No. 726,260. PATENTED APR. 28, 1903.

C. B. CUMMONS.

WHEAT SHOCKING ATTACHMENT FOR SELF BINDING HARVESTERS.

APPLICATION FILED SEPT. 9, 1902.

NO MODEL. 5 SHEETS—SHEET 1.

Fig. 1.

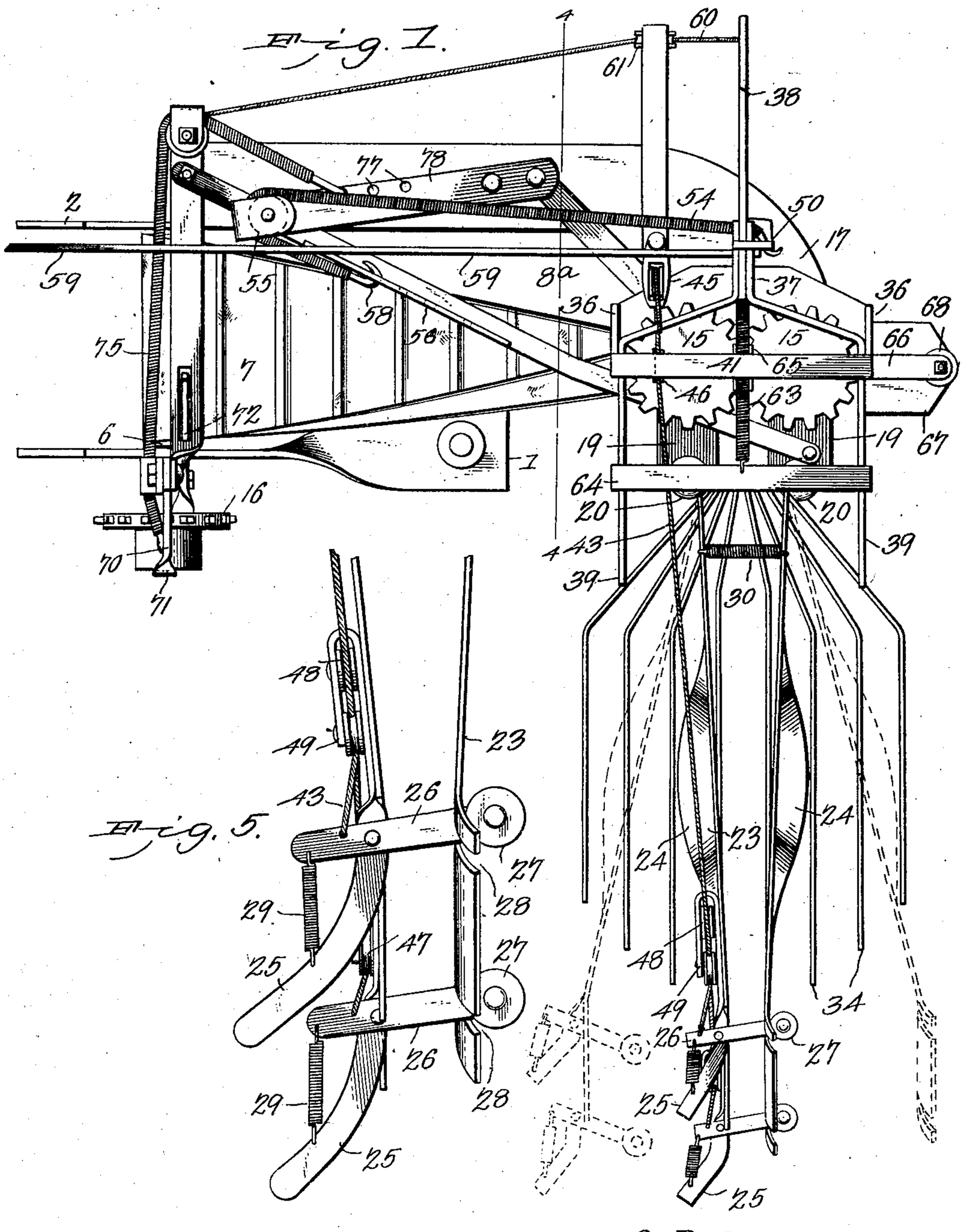

Fig. 5.

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NO MODEL. 5 SHEETS—SHEET 2.

Fig. 6.

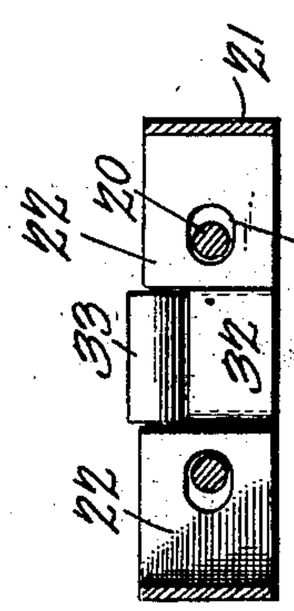
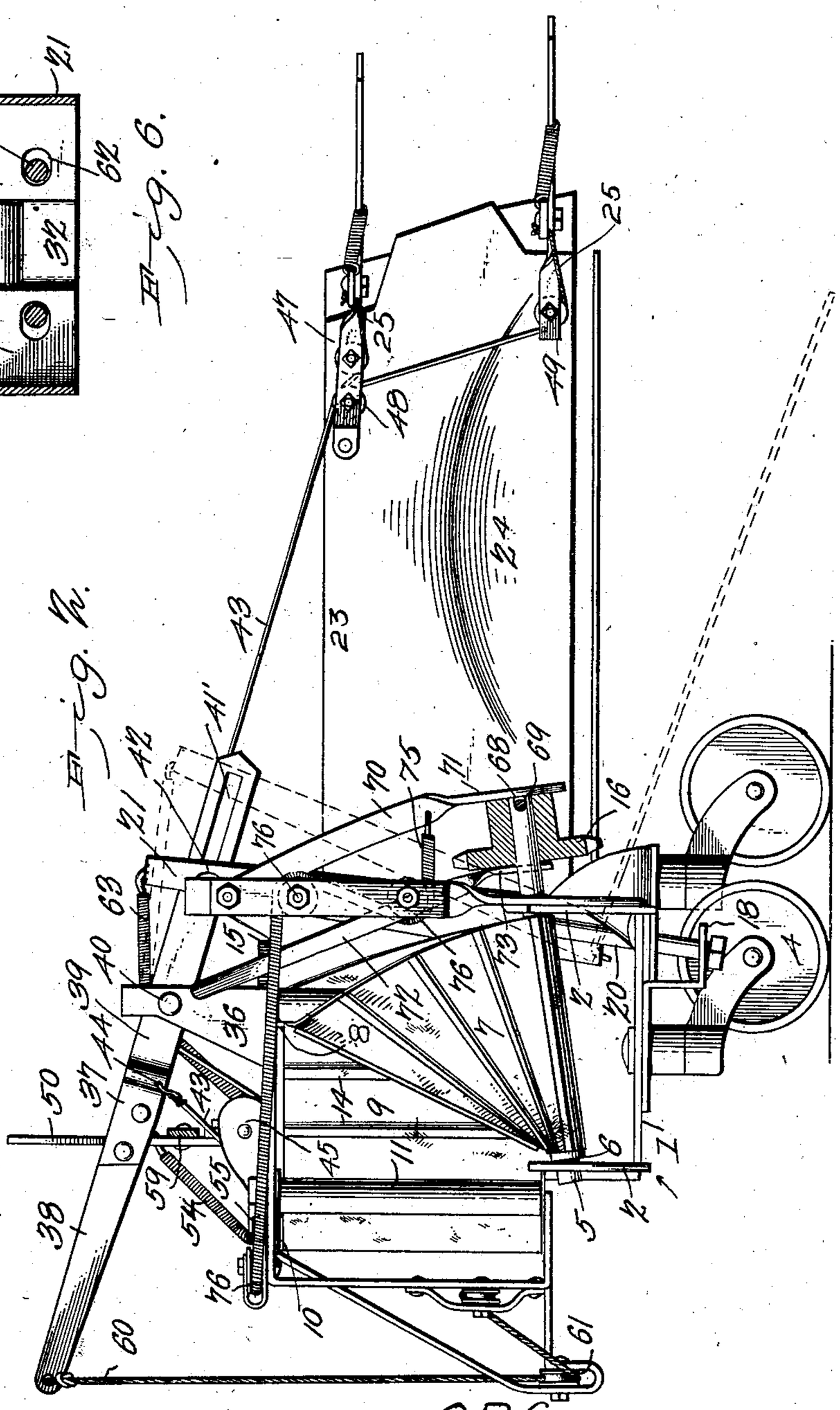


Fig. 7.



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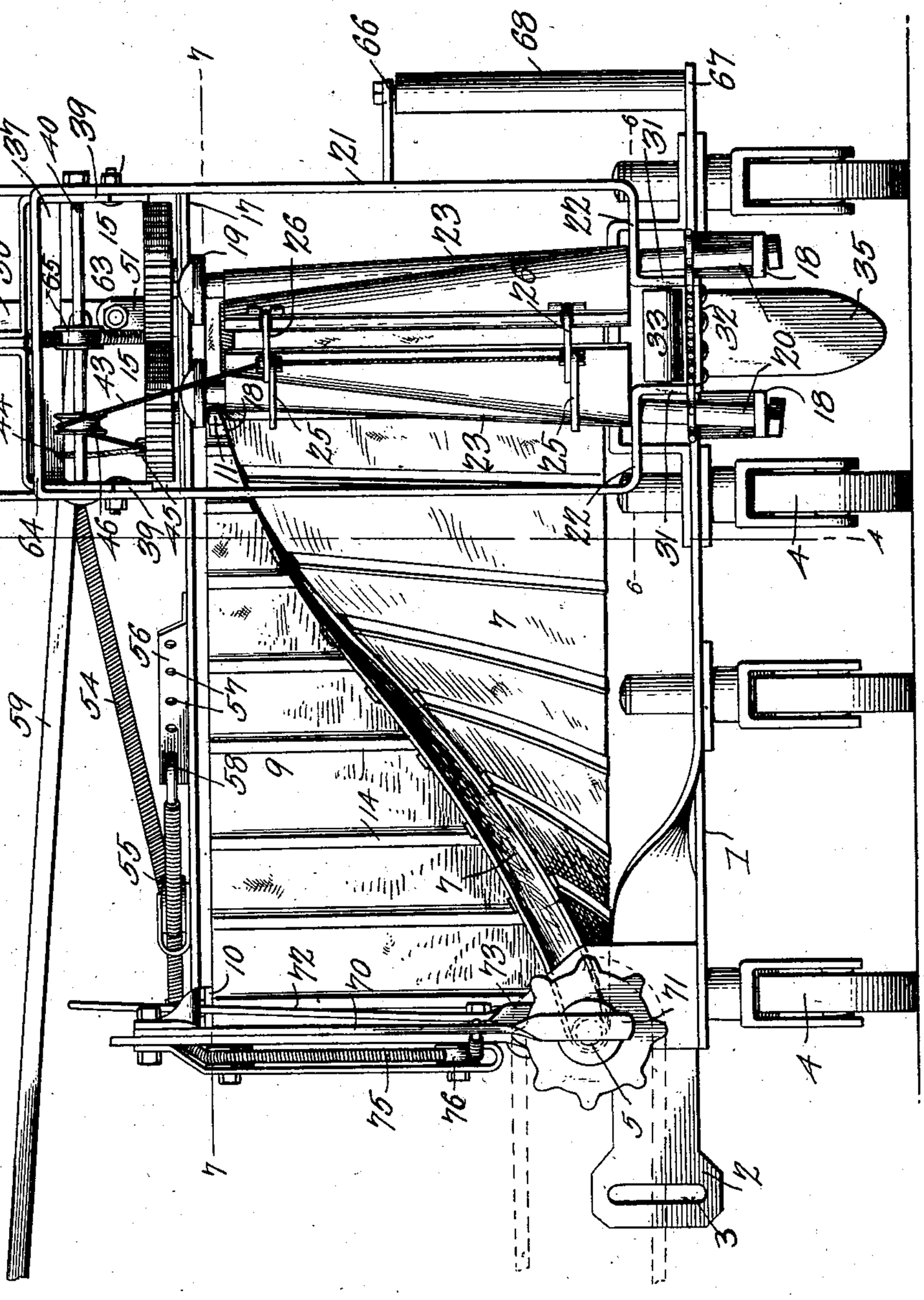
NO MODEL. 5 SHEETS—SHEET 3.

Fig. 3.



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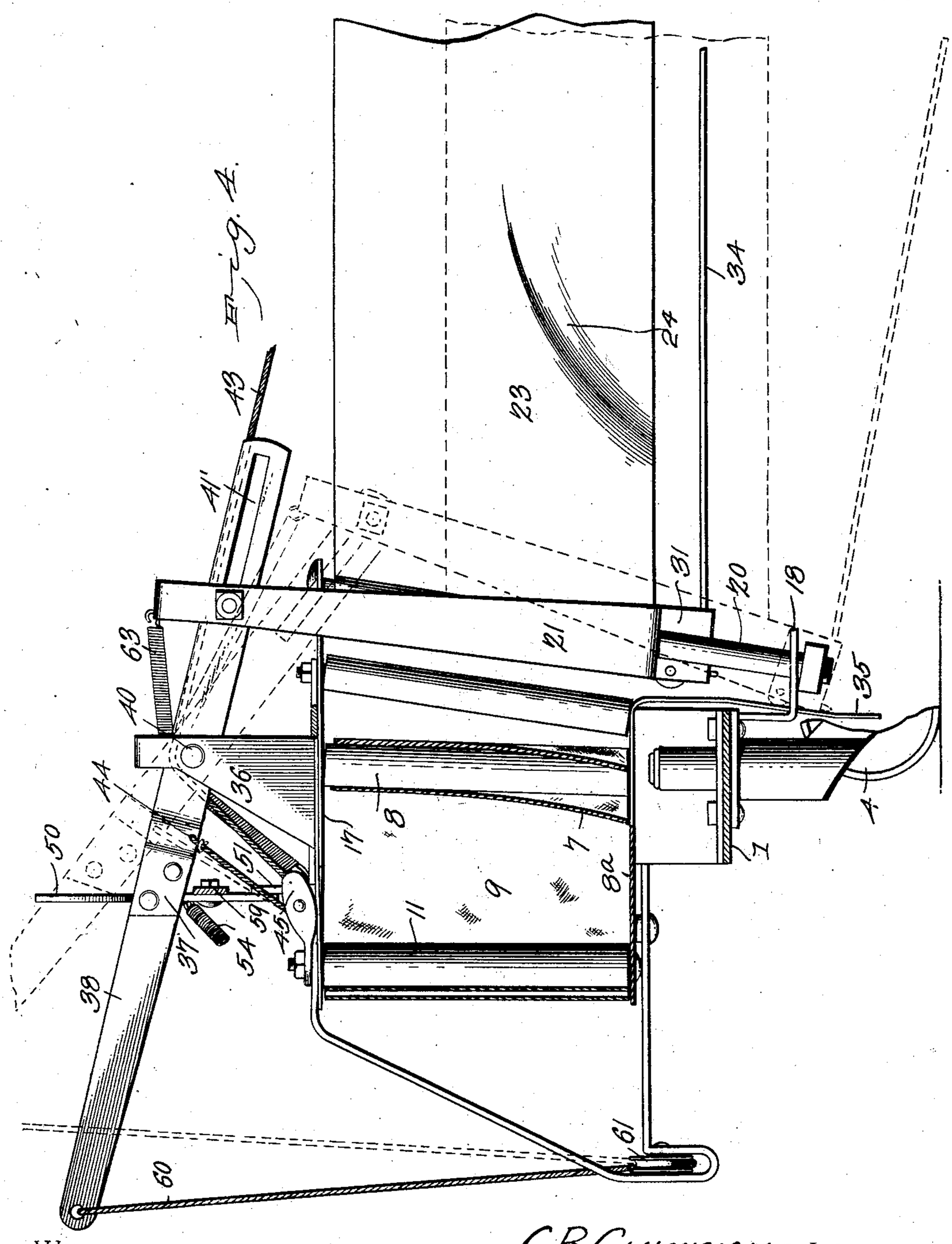
NO MODEL. 5 SHEETS—SHEET 4.



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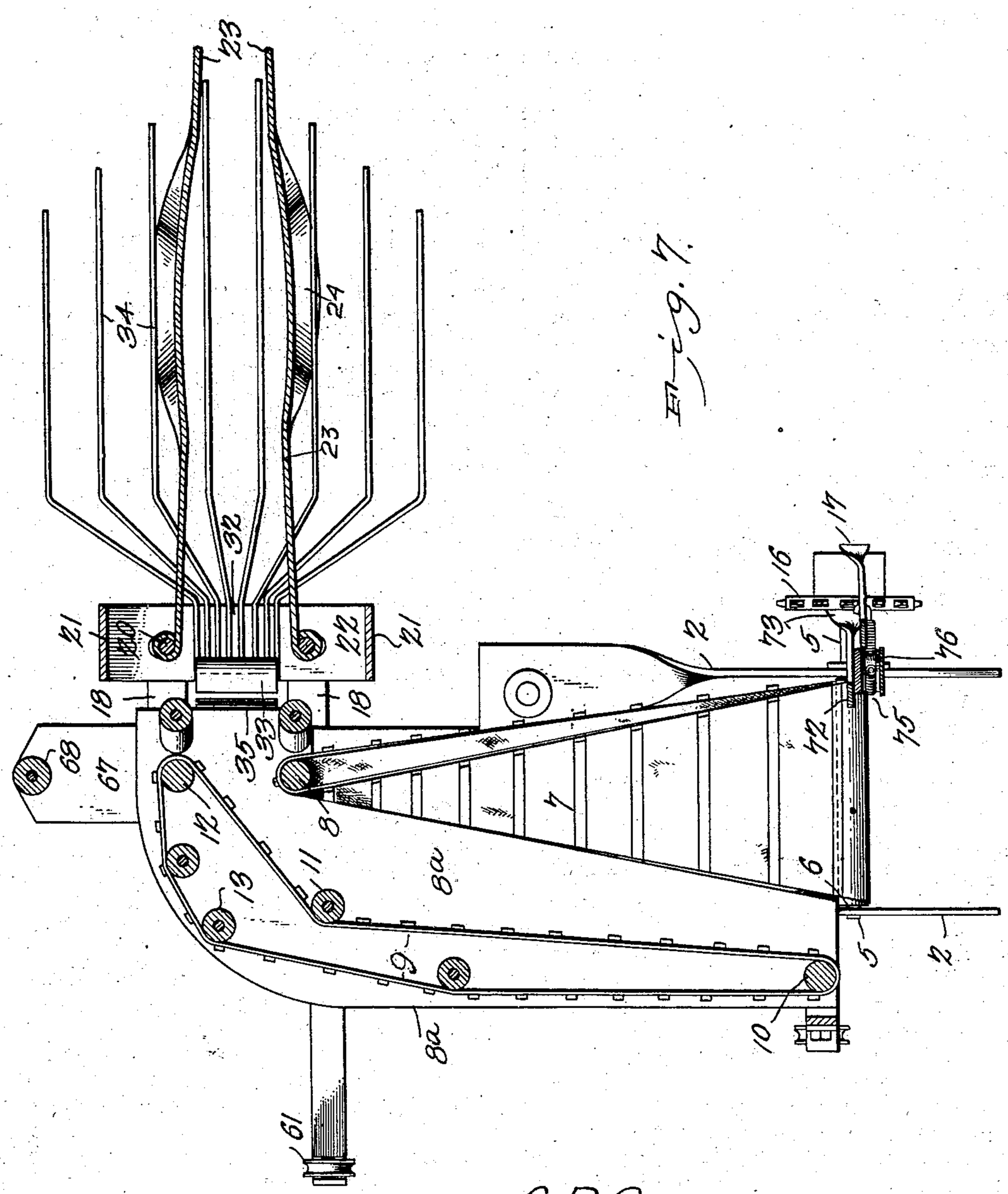
NO MODEL. 5 SHEETS—SHEET 5.

Fig. 7.



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UNITED STATES PATENT OFFICE.

CLARENCE BIRT CUMMONS, OF CHARLESTON, MISSOURI.

WHEAT-SHOCKING ATTACHMENT FOR SELF-BINDING HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 726,260, dated April 28, 1903.

Application filed September 9, 1902. Serial No. 122,741. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE BIRT CUMMONS, a citizen of the United States, residing at Charleston, in the county of Mississippi and State of Missouri, have invented a new and useful Wheat-Shocking Attachment for Self-Binding Harvesters, of which the following is a specification.

This invention relates to a wheat-shocking attachment for self-binding harvesters; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a machine constructed in accordance with the principles of my invention. Fig. 2 is a side view of the same in elevation. Fig. 3 is a rear view. Fig. 4 is a vertical transverse sectional view taken on the lines 4 4 in Figs. 1 and 3. Fig. 5 is a detailed plan view on a larger scale. Fig. 6 is a sectional detail view taken on the line 6 6 in Fig. 3. Fig. 7 is a horizontal sectional view taken on the line 7 7 in Fig. 3.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The supporting-frame 1 of my improved shocking attachment may be of any suitable construction that will adapt it to receive and support the operative parts of the machine, which are to be hereinafter more fully described. Said frame or the front and rear sides thereof should, however, be provided with convenient means whereby the device may be attached to a harvesting-machine of ordinary construction. Such attaching means have in this case been shown in the form of brackets 2, having vertical slots 3 to receive bolts or other suitable connecting means, (not shown in the drawings,) whereby adjustable connection may be effected with the frame of any ordinary harvesting-machine. Auxiliary connecting means may be used when desired; but it has been deemed unnecessary to illustrate any such means in the drawings accompanying this application, as they may be varied in form and do not form a part of the invention. The frame is supported upon suitably-disposed swiveled wheels or casters 4 of ordinary construction, which will not elevate the device unnecessarily above the ground and which will enable said device to trail alongside the harvesting-machine with which it is connected. The inner end of the frame is provided with bearings for a shaft 5, which is disposed in a slightly upwardly and rearwardly inclined position, as will be seen in Fig. 2 of the drawings. This shaft has a roller 6, over which passes a flexible endless carrier 7, the other support of which is formed by an approximately vertically disposed roller 8 near the outer end of the frame. These supporting means or rollers, it will be observed, being placed at an angle to each other will cause the endless carrier to assume a twisted position, said twist approximating a quarter-twist, the rollers 5 and 6 being disposed at an angle to each other not much less than ninety degrees. The inner or approximately horizontal portion of this endless carrier receives the sheaves as they are being delivered from the binder, and the reason for inclining the rear end of the roller 5 upwardly, as described, is simply to allow for the smaller diameter of the sheaves at their head than at their butt ends. Being carried in an outward direction from the attached end of the machine by means of the twisted endless carrier 7, the said sheaves will gradually assume an upright or standing position upon a ledge 8^a, which constitutes a part of the frame and where they will be engaged by another endless carrier consisting of a flexible band 9, passing over vertically-disposed rollers 10, 11, 12, and 13, the two former of which are disposed approximately at the front corners of the frame, the third roller 12 being located intermediately between the front and rear ends of the frame, and the fourth roller 13 being arranged at a short distance from the outer front corner of the frame at a short distance from the roller 11. The sheaves which are raised to an upright position by the action of the twisted carrier will be discharged between the ends of the latter and

the carrier composed of the band 9, the delivery being in the direction of the rear end of the machine.

The endless bands or carriers which coöperate to raise the sheaves to an upright position and which carry them from the discharge of the binder to the outer rear edge of the frame of my improved shocking-machine may be constructed in any suitable manner, preferably of flexible material, such as heavy canvas, and they are also preferably provided with slats 14 or other means whereby they will be caused to firmly engage the sheaves that are being operated upon and to carry them without danger of being interfered with by obstructions of an ordinary character to their point of destination.

The upper ends of the roller-shafts 8 and 12 are provided with intermeshing pinions 15, whereby motion shall be transmitted in the desired direction from one to the other. The initial motion is supplied through the medium of the sprocket-wheel 16, from which a chain passes to the source of power, which in this instance will be a suitable sprocket-wheel located upon and driven by the motive power of the harvester. It will be understood, however, that the power for operating my improved shocking attachment may be supplied and transmitted in any suitable and convenient manner. By the arrangement shown in my present invention motion is transmitted from the roller-shaft 5 by means of the endless carrier-band 7 to the roller 8, thence through the medium of the pinions 15 to the roller-shaft 12, whereby the endless carrier, consisting mainly of the flexible band 9, is operated. It is to be understood that the power needed to operate the endless carrier, practically composed of the two endless bands 7 and 9, in addition to that required for propelling the shocking attachment over the ground, is practically all that is necessary for the operation of my improved shocking device, all other functions, as will hereinafter appear, being accomplished by the manual force of the operator.

It is obvious that the frame of the machine, which has been generally designated 1, is to be provided or equipped with uprights, supports, brackets, and other means for receiving and retaining the operative parts of the device. Wherever such adjuncts have been found necessary they are not necessarily referred to specifically. It may be stated, however, that the frame of the machine comprises what may be termed a "cap-piece" 17 to afford bearings for the several vertically-disposed roller-shafts and likewise to form a support for such parts of the machine as are not supported directly upon the base-frame.

Brackets 18, depending from the base of the frame, at the rear end thereof, and corresponding brackets 19, which extend rearwardly from the cap-piece 17, afford supports for a pair of rods or uprights 20, which converge in an upward direction, as shown clearly in Fig. 3.

21 designates a frame or yoke provided at its lower ends with inturned arms 22, which are mounted slidingly upon the rods 20. The arms or brackets 22 form supports for a pair of shields 23, coacting to form a holder in which the shock is formed. These shields are preferably constructed of plates of spring-steel, and their lower edges are bulged outwardly, as shown at 24, so that they shall somewhat adapt themselves to the approximately-circular shape of the base of the shock. These shields or flexible leaves are connected at their inner ends with the rods 20, upon which they are secured by folding their inner ends around said rods in such a manner that said shields shall be capable of sliding vertically upon the latter and also to have a hinge movement with relation thereto. The supporting-brackets 18 limit the movement of the frame or yoke 21 in a downward direction, thus also limiting the downward movement of the shields, which are supported upon the arms 22 of said yoke. The upward movement of the shields is limited by the brackets 19, supporting the upper ends of the rods 20.

The shields 23, which coöperate to constitute the receiving-chamber for the sheaves constituting the shock, are connected separably at their front ends by means of a latching device, which comprises a pair of arms or brackets 25, extending forwardly and laterally from the front edge of one of said shields. It will be observed that the front edges of both shields are cut off obliquely, their lower edges being extended in front of their upper edges, so that when the said shields are expanded by the entrance between them of the sheaves constituting the shock their lower edges being expanded laterally and upwardly to a much greater extent than their upper edges will cause the lower front corners of said shields to be drawn rearwardly until the front edges assume a more approximately vertical position. The brackets 25 serve as supports for a pair of pivoted arms or levers 26, carrying at their outer ends rollers 27, which are adapted to engage the outer side of the opposite shield 23, the rear edge of which is provided with slots 28 to receive the lever-arms 26, the opposite or inner ends of which are connected by springs 29 with the brackets 25, the tendency of said springs being to hold the rollers in engagement with what may be termed the "outer" shield 23, thereby separably connecting the discharge ends of said shields. The rear edge of the outer shield is preferably curved outwardly, as clearly shown in Fig. 5 of the drawings, thus serving to guide the rollers 27 outwardly and rearwardly when the rear ends of the shields come together in the act of closing, so as to cause the said rear ends of said shields to be unfailingly and securely connected.

The upper edges of the shields 23 are connected at any suitable point or points along their upper edges by means of spring members 30, the tendency of which will be to force the said shields together into a closed position immediately after the discharge of the shock, when by means of the latching mechanism just described their rear edges will be automatically and securely connected, thus disposing the said shields in position to receive and to form another shock.

The arms 22 of the frame or yoke 21 are provided at their inner ends with depending brackets 31, connected at their lower ends by means of a plate 32 and also affording bearings for a roller 33. The plate 32 serves for the attachment of a plurality of rearward-extending fingers 34, which are spread apart from each other, as clearly seen in Fig. 1, so as to form a supporting means for the sheaves constituting the shock while the latter is being formed between the shields 23. These fingers should be made of some flexible material, such as heavy wire, which while capable of supporting some weight will also be sufficiently resilient to yield under the impulse of such weight. These fingers or sheaf-supporters may be attached to or connected with the plate 32 in any desired manner, and their attached ends are preferably extended under the roller 33. The latter may be said to serve several purposes, one of which is to relieve the device of friction when the yoke 21, with its related parts, is raised or lowered, as will be hereinafter described, the said roller engaging a plate or apron 35, which depends from the rear edge of the frame, so as to ride upon the said apron, and thereby avoid the considerable amount of frictional resistance which would be otherwise incurred. Another function of the said roller is to serve as a guide over which the sheaves coming from the endless carrier of the apparatus will enter between the shock-forming shields. Still another object attained by the said roller is to engage the attached ends of the shock-supporting fingers 34, thus preventing the weight of the shock from prematurely depressing the discharge ends of said fingers.

Brackets 36, extending upwardly from the cap-piece 17 of the frame, support the forked end of a lever 37, the front end of which forms a handle 38, while the rear bifurcated end is composed of a pair of side bars 39, perforated to receive the pivotal bolt 40, forming the fulcrum of the lever, and by means of which it is connected with the supporting-brackets 36. The upper end of the latter is preferably connected by a cross-bar 41. The lever-arms 39 are provided with slots 41′, whereby they have sliding connection with the sides of a frame or yoke 21, the latter being provided with bolts, roller-pins, or other suitable fasteners extending through the slots 41′ of the lever-arms, said connecting means being designated 42.

43 designates a flexible connecting member, such as a wire cord, which is attached to the lever 37 at some suitable point in front of its fulcrum, the point of attachment being designated 44. The said flexible connecting member passes from thence under a guide-pulley 45 upon the frame of the machine, thence over a guide-pulley 46, disposed upon the fulcrum-bar 40, and thence in a rearward direction to the rear end of the connecting-shields, where it is divided, one branch passing over a guide-pulley 47 and the other over guide-pulleys 48 and 49 to the upper and lower lever-bars 26, which constitute the latches, (in connection with their related parts,) by means of which the rear ends of the shields are connected. The ends of the flexible member 43 are attached to the latch-levers 26 at points where strain upon the said member 43 will operate to overcome the tension of the springs 25, thus serving to disengage the latch members from the opposing shield 23, thus permitting the free ends of said shields to swing apart. It will be observed that owing to the disposition of the guiding members which support the flexible member 43 the pulling strain serving to release the latches will be exercised when the arm or handle 38 of the lever moves in an upward direction, as is the case when the trip mechanism is operated to dump the shock, as will be presently described.

The trip mechanism comprises a trigger 50, which is pivotally connected with a bracket 51, extending upwardly from the cap-piece 17 of the frame. Said trigger, the upper end of which is beveled, as shown at 52, is provided with a lip or catch 53, which normally engages the arm or handle 38 of the lever 37, holding said lever-arm normally in a depressed position. A coiled spring 54, one end of which is suitably attached to or connected with the trigger 50, passes over a suitably-disposed guide-pulley 55 to a point of attachment consisting of a vertically-disposed flange 56, having a plurality of perforations 57, any one of which may be engaged by a hook 58 at the end of the coiled spring, whereby the tension of the latter may be regulated to hold the trigger securely in engagement with the lever-arm 38.

59 designates a push-bar or operating-rod which is pivotally connected with the trigger and which extends beyond the frame of my improved shocking device to a point within convenient reach of the driver of the harvester and binder to which my improved device is attached in position for operation.

60 designates an operating-rope, one end of which is attached to the forward end of the lever-arm 38 and which after passing over suitably-disposed guide-pulleys likewise extends within the reach of the driver of the harvesting-machine, who by these operating means is enabled to entirely control the operation of the improved shocking attachment. The disposition of the guide-pulleys 61, over which the operating-cord 60 passes, should be

such that a strain upon said cord will operate to depress the lever-arm 38.

The arms 22 of the yoke or frame 21, through which the diverging lower ends of the rods 20 extend, are provided with openings 62 for the passage of said rods, which are not only amply large enough to permit the said arms 22 to move freely upon the said diverging rods, but also to permit of the free movement of said arms when the upper end of the yoke 21 is tilted in a rearward direction in the act of discharging the shock, such tilting movement being made possible by the sliding connection of the upper end of said yoke with the arms 39 of the lever 37. Normally, however, the upper end of the yoke is held against such tilting movement by means of a coiled spring 63, one end of which is attached to a cross-bar 64, forming the upper end of the yoke, and the other end of which after passing over a guide-pulley 65, which is journaled upon the fulcrum-rod 40 of the lever 37, is suitably attached to or connected with the cap-piece 17 of the frame, thereby exercising strain, whereby the upper end of the yoke is thrown normally in a forward direction. The shock-supporting fingers 34, which are connected with and rest upon the bottom plate 32 of the said yoke, are thus normally retained in an approximately horizontal position; but as the weight supported upon said fingers 34 increases the rear ends of the said fingers will become gradually depressed to the position shown in dotted lines in Fig. 2, and this depressed position will not be altogether due to the resiliency of said fingers, which might thereby be strained to such an extent as to cause the fingers to become bent out of shape, but it is due, to even a larger extent, to the yielding connection of the upper end of the yoke with relation to the slotted lever-arms 39.

The outer side of the frame of my improved shocking attachment is provided with laterally-extending brackets 66 and 67, forming bearings for a guard-roller 68, the object of which is simply to prevent the machine from coming in injurious contact with obstructions of any kind.

The hub of the sprocket-wheel 16, through the medium of which motion is imparted to the operating parts of this device, is mounted slidingly upon the roller-shaft 5 and is provided at its outer end with a transverse pin 68, engaging a transvere slot 69 in the rear end of the shaft, these means serving to lock the shaft and sprocket-wheel in operative position.

70 designates a spring-actuated arm having a flat portion 71, that normally presses against the outer end of the hub of the sprocket-wheel, thereby retaining the latter in operative position. A suitably-disposed lever 72, the lower end of which is forked, as shown at 73, so as to straddle the roller-shaft 5, extends between the inner side of the sprocket-wheel 16 and the frame of the machine. It will be observed that by throwing the upper end of said lever in a forward direction the sprocket-wheel will be displaced against the tension of the spring-actuated arm 70, thus unlocking or disengaging it from the shaft 5, and thereby throwing the operating parts of the improved shocking attachment entirely out of gear. The spring 75, by means of which the arm 70 is actuated, passes over a plurality of suitably-disposed guide-pulleys 76 to a point of attachment, which consists of one of a plurality of perforations 77 in a connecting-plate 78, whereby the tension of the spring 75 may be regulated.

The operation and advantages of my improved shocking attachment will be readily understood from the foregoing description taken in connection with the drawings hereto annexed. Normally the yoke 21 with its related parts occupies the elevated position shown, for example, in Fig. 2 of the drawings, being retained in such elevated position by means of the lever 37, the handle of which, 38, is engaged by the lever 50. The sheaves as they are discharged from the binder are engaged by the compound endless carrier formed by the twisted carrier 7 and the vertically-disposed approximately L-shaped carrier 9, whereby the said sheaves are first raised to a standing position and next carried past the rear end of the carrier 7 to the discharge opening or exit between the two carriers over the rear edge of the frame and onto the supporting-fingers 34. As the sheaves accumulate upon the latter the flexible shields 23 will expand mainly at their centers, so as to form an approximately circular inclosure for the sheaves, which continuing to enter said closure will still further expand the said shields until a sufficient number of sheaves have accumulated to form a shock. While this accumulation takes place the weight exerted upon the fingers 34 will cause the discharge ends of the latter to be tilted downwardly, partly on account of their inherent resiliency, but mainly on account of the yielding connection of the upper end of the yoke 21 with the lever 37, which has been already described. At the proper moment—that is, when a sufficient number of sheaves have accumulated to form a shock—the operator by manipulating the push-bar 59 throws the trigger 50 out of engagement with the lever 37, the forward end of which being thus thrust in an upward direction by the descent of the yoke 21 and the related parts thereof will operate to disengage the latch mechanism connecting the discharge end of the shields 23 and at the same time that the frame or yoke 21 slides downwardly upon the inclined supporting-rods 20, thus lowering the entire shock supporting and holding mechanism and also spreading the hinged or attached ends of the shields apart from the position which they normally occupy, and thus facilitating the discharge as an entirety of the shock, the cap ends of the

sheaves composing which have been tilted or compressed in the direction of each other by the action of the flexible confining-shields 23. Being thus suddenly released and caused to slide in a downward direction with its supporting elements, the shock will readily slide off the supporting-fingers and be left standing on the ground, while the machine progresses in a forward direction. The confining-shields 23 having been suddenly forced apart for the discharge of the shock will as suddenly be caused to rebound or be forced in the direction of each other by the contracting action of the springs 30, and the latch mechanism connected with one of said shields will automatically engage the slots in the outer end of the opposite shield, thus locking said shields together in position for operation. At this time a pull exerted upon the operating-cord 60 will serve to depress the forward end or arm 38 of the lever 37 for reengagement with the trigger 50, thus restoring the yoke 21 with its related parts to a raised position, and at the same time the tensile action of the spring 63 will serve to restore the upper end of the yoke 21 to its normal position with relation to the arms constituting the bifurcated rear end of said operating-lever 37. If desired, the operating parts of the shocker may be thrown out of gear while the shock is being discharged by simply operating the lever 72 to disengage the sprocket-wheel 16 from its clutch engagement with the roller-shaft 5; but this is usually not necessary, inasmuch as the operation of discharging the shock occupies but a very few moments.

I desire it to be understood that while I have herein shown and described a preferred form of my improved shocking attachment the same may be altered and modified in a variety of ways without departing from the general principle of my invention. I therefore do not limit myself to the precise construction and arrangement of parts herein described, but reserve to myself the right to any changes, alterations, and modifications which may be resorted to without detracting from the utility or departing from the spirit and scope of my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a grain-shocking device, a carrier comprising two elements, namely, a twisted endless element mounted upon a vertical roller at the discharge end and upon an inclined, approximately horizontal roller at the receiving end, and a vertically-disposed endless member mounted upon rollers which support the said vertical endless member in an approximately L-shaped position whereby sheaves subjected to the action of said carrier elements shall be raised to a standing position and delivered in a lateral direction between the discharge ends of said carrier elements.

2. In a device of the class described, vertically-movable shock-supporting fingers, vertically-movable shock-confining means, and downwardly-diverging hinge-posts for the latter, said shock-confining means being hingedly connected with said hinge-posts so as to be spread apart when moved downwardly upon the said posts.

3. In a device of the class described, vertically-movable shock-supporting means, vertically-movable shock-confining means, the latter composed of two separate leaves or members spaced apart, and downwardly-diverging supporting means for said shock-confining means, whereby the attached ends of the latter shall be caused to diverge when moved in a downward direction.

4. In a device of the class described, a vertically-movable frame or yoke, resilient shock-supporting fingers, and expansible shock-confining means supported by said yoke, downwardly-diverging posts, with which the said yoke has sliding connection, and expansible shock-confining members having hinged connection with said posts.

5. In a device of the class described, a vertically-movable yoke flexibly supported at its lower end, shock-supporting fingers having direct connection with said yoke, and flexible connecting means for the upper end of said yoke, the latter being free to tilt rearwardly under the impulse of pressure exerted upon the shock-supporting fingers.

6. In a device of the class described, a vertically-movable yoke flexibly supported at its lower end, shock-supporting fingers having direct connection with said yoke, flexible connecting means for the upper end of said yoke, the latter being free to tilt rearwardly under the impulse of weight placed upon the shock-supporting fingers, and means for returning the yoke to an approximately vertical position when the shock-supporting fingers are relieved from their load.

7. In a device of the class described, shock-confining means consisting of a pair of flexible resilient shields having outwardly-bulged lower edges.

8. In a device of the class described, shock-confining means consisting of a pair of flexible resilient shields spaced apart at their receiving ends, connected separably at their discharge ends, and having outwardly-bulged lower edges.

9. In a device of the class described, shock-confining means consisting of flexible resilient shields spaced apart at their receiving ends and connected separably at their discharge ends, in combination with shock-supporting fingers disposed below the said shock-confining means.

10. In a device of the class described, shock-confining means consisting of flexible resili-

ent shields spaced apart at their receiving ends and connected separably at their discharge ends, and means whereby the said shock-confining means shall be normally forced toward each other.

11. In a device of the class described, shock-confining means comprising resilient flexible shields spaced apart at their receiving ends and connected separably at their discharge ends, and spring means connecting the upper edges of said shields and operating to force them toward each other.

12. In a device of the class described, shock-confining shields spaced apart and hinged at their receiving ends, spring-actuated levers at the discharge end of one of said shields, roller members upon the engaging ends of said levers, and slots in the rear edge of the opposite shield for connection with said levers.

13. In a device of the class described, shock-confining means consisting of shields spaced apart and hinged at their receiving ends, one of said shields being outwardly curved and provided with horizontal slots at its discharge end, and spring-actuated levers having connection with the discharge end of the other shield member of the shock-confining device and provided at their engaging ends with rollers to engage the curved slotted edge of the opposing shield.

14. In a device of the class described, shock-confining means consisting of a pair of hinged shield members spaced apart at their receiving ends, latch means for separably connecting the discharge ends of said shields, and means for forcing the said shield members toward each other after the discharge of a shock.

15. In a device of the class described, a vertically-movable yoke, shock-supporting fingers connected directly with said yoke, shock-confining means supported by and vertically movable with said yoke, latching means connecting the discharge ends of the shock-confining means, a lever engaging said yoke and serving to normally sustain it and its related parts in an elevated position, a trigger engaging said lever, flexible connecting means between said lever and the latching means at the discharge end of the shock-confining means, whereby the said latching means shall be disengaged by the tripping or tilting of the lever, and means for operating the trigger.

16. In a device of the class described, vertically-movable shock supporting and confining means, a vertically-movable yoke, a bifurcated operating-lever, the arms of which are slotted for connection with the upper ends of the arms of the yoke which are thereby enabled to tilt rearwardly, spring means connected with the yoke to counteract the tilting influence of weight placed upon the shock-supporting fingers connected with said yoke, and a trigger engaging the operating-lever to support the yoke and its related parts normally in a raised position.

17. In a device of the class described, a vertically-movable yoke having inturned arms, downwardly-extending brackets and a plate connecting the latter, shock-supporting fingers attached to said connecting-plate, a roller journaled in the brackets above the attached ends of said fingers, and an apron depending from the supporting-frame and forming a track for said roller.

18. In a device of the class described, vertically-movable shock-supporting fingers and shock-confining means, the latter comprising two members spaced apart at their receiving ends and connected separably at their discharge ends, a vertically-movable yoke forming a supporting-frame, an operating-lever, a trigger engaging the latter to normally sustain the vertically-movable yoke and its related parts in a raised position, and means for actuating the said trigger and for restoring said operating-lever to normal position, said operating means being extended within reach of the operator.

19. In a device of the class described, carrier means for raising the sheaves to a standing position and conveying them standing to a point of discharge, vertically-movable shock-supporting fingers and shock-confining means, the latter spaced apart to receive the sheaves as they are being discharged from the carrier, and trigger-held means for supporting the vertically-movable shock supporting and confining means normally in a raised position.

20. In a device of the class described, carrier means for raising the sheaves to a standing position and conveying them standing to a point of discharge, vertically-movable shock-supporting fingers and shock-confining means, the latter consisting of resilient expansible shields spaced apart to receive the sheaves as they are being discharged from the carrier and connected separably at their discharge ends, and trigger-held means for supporting the vertically-movable shock supporting and confining means normally in a raised position.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLARENCE BIRT CUMMONS.

Witnesses:
CHAS. E. KIRKPATRICK,
JAS. CULLISON.