

No. 671,245.

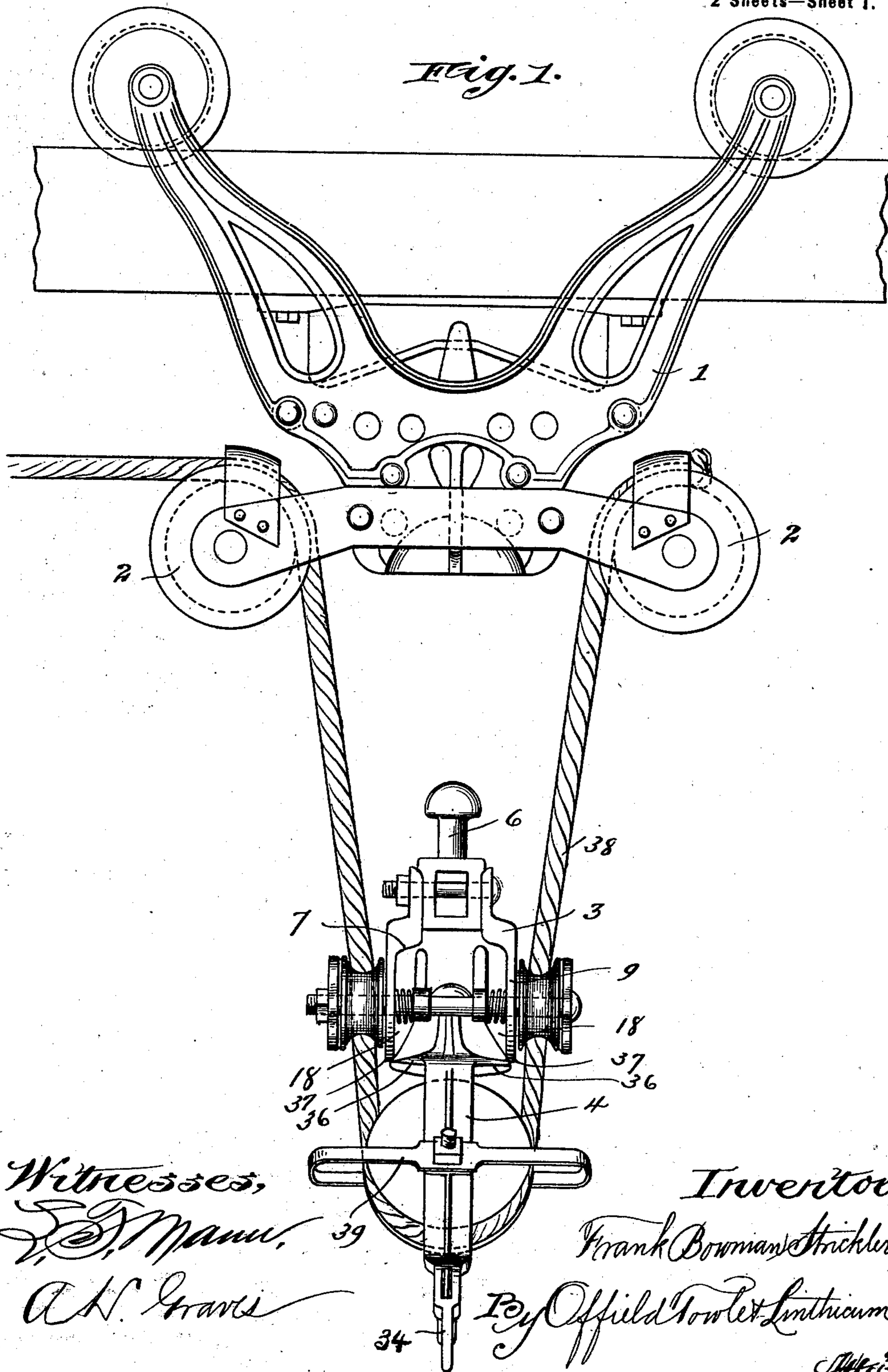
Patented Apr. 2, 1901.

F. B. STRICKLER.
COMPRESSING HAY SLING PULLEY.

(Application filed Aug. 16, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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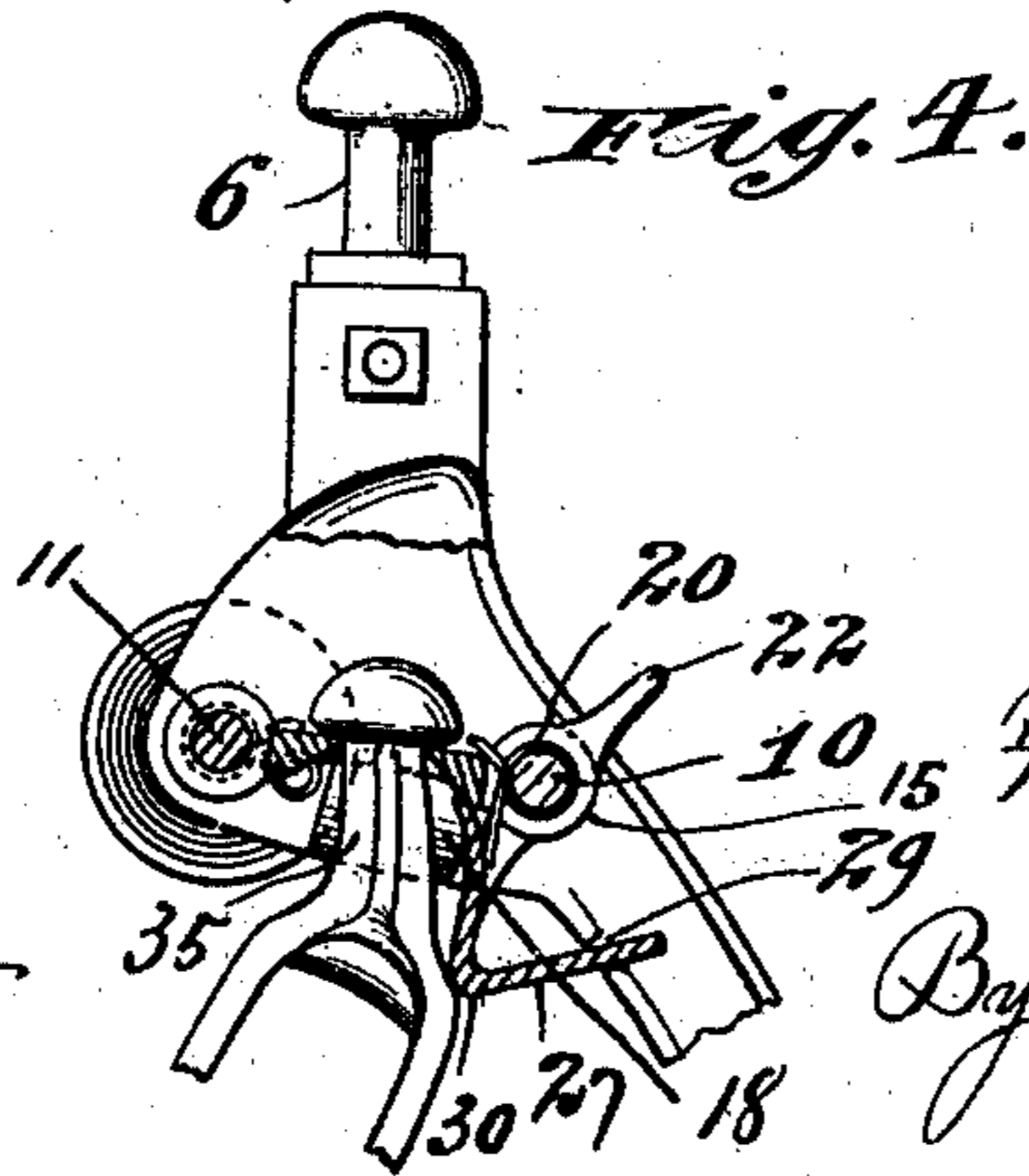
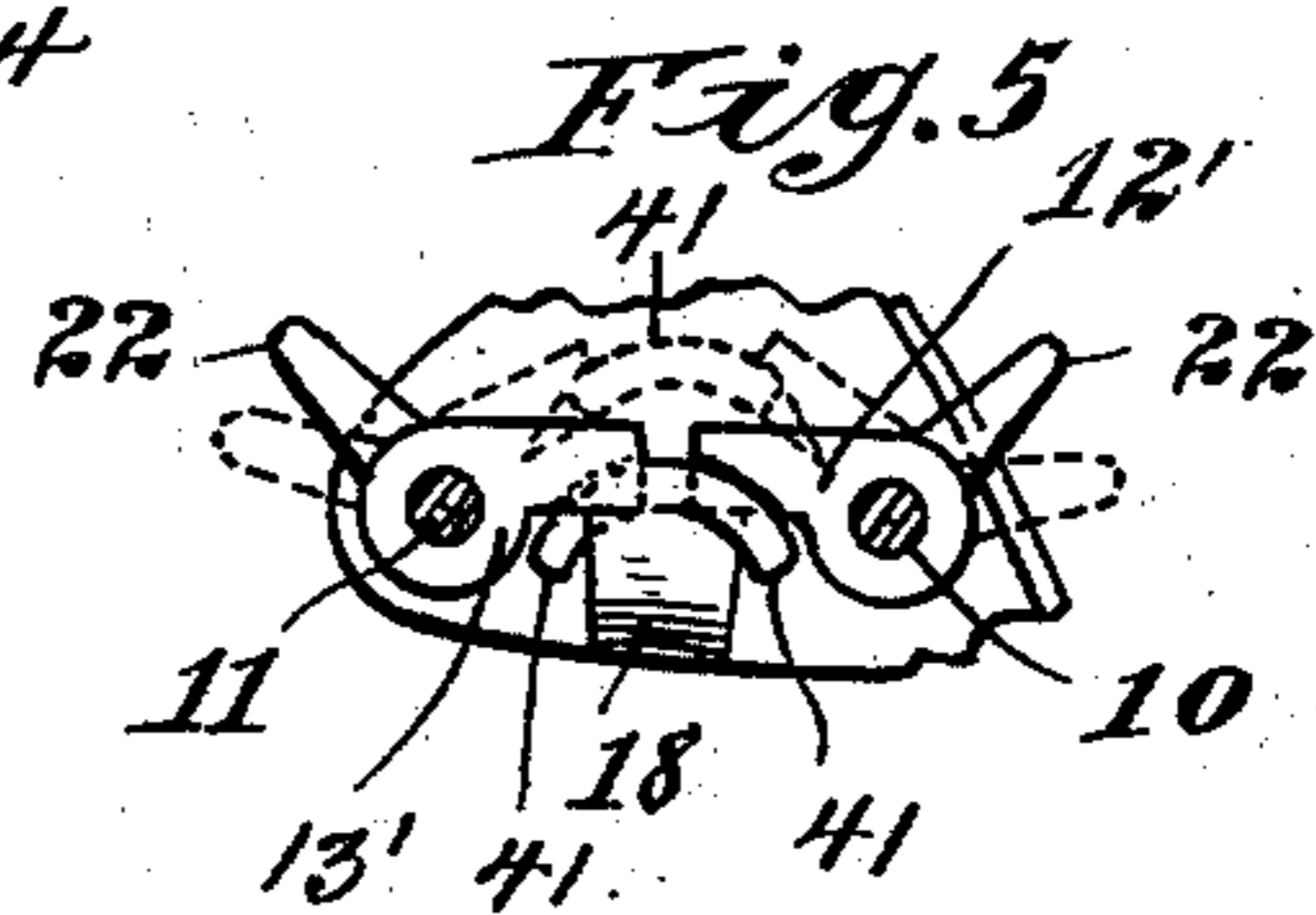
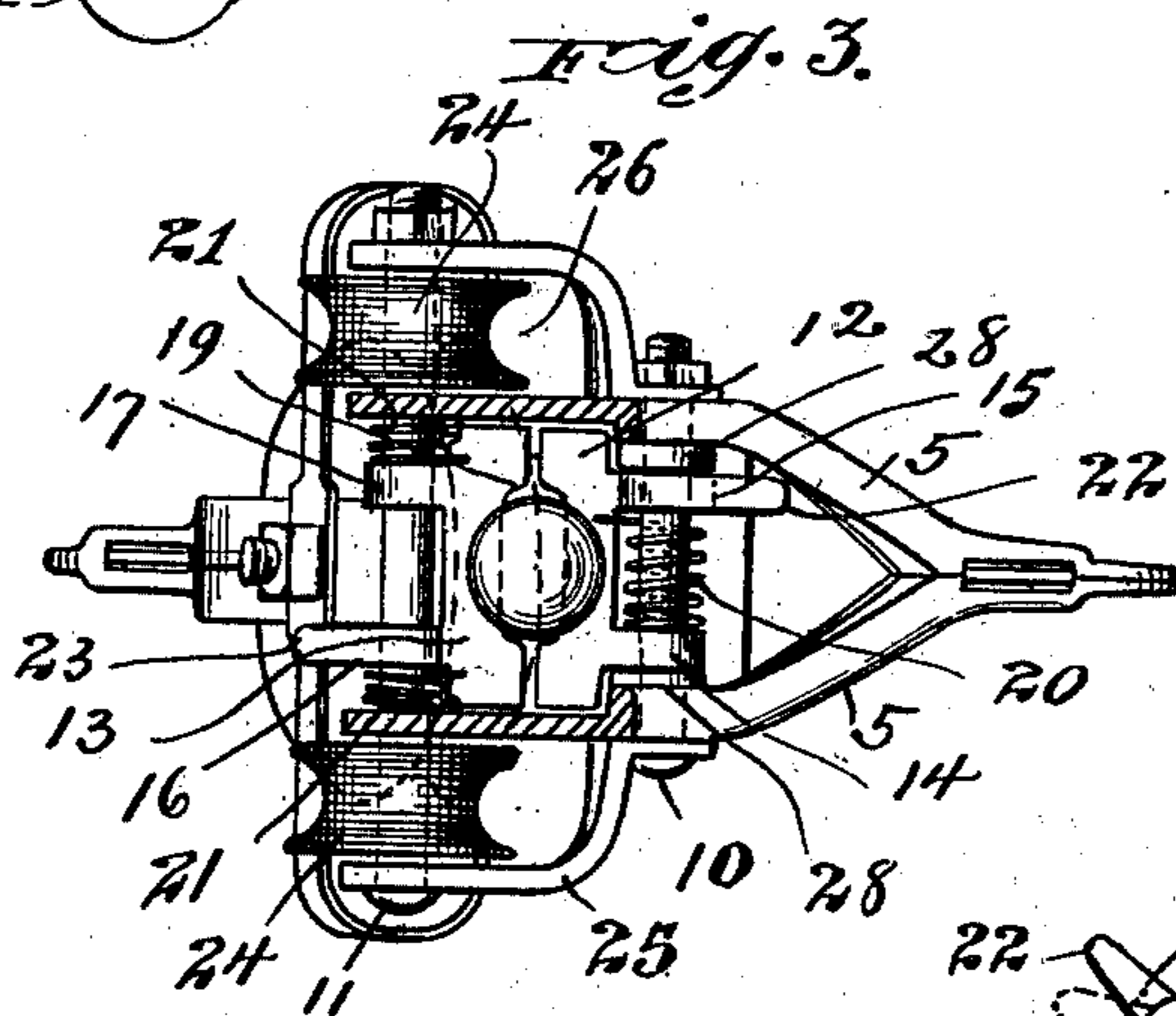
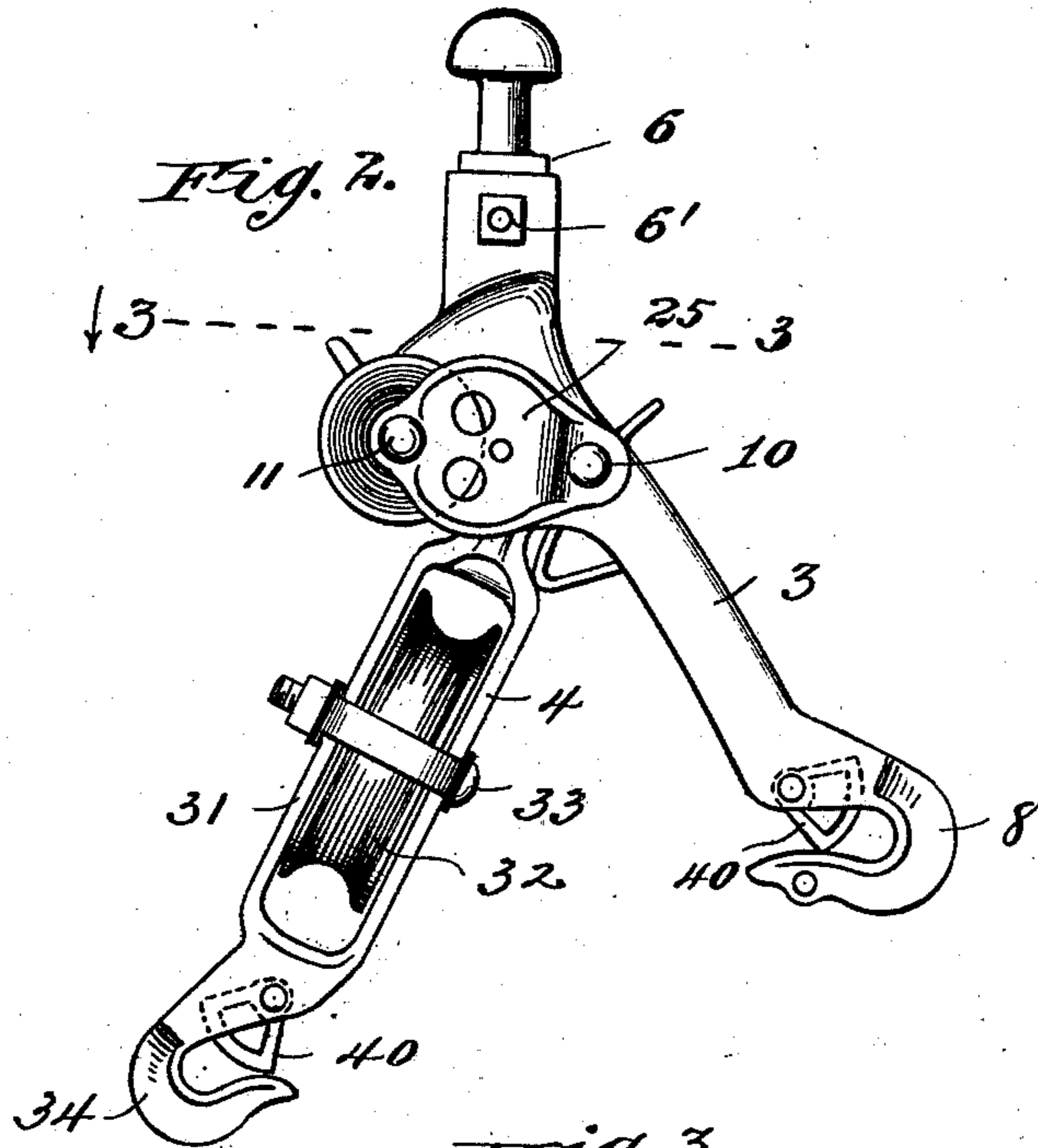
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

FRANK BOWMAN STRICKLER, OF JANESVILLE, WISCONSIN, ASSIGNOR TO
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COMPRESSING HAY-SLING PULLEY.

SPECIFICATION forming part of Letters Patent No. 671,245, dated April 2, 1901.

Application filed August 16, 1900. Serial No. 27,028. (No model.)

To all whom it may concern:

Be it known that I, FRANK BOWMAN STRICKLER, of Janesville, county of Rock, and State of Wisconsin, have invented certain new and useful Improvements in Compressing Hay-Sling Pulleys, of which the following is a specification.

This invention relates to improvements in compressing-pulleys for use in conjunction with flexible slings for handling hay and the like bulky commodities; and it has for its salient objects to provide an improved construction in devices of the character referred to whereby the two cooperating members are caused to approach each other and interlock more readily and more certainly than in constructions heretofore known, to provide an improved construction whereby the interlocking and separation of the cooperating pulley members are facilitated and expedited, to provide improvements in the construction whereby certain parts on one member cooperate with the corresponding parts on the other member to form guards which prevent the possibility of the ropes from being jammed or injured, to provide improvements in the details of construction whereby the cooperating pulley members are held in divergent relation after the load has been discharged therefrom, thereby preventing the sling from becoming tangled or twisted together, and in general to provide simplified and improved details whereby the construction of the parts is simplified and cheapened without the sacrifice of the necessary strength.

To the above ends the invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims, and the same will be more readily understood by reference to the accompanying drawings in conjunction with the description, wherein—

Figure 1 is an elevation of an overhead carrier with a pair of compressing-pulleys embodying my invention interlocked and suspended therefrom. Fig. 2 is a side elevation of the cooperating pulley members in interlocked position, the pulley-rope being omitted. Fig. 3 is a horizontal sectional view taken on line 3 3 of Fig. 2 and looking downwardly. Fig. 4 is a central vertical sectional view taken

in the plane of the pulley-hooks through the upper portions of the cooperating pulley members, the headed shank end of one member being shown in side elevation in position between the locking-jaws of the other member and the headed shank end of the receiving-pulley member being likewise shown in side elevation. Fig. 5 is a modified form of the latch mechanism.

As is well understood by those familiar with the art to which this invention belongs, compressing-pulleys of the general character described herein are used in conjunction with a flexible sling, which is adjusted underneath the load to be transported, the respective ends of this sling being connected with the hooks of the respective pulley members and the sling being constructed in two parts united by a trip-lock at a point intermediate of its length, which trip-lock when released drops the load, leaving the two parts of the sling dangling from the respective pulley members. The compressing-pulley members are usually also used in conjunction with an overhead carrier, the compressing-pulleys after having been drawn into interlocked position, with the loaded sling suspended therefrom, being elevated and brought into locked engagement with an overhead carrier, whereby the load is transported to a desired point above its discharge.

The present invention relates only to the compressing-pulleys proper, and it is to be understood that compressing-pulleys embodying my invention may be used in conjunction with any suitable type of overhead carrier.

Referring now to the drawings, 1 designates as a whole any suitable overhead carrier provided with a pair of hoisting-pulleys 2.

3 4 respectively designate as a whole the several compressing-pulley members, which for convenience of description will be hereinafter designated the "receiving-pulley" and the "engaging-pulley."

The receiving pulley, as shown herein, comprises a main body composed of two side frame members 5 5, spaced apart and arranged to embrace at their upper ends a detachable shank-head 6 and provided with offset portions 7 7, whereby the space between the members is enlarged throughout the cen-

tral portion of the main body and arranged to converge together and terminating in a hook member 8 at their lower ends, as indicated clearly in the several figures of the drawings. The lower hooked ends of said members are rigidly united, conveniently by means of rivets, while their upper ends, which embrace the detachable shank 6, are desirably united by means of a through-bolt 6'. Those portions 9 which define or inclose the widest part of the main body are desirably shaped to extend parallel with each other, and through this portion of the main body are inserted two bolts 10 11, upon which are respectively mounted the spring-pressed latch members 12 13. Each of said latch members in the embodiment shown herein consists of a flat leaf-like main body provided with a pair of pintle-ears, as 14 15 and 16 17, which are respectively engaged with the bolts 10 and 11, said latches being arranged to rest when in their normal position in the same plane with each other and being held in this position by means of supporting projections 18, (see Figs. 4 and 1,) formed integrally with the main side frame members 5 in position to underlie the ends of said latches. In their meeting edges the latches are provided with recesses 19 to accommodate the shank of the engaging pulley, and said latches are held normally in spring-pressed engagement with their underlying supports by means of coiled springs 20 and 21, respectively, which are coiled about the pintle-bolts and arranged to act upon said latches to throw the latter downwardly, as indicated clearly in the drawings. In order that said latches may be lifted manually to release the engaging pulley, each is provided with an upwardly-extending finger-piece, as 22 23, each conveniently formed integrally with one of the pintle-ears of the latch.

24 24 designate the guide-pulleys, which are severally mounted upon the ends of the bolt 11 outside of the main side frames 5. In order to support the outer ends of said bolts, cheek-pieces 25 are provided, which are rigidly united with the side frame members 5 by means of the bolt 10 and extend from their point of connection with said side frames outwardly and then upwardly parallel with the outer side of the pulley 24 and are engaged with the ends of the bolt 11, thereby not only supporting said bolt, but also forming guide-passages 26, through which the pulley-rope is trained.

In order to guide the headed end of the engaging pulley into engagement with the latches of the compressing-pulley, the lower sides of the supporting-lugs 18 are made to converge upwardly and inwardly, as best indicated in Fig. 1. In order to form a third guide located at that side opposite from which the engaging pulley advances, I provide an angular plate or part 27, which is mounted to extend between the two side members 5 of the main body, said guide-plate being pro-

vided at one end with ears 28, which are engaged with the bolt 10, as best indicated in Fig. 3, and being held rigid against rotation by having its lower edge engaged with notches 29, formed in the side members 5, as indicated clearly in Fig. 4. The angular portion of said guide-plate is so shaped as to form a suitable guide for directing the head of the engaging pulley between the latches, and the extreme point 30 of the angle forms a shoulder which engages the shank of the engaging pulley and holds the latter in divergent relation to the receiving-pulley after the load has been discharged, as indicated clearly in Fig. 2.

Describing now the engaging pulley member, said member comprises a suitable frame 31, preferably having its opposite sides or cheek-pieces formed integrally with each other, and between which is mounted a pulley-wheel 32, held in position by means of a bolt 33, extending through the cheek-pieces and the pulley. The lower end of the pulley-frame terminates in a sling-hook 34 substantially similar to that of the receiving-pulley, while the opposite end of the frame is provided with a headed shank 35, which is bent to extend at an angle to the plane of the pulley, so as to facilitate its deflection into engagement with the latches of the receiving-pulley when the load carried thereby is of such dimensions as to cause said pulley to approach the receiving-pulley from a direction approximately in alinement with the main body of the latter. At a point adjacent to the base of the shank portion of the engaging pulley the latter is provided with a pair of oppositely-extending guards or wings 36, which are suitably formed and shaped to engage with the lower edges 37 of the main side members 5 of the receiving-pulley when the two members are interlocked in such manner as to prevent the engaging pulley from oscillating laterally, and thereby permitting the pulleys of the two members to approach near enough to jam or cut the pulley-rope 38. In order to confine the pulley-rope in proper engagement with the pulley-wheel 32 the frame of said member is provided with a guard 39, conveniently formed in the shape of a flattened ring, which embraces the cheek-pieces of the main frame and is engaged with the bolt 33 thereof, as indicated clearly in the drawings. Desirably each of the sling-hooks 8 and 34 of the two pulley members is provided with a pivoted latch 40, arranged to prevent the accidental disengagement of the sling therefrom.

The operation of the devices will be clear from the foregoing description, but may be briefly described, as follows: The pulley-rope 38, having one end fixedly engaged with one of the pulleys 2 of the overhead carriage, is trained thence around one of the side pulleys of the receiving-pulley member, then around the pulley of the engaging pulley member and back around the pulley at the opposite

side of the receiving member, and thence over the second supporting-pulley of the overhead carriage, as shown clearly in Fig. 1. By reason of this arrangement of the rope, assuming that the two members are engaged with the opposite ends of a sling arranged beneath a load of hay or the like, the drawing up of the rope will first cause said pulley members to approach each other until the engaging pulley strikes and passes into engagement with the latching mechanism of the receiving-pulley, whereupon the further drawing up of the rope will carry the two pulleys bodily upwardly into engagement with the overhead carrier. After the load has been discharged and the compressing-pulleys released from the overhead carriage and lowered into reach of the operator to receive a new load he will disengage them from each other by lifting the two latches manually and allowing the engaging pulley to drop out, after which the sling, with the two members attached to its respective ends, may be adjusted beneath the next load. It is to be noted that after the load has been discharged from the sling the two parts of the latter will hang suspended free from each other, so as not to become entangled by reason of the divergent relation by which the two members of the compressing-pulley are held when interlocked.

In Fig. 5 I have shown a modified form of the latch mechanism, the several latch members being so constructed that the lifting of either one will simultaneously effect the lifting of the other, so that the two latches will open together. In this instance the latch is constructed substantially as hereinbefore described, except that each latch member 12' and 13' is provided adjacent to one end with a projection or tongue 41, arranged to extend beneath the proximate edge of the opposite latch member and curved downwardly, as indicated clearly in said Fig. 5, so that as one latch member is lifted its said tongue will simultaneously lift the opposite latch member. Preferably and as shown in the present instance the tongue projections are arranged at opposite ends of the respective latches, so as to leave the central part of the latch unobstructed without increasing the length of the latch or width between the side pieces of the member. It will be understood that this construction has the advantage of enabling the engaging pulley to be released from the receiving-pulley by the use of one hand of the operator, whereas the previously-described construction requires the use of both hands.

I claim as my invention—

1. In a compressing-pulley member, the combination of a pair of main side frame members having their intermediate portions spaced apart, a pair of bolts extending transversely between said members, a pair of latch members pivotally mounted upon said bolts, supports arranged to hold said latch mem-

bers in the same plane and against downward movement, and inclined guides below said latch members for directing a headed shank therebetween, substantially as described.

2. In a compressing-pulley, the combination of a pair of main side frame members having their intermediate portions spaced apart, a pair of bolts arranged to extend through said main side frame members parallel with each other and at a distance apart, a latching member pivotally mounted upon each of said bolts, the supports arranged to hold said latching members substantially in the same plane with each other, springs acting on said latching members to hold them yieldingly in engagement with said supports, guides beneath said latching members arranged to direct a headed shank into engagement with the latches, a finger projection upon each latching member whereby the latter may be manipulated, a pulley-wheel mounted upon each end of one of said bolts outside of the main side frame members, guards mounted upon the main side frame members in position to confine the rope in bearing with each pulley, a headed shank upon the upper end of said pulley member and a hook upon its opposite end, substantially as described.

3. In a compressing-pulley member of the character described, the combination with the main frame members spaced apart throughout their intermediate portions, of the supporting-bolt extending therethrough, the latch pivoted upon said bolt, and the combined guide and support consisting of the angular plate arranged to extend between said side frame members, provided with ears whereby it is suspended from said supporting-bolt and having its inner end margins engaged with notches in the main frame, said combined guide and support thus serving to guide and direct the head of a cooperating pulley member into engaging relation with said latch, substantially as described.

4. In a compressing-pulley member of the character described, the combination of the main side frame members, the supporting-bolts extending therethrough, the latches mounted upon said bolts and arranged to normally rest in contact with the subjacent guides, the springs arranged to act upon said latches, the pulleys mounted upon the ends of the bolt outside of the main side frame members, the guards secured to the main frame members and arranged to embrace the outer sides of said pulleys, the detachable headed shank secured between said side frame members, and the hook 8, substantially as described.

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Witnesses:

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