To all whom it may concern:

Be it known that I, JOHN E. BROWN, a citizen of the United States, and resident of Mitchellville, in the county of Polk and State of Iowa, have invented a certain new and useful End-Raising Platform-Canvas, of which the following is a specification.

The object of my invention is to provide an end raising platform canvas of simple, durable and inexpensive construction.

More particularly it is my object to provide a device of the kind mentioned, having a conveyor frame, one end of which is fixed and the other end of which is hinged to the fixed or permanent portion to permit the hinged end of the conveyor frame, together with the roller at said end and the traveling canvas or the like to be tilted upwardly to give access to the platform beneath the conveyor for removing debris of any kind.

Still a further object is to provide in such a device simple means for hinging one end of the conveyor to the other and at the same time for providing adjustable tension producing means.

Still a further object is to provide in such a device simple means for locking the movable end of the conveyor frame in its position for use.

My invention consists in certain details, in the construction, combination and arrangement of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Fig. 1 shows a plan view of an end raising platform canvas, embodying my invention.

Fig. 2 shows a vertical, longitudinal, sectional view through my improved device, the canvas and the slats thereon not being shown in section.

Fig. 3 shows a longitudinal, sectional view through the hinge and the tension device.

Fig. 4 shows an end view, partly in section, of my device, part of the endless conveyor being cut away.

Fig. 5 shows a detail view of one of the locking hooks, and Fig. 6 shows a detail view of the other locking hook.

My device is particularly designed for use with a binder, and in the accompanying drawings I have used the reference numeral 10 to indicate generally the frame of a binder which is supported at its outer end upon the wheel 11. Mounted on the frame is a platform 12, below the endless conveyor, upon which the grain drops after it is cut. Mounted in brackets 13 at one end of the platform 12 is a shaft 14, on which is a roller 15. Adjacent to the roller 15 is an elevator 16. For supporting the roller at the other end of the endless conveyor I have provided fixed longitudinal conveyor frame members or arms 17 at the sides of the conveyor, parallel to each other, and also adjustable means which will now be described.

At the end of the conveyor, opposite the roller 15, is a shaft 18, parallel with the shaft 14, on which is a roller 19. A flexible conveyor 20, which may be canvas on which are slats 21, is mounted on the rollers 15 and 19. Fixed to the outer ends of each of the arms 17 is a short arm 22 to which is pivoted another arm 23, substantially in alignment with the arm 22. The end of each arm 23 is received in a cylinder 24 which is provided with longitudinal slots 25 on opposite sides. A bolt or pin 26 is extended through each arm 23 and through the slots 25 of the cylinder 24. Screwed into the end of the cylinder 24 is a member 28, which may be a canvas member 28 with a plurality of openings 27 arranged in pairs which register with each other on opposite sides of the cylinder 24. Selectively received in one pair of openings 27 is a bolt 28. Received within the cylinder 24, between the bolt 28 and the end of the arm 23 is a powerful extensible coil spring 29 designed to hold the rollers 19 and 15 apart and to provide tension for stretching the flexible conveyor 20. The tension of the spring 29 may be varied by varying the po-
sition of the bolt 28 by mounting it in different pairs of holes 27. In the upper outer end of each member 26 is a notch 25.

It will be seen that the outer end of the frame for connecting the rollers, formed by the members hereinbefore described, is hinged to the fixed arm 17 so that the roller 19 in the outer end of the conveyor may be tilted upwardly away from the platform 18. The ends of the shaft 18 rest on the upper surfaces 31 of the brackets 32. The ends of the members 26 project longitudinally beyond the brackets 32. For locking said ends downwardly in position with the ends of the shafts 18 on the surfaces 31, I have secured to the main frame pivoted hook devices 33 having formed on their free ends hook members 34 provided with notches 35 of sufficient depth to allow some play of the member 26 in the notch 35. The hook members 33 are fixed on the transverse rod 36, which is rotatably mounted in brackets 37 and extends across the end of the machine so that the hook members 34 may be operated in unison by means of a right angled extension formed on one end of the said rod 36, as shown in Fig. 1.

In the practical operation of my improved device, the parts are assembled with the ends of the shaft 18 resting in grooves 31 of the brackets 32. The hook members 33 are moved to proper position for engaging the ends of the members 26. When the machine is operated, it will be seen that the springs 29 will yieldingly hold the rollers 19 and 15 away from each other while the hook members 33 will prevent the shaft 18, within the roller 19, from jumping out of the grooves 31.

A common difficulty experienced with ordinary binder conveyers is the collection of corn stalks and the like on the platform 12 beneath the conveyor. When corn stalks become bunched at the outer end of the conveyor and finally are frictionally engaged by the slats until the movement of the conveyor is stopped, it is a tedious operation to remove the stalks. With my device, the hook members 34 may be moved away from engagement with the member 26 and the roller 19 in the outer end of the conveyor may be readily lifted upwardly on the hinged point between the members 22 and 24, for removing the stalks or other debris. After the stalks have been removed, the outer end of the conveyor may be quickly and readily locked in place. The tension of the spring 29 may be readily varied by changing the position of the bolts 28 in the cylinder 24.

The advantages of my improved device are obvious from the foregoing description. By the construction hereinbefore shown, the operator is enabled to quickly and easily raise the outer end of the conveyor for removing any material that may gather beneath the canvas.

It will be understood that various changes may be made in the details of the construction of my device, particularly in the method of hinging the parts together, the tension device and the means for locking the shaft in position for use, and it is my intention to cover by this application and the patent to be issued thereon any such changes which may be included within the scope of the following claims.

I claim as my invention:

1. In a device of the class described, a frame including a platform, a roller rotatably mounted on the frame, a second roller spaced from the first roller, a flexible conveyor mounted on said rollers above the platform, a hinged two-part arm connecting each end of the second roller with the respective ends of the first roller to permit the second roller and the parts of said arms connected therewith to be raised away from said platform, and means for detachably securing said second roller to the frame.

2. In a device of the class described, a frame including a platform, a roller rotatably mounted on the frame, a second roller spaced from the first roller, a flexible conveyor mounted on said rollers above the platform, a hinged two-part arm connecting each end of the second roller with the respective ends of the first roller to permit the second roller and the parts of said arms connected therewith to be raised away from said platform, and means for detachably securing said second roller to the frame, the parts of each of said arms being also slidably connected.

3. In a device of the class described, a frame including a platform, a roller rotatably mounted on the frame, a second roller spaced from the first roller, a flexible conveyor mounted on said rollers above the platform, a hinged two-part arm connecting each end of the second roller with the respective ends of the first roller to permit the second roller and the parts of said arms connected therewith to be raised away from said platform, means for detachably securing said second roller to the frame, the parts of each of said arms being also slidably connected, and yielding means for holding the parts of each of said arms at one limit of their sliding movement with relation to each other.

4. In a device of the class described, a frame including a platform, a roller rotatably mounted on the frame, a second roller spaced from the first roller, a flexible conveyor mounted on said rollers above the platform, a hinged two-part arm connect-
ing each end of the second roller with the respective ends of the first roller to permit the second roller and the parts of said arms connected therewith to be raised away from said platform, and means for detachably securing said second roller to the frame, to permit it to slide toward or from said first roller, means for slidably connecting the parts of each of said arms, and means for yieldingly holding the parts of each arm at one limit of their sliding movement with relation to each other.

Des Moines, Iowa, August 28, 1913.

JOHN EMORY BROWN.

Witnesses:
L. E. Johns,
A. A. Jones.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."