

(No Model.)

2 Sheets—Sheet 1.

J. THOMAS.

APPARATUS FOR USE IN DRESSING HOGS.

No. 396,520.

Patented Jan. 22, 1889.
Fig. 1.

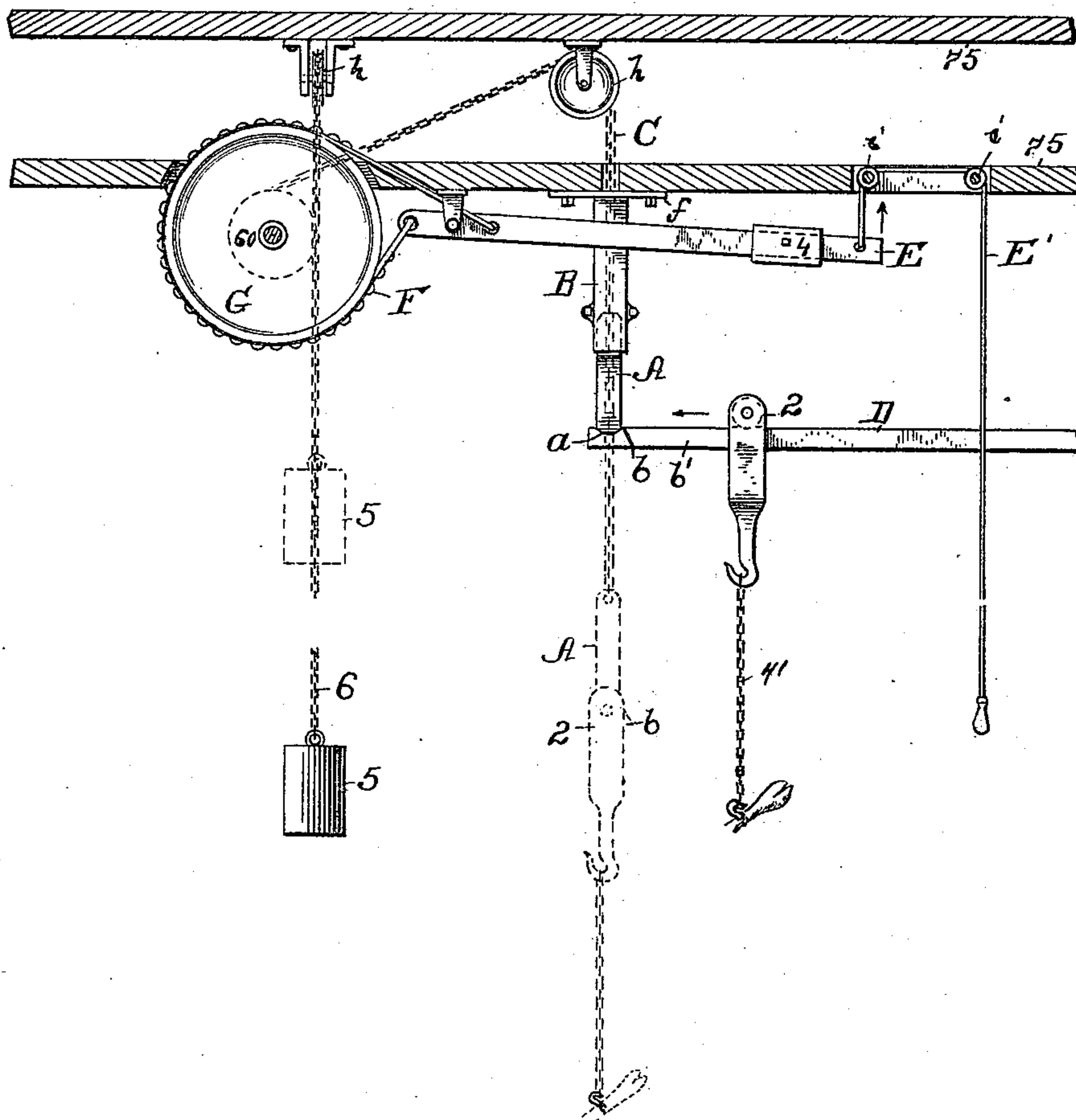


Fig. 2.

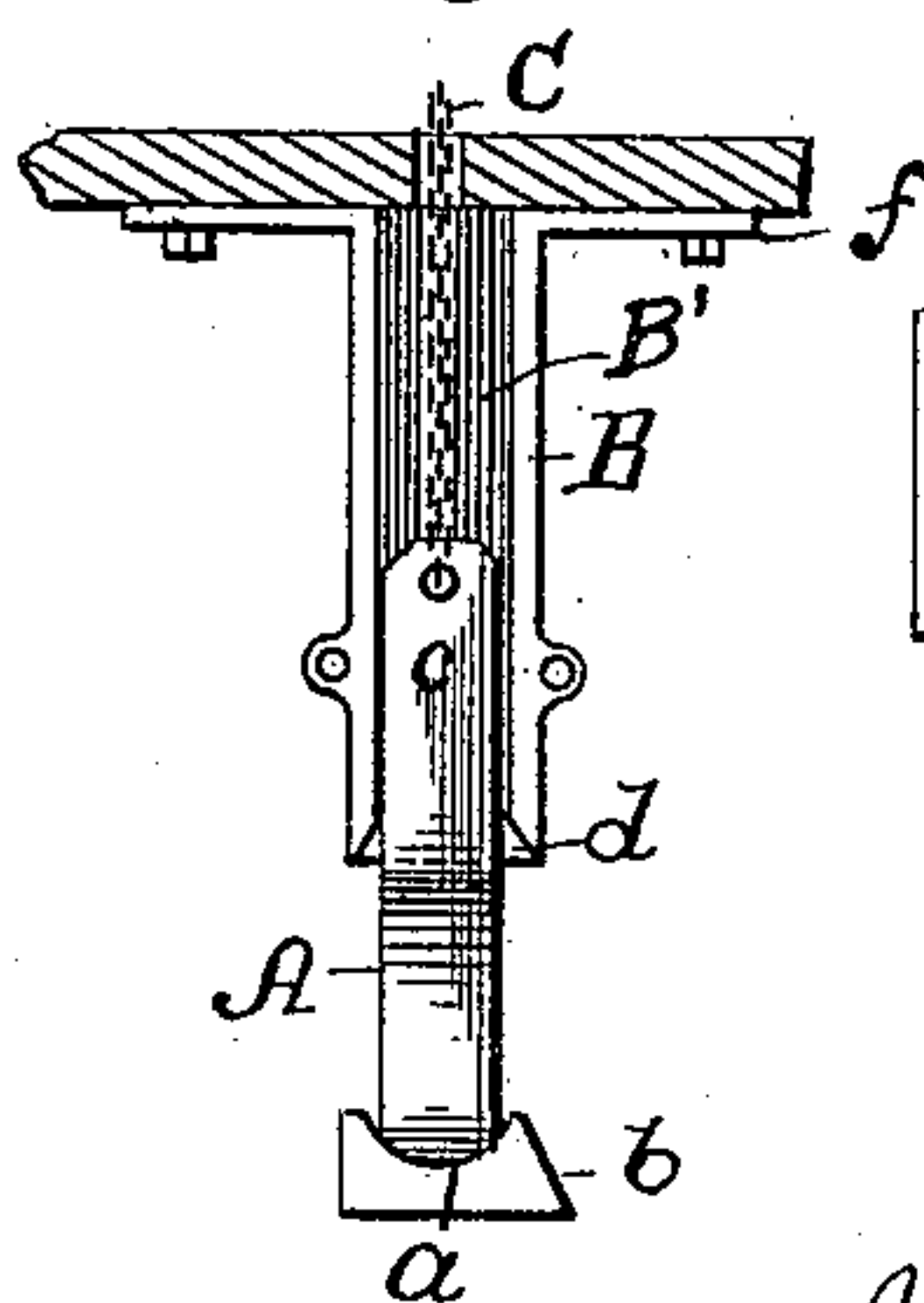
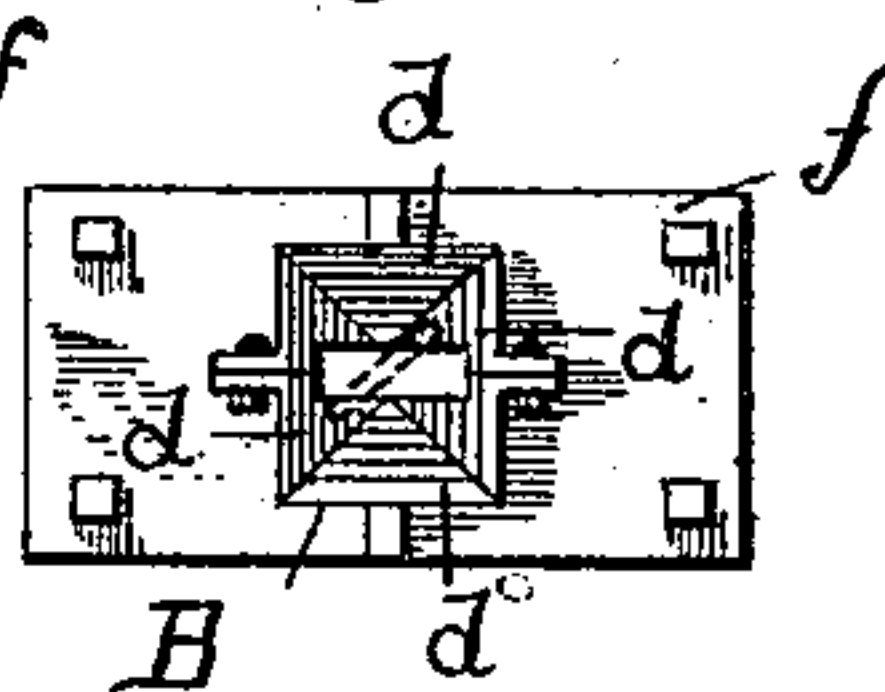


Fig. 3.



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(No Model.)

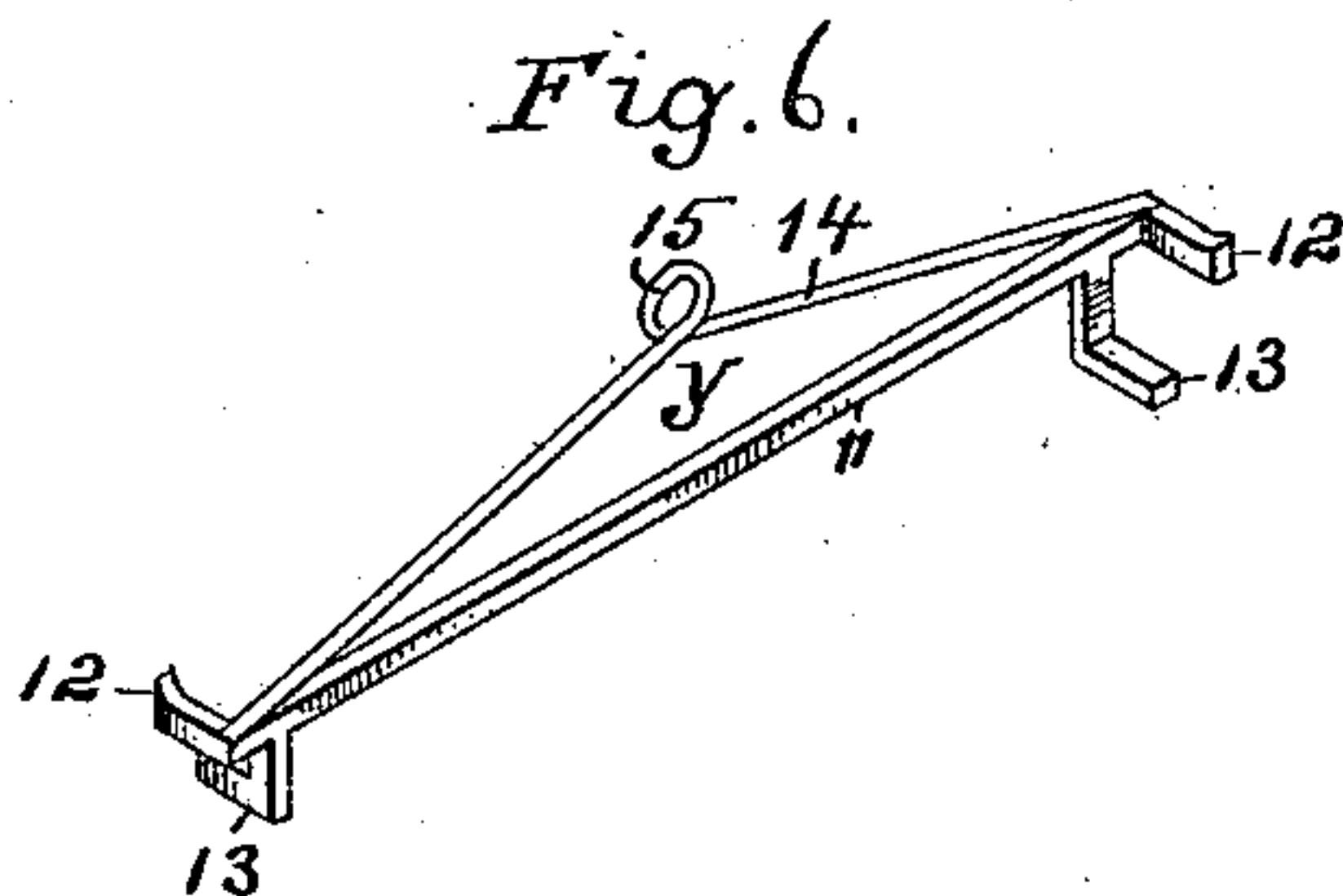
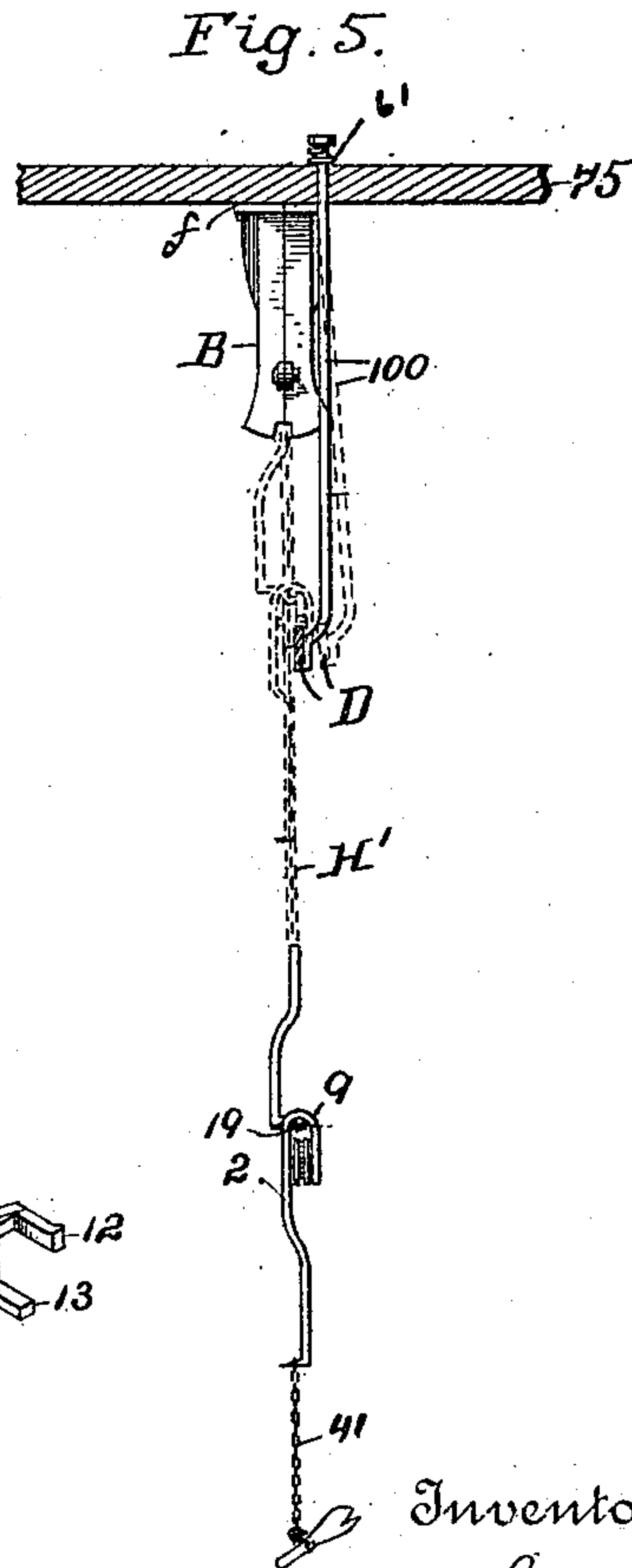
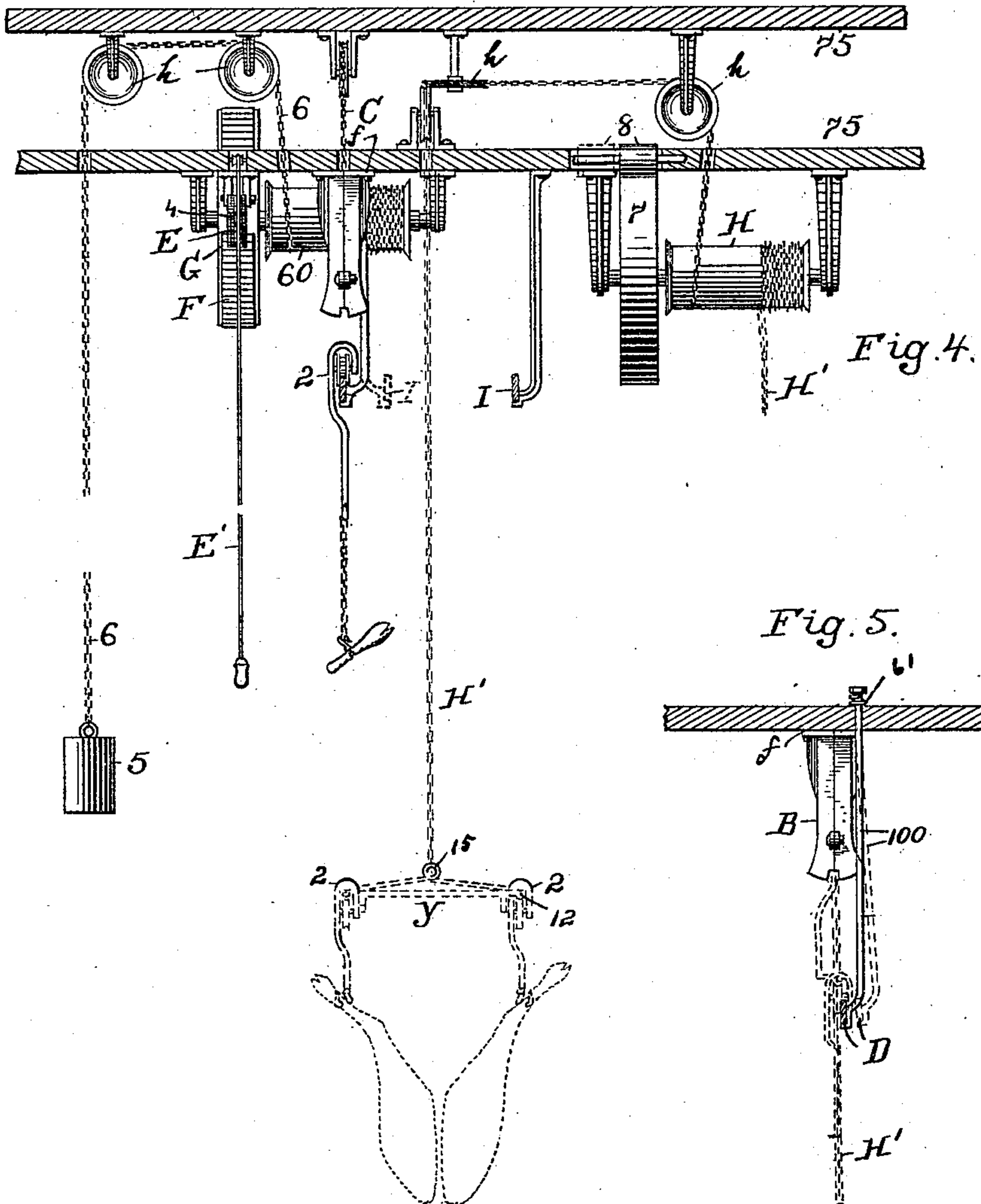
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN THOMAS, OF KANSAS CITY, KANSAS.

APPARATUS FOR USE IN DRESSING HOGS.

SPECIFICATION forming part of Letters Patent No. 396,520, dated January 22, 1889.

Application filed March 21, 1888. Serial No. 268,039. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS, of Kansas City, Wyandotte county, Kansas, have invented certain Improvements in Apparatus
5 for Use in Dressing Hogs and Cattle, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to apparatus for use
10 in dressing hogs and cattle; and it consists in the novel construction, combination, and arrangement of parts hereinafter set forth, and pointed out in the claims.

In the drawings which illustrate the manner of carrying out my invention, Figure 1 is
15 a side elevation of the lowering apparatus. Fig. 2 is a sectional detail view of a hoisting-cage and its guide-hanger used in making up the invention. Fig. 3 is an inverted plan view
20 of the same. Fig. 4 is a front elevation of the hoisting and lowering drums suspended from the ceiling of the building in which the apparatus is located. Fig. 5 is a detail view
25 illustrating the action of certain elevating and suspending devices, and Fig. 6 is a perspective view of a combined beef-tree and support used in making up the invention.

A indicates the lowering-cage, which is suspended from the overhead frame 75 by means
30 of chain C, and upon which the traveling hooks 2, carrying the carcasses, are discharged. This cage is constructed of cast metal, with a vertical guiding-shank, *c*, at its upper end, to which chain C is attached, and with curved
35 depression *a* in the upper side of its body and angular projection *b* on one end of said body. The body of said cage is curved outwardly, so as to make room for the upper end
40 of traveling hooks 2 (which are run upon it) and throw the weight of said hooks directly beneath shank *c*.

B indicates guiding-hangers for cage A, and a suitable number of them are permanently
45 suspended from frame 75 of the ceiling in localities where lowering and elevating are to be done.

Although a number of both cages and guide-hangers may be made use of, yet I do not
50 deem it necessary to speak of them in plural in the description which is to follow.

The guiding-hanger B is constructed with

a hollow body portion, the interior socket, B', of which corresponds with a cross-section of shank *c* of the cage A, which latter is made
55 rectangular to prevent turning after it has entered socket B'. Said hanger is also made with a suitable suspending-flange, *f*, at its upper end, and the lower end of the socket is flared outwardly or provided with flaring
60 sides *d*, so that the shank of the cage will be properly guided thereinto.

Track D, which leads from the killing locality to the cage A, has its terminal end *b'*
cut off at an angle to correspond with projection *b* on said cage. At the locality where
65 the animals are killed the track D is hung upon flexible track-hangers 100, and said hangers are provided with suitable springs, 61, at their upper ends.

60 indicates the lowering-drum, which is
70 hung in suitable bearings depending from frame 75, and around which suspending-chain C and weight-chain 6 are wound in opposite directions, said chain 6 passing up over suitable pulleys, *h*, attached to frame 75, and then
75 down a sufficient distance and having counter-weight 5 hung upon its lower end, as shown. A friction-drum, G, is mounted rigidly on the shaft which carries drum 60, and
80 a strap-brake, F, is made to encircle this friction-drum and is provided with weighted operating-lever E, to the outer end of which latter a cord or rope, E', is attached and passed up
85 over a suitable pulley or pulleys, *i*, and thence down within easy reach of the operator. Said strap-brake is arranged to apply friction to the periphery of drum G, so that said brake
is normally held in contact with said friction-drum.

For elevating the loaded traveling hooks 2
90 and depositing them upon track D, I make use of a suitable hoisting-drum, H, which is mounted in suitable bearings directly above the place where the animals are killed, and which carries another chain, H'.
95

The construction which is now to be described is best shown in Fig. 5, only the hoisting-drum being shown in Fig. 4, where it is arranged for a double use, or in connection
100 with other devices for hoisting the carcasses from the place where the animals are killed and elevating the carcasses to storing-tracks

I after they have been cleaned. Located upon the shaft of drum H rigidly, so as to revolve therewith, is a friction-drum, 7, and a continuously-revolving friction-pulley, 8, is suitably arranged to engage its periphery at determined intervals to wind chain H' upon drum H. Two of these chains H' are shown engaging drum H in Fig. 4, both being wound thereon. The lower free end of either of the chains H' may be provided with a hook, 19, which is adapted to engage an eye in the upper end of traveling hooks 2.

Traveling hooks 2 are constructed as follows: The main shank is provided with a hook at its lower end, while its upper end is bent to U shape, so that an inclined portion, 9, is formed thereon, and a suitable double-flanged wheel or sheave is journaled in the bent upper end.

I indicates parallel storing-tracks hung from the frame 75 or the ceiling in close proximity to one of the hoisting-chains H', and upon which a pair of traveling hooks carrying a carcass are to be deposited, as will be explained in the description of operation to presently follow.

I will now describe the particular construction of my combined beef-tree and support, as I consider it of great importance to the successful operation of the apparatus here shown.

The device is represented as a whole by the letter *y*, and its main body consists of a horizontal bar, 11, and a suitable bail, 14, whose ends are formed integral with the ends of said bar. At about the middle of the length of said bail an eye, 15, is located, to which the hoisting-chain is attached during use. Short arms or lugs 12 are also formed integral with the ends of the bar 11 and project at right angles to the body thereof, the lugs at both ends being located in corresponding planes, but projecting from opposite sides of said bar. Downwardly-projecting bent guide-lugs 13 are also formed integral with said bar and located a short distance from the ends which carry arms 12.

With this construction the operation is as follows: When an animal is killed, a short chain, 41, is attached to one hind leg and to a traveling hook, 2, after which the hook 19, carried by hoisting-chain H', is inserted in the upper end of said traveling hook and the drum H is made to revolve by throwing friction-pulley 8 into contact with pulley 7, and the animal is raised from the floor. As upward movement continues, the inclined upper end, 9, of the traveling hook comes into contact with track D, and said track is thereby moved to one side, and said hook carrying the animal will be permitted to pass said track until it is a little way above the same, when the track will by the action of the spring return to its normal position directly beneath the traveling hook, after which the said hook is lowered a short distance, and its flanged wheel will rest directly upon the

track and may be run off to the lowering-cage or other locality. Heretofore it has been necessary for this operation to be performed by hand, instead of automatically, as it is by this invention, the person who did it having to climb a ladder up near the ceiling and place the traveling hook on the track, considerable inconvenience and loss of time being experienced thereby. Upon contact of the wheel of the hook with the upper edge of the track springs 61 take up the shock caused by such contact, and thereby prevent breakage of the several parts, which might otherwise occur. After the hook carrying the animal reaches the lowering locality, it runs upon cage A, and the wheel of said hook drops firmly into depression *a* on said cage. Previous to this, however, said cage was brought to the limit of its upward movement by the action of counter-weight 5, the brake having been thrown off by pulling on rope E', the weight-chain 6 reeling off of drum 60, and the chain C being rewound thereon. The guiding-shank *c* of the cage enters socket B' in hanger B just before the limit of upward movement of the cage is reached, thereby guiding said cage to its proper stopping-point, where the angular projection *b* on said cage registers with angular end *b'* of track D. The flaring lower end, *d*, of socket B' properly directs the shank *c* thereinto. A traveling hook, 2, carrying an animal being run onto the cage, as before described, said animal is lowered to the floor to be skinned by pulling on rope E', which raises weighted lever E and loosens strap-brake F on friction-drum G, and the weight of the cage and the carcass it carries revolves drum 60 and unwinds chain C therefrom, permitting the operation just described. After this the traveling hook is disengaged from the animal's leg and also from the cage, and the weight 5 (the suspending-chain 6 of which has been wound on drum 60 by the previous lowering operation) turns said drum in an opposite direction and rewinds chain C thereon, pulling the cage up again to its normal position opposite the angular end of track D, where it will be ready to receive another loaded traveling hook.

The final step in the operation is as follows: After the animal has been skinned or otherwise operated on upon the floor, hooks 2 are attached to the hind legs, and the combined tree and support *y* is applied to said hooks, the shank of said hooks being located between arms 12 and guide-lugs 13, said arms 12 being inserted in the eyes of said hooks, above the wheels thereof, as shown in Fig. 4, after which a hoisting-chain, H', is applied to eye 15 of the tree and the animal is hoisted, as before, until the two traveling hooks are opposite the parallel tracks I, when said hooks are lowered and their wheels are made to rest on corresponding tracks, after which said chain is removed from the tree. In Fig. 4 one of said tracks is shown in dotted lines. Finally, the tree *y* is removed from the two hooks, which

may be done in various ways or by simply driving one of the arms 12 out of engagement with the eye of one hook, when the other arm may readily be taken out, all weight and friction having been removed by driving out the other. After the tree y has been removed the carcass may be divided and the separate halves run off to the cooling-rooms or elsewhere, as may be required.

10 Having thus described my invention, what I claim is—

1. In a slaughtering apparatus, the combination of a suitable supporting-track suspended from overhead, traveling hooks adapted to engage said track, and a vertically-movable lowering-cage upon which said traveling hooks are discharged from said track, substantially as set forth.

2. In a slaughtering apparatus, the combination of a suitable supporting-track suspended from overhead, wheeled hooks adapted to travel on said track, a vertically-movable lowering-cage which registers with the end of said track when at the limit of upward movement and upon which said wheeled hooks are discharged to be lowered, a counter-weight which returns the cage to its normal position at end of the track after being lowered, and a suitable brake which controls the downward movement of the cage when loaded, substantially as set forth.

3. In a slaughtering apparatus, the combination of supporting-track D, suspended from overhead and provided with angular end b' , vertically-movable lowering-cage A, provided with depression a and angular projection b , which latter is adapted to come into contact with the end b' of said rail when said cage is at the limit of upward movement, a suitable guiding-bracket for said cage suspended near the point of contact of the cage and track, a counter-weight for said cage, and suitable brake mechanism which controls the downward movement of said lowering-cage, substantially as set forth.

4. In a slaughtering apparatus, the combination of overhead track D, having angular end b' , lowering-cage A, provided with angular projection b and curved depression a , guiding-hanger B, chain C, to the free end of which chain said cage is attached, chain 6,

carrying weight 5 at its free end, lowering-drum 60, around which said chains C and 6 are wound in reverse directions, friction-drum G, arranged to revolve with said lowering-drum, strap-brake F, which encircles said friction-drum, weighted lever E, and hand rope or chain E', all constructed substantially as set forth.

5. In a slaughtering apparatus, the combination of a hoisting-chain having a hook at its lower end, a wheeled hook attached to the hook at the lower end of this chain, and a flexible supporting-track hung in the vertical path of said wheeled hook, substantially as set forth.

6. In a slaughtering apparatus, the combination of a wheeled hook adapted to be moved in a vertical path, a supporting-track hung in the path thereof, so as to be moved to one side thereby, suitable devices for elevating the wheeled hook to said track, a lowering-cage upon which said hook is discharged from the end of said track, and suitable lowering devices for said cage, substantially as set forth.

7. In a slaughtering apparatus, the combination of parallel suspended tracks, wheeled hooks adapted to travel on said tracks and provided with eyes at their upper ends, the detachable combined tree and support y , provided with arms 12, which project in opposite directions from its ends and engage the eyes of the hooks, and a suitable hoisting-chain, H', and drum H, all constructed and operated substantially as set forth.

8. The combined tree and support y , consisting of main horizontal bar 11, bail 14, having eye 15 formed at the middle of its length and having its ends attached to said main bar, arms 12, located at the ends of said bar 11, so as to project from opposite sides thereof, and bent guide-lugs 13, located at a short distance from said arms and projecting in opposite directions from said bar 11, substantially as set forth.

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

JOHN THOMAS.

Witnesses:

S. S. MOREHOUSE,
J. C. HIGDON.