

No. 719,158.

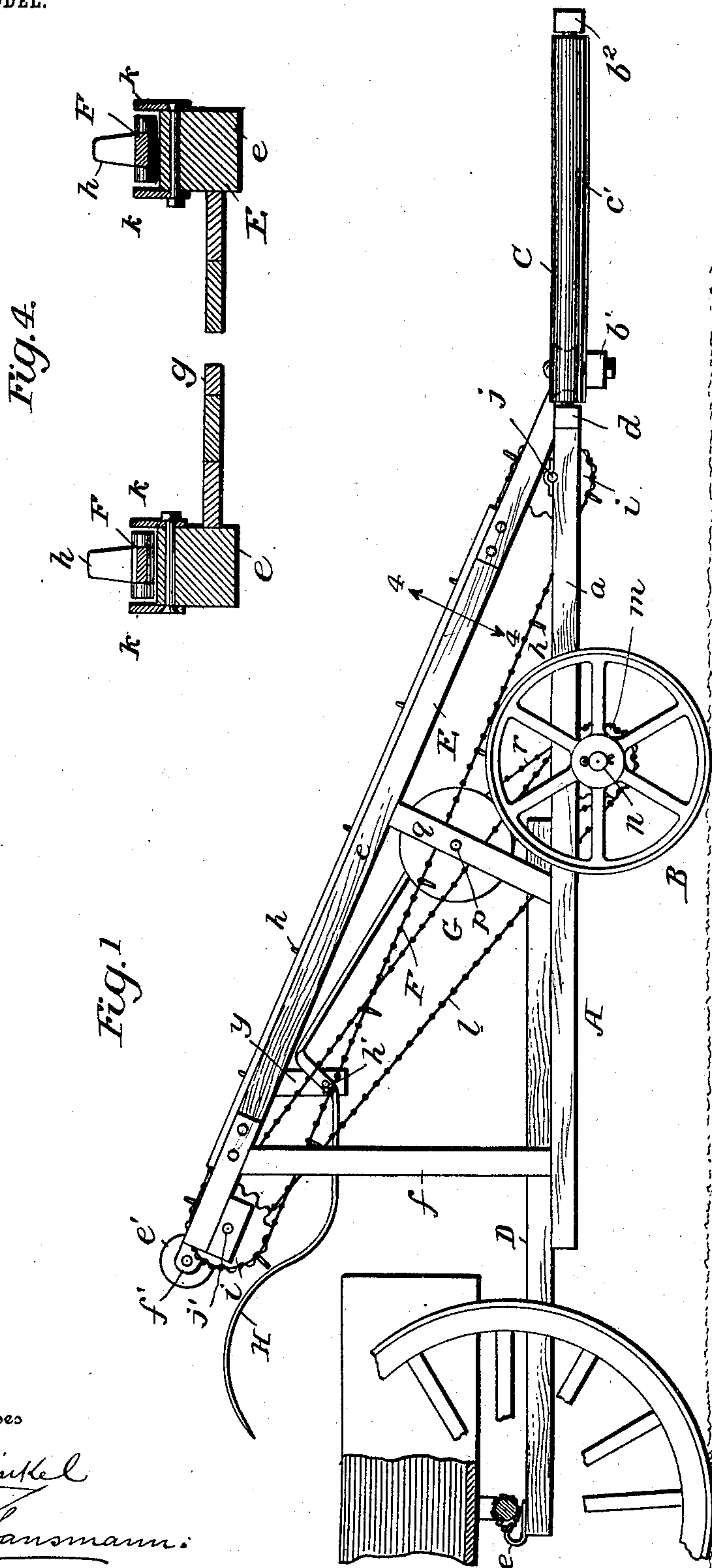
PATENTED JAN. 27, 1903.

C. J. STOVIN.
SHOCK LOADER.

APPLICATION FILED OCT. 10, 1902.

NO MODEL.

2 SHEETS--SHEET 1.



Witnesses

J. G. Hinkel
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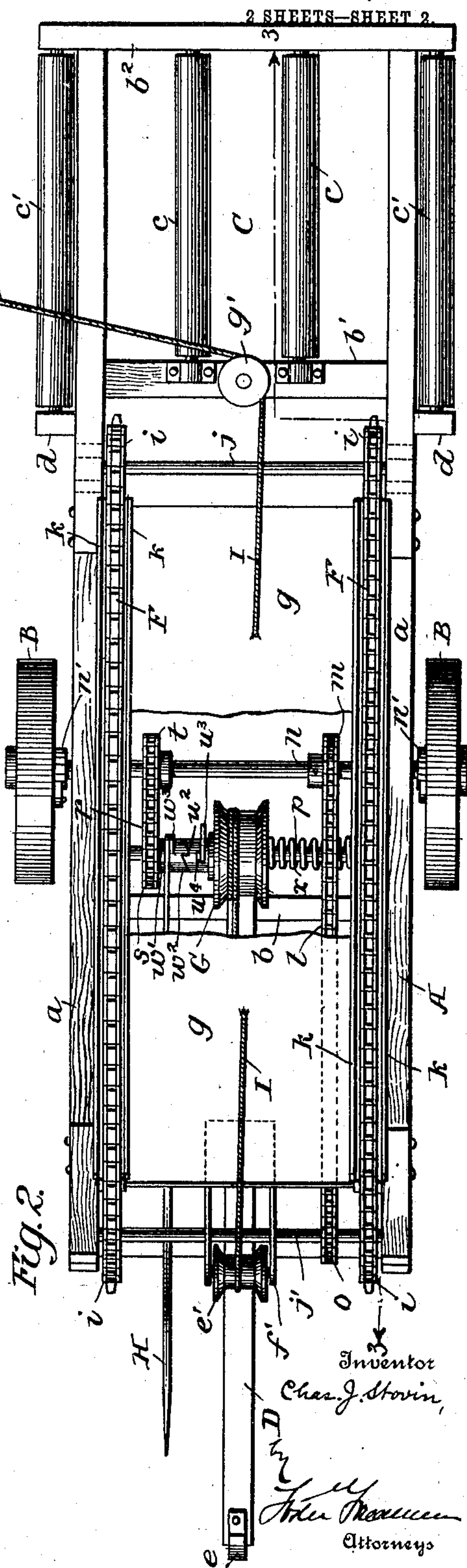
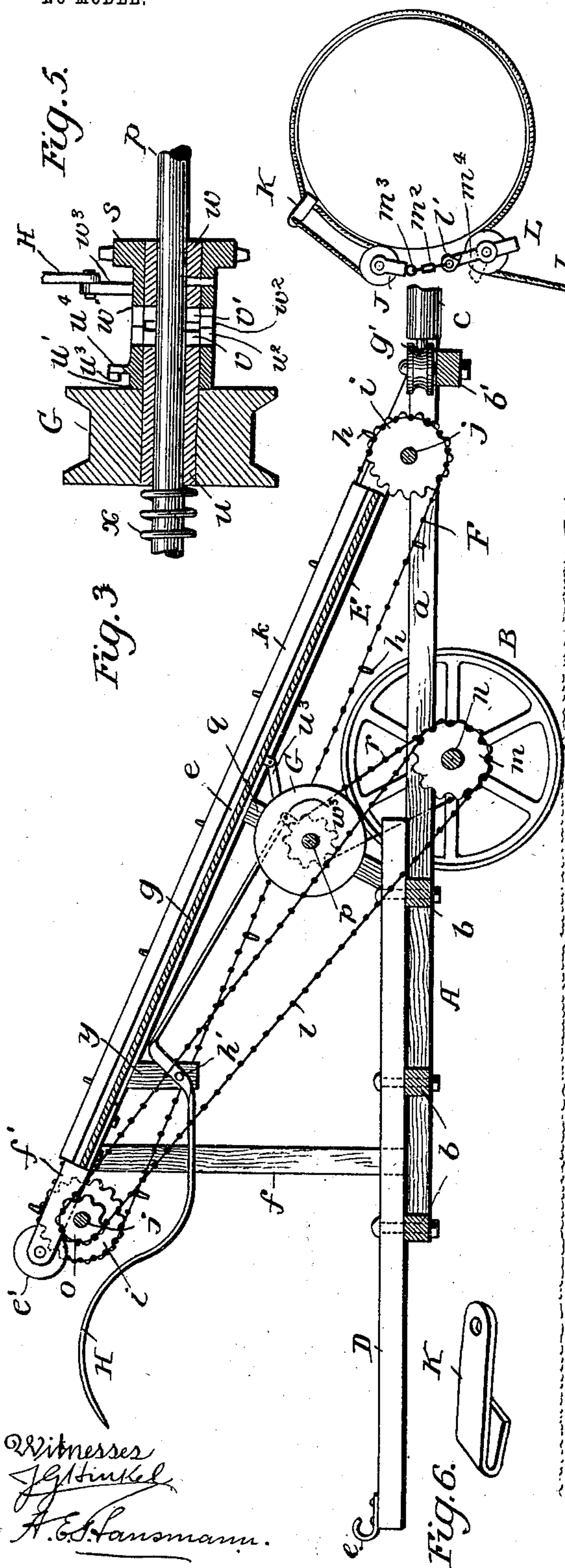
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UNITED STATES PATENT OFFICE.

CHARLES J. STOVIN, OF LIBERTY MILLS, VIRGINIA.

SHOCK-LOADER.

SPECIFICATION forming part of Letters Patent No. 719,158, dated January 27, 1903.

Application filed October 10, 1902. Serial No. 126,771. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. STOVIN, a citizen of the United States, residing at Liberty Mills, in the county of Orange and State of Virginia, have invented certain new and useful Improvements in Shock-Loaders, of which the following is a specification.

My invention relates to certain new and useful improvements in machines for loading bundles or shocks of cornstalks, grain, and the like upon wagons, in which they may be transported from the field to the husking or threshing machine or to the barn or other place of storage.

The objects of my invention are to provide a light, simple, and inexpensive machine of this character mounted on suitable supporting and driving wheels and which may be detachably secured to the rear portion of an ordinary farm-wagon, so that as the machine is drawn forward with the wagon past the bundles or shocks to be loaded the machine will quickly elevate and deliver the bundles or shocks into the wagon.

The invention consists in the construction and arrangement of parts substantially as hereinafter set forth and as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a shock-loading machine embodying my invention, the machine being shown attached to the rear axle of the wagon to be loaded. Fig. 2 is a plan view of the machine detached, a portion of the upper inclined platform being broken away to expose the parts below. Fig. 3 is a longitudinal vertical section on the dotted line 3 3 of Fig. 2 with part of the rear end of the machine broken away. Fig. 4 is an enlarged cross-section on the dotted line 4 4, Fig. 1, through the inclined platform and the elevating-chains. Fig. 5 is an enlarged sectional detail view of the clutch mechanism, and Fig. 6 is an enlarged perspective view of the hook.

Referring to the drawings, wherein like letters denote corresponding parts in the several figures, A indicates the main frame, which may be of any suitable construction, but which, as shown, consists of side pieces or sills *a a* and cross-bars *b b' b²*, firmly secured together, and this frame is mounted on supporting and driving wheels B B. At the rear

end the frame A is provided with a series of rollers *c c'*, arranged parallel with the sills *a a* and forming a roller-platform C. These rollers may be of any suitable number and be supported in any convenient manner; but I prefer to mount the rollers *c c'*, which are located between the sills *a a*, in bearings carried by the cross-bars *b' b²*, while the rollers *c' c'*, which are arranged at the sides of the frame and are usually somewhat longer than the rollers *c c'*, are supported in bearings in the outer projecting ends of the cross-bar *b²* and in brackets *d d'*, secured to the sills. A tongue D at the forward end of the frame, having a hook *e* or other attaching means, serves to connect the machine to the rear axle or other part of the wagon to be loaded.

Supported upon the frame A in an upwardly-inclined position with respect thereto is a supplemental frame E, composed of side bars *e e*, the lower ends of which may be bolted or otherwise secured to the inner sides of the sills *a a* just in advance of the roller-platform C, while the upper ends of the side bars are carried by standards *f f*, likewise attached to said sills. The space between the side bars *e e* is floored over, the floor being preferably arranged slightly below the upper face of the said bars, so as to form, in effect, a shallow trough-shaped platform or guideway *g*, reaching from the roller-platform upward to the forward end of the machine, where the bundles or shocks are delivered upon the wagon.

F F are endless elevating-chains, which, as shown, are provided with projecting fingers *h*, and these chains extend around sprocket-wheels *i i* on shafts *j j'*, respectively supported in bearings at the opposite ends of the inclined platform or guideway *g*, the upper leg of each chain passing along the top of the adjacent side bar *e* and being guided thereon by metal strips *k k*, bolted to the opposite sides of the bar. A drive-chain *l*, passing around a sprocket-wheel *m* on the axle *n* of the supporting-wheels B B and around a sprocket-wheel *o* on one of said shafts, preferably the upper shaft *j'*, serves to drive the elevating-chains as the machine is drawn forward.

The wheels B B are so mounted on the axle that they may have independent movement, as when the machine moves in a curved path,

and I have indicated pawl-and-ratchet connections n' between the wheels and axles, though any other well-known connections may be used.

5 G indicates a winding-drum mounted on a shaft p , having its bearings in side supports q of the frame, and this shaft is driven from the axle n by a chain r , passing around the toothed wheels s and t on the shaft and axle.
 10 The drum is loose on its shaft and is adapted to be clutched thereto at will, so as to turn therewith when required, and any suitable clutch device may be employed for this purpose. As shown, the drum is keyed to a sleeve
 15 u , loose on the shaft p and having end teeth v , adapted to interlock with corresponding teeth v' on a sleeve w , fixed to the shaft, a spiral spring x on the shaft tending to maintain the parts in locked position. A collar
 20 u' , loose on the sleeve u , but held relatively stationary by a rod u^3 , connected to a lug u^4 on the collar and to some stationary part of the frame, is provided at its inner end with inclined faces u^2 , which engage oppositely-
 25 inclined faces w^2 on the inner end of a collar w' on the sleeve w and having an arm w^3 . A lever H , pivoted at h' to a bracket y , depending from the frame E , is loosely connected at its inner end to the arm w^3 , while the outer
 30 end of the lever extends beyond the upper end of the inclined platform at a point somewhat below the latter.

It will be seen from the foregoing that when the parts of the clutch are in position to lock
 35 the drum G to the shaft p a downward movement of the free end of the lever H will give the collar w' a partial rotation, and thereby cause the clutch-sleeve u to be moved lengthwise on the shaft out of engagement with the
 40 sleeve w and release the drum, while the reverse movement of the lever will permit the parts to again interlock, as will be understood.

A hoisting-rope I is secured at one end to the drum G and when in operative position
 45 extends over a guide-pulley e' , carried by a bracket f' at the upper end of the frame E , along the top of the inclined platform g , around a guide-pulley g' on the cross-bar b' , and over the roller-platform C to the bundle
 50 or shock at the side of the machine.

The hoisting-rope may be connected to the bundle or shock in any convenient manner; but, as preferred and shown, I pass the rope through an ordinary pulley-block J and attach the free end thereof to a relatively wide
 55 flat hook K . A second or snatch pulley L , the frame of which is open on one side at l' for the ready introduction and removal of the rope, is loosely connected to the pulley-block J , as by one or more links m^2 and swivels m^3 . The open side of the snatch-pulley may be closed when desired by a hinge-plate m^4 .

In securing the rope to a shock, the rope
 65 being disengaged from the snatch-pulley, the end is first passed around the shock, after which the body portion of the rope is inserted

into the open side of said pulley, which is thereupon closed to retain the rope in place. The end of the rope is now drawn through
 70 the pulleys to take up all slack and to secure a firm hold on the shock, whereupon the end of the rope is doubled back upon itself and secured by the hook K , as shown in Fig. 2.

The operation of the machine will now be
 75 apparent and may be briefly stated as follows: The machine being attached to the wagon to be loaded and being drawn up alongside of a bundle or shock, the hoisting-rope I is secured to the bundle or shock, preferably in the manner already explained. The wagon and machine being then drawn forward, power is communicated from the wheels
 80 BB to the drum G and to the chains FF , as will be understood. As the rope I is wound upon the drum the shock is dragged onto and over the roller-platform C and up the inclined platform g , the chains FF , which travel at the same speed as the rope, cooperating with the latter in moving the shock upward. As
 85 the shock is delivered from the upper end of the inclined platform to the wagon below it falls upon and depresses the free end of the lever H , thereby operating the clutch device to disengage the drum from its shaft and ar-
 90 resting further movement of the rope. The rope may now be drawn back again by the attendant over the inclined platform preparatory to securing it to another shock, the drum meantime turning freely in the reverse
 95 direction, after which the drum may be again clutched to its shaft by raising the free end of the lever H , as will be apparent.

Without limiting myself to the precise construction and arrangement of parts set forth,
 100 I claim—

1. In a shock-loading machine, the combination of a frame mounted on wheels and adapted to be secured to a wagon, an inclined platform, hoisting mechanism, means
 110 for driving the hoisting mechanism from the wheels, and a clutch adapted to be automatically operated to release the hoisting mechanism as the shock is delivered upon the wagon, substantially as set forth.

2. In a shock-loading machine, the combination of the main frame mounted on wheels, an upwardly-inclined platform, a winding-drum, a hoisting-rope, means for communicating power from the wheels to the drum,
 120 and a clutch device adapted to be operated by the shock to release the drum as the shock is delivered from the upper end of the platform, substantially as set forth.

3. In a shock-loading machine, the combination of the main frame mounted on wheels, an upwardly-inclined platform, a winding-drum, a hoisting-rope, means for communicating power from the wheels to the drum, a clutch device for the drum, and a lever con-
 130 nected to the clutch and extending beyond the delivery end of the platform, substantially as set forth.

4. In a shock-loading machine, the combi-

nation of the main frame mounted on wheels, an upwardly-inclined platform, a winding-drum, a hoisting-rope, elevating-chains, means for communicating power from the wheels to the drum and to the chains, a clutch for the drum, and means whereby the clutch is operated to release the drum as the shock is delivered from the platform, substantially as set forth.

10 5. In a shock-loading machine, the combination of the main frame, a roller-platform, an inclined platform in advance of the roller-platform, hoisting mechanism, driving means therefor, and a clutch device adapted to be
15 automatically operated to arrest the hoisting mechanism as the shock is delivered from the platform, substantially as set forth.

20 6. In a shock-loading machine, the combination of the main frame mounted on wheels, an inclined platform composed of side bars and an intermediate floor below the top thereof, elevating-chains movable above the upper edge of the side bars, a hoisting-drum below the platform and located midway between the
25 side bars thereof, a hoisting-rope, driving means for the chains and the drum, and means for automatically arresting the movement of the drum as the shock is delivered, substantially as set forth.

30 7. In a shock-loading machine, the combination of the main frame mounted on driving and supporting wheels, an inclined platform, a shaft at each end of the platform, elevating-

chains passing around said shafts and above the platform, a drive-chain extending from 35 the upper shaft to the axle, a winding-drum loosely mounted on a shaft supported in bearings below the platform between its sides, a clutch connecting the drum and its shaft, a lever connected to the clutch and extending 40 beyond the upper end of the platform in the path of movement of the shock, and a drive-chain between the drum-shaft and the axle, substantially as set forth.

8. In a shock-loading machine, the combination of the hoisting-rope, a hook secured to the free end thereof and adapted to engage said rope, a pulley-block movable on the rope in rear of the hook, and a snatch-pulley having a flexible connection other than said rope 50 with said pulley-block, substantially as set forth.

9. In a shock-loading machine, the combination of the hoisting-rope, a relatively wide flat hook on the free end thereof, a pulley- 55 block movable on the rope in rear of the hook, and a snatch-pulley connected to the first pulley by one or more links and a swivel, substantially as set forth.

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

CHARLES J. STOVIN.

Witnesses:

FRANK L. FREEMAN,

W. CLARENCE DUVALL.