

(No Model.)

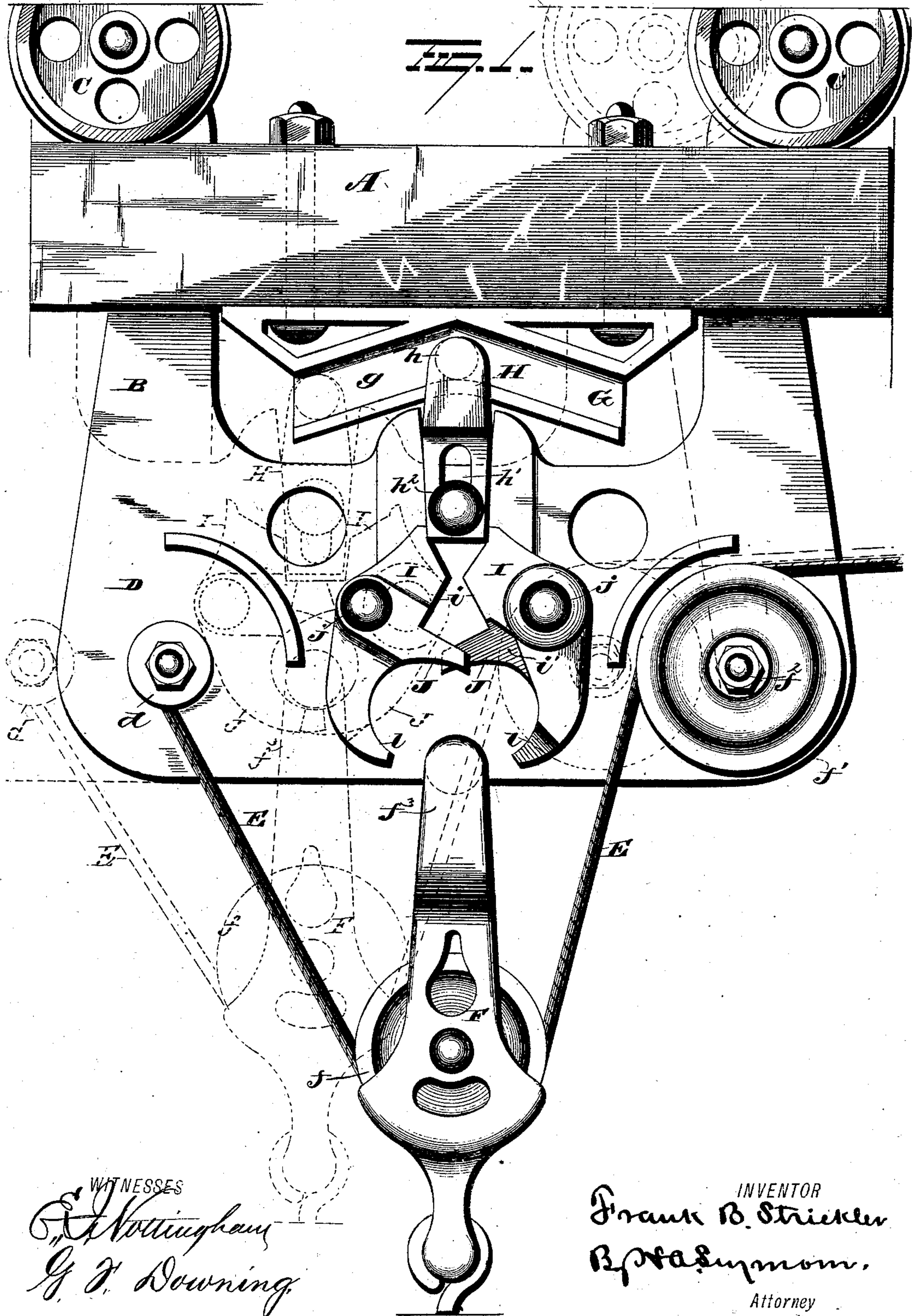
F. B. STRICKLER.

2 Sheets—Sheet 1.

HAY ELEVATOR AND CARRIER.

No. 279,889.

Patented June 19, 1883.



WITNESSES
E. Nottingham
G. J. Downing

INVENTOR
Frank B. Strickler
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Attorney

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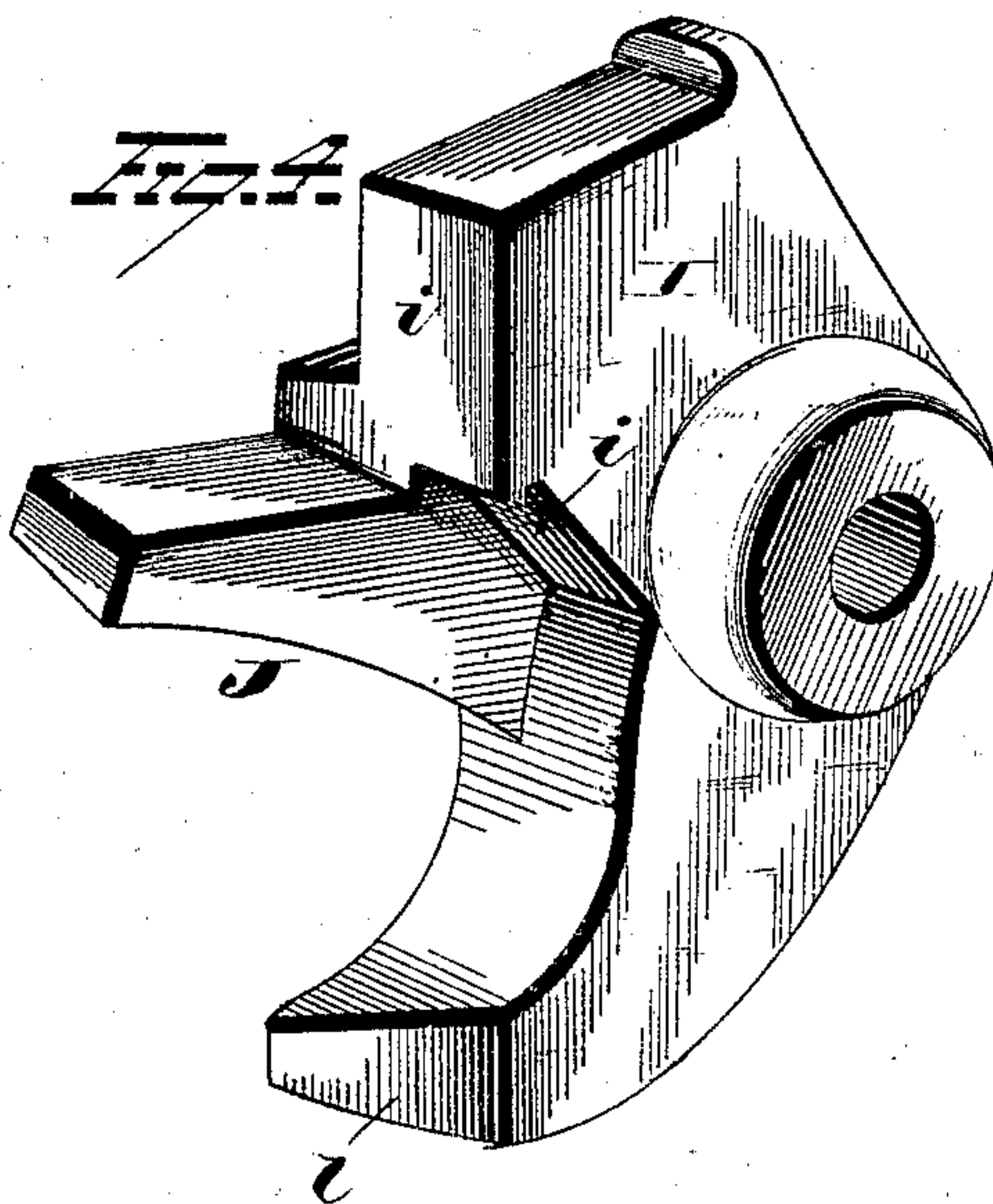
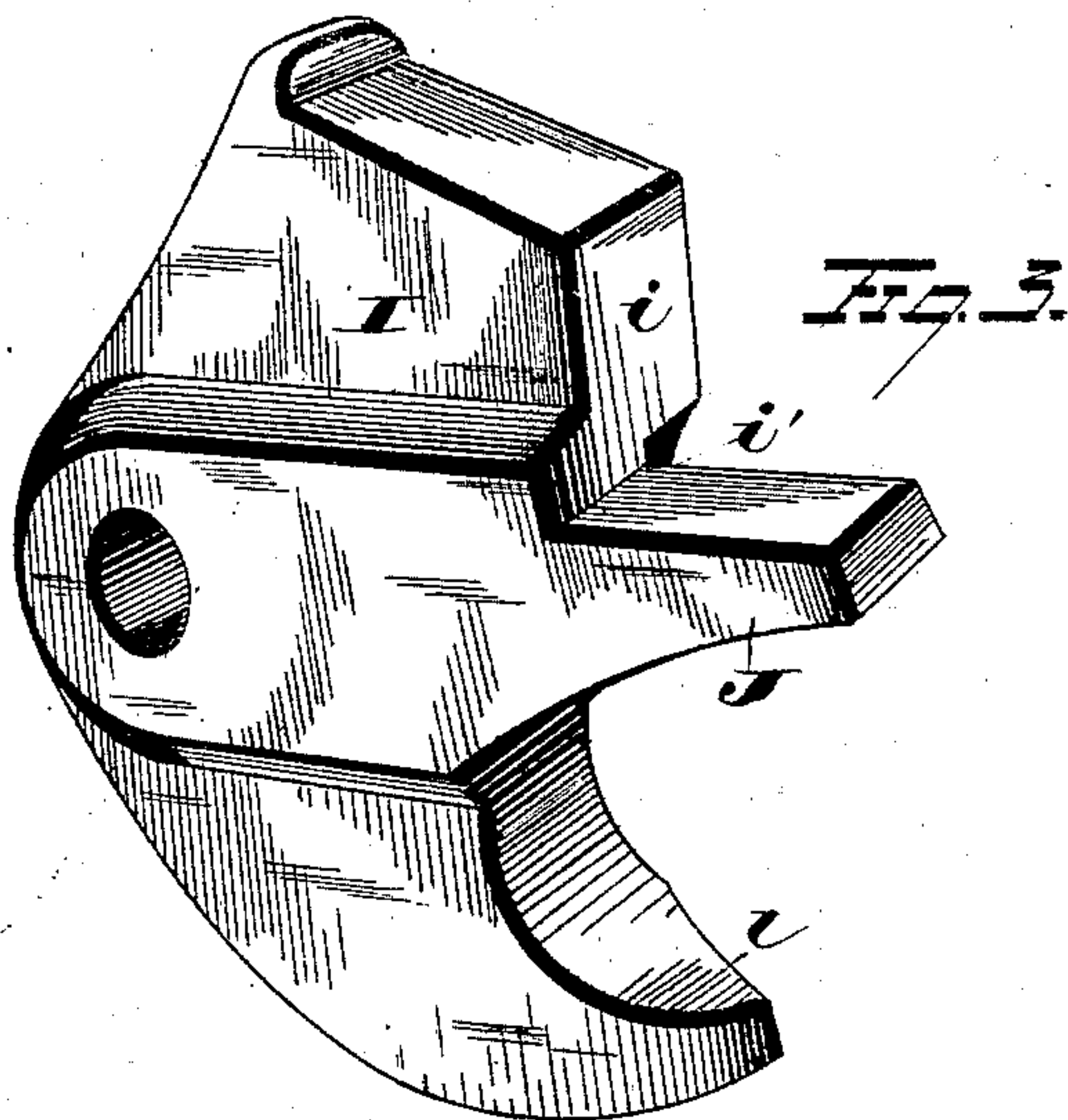
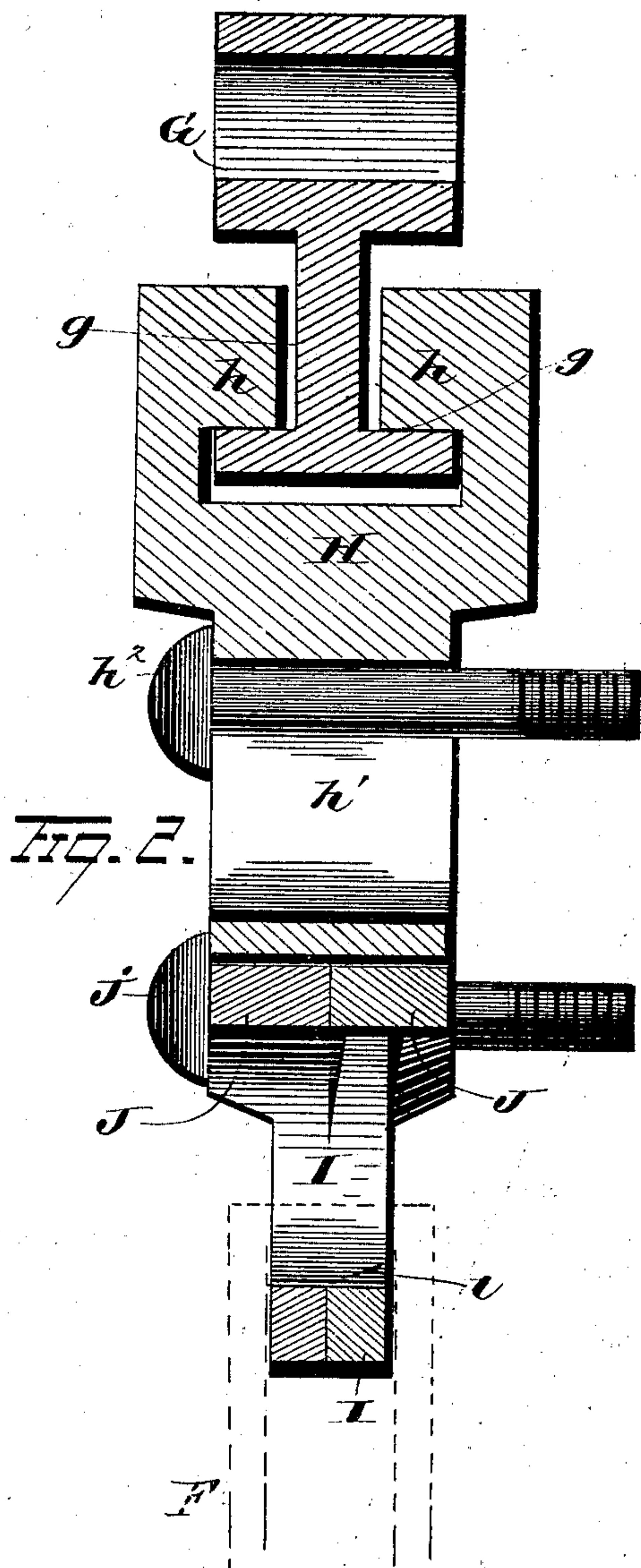
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S. J. Nottingham,
G. J. Downing.

INVENTOR
Frank B. Strickler.
By H. A. Symour,
Attorney

UNITED STATES PATENT OFFICE.

FRANK B. STRICKLER, OF JANESVILLE, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO PETER G. STRICKLER AND LUCIUS E. MILES, OF SAME PLACE.

HAY ELEVATOR AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 279,889, dated June 19, 1883.

Application filed May 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. STRICKLER, of Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Hoisting Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to locks for hoisting apparatus, the object being to provide devices adapted to automatically lock hoisting-tackle to a movable carriage, the latter being held stationary while the hoisting-tackle is being raised, and released simultaneously with the locking of the tackle to the carriage. The device is also adapted to automatically release the hoisting-tackle and support the carriage in a stationary position while a new load is being raised.

The invention consists in the combination, with pivoted jaws or catches, of a key or wedge so constructed and arranged as to hold the jaws apart, ready for locking, and adapted to drop between said jaws to secure them in locked position.

The invention further consists in the combination, with a removable carriage, of jaws pivotally secured thereto, a gravity wedge or key adapted to set and lock said jaws, and a cam-plate upon which said key moves.

The invention further consists in the features of construction and combinations of parts hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 represents a side elevation of my improvement, one side of the removable carriage being removed. Fig. 2 is a transverse vertical section of the same, and Figs. 3 and 4 illustrate parts detached.

A represents a rail or beam upon which the carriage B travels, said carriage having wheels C C and the depending body portion D.

Upon one side of the body D of the carriage is mounted a small pulley or equivalent device, *d*, to which is secured one end of a hoisting-rope, E. This rope passes around the sheave *f* of the tackle F, and then over a friction-pulley, *f'*, mounted on a suitable arbor, *f''*, on the opposite side of the carriage-body. The upper end of the tackle F is formed with a loop, *f'''*.

G represents a cam-plate rigidly secured to the under side of the rail A. This cam-plate is formed on each side with two inclined grooves, *g*, adapted to receive inwardly-projecting lugs *h h* of the wedge H. This wedge or key H is formed with an elongated slot, *h'*, through which passes a bolt, *h''*, which secures the key to the carriage. The lower portion of the key H is preferably rectangular in form, and is adapted to rest between the upper notched ends, *i i*, of the pivoted jaws or catches I I. The latter are secured upon pivot-bolts *j j* of the carriage, and are inwardly curved at their lower ends and provided at or near their centers with inwardly-projecting curved arms J J. These arms J are arranged to overlap and move in contact with each other, and each jaw I is recessed at the point *i'* to receive the end of the arm J of the opposite jaw. The lower ends, *l l*, of the jaws are oppositely beveled to permit of their overlapping when brought together.

The device as thus constructed is designed to operate in the following manner: The position of the parts before the tackle F is locked will be as shown in full lines, Fig. 1, the key H resting at the highest point on the cam-plate G, and the notched ends *i i* of the jaws I I engaging the lower end of the key. The carriage is thus held stationary, and when the tackle is raised its looped upper end, *f'''*, will strike the arms J J of the jaws, thus forcing them up and causing the key to descend upon the incline of the cam-plate and drop between the jaws to rest upon said arms, as seen in the dotted lines of Fig. 1. The tackle is thus automatically locked to the carriage, which latter is then free to move upon the rail A, as the key H which secures it must descend upon the inclined grooves of the cam-plate by the force of the contact of the tackle with the jaws to effect the locking. After the load carried by the tackle has been discharged, the carriage is moved back upon its rail until the lugs of the key H again come in contact with the highest point of the cam-grooves of the plate G, when said key will be raised, thus automatically allowing the jaws I I to separate to release the tackle and resting the carriage until another load is raised.

It will be apparent that my improvement is applicable to hoisting apparatus of all kinds, and that the same is susceptible of many modi-

fications in its form and construction. Hence I do not restrict myself to the precise construction herein described and shown; but I desire it to be understood that I expressly reserve to myself the right to make all such alterations in the details of form and construction as properly fall within the scope of my invention.

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

1. In a hoisting apparatus, the combination, with pivoted jaws or catches, of a key or wedge constructed and arranged substantially as described, whereby the jaws are held apart to receive the tackle, said key being adapted to drop between said jaws to effect an automatic locking of the tackle, substantially as set forth.

2. In a hoisting apparatus, the combination, with a movable carriage, of two jaws or catches pivotally secured thereto, a gravity wedge or key arranged above said jaws, and a hoisting-tackle adapted to strike said jaws to drop the wedge or key between the latter to lock the tackle thereto, substantially as set forth.

3. The combination, with a rail or way, and a carriage adapted to travel thereon, of a tackle and means, substantially as described, whereby the carriage is held stationary, and the tackle locked to the carriage automatically, and the tackle is unlocked and released simultaneously, substantially as set forth.

4. The combination, with a rail or way provided with a plate formed with cam-grooves, of a movable carriage having wheels adapted to travel on said way, a slotted key having lugs adapted to enter said cam-grooves, and two jaws

pivotally secured to said carriage below the key, and a hoisting-tackle adapted to be automatically locked by said jaw and key by contact with the latter, substantially as set forth.

5. The combination, with a track or way having a cam-plate secured thereto, of a carriage adapted to travel on said way, a hoisting-rope secured at one end to said carriage and passing around the sheave of a tackle-block and then over a friction-pulley mounted within the carriage, pivoted jaws or catches secured within the carriage and having inwardly-projecting arms and inwardly-curved ends, and a key or wedge having lugs adapted to enter the grooves of the cam-plate, and having an elongated slot through which a fastening-bolt passes, said key being adapted to engage the notched upper ends of the jaws and be dropped between said jaws to allow the latter to grapple the hooked end of the tackle-block, substantially as set forth.

6. In a hoisting apparatus, the combination, with a carriage, gravity-wedge, and tackle, the latter being provided with a looped end, of pivoted jaws whose upper ends are notched to engage said key, and whose lower ends are beveled, said jaws having inwardly-projecting arms which receive the thrust of the tackle, and upon which the key rests when the tackle is locked, substantially as set forth.

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

FRANK B. STRICKLER.

Witnesses:

A. C. BATES,
L. E. MILES.