

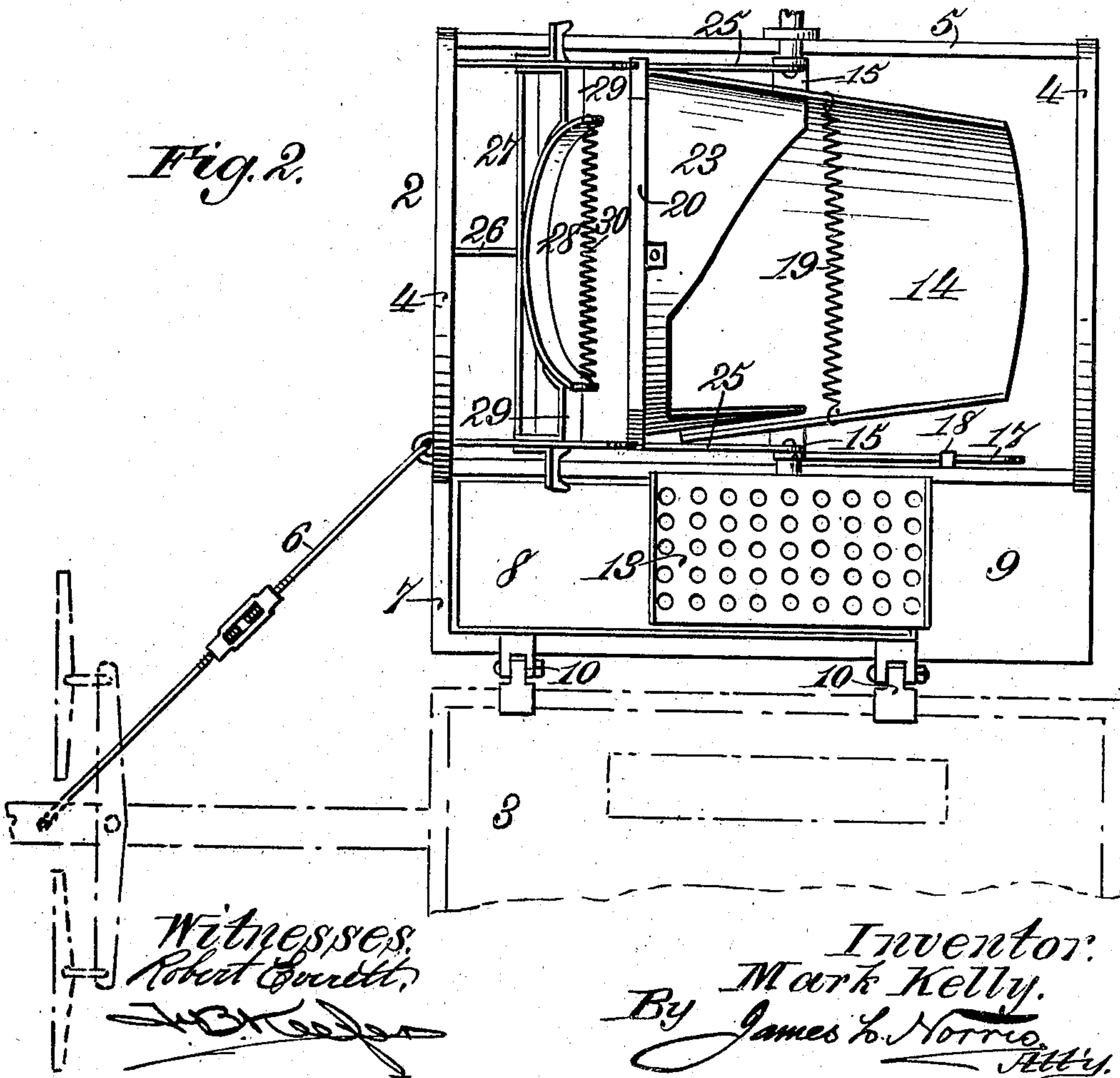
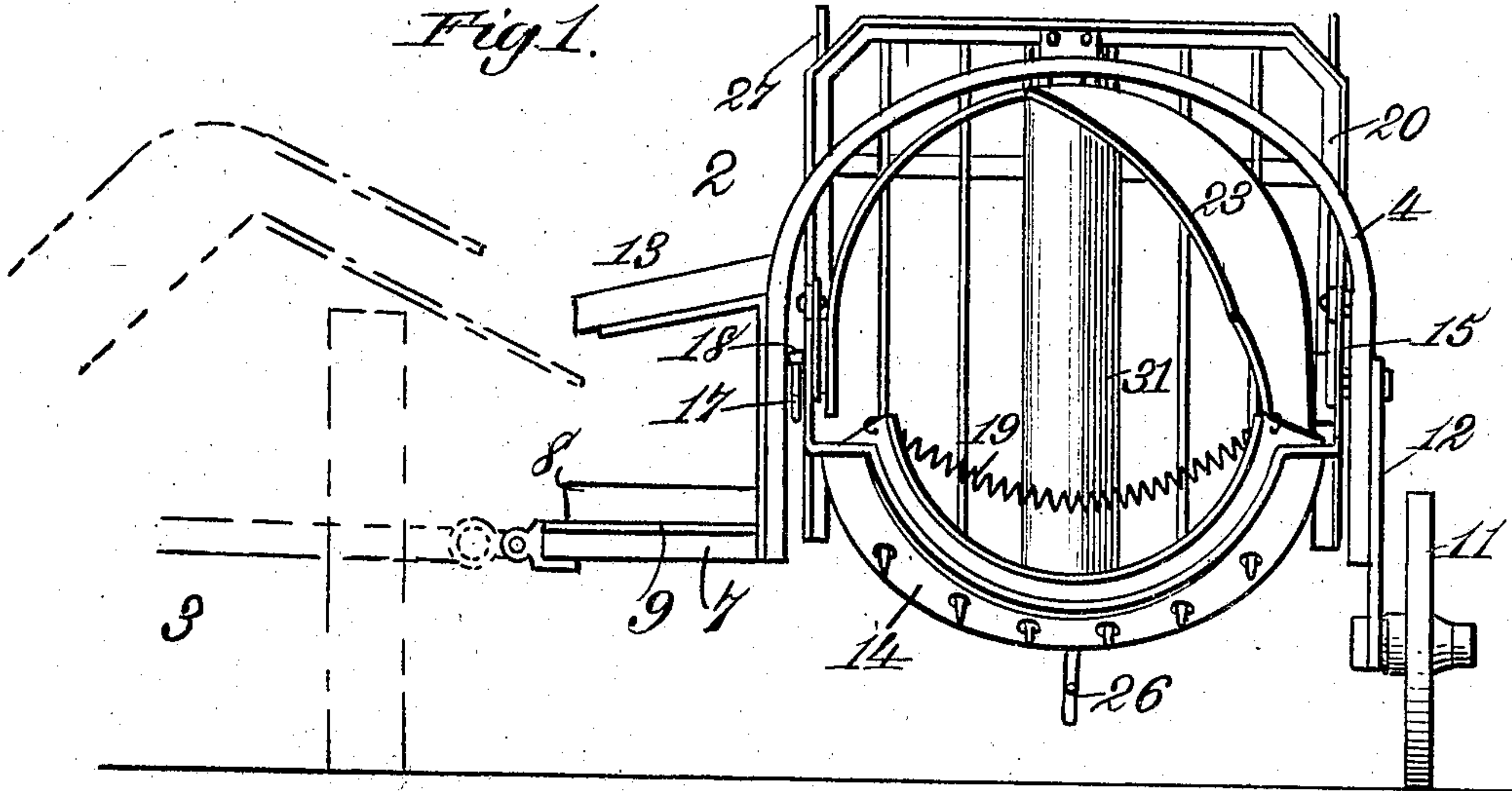
M. KELLY.  
SHOCKING APPARATUS.

APPLICATION FILED JUNE 24, 1907. RENEWED JULY 21, 1908.

924,079.

Patented June 8, 1909.

4 SHEETS—SHEET 1.



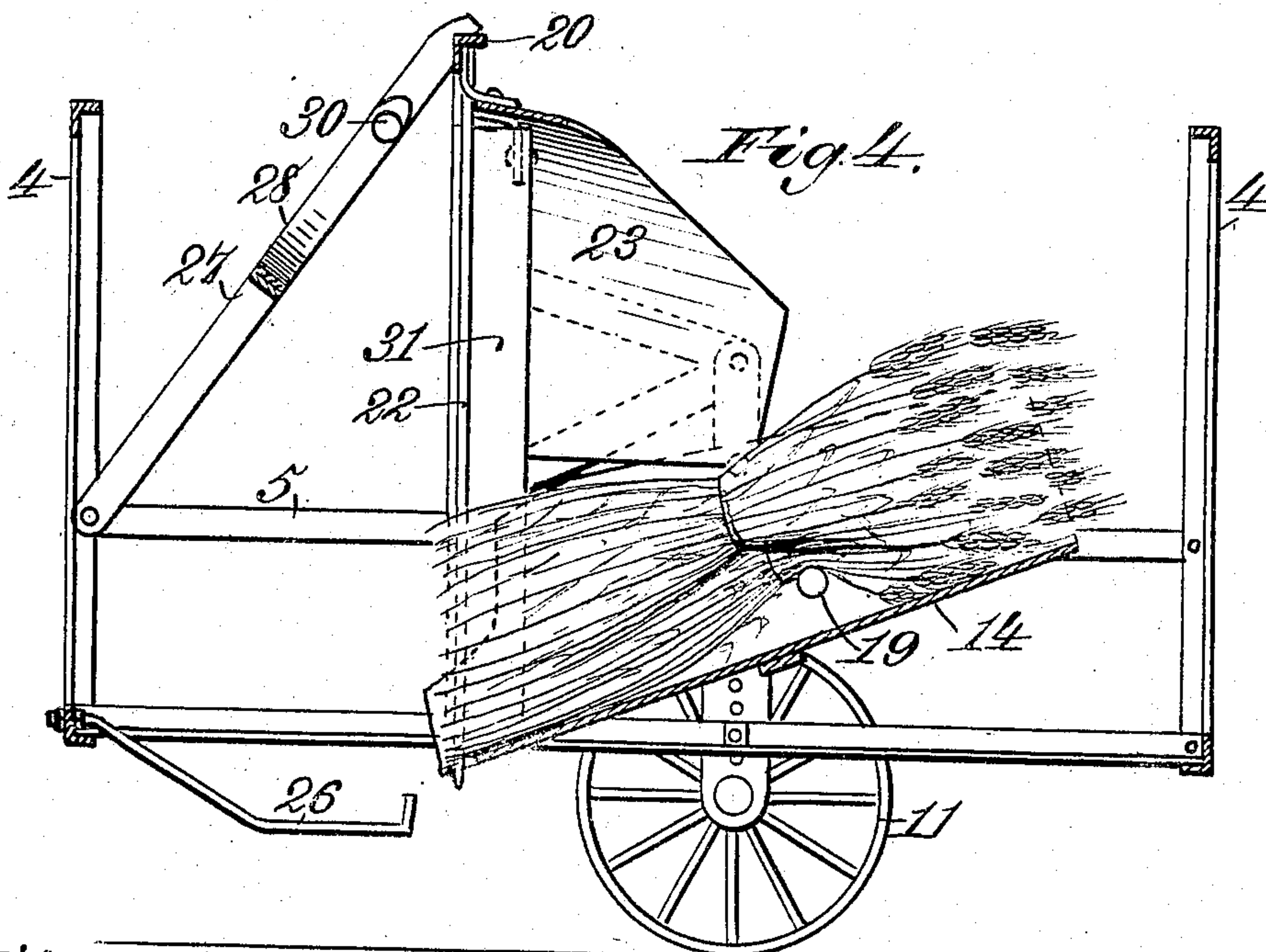
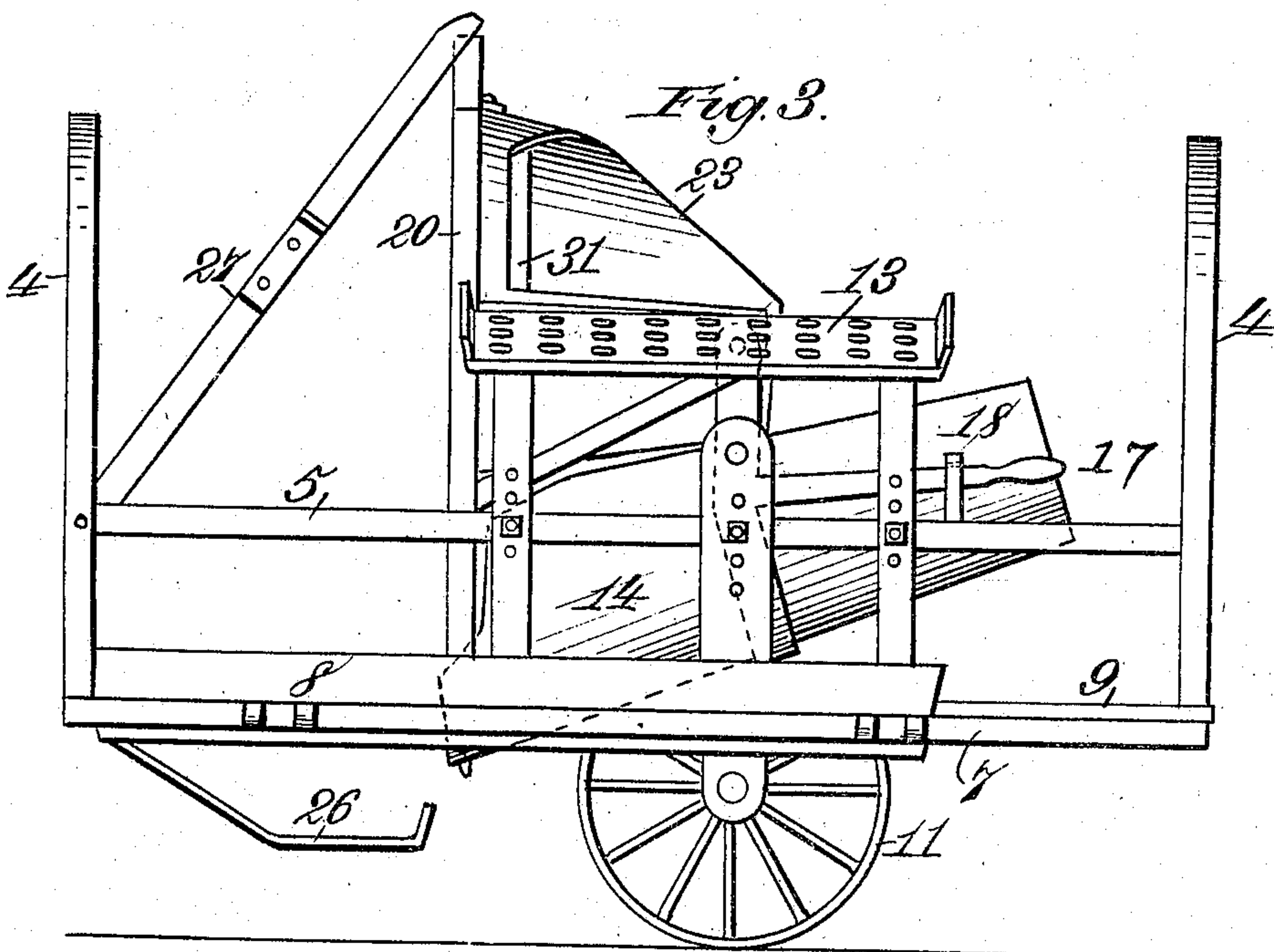
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4 SHEETS—SHEET 2.



Witnesses:  
Robert Everett,  
J. B. Keeler

Inventor,  
Mark Kelly,  
By James L. Morris, atty.



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SHOCKING APPARATUS.

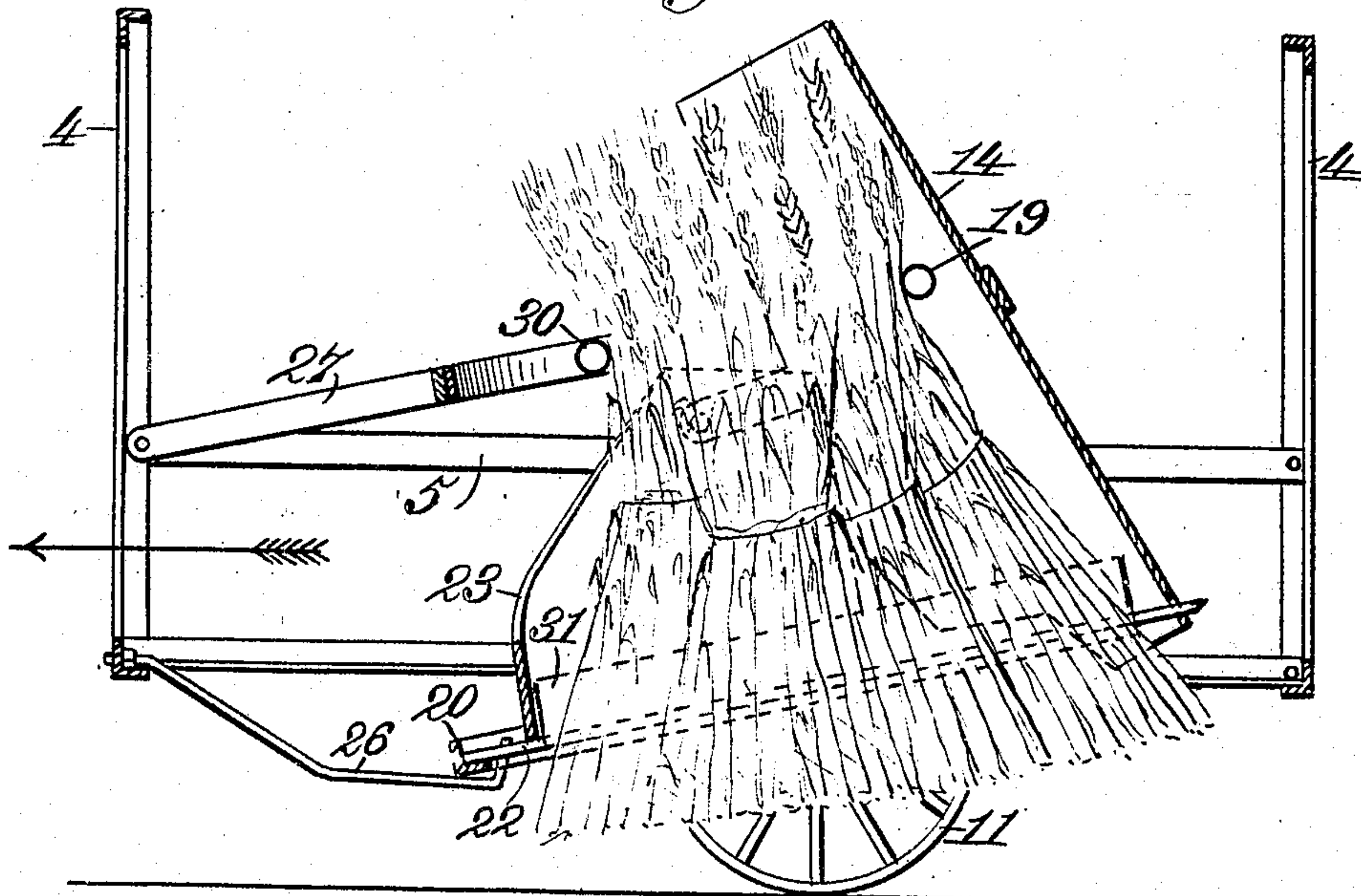
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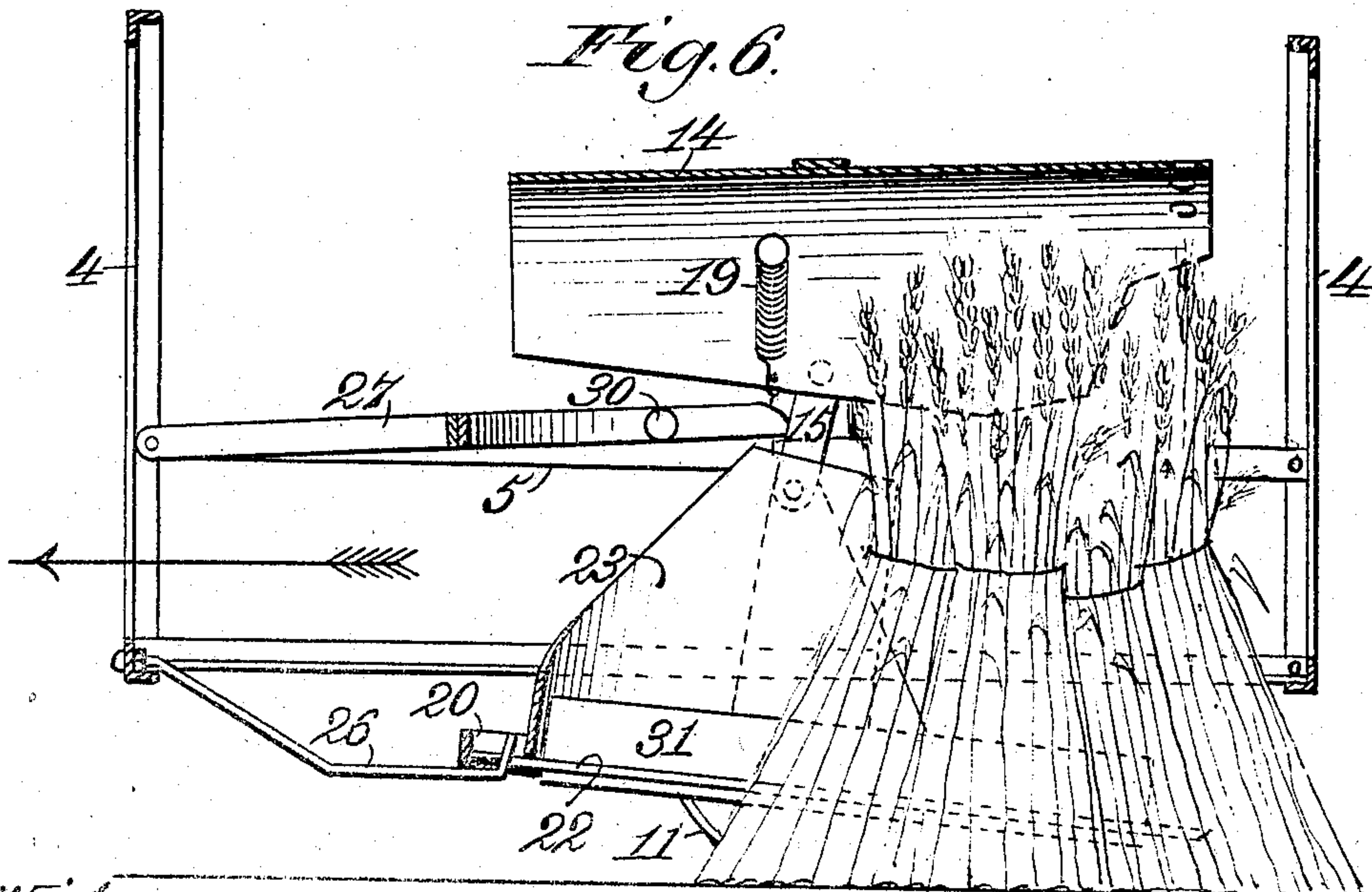
Patented June 8, 1909.

4 SHEETS—SHEET 3.

*Fig. 5.*



*Fig. 6.*



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J. B. K. [Signature]

Inventor:  
Mark Kelly.  
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M. KELLY.  
SHOCKING APPARATUS.

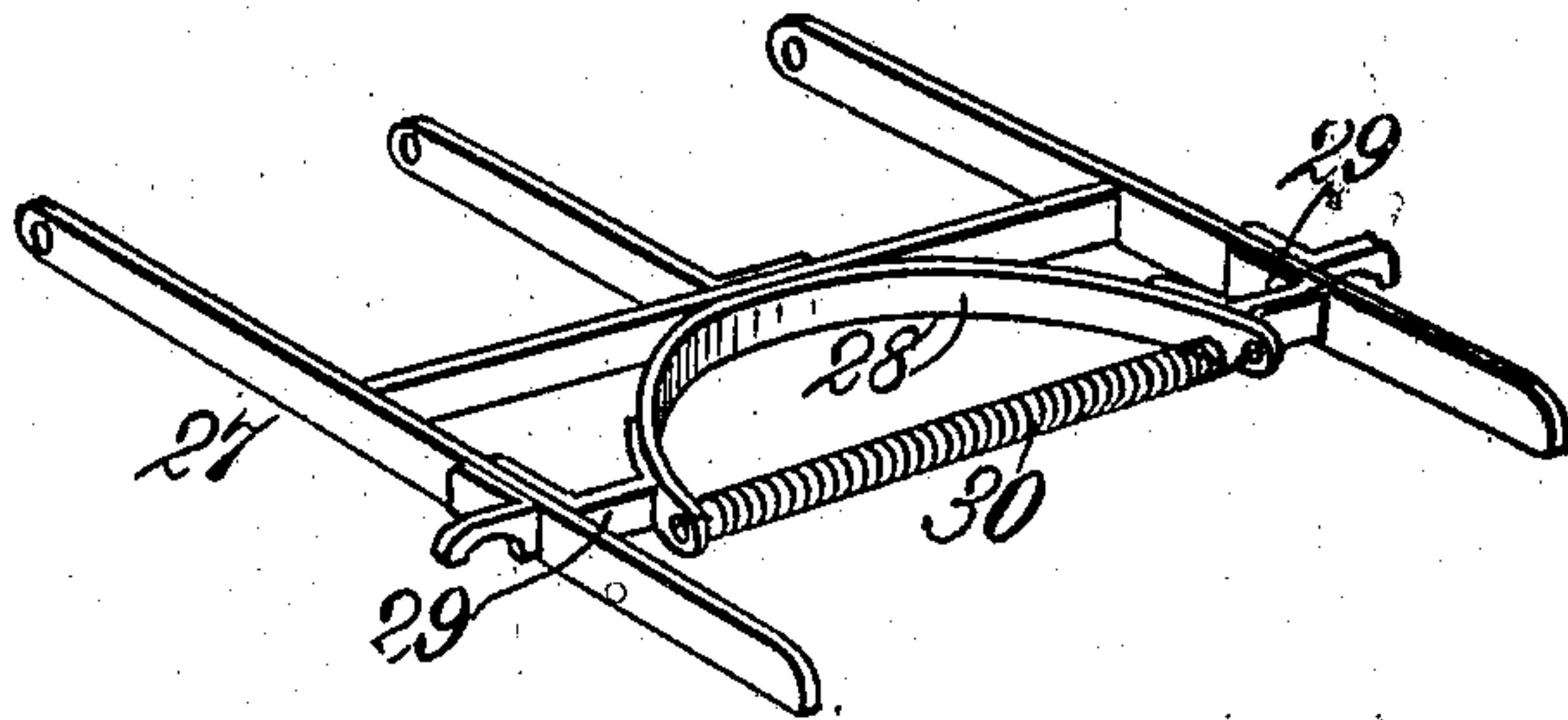
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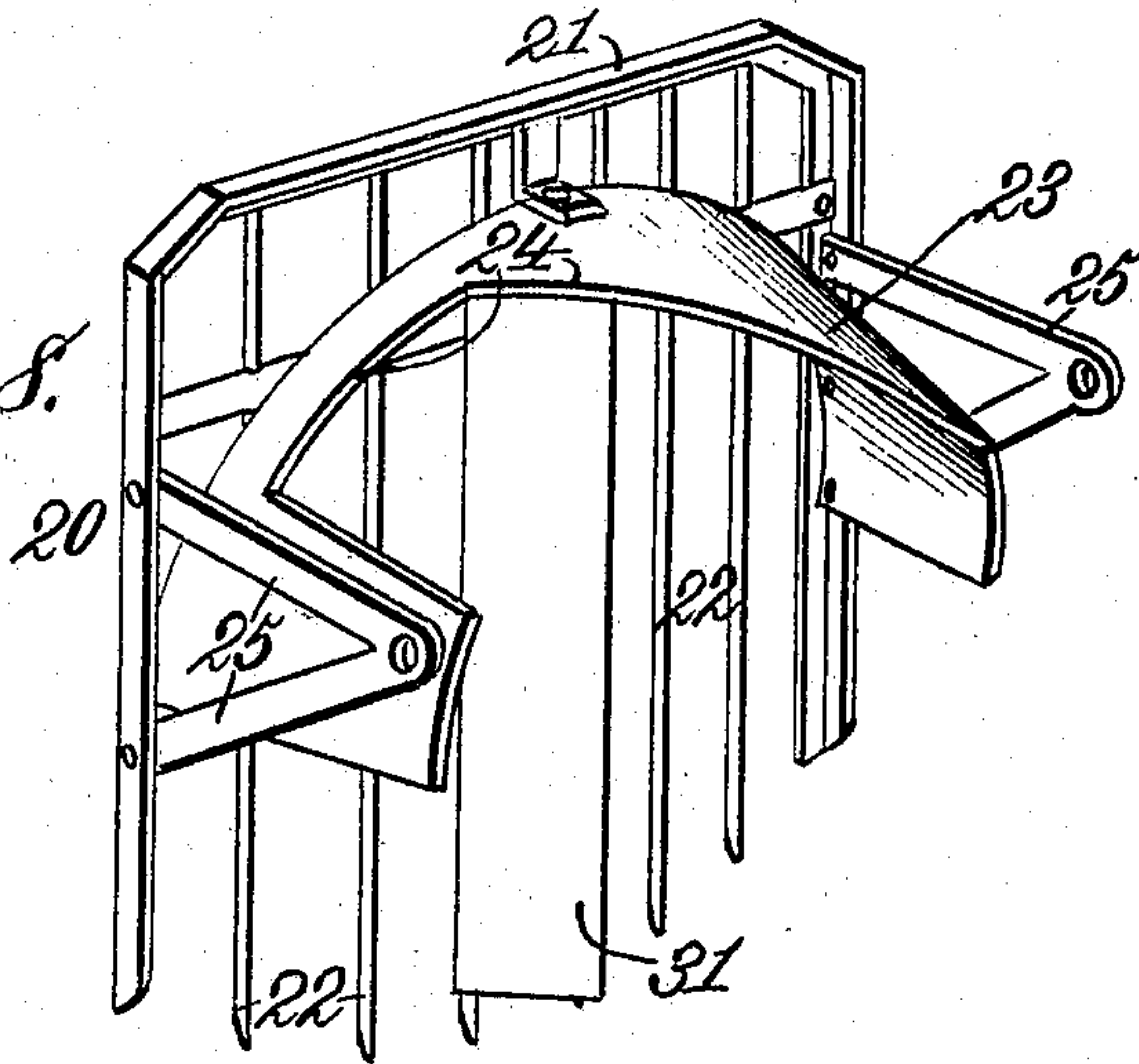
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4 SHEETS—SHEET 4.

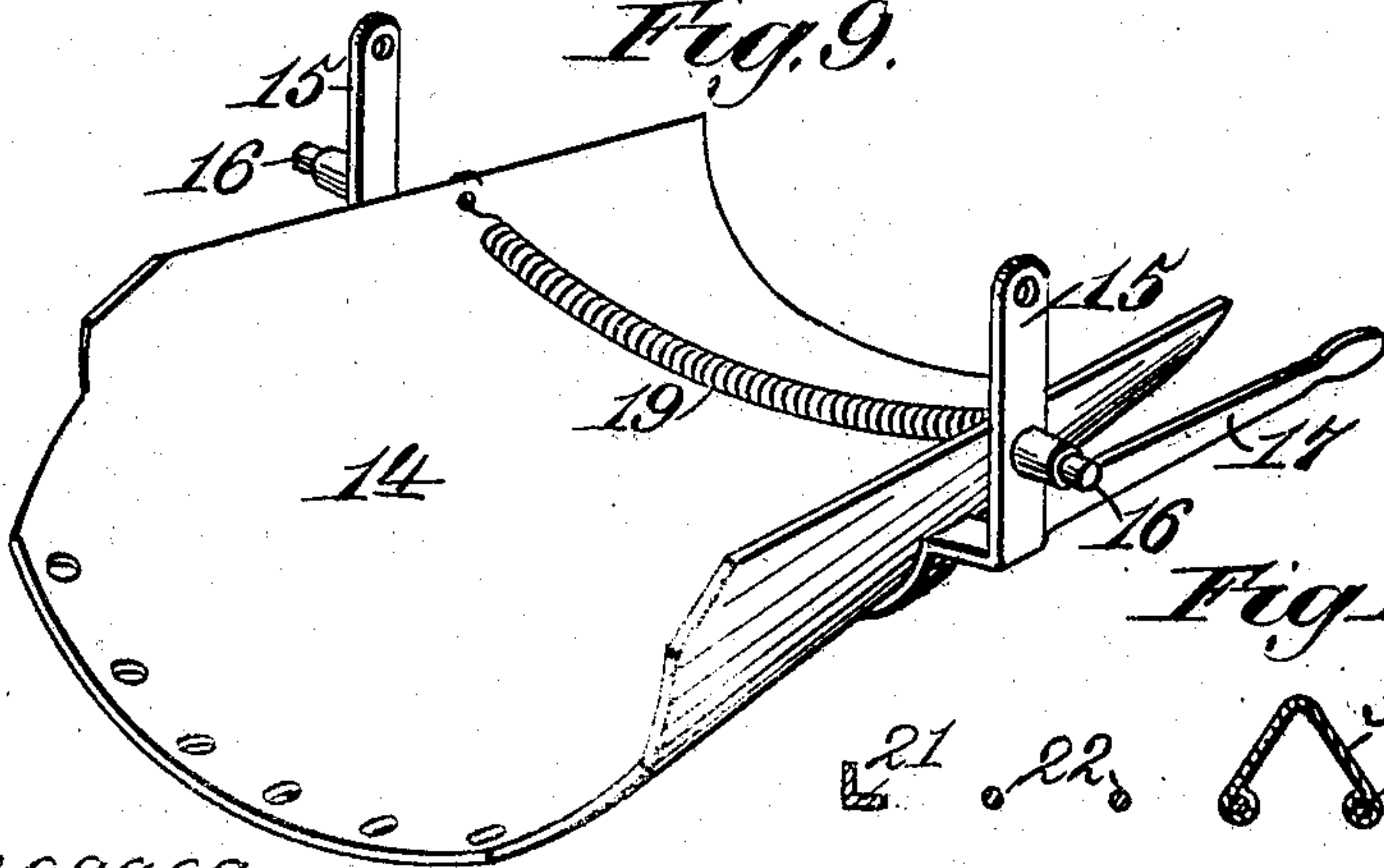
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



*Fig. 10.*



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Robert C. Smith,  
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# UNITED STATES PATENT OFFICE.

MARK KELLY, OF DALLAS, TEXAS.

## SHOCKING APPARATUS.

No. 924,079.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed June 24, 1907, Serial No. 380,553. Renewed July 21, 1908. Serial No. 444,604.

*To all whom it may concern:*

Be it known that I, MARK KELLY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Shocking Apparatus, of which the following is a specification.

This invention relates to a shocking apparatus, the object of the invention being to provide a simple and effective device of this character for rapidly and accurately forming shocks and insuring their delivery on to the ground in a perpendicular relation.

The apparatus includes other advantageous features which, with the foregoing, will be set forth at length in the following description wherein is fully disclosed that form of embodiment of the invention which I have selected for illustration in the accompanying drawings forming part of this specification.

The apparatus can be made and sold as such for attachment to a harvesting machine, or it can in the first instance constitute part of such an appliance.

Referring to said drawings: Figure 1 is an end elevation of an apparatus involving my invention and showing the same in connection with a harvesting machine, the latter being in dotted lines. Fig. 2 is a top plan view of said apparatus, the harvester also appearing. Fig. 3 is a side elevation of said apparatus. Figs. 4, 5, and 6 are longitudinal sectional views of the same showing the working parts in different positions. Fig. 7 is a perspective view of a compressor device. Fig. 8 is a like view of a swinging member. Fig. 9 is a similar view of a bundle-carrier, and Fig. 10 is a cross-sectional view of said swinging member.

Like characters refer to like parts throughout the several figures of the drawings.

The shocking apparatus is denoted in a general way by 2 and is adapted for connection with a harvesting machine as 3 shown in dotted lines in Figs. 1 and 2.

The different parts of the shocking apparatus may be supported in any desirable manner, for instance, by a frame-work comprising the two end frame members 4 which may be of wood or metal and of any desirable shape.

The two frame members may, as illustrated, be of arch-form and they are represented as connected by bars as 5 also constituting a part of such framework. What

is the forward arched member 4 is ordinarily connected by a brace as 6 extending diagonally and connected with the pole of the harvesting machine, and this brace is adjustable longitudinally to compensate for the position of the shocking apparatus relative to the harvesting machine.

There is represented as extending laterally from the inner side of the connected arched members 4 an auxiliary frame as 7, and this auxiliary frame constitutes a support for the box 8 and also for the platform 9 on which the operator stands in directing bundles from the harvesting machine to the shocking apparatus. The auxiliary frame 7 is connected to the frame of the harvesting machine 3 by hinges as 10 (see Figs. 1 and 2 for example), and the outer members of these hinges may if desired be longitudinally adjustable connected with the harvesting machine frame.

By virtue of the flexible connection between the shocking apparatus and harvesting machine frame, the frame of the former will have a relative or up-and-down movement with respect to the frame of the latter without affecting any of the parts of the shocking mechanism.

The shocking apparatus may be provided with a ground-wheel as 11 connected with a standard as 12 united adjustably if desired with the framework of the shocking apparatus.

As indicated, the platform 9 may be utilized by an operator on which to stand in passing the bundles of grain from the harvesting machine to the shocking apparatus, and the space between these two parts is bridged by a table as 13 on which the bundles are received during their passage from the harvesting machine to the shocking apparatus. During the passage of the bundles and especially when the same are on the table 13, grain is shaken therefrom and it falls on to the table 13. To prevent loss of this grain the table is provided with a multiplicity of perforations through which the grain can pass into the box 8, and be thereby saved. The table 13, as will be understood, is located over the box 8 and, if desired, it can be made adjustable longitudinally of the apparatus. Said apparatus involves in its make-up a bundle-carrier constituting part of the shock-forming mechanism, and this bundle-carrier may be of any desirable form. It is represented as consisting of a cradle or



trough-like plate 14 and as having attached thereto arms as 15 provided with outwardly-extending gudgeons or journals as 16 supported for rocking movement by suitable bearings upon the sides of the framework of the apparatus, it being understood that the bars 5 constitute in the present case such sides.

It will be understood that the bundle-carrier 14 need not be made of metal, although it has been termed a "plate," for it might be constructed of wood. It is not necessary that it be practically imperforate, for it might be of skeleton structure. I mention these details in passing to indicate that my invention is not limited to such features, but resides in certain broader relations. The bundle-carrier 14 is furnished with suitable means for effecting the operation of the same at the will of an attendant, and for this purpose a hand-lever as 17 may be provided, said hand-lever being fastened to one of the arms 15 and engaging normally under a suitable stop such as the hook 18 on the framework of the shocking apparatus; see, for example, Figs. 1, 2, and 3. The bundle-carrier 14 is represented as furnished with an elongated coiled-spring 19 extending from one side thereof to the other on the upper surface thereof, and this spring 19, as will hereinafter appear, aids in constricting the upper portion of the shock so as to reduce the shock in diameter near the apex thereof, whereby the shock will taper outward from its upper portion toward the base. There are three members that contribute to the formation of a shock. One of them is the bundle-carrier 14, while the second one is the grid-like member denoted in a general way by 20 and illustrated in detail in Fig. 8. This member 20 comprises a frame as 21 which is substantially of yoke-form and the cross-bar of which is shown as furnished with several spring-fingers as 22 extending forward therefrom and the free ends of which are adapted to normally enter perforations near the forward end of the bundle-carrier 14, as clearly shown in Fig. 1, so as to effectually sustain said fingers during the time the shock is brought to a perpendicular position and up to a point at which the bundle is released by the motion of the bundle-carrier 14 with respect to the grid-like member 20, as will hereinafter appear.

An arcuate or bowed member is shown at 23, and the same may consist of a plate or it may be of wood, as found most expedient. This arcuate member 23 is fastened to the side bars of the frame 21 between the ends thereof, and has an aperture or cut-away portion 24 presenting a mouth for the free delivery normally of the bundles of grain on to the bundle-carrier 14. The grid-like member 20 is connected with the bundle-carrier 14, and this result can be obtained by pivoting the

arms 25 of the former to those 15 of the latter, as clearly shown in Figs. 1 and 3, for example. It therefore follows that the two parts 14 and 20 may move in effect as a unitary structure, although one of them may move with relation to the companion member. This relative movement, which in the present instance is accomplished by the part 14, is for the purpose of releasing a shock, and I deem it desirable to state that the shock may be formed and released while the apparatus is being advanced along the ground with the harvesting machine.

When the parts are in their normal positions the lever 17 will be under the stop or hook 18 so as to hold the parts 14 and 20 against movement, the part 14 being at this time at a slight forward inclination, and the part 20 being vertically disposed. Were it not for the lever 17 the parts would accidentally shift owing to the fact that there is considerable weight forward of the axis of motion of the part 14. With the different members in their normal relations bundles can be passed on to the table 13 and from the latter can be thrown or otherwise placed on the bundle-carrier 14, the aperture 24 to which I have previously referred, permitting the butts of the bundles to freely enter the circular structure formed by the bundle-carrier 14 and the arcuate or bowed plate 23. These two latter parts present normally substantially a complete circle and define the diameter of the base portion of the shock. The plate or flange 23 prevents the bundles from jumping from position or being upwardly displaced until a sufficient number of bundles has been placed on to the carrier 14 to make a shock of the requisite size. When the desired number of bundles is in position the hand-lever 17 is moved inward, and for this purpose it may be made resilient, to disengage it from the head of the stop or hook 18, whereby the bundle-carrier can be tilted in an upward direction and then slightly forward, the grid-like member 20 moving therewith, and the motion being continued until the cross-bar of said grid-like member is received upon the free end of the support 26, as shown in Fig. 5, and which support may consist of a bar attached to the forward side of the framework of the shocking apparatus and extending rearward therefrom. During the motion in unison of the two parts 14 and 20 the parallel spring-fingers 22 are being sustained by the bundle-carrier 14.

I have mentioned hereinbefore that there are three elements or members which contribute to the formation of a shock. Two of said elements or members are the parts 14 and 20 which I have described in detail; the third one consists of the part 27 which may be composed of a frame-like structure supported for oscillation or swinging movement by the forward yoke or arch 4 of the frame-



work. This swinging member 27 carries as a part thereof the arch or bow 28 which may consist of a strip of wood or metal connected near its ends, for example, by brackets as 29, with the side bars of the frame or swinging member 27, the bow or arch 28 bearing between its ends against the cross-bar of said swinging frame 27. There is shown a coiled-spring 30, and this coiled-spring 30 coöperates with the coiled-spring 19 in compressing the several bundles which are to make the shock, near their outer ends, so as to form a shock which is of reduced size near its apex. The spring 30 extends across the bow or arch 28 from one end to the other thereof, and the two springs present collectively a satisfactory yieldable means for compressing the upper portion of the collected bundles. When the parts are in their normal positions the free portion of the swinging member 27 will rest against the upper end of the grid-like member 20 which at this time is stationary and substantially vertically disposed.

In operation the apparatus travels over the ground, and during this time bundles of grain will be supplied on to the bundle-carrier 14. When the requisite number of bundles is on the bundle-carrier the lever 17 will be disengaged from the stop 18, thereby permitting the grid-like member 20 by its own weight, aided by that of the mass of grain, to drop against the support 26, and the grid-like member is shown as resting on said support in Fig. 5. As the grid-like member moves downward the bundle-carrier 14 is being raised. During the first part of this operation the compressing member 27 is first swung slightly forward and, as the downward motion of the grid-like member 20 progresses, said compressing member is permitted to descend so as to cause its spring 30 to approach the spring 19. On the final part of the movement, and this is effected by the attendant pressing forward on the hand-lever 17, the two springs act together to embrace and compress the upper portion of the substantially perpendicularly-disposed series of bundles then in a shock, so as to obtain a shock which has the form to which allusion has been hereinbefore made. During all this action the apparatus is being moved forward and, when the necessary compression has been secured, the hand-lever 17 will be further manipulated and the bundle-carrier 14 will be operated with respect to the grid-like part 20, thereby permitting the shock to fall on to the ground, owing to the fact that the shock has been freed from the springs. The motion of the part 14 under the action of the lever 17 will be continued until said part 14 occupies practically an inverted horizontal position, by virtue of which, as the shock leaves the apparatus on the forward movement of the latter, said part 14 will not inter-

fere with the free delivery of the shock on to the ground. In Figs. 4, 5, and 6 I have shown the principal positions occupied by the several parts during the formation and delivery of a shock.

After the shock has been delivered the lever is operated to bring the bundle-carrier 14 to a vertical position and, when this motion has been practically completed, the spring-fingers 22 will enter the perforations in said bundle-carrier. The motion of the lever toward its original position is continued, and, during the same, the grid-like member 20 returns the compressing device 27 to its original position, at which time the lever 17 is moved under the head of the stop 18.

In some cases it is desirable that a shock be formed which spreads at its base, and to secure such a shock, I may if desired provide a spreader as 31 which consists of a wedge removably carried by the fingers 22 of said grid-like member 20. This wedge 31 may have sleeves which can be slipped on to the two central fingers 22 or slipped therefrom when it is desired to use the apparatus without the spreader. This spreader, as will be obvious, separates or spreads the shock at its base so that the shock, when delivered on to the ground, will have an opening there-through for the circulation of air.

It will be understood that the bundle-carrier 14 and coöperating member 20 move about axes transverse to the path of movement of the apparatus, by virtue of which the shocks can be properly set upon the ground, the shocks being released by the relative movement of one of said parts with respect to the other, during which the lower parts of said two members are spread apart as shown in Fig. 5. Beyond this point the bundle-carrier can be moved to a position above the shock which has been deposited on the ground so as in nowise to affect the progress of the apparatus across a field.

What I claim is:

1. In an apparatus of the class described a bundle carrier and a coöperative member associated therewith and constructed to form a series of bundles into a shock, the bundle carrier and said member being movable in unison to bring the shock to an upright position and the bundle carrier having further movement with respect to said member to release the shock and deposit it on the ground and to occupy a position above the shock which has been deposited.

2. In an apparatus of the class described, a bundle-carrier and a coöperative member provided with a flange coöperative with the bundle-carrier to form a series of bundles into a shock, the bundle-carrier and said member being movable to bring the shock to an upright position, and the bundle-carrier having a further continued movement with respect to said member to release the shock.



3. A bundle-carrier and a coöperative member provided with a flange having an aperture, coöperative with the bundle-carrier to form a series of bundles into a shock, the bundle-carrier and said member being movable to bring the shock to an upright position, and the bundle-carrier being movable with respect to said member to release the shock.

4. In an apparatus of the class described, a bundle-carrier and a coöperative member carried by the bundle-carrier and provided with means coöperative with the bundle-carrier to form a series of bundles into a shock, said bundle-carrier and coöperative member having movement in unison to bring the shock to an upright position, and the bundle-carrier having further continued movement with respect to said coöperative member to occupy a position over the shock.

5. In an apparatus of the class described, a bundle-carrier and a coöperative member carried thereby, said parts coöperating to form a series of bundles into a shock and being movable together to bring the shock to an upright position, and the bundle-carrier having a further continued movement with respect to the coöperative member to occupy a position over the shock, and means for normally holding the bundle-carrier and coöperative member against movement.

6. In an apparatus of the class described, a bundle-carrier and a coöperative member carried thereby, said parts coöperating to form a series of bundles into a shock and being movable together to bring the shock to an upright position, and the bundle-carrier having a further continued movement with respect to the coöperative member to occupy a position over the shock, and means operative at the will of an attendant for holding the bundle-carrier and coöperative member against movement.

7. In an apparatus of the class described, a bundle-carrier and a coöperative member adapted to form together a shock from a series of bundles, the bundle-carrier and coöperative member being movable to bring the shock to an upright position, and the bundle-carrier having a further continued movement with respect to the coöperative member to occupy a position over the shock, a hand-lever connected with the bundle-carrier, and a detent on the framework engageable by the hand-lever.

8. In an apparatus of the class described, a bundle-carrier and a coöperative grid-like member, the grid-like member being provided with means coöperative with the bundle-carrier to form a series of bundles into a shock, and the two parts being movable in unison to bring the shock to a substantially upright position, and the bundle-carrier having further continued movement with respect to the grid-like member to effect the release of the shock.

9. In an apparatus of the class described, a bundle-carrier and a coöperative grid-like member having a series of spring-fingers, the two parts being movable together, and the fingers being sustained by the bundle-carrier, and said grid-like member having means coöperative with the bundle-carrier for forming a series of bundles into a shock, the bundle-carrier and grid-like member being movable together to bring the shock to a substantially upright position, and the bundle-carrier having a movement with respect to the grid-like member to release the shock, during which motion the bundle-carrier is freed from said fingers.

10. In an apparatus of the class described, a bundle-carrier and a coöperative grid-like member provided with a series of spring-fingers, the bundle-carrier having perforations to receive said fingers, and the grid-like member having means to coöperate with the bundle-carrier to form a series of bundles into a shock, the bundle-carrier and grid-like member being movable together to bring the shock to an upright position, and the bundle-carrier being movable with respect to the grid-like member to release the shock, and means for forming an opening in the shock.

11. In an apparatus of the class described, a bundle-carrier and a coöperative grid-like member provided with a series of spring-fingers, the bundle-carrier having perforations to receive said fingers, and the grid-like member having means to coöperate with the bundle-carrier to form a series of bundles into a shock, the bundle-carrier and grid-like member being movable together to bring the shock to an upright position, and the bundle-carrier being movable with respect to the grid-like member to release the shock, and means on the grid-like member for forming an opening in the shock.

12. A bundle-carrier and a coöperative member, the latter provided with means coöperative with the bundle-carrier to form a series of bundles into a shock, and the bundle-carrier and coöperative member being movable together to bring the shock to a substantially upright position, and the bundle-carrier being movable with respect to the coöperative member to occupy a position over the shock, and a wedge-shaped divider on said coöperative member for forming an opening in the shock.

13. An apparatus of the class described provided with mechanism for forming a shock, and a plurality of springs at least one of which is movable with respect to another to embrace the shock for positively reducing the diameter of one portion of the same.

14. An apparatus of the class described having mechanism for forming a shock, such mechanism being provided with a plurality of movable members, each equipped with a spring on the side thereof facing the shock,



and said members being movable to cause the springs to positively reduce the diameter of one portion of the shock.

15. An apparatus of the class described 5 having mechanism for forming a shock, such mechanism being provided with a plurality of movable members, each equipped with a spring on the side thereof facing the shock, and said members being movable to cause the 10 springs to positively reduce the diameter of one portion of the shock, combined with means for forming an opening in the shock.

16. In an apparatus of the class described, 15 a bundle-carrier and a cooperative member provided with means to form a series of bundles into a shock, the bundle-carrier and cooperative member being movable to bring the shock to an upright position, and the bundle-carrier being movable with respect to 20 the cooperative member to release the shock, and a third member provided with a spring on the side thereof facing the shock, the bundle-carrier having a spring on the side thereof facing the shock, and the two springs coop- 25 erating on the movement of the members which carry them to compress a portion of the shock for reducing the diameter thereof.

17. In an apparatus of the class described, a bundle-carrier and a cooperative grid-like

member movable together, a shiftable mem- 30 ber controlled by the grid-like member, said shiftable member being provided with a spring on the side thereof facing the shock, and the bundle-carrier also having a spring 35 on the side thereof facing the shock, said bundle-carrier and grid-like member being movable together to bring a series of bundles into a substantially upright position, said shiftable member being movable toward the bundle-carrier on the movement thereof to 40 cause the two springs to compress a portion of the series of bundles.

18. In an apparatus of the class described, 45 a bundle-carrier and a cooperative member adapted to form a series of bundles into a shock, the bundle-carrier and said member being movable in unison to bring the shock to an upright position, and the bundle-carrier having a movement with respect to said member to release the shock and a further 50 movement to a position over the shock.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MARK KELLY.

Witnesses:

WILLIAM MOSES JONES,  
OSCAR DEAN BRUNDIDGE.