

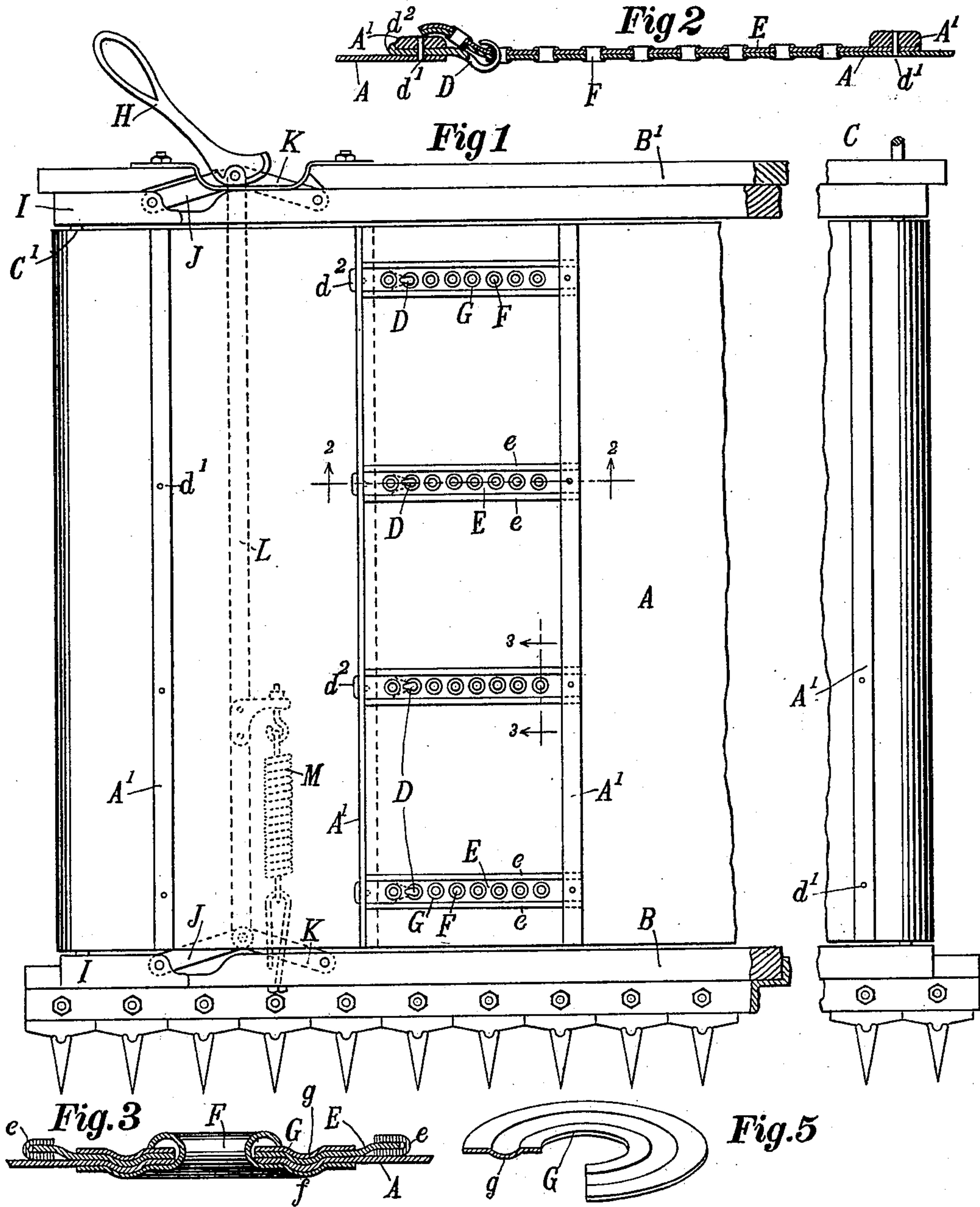
No. 632,063.

Patented Aug. 29, 1899.

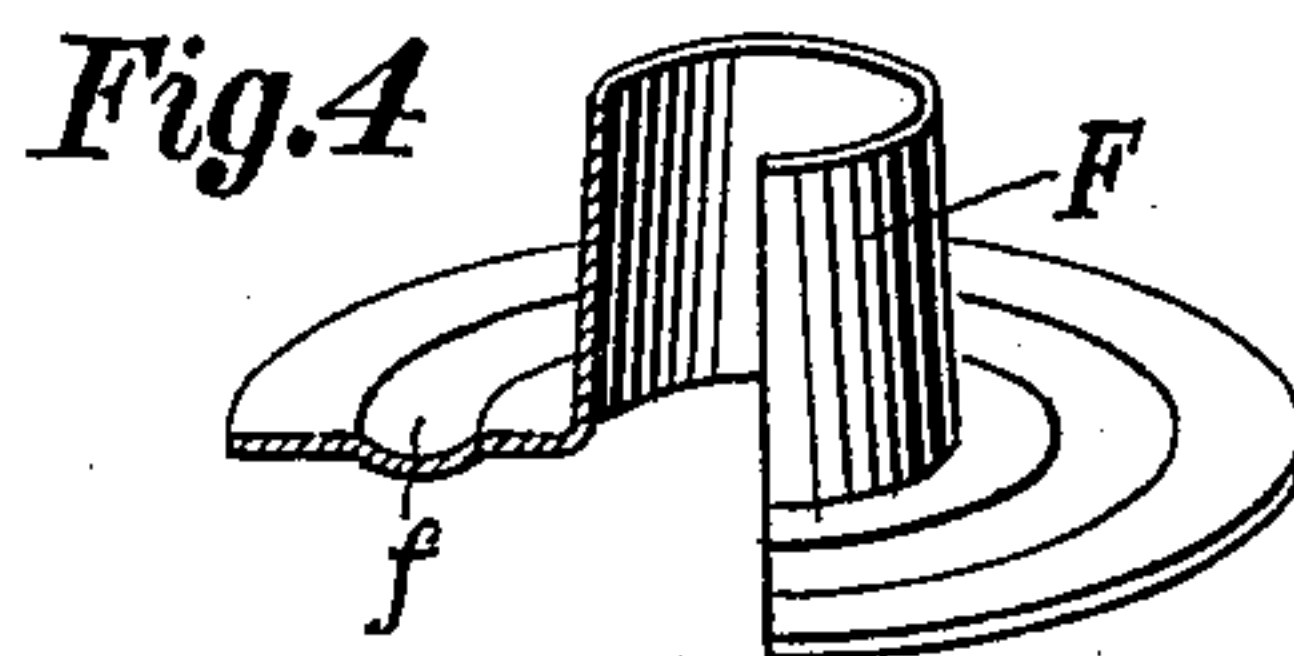
J. W. PRIDMORE.
ENDLESS APRON FOR HARVESTERS.

(Application filed Jan. 13, 1898.)

(No Model.)



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ENDLESS APRON FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 632,063, dated August 29, 1899.

Application filed January 13, 1898. Serial No. 666,512. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. PRIDMORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Endless Aprons for Harvesters, of which the following is a specification.

My invention relates to improvements in endless aprons for harvesters in which the ends of the aprons are connected by hooks and the slack of the apron is taken up by one of the rollers on which the apron is mounted; and the objects of my improvements are, first, to provide an apron that can be more quickly fastened together than can the aprons now used on harvesters, which are fastened by means of buckles and straps; second, to provide means for tightening the apron; third, to make use of that end of the apron which has heretofore been a flap to cover the opening between the ends of the apron as a part of the mechanism for fastening the ends of the apron together. I accomplish these objects by the mechanisms illustrated in the accompanying drawings, in which—

Figure 1 is a top view of an endless apron placed on the platform of a harvester, the platform being broken, so that the ends may be brought nearer together to get them upon the drawing, while partly in dotted lines and partly in full lines the apron-tightening mechanism is shown. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a transverse section on line 3 3 of Fig. 1. Fig. 4 is a view, partly in section and partly in perspective, of an improved gromet; and Fig. 5 is a similar view of the washer which goes with it.

Similar letters refer to similar parts throughout the several views.

There is perhaps no part of a self-binding harvester that gives more trouble and that sooner wears out and needs replacing and that costs more when purchased separately from the machine than the endless aprons. They are formed of heavy cotton duck, to which cross-slats are attached, and are mounted on the machine on rollers, and their office is to carry the cut grain from the platform to the binder. Heretofore they have been fastened together by means of buckles and

straps. It has been found necessary to extend the straps to more than one of the cleats in order to fasten them securely to the apron, and when in operation in the rain and dew the straps become wet and stretch—some of them more than others, depending upon the quality of the leather—so that the apron gets out of true and runs sidewise on the rollers, which causes the cleats and straps to be torn off and the cloth to be drawn out of shape. The operators sometimes pay slight attention to keeping all of the straps buckled to the same tightness and the apron is pulled out of true. Again, when the apron dries in the hot sun in the middle of the day it needs tightening, and the operator draws it up to an excessive degree, straining the straps and cloth. It is then often left over night in the dew and damp, which causes the cloth to contract, thus placing great strain upon the rollers, tending to warp them and also to tear the straps and cloth. The leather, where large numbers of machines are made, cannot always be selected so as to have all of the straps in an apron of the same quality, and certain of the straps become torn, thus throwing the strain upon the other straps, which soon spoils the apron. In my invention I have sought to remedy these faults and have formed the apron A of a wide strip of cotton duck, to which slats A' are attached, and mount these aprons on the rollers of the self-binding harvester. In the drawings a platform is shown on which the apron A is mounted, consisting of the finger-bar B and the rear sill B'. The roller C is the driven roller of the platform, and the roller C' is the idle roller. The two ends of the apron in my improvement are connected together by means of hooks D, that are fastened to one end of the apron by being placed between the slat A' and the cloth of the apron A and fastened thereto by the rivet d', which passes through the slat, the hook, and the cloth. In order to relieve as much of the strain on the rivet d' as possible, the end of the hook is turned up; as at d², so as to bear against the edge of the slat A'. There are as many of these hooks fastened to one end of the apron as are needed. On the platform and upper elevator-aprons, which are usually narrower than the lower elevator-apron, I

have found that four hooks are sufficient and five on the lower apron. The other end of the apron, which has heretofore been a flap that rested upon the strap and covered the opening between the ends of the apron to prevent the straw and trash of the field from getting between the plies of the apron, is now fitted with a series of holes running lengthwise of the apron and corresponding in position to the hooks that are upon the other end of the apron. The apron A is reinforced around these holes by another strip of cloth E, which extends lengthwise of the apron from the slat to the end of the apron. In the drawings its edges are shown as reinforced by other strips *e*. The strip E and its reinforced edges, as shown in the drawings, are preferably made from the same material as the apron and can be fastened to the apron by being stitched thereto on a sewing-machine. These strips are very much less expensive than leather straps, and being attached directly to the cloth of the apron and reinforced about the holes any strain upon them is distributed over the apron more uniformly than it is with straps. In the drawings these holes are shown as fitted with a gromet F of the usual shape, except that the base of the gromet has a concave ring *f* and the gromet-washer G is formed with a similar corresponding concave ring *g*. The gromet is put into the holes in the canvas, the ring pressed upon it, and the shank bent down over the washer, thus clamping the washer to the base of the gromet and pressing the cloth into the concavity, which prevents the gromet from being drawn out of position. There are several holes for each hook, so that the apron A may be hooked up after it stretches, as it soon does after several days' work.

As thus far explained the apron would be placed upon the rollers of the machine and hooked together. It is plain, however, that it could not without some other means be hooked tight enough so as to have sufficient friction on the rollers to carry along the grain. Some means must therefore be provided when the above-described plan of fastening the apron is used to tighten the apron, and this means must allow the distance between the rollers to be lessened when it is necessary to put the apron on or take it off. I do not herein claim this means, as the same forms the subject of my other application of this date, Serial No. 666,511. I show it, however, in the accompanying drawings, where it will be found to be as follows: The idle roller C' is mounted in sliding boxes I. The boxes I have pivoted to them links J. There are pivoted to the frame of the platform other links K, and the ends of the links J and K are pivoted

together, forming toggles. Connecting these links at or near their pivots is a bar L, that extends from the front to the rear of the platform, and attached to this bar and to a fixed part of the platform is a strong spring M, that exerts its force in a line practically parallel with the bar. The links J and K are longer than the distance between the points to which they are attached, and the action of the spring on the bar L is such as to tend to force the links toward a straight line, and thus slide the idle roller C' outwardly and stretch the canvas.

With the apron placed on the machine the strong spring forcing the roller between its plies will keep it running; but a spring strong enough to carry the apron with its load of grain would be too strong to be drawn up by hand to unhook the ends without the aid of other devices. I therefore provide a lever H and attach it to the bar L between its ends. One end of the lever is provided with a handle and the other with a cam-shaped end and will when the lever is rocked press against the platform, acting as a fulcrum, thus drawing the bar L outward and pulling the sliding boxes I inward, by which means the stress upon the apron is relieved. The canvas can then be taken off, or, if necessary, hooked a hole tighter. It should be remarked that the distance the sliding boxes I can move on the platform-frame is somewhat greater than the distance between the holes in the apron, and thus whenever the apron stretches it can by loosening the roller be hooked up another hole.

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

1. In a harvester-apron, the combination of a cross-slat at one end of the apron, a plurality of hooks suitably spaced apart and secured to the slat, longitudinal reinforcing-strips at the other end of the apron corresponding in number and position with the hooks, and a series of holes in each of said strips.

2. In a harvester-apron, the combination of a cross-slat at one end of the apron, a plurality of hooks suitably spaced apart and secured to the slat, a similar slat at the other end of the apron with an intervening space between it and the edge of the apron, longitudinal reinforcing-strips corresponding in number and position with the hooks and extending from the slat on its end of the apron across the intervening space to the edge, and a series of holes in each strip.

JOHN W. PRIDMORE.

Witnesses:

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