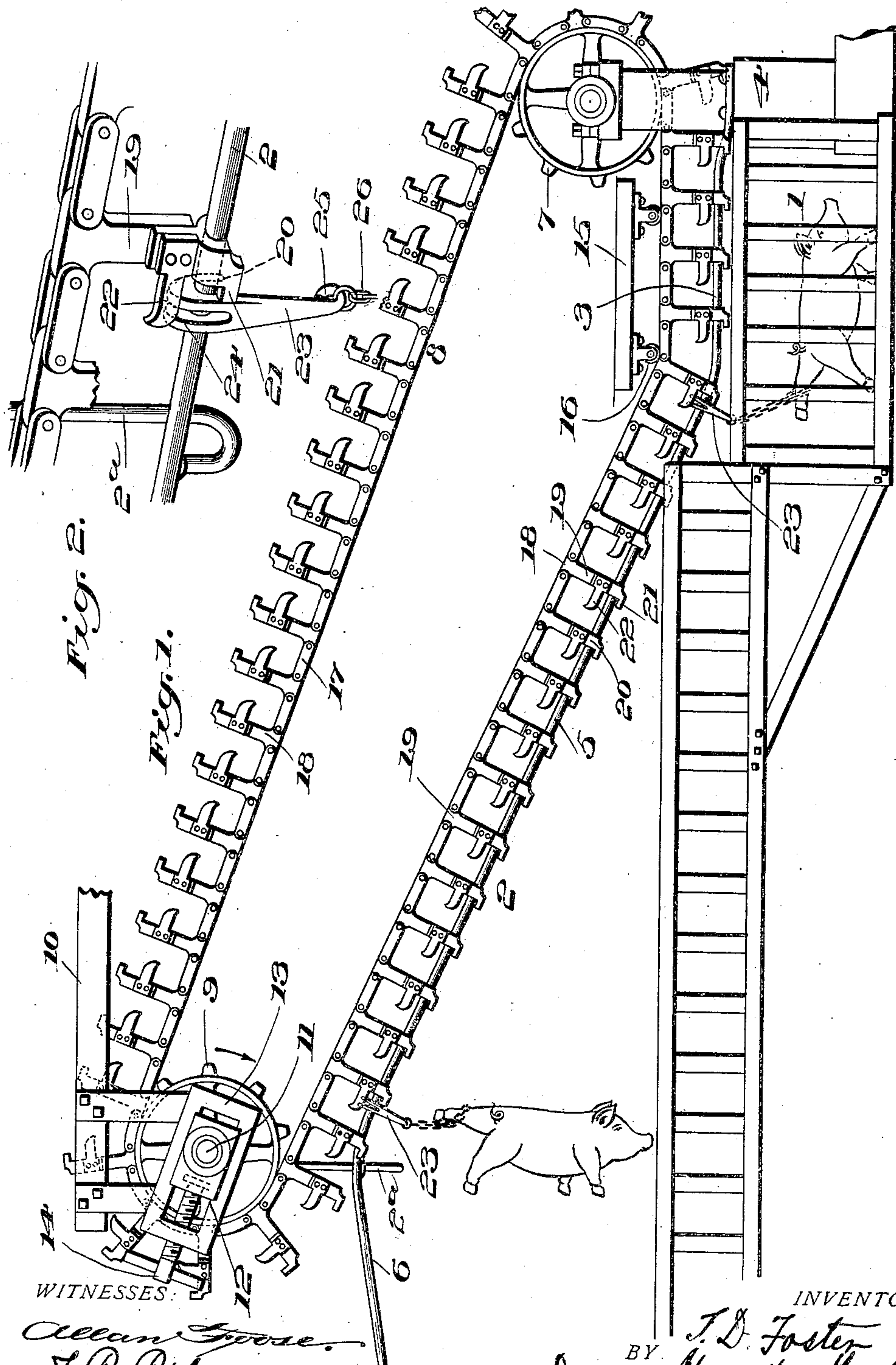


No. 898,209.

PATENTED SEPT. 8, 1908.

T. D. FOSTER.  
HOG HOISTING APPARATUS.  
APPLICATION FILED NOV. 29, 1904.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## HOG-HOISTING APPARATUS.

No. 898,209.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed November 29, 1904. Serial No. 234,712.

*To all whom it may concern:*

Be it known that I, THOMAS D. FOSTER, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Hog-Hoisting Apparatus, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to hoisting apparatus.

One of the objects thereof is to provide a simple and efficient form of hoisting apparatus which shall be positive and reliable in  
15 action.

Another object is to provide an apparatus of the above type which is particularly adapted for use in elevating and transferring live stock, especially hogs.

20 Another object is to provide means whereby the live stock or other object to be elevated can be positively and yet detachably connected to a supporting member.

Another object is to provide elevating  
25 means of the last mentioned type whereby the necessity of transfer of the object to be hoisted from one supporting member to another, with the disadvantageous features attendant thereon, is obviated.

30 Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will  
35 be exemplified in the apparatus hereinafter described and the scope of the application of which will be indicated in the claims at the end of this description.

In the accompanying drawings wherein is  
40 shown one of the various possible embodiments of my invention, Figure 1 is an elevation of the same. Fig. 2 is a detailed perspective view of certain parts thereof.

Similar reference characters refer to similar parts throughout the several views.

In order to render clearer the general nature of my invention, it may here be noted that it is a desirable feature in many types of hoisting apparatus, to attain a continuously  
50 and positively acting means of elevation. In this manner the chance of slipping of the parts is reduced and the certainty of operation increased, and the necessity for starting and stopping the elevating means with consequent labor and loss of time, is obviated.  
55 Another desirable feature in such apparatus

is the provision of means for making a detachable connection therewith whereby the object to be raised may be readily connected and disconnected from the elevating apparatus and yet may be positively locked in position. The latter is of particular value when apparatus of this type is used in connection with live stock on account of the likelihood of struggling and consequent  
60 chance of disengagement of the object to be hoisted. It may also here be noted that in the use of hoisting apparatus in the above connection it is of marked value to provide a connection with the supporting member  
70 which will not swing with relation thereto, as the same is thus rendered less likely to become detached or the animal to swing from the desired position. Moreover, in hoisting apparatus as applied to live stock, it would  
75 obviously be a feature of marked value if the necessity of transferring the hog or other animal from one supporting member to another were obviated. The above and other advantages are attained in constructions of the  
80 nature of that hereinafter described.

Referring now to the drawings wherein my invention is shown embodied in apparatus adapted for use in hog hoisting, 1 represents a hog pen of any desired construction above  
85 which is mounted a supporting member 2 preferably round in cross section. This member comprises a horizontal portion 3 rigidly supported upon support 4, an upwardly inclined portion 5, and a downwardly  
90 inclined portion 6. At the uppermost point the supporting member 2 is supported by means of a rigid hook shaped rod 2<sup>a</sup> as more clearly shown in Fig. 2 of the drawings. It will be obvious that more of the supporting  
95 rods may be used if needed.

Journalled upon support 4 is a heavy sprocket wheel 7 supporting a chain 8 which passes over the co-acting sprocket wheel 9 adjustably mounted from the framework 10  
100 of the building. This adjustment is preferably accomplished by journaling the shaft 11 of the sprocket wheel 9 within the bearings 12 slidably mounted in frames 13. A heavy screw 14 passes through the frame 13 and  
105 engages the bearing 12 and holds the same therein in any desired position. Chain 8, which is guided so as to run substantially parallel to the portions 3 and 5 of the supporting member 2 by means of a guide  
110 provided with rollers 16, comprises a series of alternate long and short links 17 and 18,



the latter of which are each provided with an outwardly projecting arm 19. At the end of each arm 19 is what may be termed a "rider" or dog 20 adapted to straddle and fit the supporting member 2, as shown in Fig. 2 of the drawings, and provided with lugs 21 for a purpose hereinafter described. Also secured upon the end of arm 19 is a forwardly projecting locking arm 22, the end of which is so shaped that when in operative relation with supporting member 2, it curves away therefrom, as shown in Fig. 2 of the drawings. The term "arm" as used at certain places throughout the following claims is intended to comprehend not only the arm 19 proper, but also rider 20 and arm 22 which may be formed thereon instead of connecting therewith, if desired.

The links of chain 8 are joined in any desired manner so as to provide a flexible connection. The term "flexible member" however, is used throughout the following claims in a broad sense as comprehending not only a chain, but a belt or other equivalent for the same.

Detachably mounted upon supporting bar 2 are two pronged hooks 23 which fit member 2 and are provided with upwardly projecting end portions 24, for a purpose hereinafter described. By the term "prong" as used throughout the following claims in relation to a hook, is meant a projecting part of the same adapted of itself to engage the supporting member; thus, in a two pronged hook there are two substantially identical parts, each of which engages the supporting member, thus providing a double bearing for the same. In like manner a multi-pronged hook would be provided with any desired number of prongs accomplishing a similar object. The lower end of hook 23 terminates in an eye 25 with which the object to be hoisted may be connected as by means of chain 26.

Although the hoisting apparatus herein shown appears as applied to live stock or hog hoisting, nevertheless the invention has a broad application for the purpose of hoisting or transporting any desired articles. There are, however, several advantages peculiar to the use of this invention in connection with live stock hoisting.

The operation of the above described embodiment of my invention is as follows: The sprocket wheel 7 or 9 being driven in the desired direction from any source of power, the outwardly projecting arms 19 travel in operative relation to the portions 3 and 5 of the supporting member 2, as shown in the drawings, the direction of travel being indicated by the arrow appearing in Fig. 1. The article to be hoisted is first made fast to the hook 23 which is thereupon thrown into engagement with the supporting member 2 at any part of the horizontal portion 3 thereof and passes between the end of the locking arm

22 and the rear surface of the next preceding arm. The travel of the chain causes the curved surface of locking arm 22 to engage one side of the upwardly projecting portion 24 of hook 23 and thus wedges the same securely into engagement with the supporting member and prevents accidental detachment thereof. This locking engagement is shown more clearly in Fig. 2 of the drawings. Upon the engagement of lugs 21 with the lateral surface of the hook, the latter is forced forward and upwardly along the inclined portion 5, the object attached thereto being transported and raised from the surface upon which it was placed. Upon reaching the upper extreme of portion 5, the hook 23 is automatically released by reason of the divergence between the supporting member and the locking arm at this point, and the same being forced over the summit or highest point of supporting member 2 and transported by its own weight along the downwardly inclined portion 6 to any desired destination.

In the embodiment shown, the apparatus appears in connection with hog hoisting, the hook being made fast in the above described manner, as shown in the drawing, and raised as above set forth. Upon passing the highest point, the hog, together with the hook attached, slides down the inclined portion 6 which in this case is a sticking rail, and is in convenient position for any desired treatment.

It will thus be seen that I have provided a form of hoisting apparatus which possesses the advantageous features hereinbefore mentioned and is extremely simple and reliable in action and inexpensive in construction. The advantage of the feature whereby the hook is brought to the sticking rail without the necessity of any uncertain automatic connection therewith, or any jar or injury to the animal should be apparent to those skilled in the art. It should also be apparent that the other features hereinbefore mentioned as desirable in connection with this type of apparatus are attained to a marked degree. I desire it also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

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

1. In hoisting apparatus, a stationary supporting member, a two-pronged hook contacting therewith and adapted to travel thereon and provided with an upwardly-projecting portion, and means adapted to propel said hook along said supporting member, having a part to engage the upwardly pro-



jecting portion thereof and hold the hook upon the supporting member.

2. In hoisting apparatus, a stationary supporting member having an elevating portion and a sticking rail, a two-pronged hook adapted to contact with and travel on said supporting member and to suspend an object therefrom, and an endless traveling propelling means for said hook, comprising a part adapted to force the latter along the supporting member and a part adapted to hold the hook on the supporting member.

3. In hoisting apparatus, a stationary supporting member, a hook contacting therewith and adapted to travel thereon, and a propelling means for said hook, provided with outwardly projecting arms, a portion of which are adapted to engage the side of and propel the hook and a portion of which are adapted to overhang a part of the hook and hold it upon said supporting member.

4. In hoisting apparatus, a stationary supporting member, a hook adapted slidably to engage the same and provided with an upwardly projecting portion, and a chain extending substantially parallel with said supporting member and provided with outwardly projecting arms, a portion of said arms being adapted to engage the side of said hook and propel the same, and a portion of said arms adapted to extend substantially parallel to said supporting member and engage the upwardly projecting portion of said hook and hold said hook in engagement with said supporting member.

5. In hoisting apparatus, an inclined stationary supporting member, a two-pronged hook contacting therewith and adapted to travel on the same, and a flexible member extending approximately parallel to said inclined supporting member and provided with arms to engage said hook, said hook and arms being so related to each other that the former will be propelled and held down on the supporting member by said arms.

6. In hoisting apparatus, a stationary supporting member provided with portions respectively upwardly and downwardly inclined, a hook contacting therewith and adapted to travel on said supporting member, and propelling and holding means for said hook, comprising a flexible member having arms adapted to force the hook along the upwardly inclined portion of the supporting member and to hold the hook upon said supporting member, said propelling and holding means and said hook being so related to each other as to be freely disengaged when the hook reaches the downwardly-inclined part of the supporting member.

7. In hoisting apparatus, a stationary supporting member having portions respectively horizontal upwardly and downwardly inclined, a chain extending substantially parallel to said horizontal and upwardly inclined

portions, a two pronged hook adapted slidably to engage said supporting member and provided with an upwardly projecting portion, means for holding said chain in operative relation to said supporting member, and downwardly projecting arms upon said chain adapted to engage and propel said hook along said horizontal and upwardly inclined portions of said supporting member and hold the same in engagement therewith, and release said hook upon said downwardly inclined portion being reached.

8. In a hog hoisting machine, in combination, a rail, a bifurcated hook adapted to fit and obtain a double bearing upon said rail, and an endless chain formed of single and double links, said single links being elongated and having an arm and dog thereon, said dog being arranged to ride upon said rail and impel said hook along the same while said arm bears upon said hook.

9. In a hog hoisting machine, the combination of a rail formed with two oppositely slanting portions, a bifurcated suspending hook adapted to ride on said rail and to carry a hog and an endless chain some of the links of which are formed with a projecting arm or dog adapted to preserve constant contact with the rail while the link is passing over it.

10. In a hog hoisting machine, the combination of a rail formed with two oppositely slanting portions, a bifurcated suspending hook adapted to ride on said rail and to carry a hog, and a propelling chain provided with an arm adapted to hold the double hook down upon the rail and propel the same.

11. In hoisting apparatus, in combination, a stationary supporting member, a two pronged hook adapted to contact and make a slidable connection therewith, and a flexible member extending substantially parallel to said supporting member and provided with outwardly projecting arms, each of said arms having means adapted to engage and propel said hook, and being provided with a curved locking arm adapted to engage the upper portion of said hook and hold the same in engagement with said supporting member.

12. In hoisting apparatus, a stationary inclined supporting member, a two pronged hook adapted slidably to engage the same, and a flexible member extending substantially parallel to said inclined supporting member and provided with outwardly projecting arms, each of said arms being provided with a member adapted to engage and propel said hook, and with a forwardly projecting upwardly curved locking arm adapted to engage the upper surface of said hook and hold said hook in engagement with said supporting member.

13. In a hoisting apparatus, a stationary supporting member, a two pronged hook adapted to make suitable connection therewith and having an upwardly extending por-



tion, a flexible member extending substantially parallel to said supporting member and provided with outwardly projecting arms, each of said arms having lugs adapted to engage the hook below the part contacting with the supporting member and propel said hook, and being provided with means adapted to engage the upper portion of said hook, and to hold the same in engagement with said supporting member.

14. In hoisting apparatus, a stationary supporting member, a carrying member contacting therewith and adapted to travel thereon, and a propelling means for the latter, having a rider or dog to engage the supporting member, lugs to engage the carrying member and a projection having an inclined surface to hold the carrying member on the supporting member.

15. In hoisting apparatus, a stationary supporting member, a carrying member contacting therewith and adapted to travel thereon, and a flexible propelling means for the latter, comprising a projection having an inclined surface which overhangs the carrying member and holds the same upon the supporting member.

16. In hoisting apparatus, a stationary supporting member having an inclined portion, a hook adapted to travel thereon, and a traveling means adapted to force the hook

along the inclined portion of the supporting member, said hook and propelling means having interengaged parts adapted freely to disconnect themselves from each other when the end of said inclined portion is reached, and said propelling means having a projection with an inclined surface which overhangs the carrying means and is adapted to hold the same upon the supporting member.

17. In hoisting apparatus, a stationary supporting member having an inclined portion, a hook contacting therewith and adapted to travel thereon, and a traveling means adapted to force the hook along the inclined portion of the supporting member, said hook and its propelling means having interengaged parts adapted freely to disconnect themselves from each other when the end of said inclined portion is reached, and said propelling means having a projection with an inclined surface which overhangs the carrying means and is adapted to hold the same upon the supporting member and a dog or rider which engages the supporting member.

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

THOMAS D. FOSTER.

Witnesses:

JOHN H. MARRELL,  
J. C. STENTZ.