

No. 725,088.

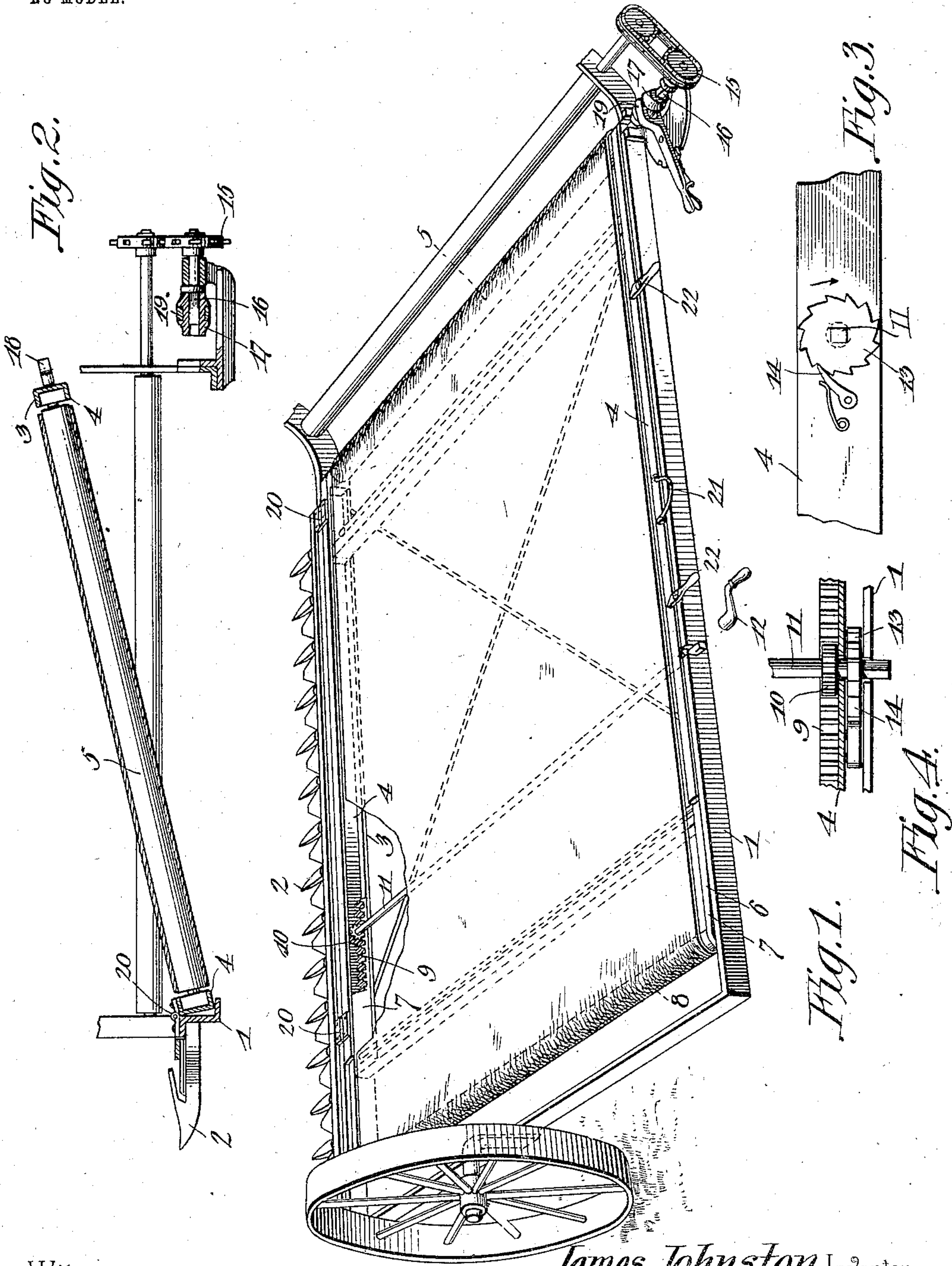
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ENDLESS BELT CARRYING FRAME FOR HARVESTERS.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## ENDLESS-BELT-CARRYING FRAME FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 725,088, dated April 14, 1903.

Application filed January 8, 1903. Serial No. 138,305. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES JOHNSTON, a citizen of the United States, residing at Ashton, in the county of Sumner and State of Kansas, have invented a new and useful Endless-Belt-Carrying Frame for Harvesters, of which the following is a specification.

This invention relates to the lower platforms of harvesting-machines; and it has for its object the improvement in means for tightening the canvas on the rollers when the same becomes too loose to be properly operated by the rollers and to loosen it when it is desired to remove it, a further object being to effect improvements that will facilitate the carrying out of that first mentioned.

To the foregoing ends the invention consists of improvements fully described hereinafter and illustrated in the accompanying drawings, forming a part of this specification, and showing one form in which the invention may be embodied, it being understood that parts may be changed in form and arrangement without departing from the nature or spirit of the invention.

Of the drawings, Figure 1 is a perspective view of the lower platform-frame and its equipments and so much of the harvester-platform and its connections as it is necessary to show to illustrate my invention, some of the parts being represented as broken away and others in dotted lines. Fig. 2 is a detail view showing means for connecting and disconnecting the end of the inside roller with the chain or sprocket wheel, by which the rollers and endless belt are driven. Fig. 3 is a detail view from the outside of the canvas-frame, showing the means for holding the extended member in position. Fig. 4 is an enlarged detail plan view of a portion of the canvas and main frames, showing the relative positions of one of the adjusting-pinions and the ratchet-wheel, together with the locking-pawl.

In the drawings, 1 designates the main frame of the platform, 2 the guards of the harvester, and 3 represents the canvas-frame. It is to the latter means that my invention is chiefly directed.

Instead of constructing the frame 3 in a fixed or rigid manner throughout, as heretofore, I construct it in two sections, making

one section adjustable upon the other, so as to move the rollers carried by the parts farther apart or closer together, as the need may be, to tighten or loosen the endless canvas apron carried therearound, and to facilitate this operation and to remove or put on the canvas apron or carrier I hingedly connect the canvas-frame at its forward edge to the main frame and provide for readily connecting and disconnecting the inner roller from its driving means, so that the rear part of the canvas-frame may be raised to desired position and lowered again without being otherwise displaced.

4 designates the side bars of the fixed portion of the canvas-frame.

5 is the inner roller, journaled in the inner ends of the side bars 4, and 6 designates the movable or adjustable part of the canvas-frame, in the outer ends of the side bars 7 of which the outer roller 8 is journaled. Each section is provided with suitable brace bars and rods, as is represented clearly in Fig. 1.

One side of each of the side bars 4 is suitably grooved, and the side bars 7 or portions thereof are formed so as to slide and be guided in the said grooves. One edge of the side bars 7 is constructed with teeth 9 at a suitable point, giving it the form of a rack-bar, with the teeth of which pinions 10 on a rod 11 engage, so that by turning the said rod, as may be done by applying a crank 12 to the end of the rod 11, the adjustable section 6 may be moved outward to extend the canvas-frame or moved inward to shorten its length, and so tighten or loosen the canvas or carrying apron, as hereinbefore set forth.

In order to hold the frame in position when it is extended and the canvas is passed about the rollers, I place a ratchet-wheel 13 on the rod 11 inside of the main frame 1 and on the outside of one of the members of the canvas-frame and pivot a spring-pressed dog 14 on one of the side bars 4 in such manner as to allow the rod 11 to be turned forward, or in the direction indicated by the arrow in Fig. 3, but not to turn in the opposite direction, without intentional disengagement of the dog with the ratchet-wheel.

To enable the frame to be raised at its upper or rear edge, I provide for disconnecting the inner roller from its driving-gear 15, and



this I do by providing the said driving-gear, which is the sprocket or chain wheel, with a squared stud 16, fitted in one end of the squared hole extending through a collar 17, movable on the said stud, and a similarly-squared end 18 on the adjacent end of the inner roller. By means of a forked lever or yoke 19 engaging an external groove on the said collar or sleeve the latter may be moved on the squared end 18 and stud 16, so as to connect the inner roller 5 with the gear 15 and cause the same to act in unison, or as one, or disconnect the roller from the gear, as will be clearly understood.

20 designates hinges by which the forward edge of the canvas-frame may be connected with the main frame, and 21 is a handhold for raising the canvas or apron frame when disconnected.

22 designates buttons secured to the frame 1 and adjusted to engage the canvas-frame for holding it down when the machine is in operation.

In use the inner roller will be connected with its driving-gear and the frame held down, as described. As the harvesting proceeds the grain cut will fall upon the canvas apron and be carried inward to the elevating belt or apron. (Not shown.) This constant use from one cause or another effects a loosening of the apron on its rollers, lessening its effectiveness. To tighten the apron, it is simply necessary to apply the crank 12 to the squared end of the rod 11, which projects beyond the side of the main frame, and it may be turned to move the adjustable section outward, the dog 14, engaging the ratchet-gear 13, preventing the rod from turning back. Should it be desired to remove or replace an apron, the collar 17 is moved out of engagement with the squared end of the roller 5 by means of the lever 19, which disconnects the roller from the driving-gear, unbutton the frame from the buttons 22, and raise the canvas-frame by means of the handhold 21, which will cause the frame to turn on its hinges 20 at its lower edge. The dog 14 is then disengaged from the ratchet-wheel 13, which will allow the adjustable section of the frame to be moved inward to loosen the belt. The old or worn belt can then easily be removed and a new one put on, after which the parts are adjusted and the frame again placed in operative position.

Having thus described the invention, what I claim is—

1. In a machine of the character described, a main frame, and a canvas-carrying frame hinged at its forward end to the main frame, said canvas-frame being constructed in two sections, a roller journaled in the end of each section, means for adjusting one section in relation to the other, and means secured to the main frame for removably holding the rear end of the canvas-frame in position.

2. In a machine of the character described, a main frame, a canvas-carrying frame mov-

ably connected at its forward end to the main frame, and means for holding the rear end of the canvas-frame in position, said canvas-frame being constructed of two members, the sides of one of said members being grooved, and adapted to receive the ends of the other member, and means carried by one of the members adapted to engage the ends of the other member for adjusting the two members in relation to each other.

3. In a device of the character described, a main frame, and a canvas-frame movably attached thereto, said canvas-frame being constructed of two overlapping sections, and rollers journaled in the end of each section, a rack carried by the free ends of one section, a shaft journaled to the other section, pinions secured to the shaft and adapted to engage the rack, and means for revolving the shaft for adjusting the sections of the canvas-frame in relation to each other.

4. In a device of the class described, a main frame and a sectional canvas-frame hinged to the main frame, and means for securing the frame in position, a rack carried by each side of one of the sections, a shaft journaled to the other section, pinions on said shaft adapted to engage the racks, means for operating the shaft for adjusting the members of the sectional frame in relation to each other, and means carried by one of the sections and engaging the shaft for holding the sections of the canvas-frame in an adjusted position.

5. In a device of the class described, a main frame, and a canvas-carrying frame movably connected by its forward end to the main frame, a plurality of rollers journaled in the canvas-frame, one of said rollers being provided with a shaft extending beyond one side of the frame, a gear-wheel mounted outside of the frame in close proximity to the shaft, and means carried by said gear-wheel adapted to engage the projecting shaft of the roller when the canvas-frame is held in an operative position.

6. In a device of the class described, a main frame, and a canvas-carrying frame movably connected by its forward end to the main frame, rollers journaled in said canvas-frame, one of said rollers being provided with an extended angular shaft, a gear-wheel mounted outside of the frame in close proximity to the shaft, said gear-wheel being also provided with an angular projecting shaft, a collar movably mounted on the gear-shaft and adapted to engage the projecting shaft of the roller when the canvas-frame is in position, and means for transmitting motion to the gear-wheel.

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

JAMES JOHNSTON.

Witnesses:

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EDGAR HUTCHISON.