

No. 675,196.

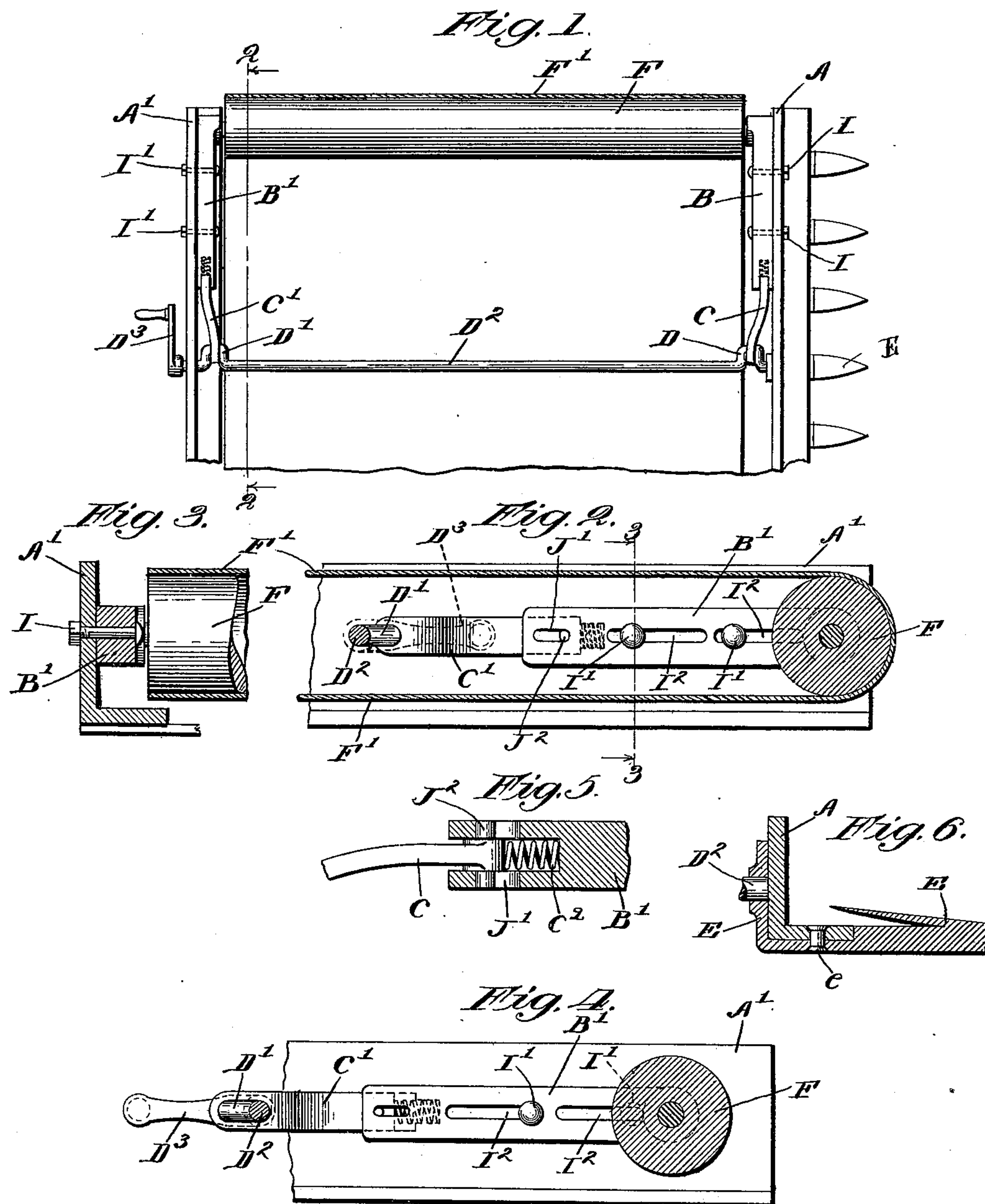
Patented May 28, 1901.

C. COLAHAN.

APRON TIGHTENER FOR HARVESTERS.

(Application filed Jan. 14, 1901.)

(No Model.)



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APRON-TIGHTENER FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 675,196, dated May 28, 1901.

Application filed January 14, 1901. Serial No. 43,214. (No model.)

To all whom it may concern:

Be it known that I, CHARLES COLAHAN, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Carrier-Apron Tighteners for Harvesters, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to improvements in carrier-apron tighteners for harvesters having endless aprons or belts of canvas or other material adapted to run over rollers at each end of the platform or elevator of a harvester, one of said rollers actuating the apron. These aprons are affected by atmospheric conditions or damp grain, the moisture in which will soften the material of which the apron is made, and as a consequence it will elongate or stretch so much that it will become loose on the rollers and liable to stop unless tightened immediately.

To accomplish such adjustment is the object of my present invention, which consists, broadly speaking, in operating the bearings of the tension-roller by means of links attached to the cranks of a rocker-shaft, whereby when said cranks are turned in one direction the apron is held under tension and when turned in another direction the tension is released.

In the drawings the general features of my improvement are shown in Figure 1, which is a plan view. Fig. 2 is a vertical section on line 2 2 of Fig. 1, showing the roller in its advanced position with the crank turned forward to tighten the apron. Fig. 3 is a fragmentary sectional elevation of same on line 3 3 of Fig. 2. Fig. 4 is a vertical section with the roller in its retracted position, with the crank reversed to slacken the apron. Fig. 5 is a detail section showing the elastic spring socketed within the roller-supporting arm and its actuating-link and moving pivot in the position opposite to that shown in Fig. 4. Fig. 6 is a sectional view of a knife-guard or finger secured to the cutter-bar, while its inner end extends to a point between the carrier-apron within the platform-frame and is provided with a journal-bearing for the crank-shaft.

This guard is secured to the cutter-bar by its usual bolt or rivet.

As shown in the drawings, A represents the front or cutter-supporting bar of the harvester-frame; A', the rear bar of same; B and B', the roller-supporting arms; C and C', their actuating-links, hinged to the cranks of a shaft passing between the folds of the apron; C², the elastic-pressure spring, set in sockets in the roller-supporting arms B B' and bearing against the actuating-links.

J' is a slot that admits of the movement of the pin J² of the actuating-links or connecting-bars C C', that have a sliding movement therein against the pressure of the spring C²; D D', the actuating-cranks, one on each side of the machine, to which the links C C' are respectively hinged; D², their shaft; D³, the handle at the rear of the machine, whereby said shaft is rotated; E, the crank-shaft-supporting rearwardly and upwardly elongated guard-finger at the front of the machine; e, its securing bolt or rivet, by which it is fastened to the cutter-bar and provides a front bearing for the crank-shaft without any additional mechanical means; F, the adjusting apron-roller; F', the carrier-apron.

I I' are the fastening-bolts, secured in the harvester-frame and extended through the slots I² of the roller-supporting arms and on which the latter slide.

As shown and described, the construction of my device for the adjustment of the apron admits of the movement inwardly of the outer or adjusting roller when the machine is not in operation or when putting on the apron, so that the ends of the apron which also extends over the inner roller (not shown) may be secured by means of its buckles without stress or liability of breaking the straps, and when the ends of the apron are thus buckled it is tightened to the rollers by forcing the adjusting-roller outwardly. The roller-supporting arms may yield slightly at each end of the roller against the stress of the coiled springs or cushions C², and thereby compensate for unequal stretch of the belt as the actuating-links or connecting-bars C C' press against the spring C² as they are forced outwardly by their cranks, and when in their outward position the apron will be tight over each

roller. It is obvious that the application of this means of adjustment and the effect attained are desirable and remove many objections that have been made to the use of the imperfect devices heretofore applied for this purpose. Any desired means may be applied to the shaft D^2 to maintain its cranks at any radial position required should it be considered necessary; but such means are not considered absolutely essential, since when the belt is stretched the cranks after slightly passing the dead-center strike the platform-sills, and thereby a lock is formed, and when the shaft is reversed to slacken the belt the cranks will in themselves have no tendency to move in a direction to tighten it up again.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the cranks $D D'$, the connecting links or bars $C C'$, the movable supporting-arms $B B'$, the carrier-roller F , and its apron F' , operating substantially as shown and described.

2. The combination of the carrier-roller F , its apron F' , its adjusting supporting-bars $B B'$, the links $C C'$ flexibly connected with said bars, the cranks $D D'$ operating said links, and elastically-yielding cushions interposed between said cranks and bars.

3. The combination, for the purpose of

tightening an apron-carrier, of the rotating crank-shaft D^2 , its cranks $D D'$, its actuating-handle D^3 , the links or bars $C C'$ that elastically press against the apron and its roller supporting and adjusting arms, and said supporting-arms provided with the slots I^2 and retaining-bolts $I I'$ securing the adjusting-arms to the harvester-frame with liberty of longitudinal movement, substantially as described and shown.

4. The combination of the carrier-roller F , and its apron F' , its adjusting supporting-arms $B B'$, the intermediate springs C^2 , the actuating bars or links $C C'$ movably connected with said arms, and the cranks $D D'$ operating said links, all substantially as shown and described.

5. The combination of the carrier-roller F , and its apron F' , its movable supporting-arms $B B'$, provided with longitudinally-slotted spring-receiving sockets, springs located in said sockets, the connecting-links $C C'$ pressing against the springs and having laterally-projecting pins engaging with the slots in said sockets, and the crank-shaft, whereby said links are operated, substantially as described.

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