

(No Model.)

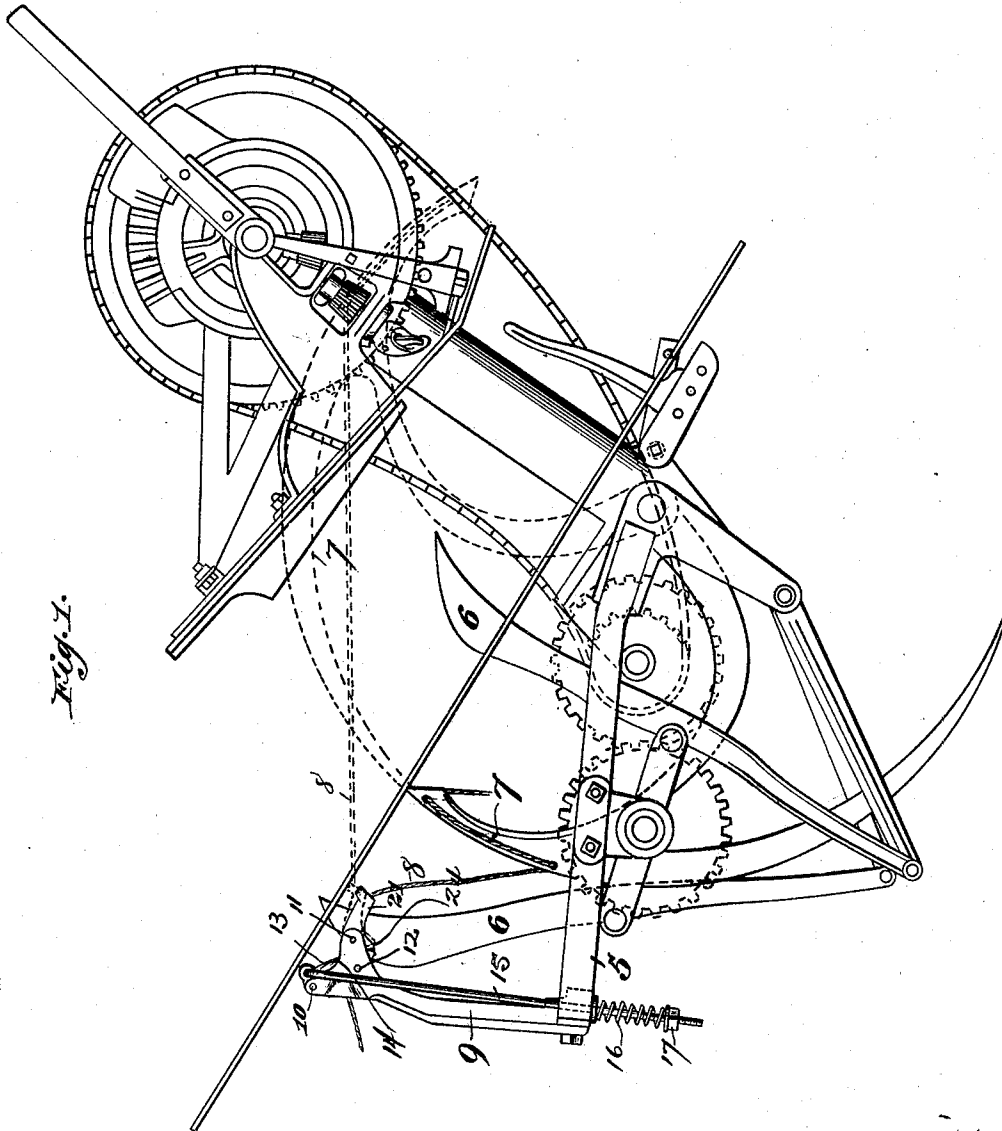
2 Sheets—Sheet 1.

J. F. APPLEBY.

TENSION DEVICE FOR SELF BINDING HARVESTERS.

No. 567,803.

Patented Sept. 15, 1896.



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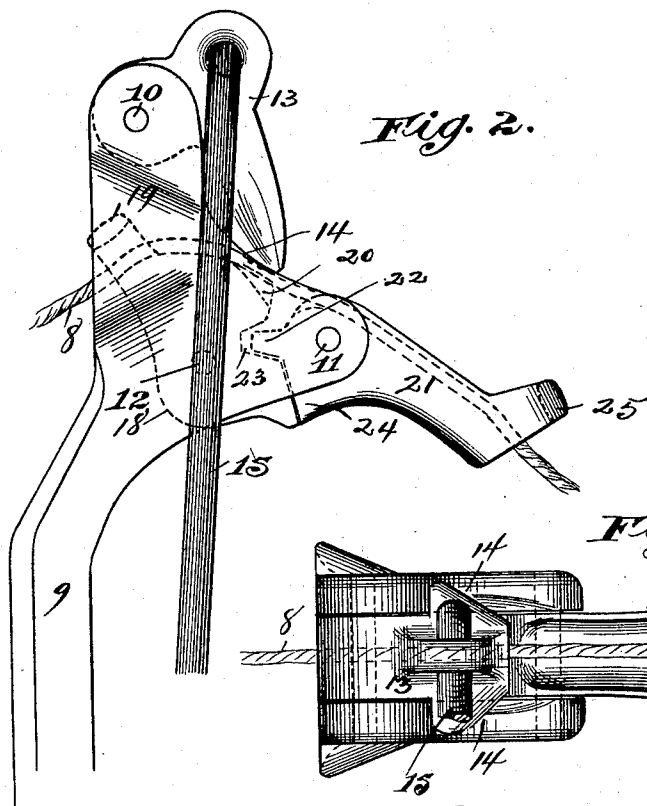


Fig. 2.

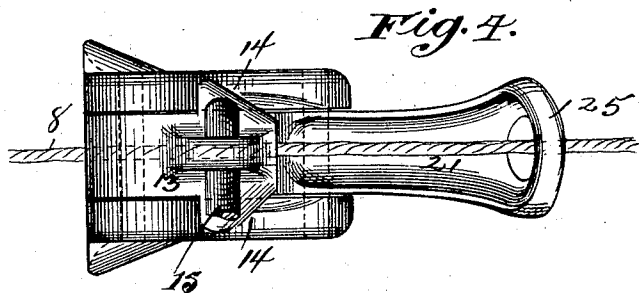


Fig. 4.

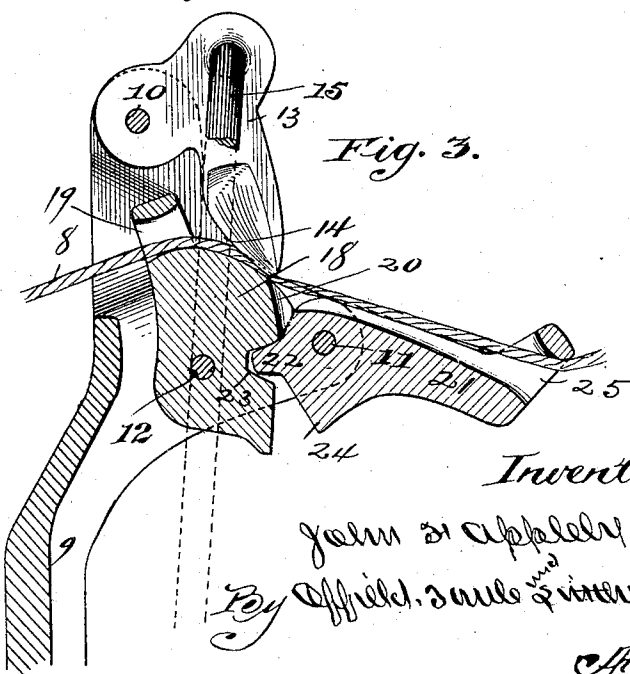


Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN F. APPLEBY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE HARVESTER KING COMPANY, OF HARVEY, ILLINOIS.

TENSION DEVICE FOR SELF-BINDING HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 567,803, dated September 15, 1896.

Application filed March 31, 1896. Serial No. 585,850. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. APPLEBY, of Chicago, Illinois, have invented certain new and useful Improvements in Tension Devices for Self-Binding Harvesters, of which the following is a specification.

My invention relates to an improved tension device for self-binding harvesters which is adapted to permit the cord to run freely while the packers are at work and the gavel is being formed, and which will operate to tension the cord while the bundle is being bound. On the forward movement of the needle the cord is drawn out under tension.

In the accompanying drawings, Figure 1 is a side elevation of a binder mechanism, showing my tension device applied thereto. Fig. 2 is an enlarged view, in side elevation, with a portion of the standard carrying the tension devices broken away. Fig. 3 is a sectional view of the tension devices, and Fig. 4 a plan.

In the drawings, 5 represents the binder-frame, 6 the packers, and 7 the needle. The packers serve to compress the flowing grain to form the gavel in the usual way, and the needle carries the cord 8. Said cord is led through a tension device which is mounted upon a standard 9, connected to the frame 5. Said standard has its upper end chambered out and provided with three bearings 10, 11, and 12. On the bearing 10 is pivotally mounted a dog 13, which is normally held down on the curved surfaces 14 of the chambered head of the standard 9 by a rod 15, having a spring 16, normally tending to depress said rod and adjustable by means of a nut 17. The free end of the dog 13 is in such a position that at one stage of the operation the cord is pulled up and deflected against said lower free edge, thus raising the dog 13 and bringing the tension of the spring to bear upon the cord. Upon the bearing 12 is mounted a pivoted clamp 18, having a cord-guide 19, through which the cord is led, and a notch 20 in its surface in front of its pivot, through which the cord is drawn. Upon the pivot-pin 11 is mounted a rocking lever 21, having a tooth 22, working in a notch 23 in the forward face or edge of the clamp 18, and a heel 24, engaging the lower edge of said clamp. The tooth serves to rock the clamp on its pivot at one stage of the operation, and the heel of

the lever serves as a stop to limit the downward movement of the lever and preserve a proper alinement of the parts. The forward part of the lever is furnished with an eye 25, through which the cord is led. In the position shown by the full lines in Fig. 1 the packers are at work, the needle being at the backward limit of its stroke and stationary. As the needle advances its eye following the path indicated by dotted lines of said figure, and attaining the secondary position shown by the dotted lines, the cord is raised, thus lifting the front end of the lever 21 and rocking the clamp 18 on its pivot. By this movement of the clamp the notched portion is turned forward and the upper surface or uncut portion of the clamp is presented beneath the cord and pinches it against the lower free edge of the dog 13, which thereupon exerts a tension upon the cord. The cord is thus permitted to render freely when the packers are at work and is drawn out under desired tension while the needle is performing its forward movement and while the knot is being tied. Attention is called to the fact that this tension device is so located that the cord passes beneath and in a right line through the tension device and the eye of the needle to the cord-holder, and also to the fact that the tension device is so located that it may be used on machines of various makes, and that it is self-operative, that is to say, it is not directly controlled by any of the moving parts of the binder, and that the cord may be led into it from either side of the machine. I attain, therefore, by simple means an effective tension device which is perfectly adapted at all times to the exigencies of use.

Attention is called to the relative location of the pivots of the several coöperating parts. The clamp is pivoted eccentrically, so that its natural tendency is to rock backward, but the friction of the cord in pulling through the eye and over the curved surfaces of the upper end of this clamp tends to assist in drawing it forward into the clamping position. The dog has its acting or clamping edge in front of its pivot, or between its pivot and the point of strain, and when a knot or other obstruction on the cord reaches the clamp it has sufficient leverage upon the forward edge of the dog to raise the latter against the tension of

its spring and thus allow the knot or other obstruction to pass with slightly-added tension. The forms of the several parts and the character and arrangement of the spring may
5 be modified.

I claim—

1. A tension device comprising in combination a pivoted clamp, a pivoted lever engaging the clamp, and a spring-controlled dog,
10 substantially as described.

2. A tension device for harvesters comprising in combination a pivoted clamp, a pivoted lever adapted to rock said clamp, and a spring-controlled dog coöperating with the clamp,
15 said several parts being so arranged with reference to each other that the cord during its forward movement operates to tilt the lever and thereby to rock the clamp and tension the cord, substantially as described.

20 3. A tension device comprising in combination a pivoted clamp having a cord-guiding eye at its rear end, a friction-surface over which the cord passes and a notch in front of said friction-surface, a pivoted lever having

a rocking engagement with the clamp, and a heel adapted to fixedly engage the clamp in the normal position, and a spring-controlled dog, the pivoted lever having also a cord-guide, and adapted to be rocked upon its pivot by the running cord, whereby to tension the latter during the process of tying the bundle, substantially as described.
25 30

4. A tension device for harvesters comprising in combination an eccentrically-pivoted clamp, a pivoted lever engaged with the clamp and adapted to be rocked on its pivot by the deflection of the running cord, and a spring-controlled dog, having a bearing portion adapted to coöperate with the clamp, and said bearing portion being located in front of the axis of the dog, and on the side thereof at which the strain upon the cord is exerted whereby to permit obstructions to pass without undue tension, substantially as described.
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