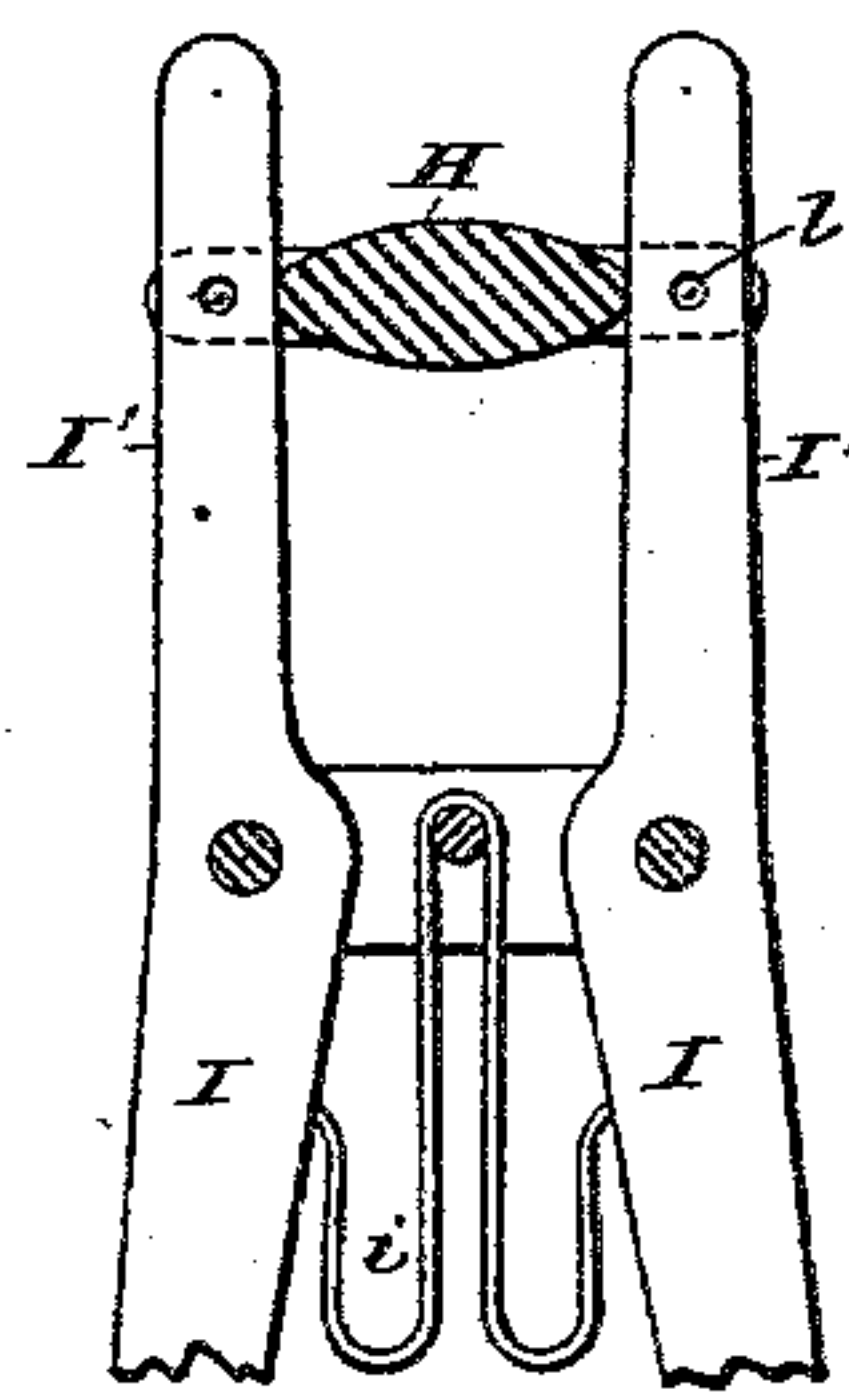


Fig. 9.



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# UNITED STATES PATENT OFFICE.

THOMAS HOLT, JR., OF MIDLAND PARK, NEW JERSEY, ASSIGNOR OF ONE  
HALF TO JOHN TERHUNE, OF SAME PLACE.

## TRUCK.

SPECIFICATION forming part of Letters Patent No. 281,071, dated July 10, 1883.

Application filed April 16, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS HOLT, Jr., a citizen of the United States, and a resident of Midland Park, Bergen county, New Jersey, have  
5 invented certain Improvements in Trucks, of which the following is a specification.

My invention relates to trucks used chiefly for lifting and transporting heavy bars of metal—such as car-axles, railway-rails, and the like—  
10 as well as timbers. Such trucks are commonly made with two wheels, a long handle, and a pair of tongs, which may be opened and closed by turning the handle, so that the truck can be wheeled over the article to be lifted, tilted  
15 to bring the tongs down within reach of the article, which is then grasped by closing the tongs, tilted back in order to lift the article, and wheeled off with it to the place desired.

The object of my invention is to overcome  
20 certain defects which are inherent in trucks of this character as heretofore constructed.

In the accompanying drawings, Figure 1 is a plan view of my improved truck. Fig. 2 is a vertical section of the same, taken in the  
25 plane of the line 2 2 in Fig. 1. Fig. 3 is a rear elevation of the same. Fig. 4 is a view similar to Fig. 2, but showing the tongs open and lowered in the position of grasping the load. Fig. 5 is a rear elevation of the tongs alone, showing them opened. Fig. 6 is a fragmentary horizontal section cut along the lines 6 6 in Figs.  
30 2 and 3. Fig. 7 is a fragmentary rear elevation, showing a modification. Fig. 8 is a fragmentary plan and partial section of another modification; and Fig. 9 is a vertical section  
35 of the same, cut along the line 9 9 in Fig. 8, and looking from the front.

Referring to these figures, A is the framework of the truck, and G G its wheels, mounted on the axle B, which I have shown as bent  
40 or cranked upwardly. The frame A consists, in general, of the axle B and the elbow C, extending thence forward and downward, and all being braced by diagonal braces a a. On top of this frame is a bar or shaft, E, mounted  
45 in bearings D D', fixed on the frame A, and capable of turning a half-revolution therein, its motion being limited by a projection, e, which strikes the bearing D. This bar E extends from the front and forms the pole or  
50 handle of the truck, its front end being fitted with a cross-handle, F, Fig. 1.

I I are the pair of tongs or grasping-levers, pivoted to a plate, K, which is hinged at k to the upper part of the frame A. These tongs  
55 are opened by a spring, i, arranged between them. Their arms I' I' extend above the pivots or fulera and embrace a cam, H, fixed on the rear end of the bar E. This cam is elliptical, or approximately so, in cross-section, as  
60 shown by dotted lines in Fig. 3, and when the cross-handle F stands horizontally the major axis of the ellipse stands also horizontally and separates the arms I' I' to their fullest extent, thus holding the tongs I I closed, as shown in  
65 Fig. 3; but by turning the cross-handle F into a vertical position the minor axis of the ellipse stands between the arms I' I', and thus permits them to be forced together by the spring i, as  
70 shown in Fig. 5, thereby opening the tongs.

So far as described there is no substantial novelty in this truck.

When it is desired to grasp and lift an article with a truck of this character, the cam H is turned vertically, as shown in Fig. 5, and  
75 the truck is tilted, as shown in Fig. 4, until the open jaws of the tongs come on opposite sides of the object to be lifted. The tongs are then closed by turning the cam H, and the load is then lifted by tilting the truck back to  
80 the position shown in Fig. 2. The center of gravity of the bar or other load should be in the rear of the tongs I I, so that the front portion of the load will press upwardly against the forked bar J, which is connected to the  
85 forward part of the frame A, and is adjustable vertically thereon, being fastened by a set-screw, j.

The most important feature of my invention consists in providing the rear end of the cam  
90 H with a disk or enlargement, H', (shown best in Figs. 2 and 3,) which, when the truck is in the position of carrying the load, stands between the arms I' I' and prevents the opening of the jaws, whatever be the position of the  
95 handle F or cam H. Before the jaws can be opened the truck must be tilted into the position for grasping the load, as shown in Fig. 4, so that the swinging of the tongs brings the arms I' I' into the plane of the elliptical cam  
100 H, whereupon the jaws may be opened or closed by the turning of the cam H by the cross-handle F. In trucks of this character, previous to my invention, it was necessary to



hold the handle F in a horizontal position while hauling the load, as, if it became turned to a sufficient inclination, the weight of the load, tending to open the tongs, would act upon the cam H and throw the handles into the vertical position, thereby dropping the load. My improved construction obviates this difficulty, as it is impossible to drop the load while hauling unless the truck should be tilted, which cannot occur accidentally.

It is not essential that the projection H' be circular, as, if preferred, a square plate might be used, as shown in Fig. 7, or other forms might be adopted. The square form has the effect of locking the handle F in a horizontal position during the hauling. It is evident that if the handle F be locked in this position, so that the long diameter of the elliptical cam H stands between the arms I' I', the cam H alone would suffice to hold the tongs closed, which may be accomplished by the construction shown in Figs. 8 and 9, where the cam H is extended rearwardly and laterally, and is provided with pins l l, projecting forward and engaging corresponding holes in the arms I' I' when the latter are in the hauling position, as denoted by dotted lines in Fig. 9. As long as these pins engage the holes the cam H is kept from turning, and its long diameter holds the arms I' I' asunder.

I will now describe the remaining improvements which I have invented.

The axle B is made with a cross-bar, B', which greatly strengthens it, and to this, or to any other suitable part of the frame-work, are fastened two pins, b b, which project rearwardly sufficiently far to engage the lower arms of the tongs I I when the latter are in the hauling position, as shown in Fig. 2. The tongs should fit closely between these pins, as shown in Fig. 3, so that the springing of the tongs due to the weight of the load will be resisted by these pins, thereby relieving the upper arms, I' I', of nearly all strain after the load has been lifted. These re-enforce bars are especially useful in running over uneven ground, where the tongs are subjected to severe lateral strains or jolts. It is preferable to form slots in the cross-bar B', and to fasten the pins b b in these slots by means of nuts b', as shown in Fig. 6, whereby the position of the pins b b can be readily adjusted. It is obvious that in place of pins any other strong re-enforcing shoulders may be provided.

In hauling a load, in case the truck should be stopped suddenly, as by the striking of the wheels against some obstruction, the inertia of the load tends to swing the tongs I I forward and subjects them to considerable strain. To resist this strain and keep the tongs in their proper position, I provide pins c c, which are fixed in the lower arms of the tongs and project forward, and when the tongs are in the hauling position abut against the cross-piece B'. It is preferable to provide recesses in this cross-piece, into which the ends of the pins c c may enter. On striking any obstruction the

pins c c bear against the cross-piece B and hold the tongs I I in place.

Large and heavy bodies are apt to slide forward when the truck is suddenly stopped, to prevent which I provide the grasping-jaws of the tongs with spurs d d, (shown in Figs. 3 and 5,) so placed that a bar of large diameter will rest partly upon them and be engaged by them. Points or short teeth on the contact-faces of the jaws will evidently answer the same purpose.

I claim as my invention—

1. The combination, to form a truck for lifting and transporting heavy articles, of the frame and wheels, a pair of tongs hinged to the frame, a handle-bar journaled to the frame, a cam on said bar, adapted by its partial rotation to open or close said tongs when the truck is tilted into the position for grasping the load, and suitable means, substantially as described, for preventing the opening of said tongs after the load is grasped and lifted, as set forth.

2. The combination, in a truck, of the frame A, the tongs I I, swung therefrom, a bar, E, mounted rotatively thereon, a cam, H, fixed on said bar and arranged between the upper arms of said tongs when the truck is tilted into the position for grasping the load, and an enlargement, H', on said cam, arranged in the plane assumed by the tongs when the truck is in position for hauling the load, and adapted to hold the same closed so long as that position is maintained, substantially as set forth.

3. The combination, in a truck, with frame A and tongs I I, of rotary bar E, elliptical cam H, fixed thereon, and circular enlargement H', on said cam, substantially as set forth.

4. The combination, in a truck for lifting and transporting heavy articles, of the frame of the truck, a pair of tongs swung therefrom, suitable means for opening and closing said tongs when the truck is tilted to the position for grasping the load, and re-enforce projections fixed to said frame and embracing the tongs between them when the truck is in the position for hauling the load, thereby preventing the spreading of the tongs and relieving them from strain, substantially as set forth.

5. The combination of frame A, tongs I I, swung therefrom, arms I' I' thereof, cam H, bar E, and re-enforce pins of projections b b, fixed to said frame A below the fulcrum of the tongs, and arranged to embrace the tongs between them when the truck is in the position for hauling the load, substantially as set forth.

6. The combination of frame A, bar E, cam H, tongs I I, hinged to said frame, and projections on the lower arms of said tongs, adapted to abut against said frame while the load is being hauled, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

THOMAS HOLT, JR.

Witnesses:

R. VAN HOUTEN,

DAVID L. WORTENDYKE.