No. 708,147. Patented Sept. 2, 1902.

E. A. JOHNSTON.

CUTTING APPARATUS FOR MOWERS, REAPERS, OR THE LIKE.

(Application filed July 10, 1902.)

(No Model.)

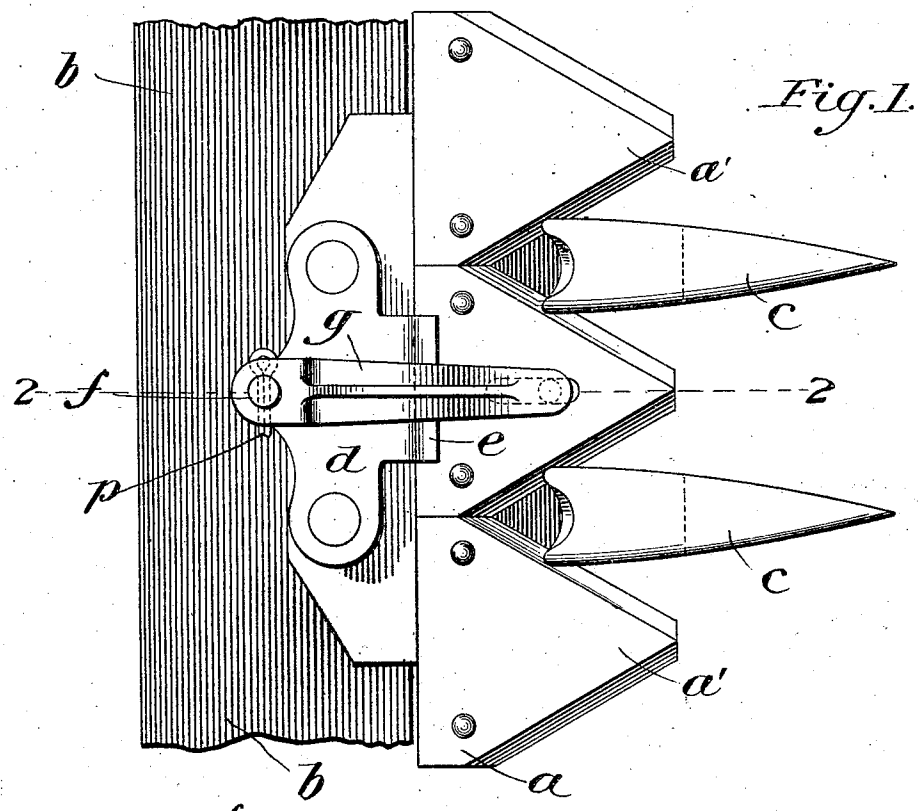


Fig. 1.

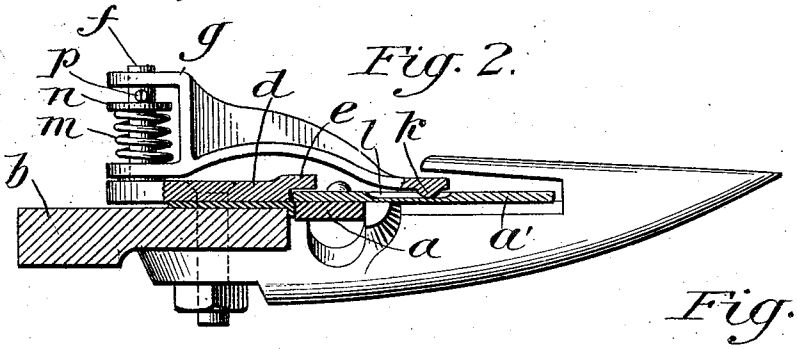


Fig. 2.

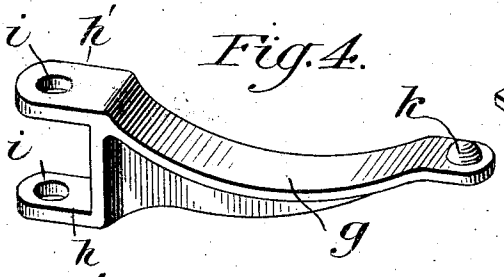
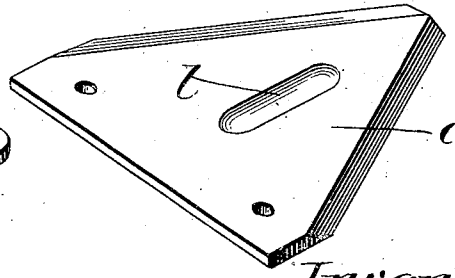


Fig. 4.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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CUTTING APPARATUS FOR MOWERS, REAPERS, OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 708,147, dated September 2, 1902.

Application filed July 10, 1902. Serial No. 115,022. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. JOHNSTON, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Cutting Apparatus for Mowers, Reapers, or the Like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to the construction of the clips by means of which the cutters of mowers, reapers, &c., are held down in close working contact with the ledger-plates on the guard-fingers; and the object in view is to provide an improved construction of clip that will hold the cutters down with an elastic pressure bearing well forward of the cutter-bar, so as to prevent the grass, &c., from getting under the cutters and raising their forward edges out of contact with the plates.

The invention is illustrated in the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a plan view of a portion of a finger-bar, showing one of my clips in operation. Fig. 2 is a cross-section on the line 2 2. Fig. 3 is a perspective of one of the cutters to which the clips are applied; and Fig. 4 is a perspective of the finger of the clip, the same being turned over, so as to show the construction better.

Referring to the views, the cutter-bar *a*, the cutters *a'*, the finger-bar *b*, the guard-fingers *c*, and the base-plate *d* of the clip are of the usual construction and arrangement. The base-plate *d* is provided, as usual, with a lip *e* along its front edge, that overhangs the rear edge of the cutters and is bolted down on the finger-bar in the ordinary manner.

All the above is the usual and ordinary arrangement; but in the present invention the plate is provided at its rear edge about centrally of its length with a rigid upstanding post *f*. This post constitutes the pivot of the finger *g* of the clip, which is a rigid finger, preferably constructed as shown in detail in Fig. 4, where it will be seen that it has two rearwardly-extending ears or lugs *h h'*, which are provided with openings *i*, whereby it is adapted to fit over and oscillate in a horizontal plane on and around the pivot-post *f* of the plate *d*. This finger is of such length that it extends forward over the cutter-bar and bears on the front part of one of the cutters *a'* at a point where the force tending to raise it out of proper contact with the ledger-plates is greatest. It is bent down at its forward end and is provided on its under side at this point with a nib or lug *k*, which fits into a fore-and-aft groove or depression *l*, formed in the cutter *a'*. As will be understood, the finger *g* is adapted to oscillate freely on the pivot-post of the clip, and the engagement between the front end of the finger and the cutter just described causes the latter in its reciprocating movements to oscillate the finger sidewise back and forth, the groove in the cutter being long enough to allow the necessary play of the lug *k*.

As thus far described the clip-finger would only hold the cutter down in the ordinary way; but in order to make it bear down with an elastic pressure on the fore part of the cutter I set a short coil-spring *m* over the pivot-pin *f*, between the lower lug *h'* of the finger and a washer *n*, which is slipped over the upper end of the pin below the upper ear *h* and which is held to the pin by a cotter *p*. This spring reacts between the lug *h'* of the finger and the washer *n* and tends constantly to hold the whole finger down, there being sufficient play between the washer and the upper lug for the spring to press the finger low enough always to bear on the cutter and allow for some wear. As before stated, the finger itself is rigid; but it is yieldingly and elastically held down by the spring *m*, which is coiled around the pin on which the finger-pivots, so as to offer the least possible resistance to the oscillating movement of the finger. Consequently there is little or no tendency to wear out the spring or for crystallization to set up in it and weaken it, and the finger is made stout enough to stand all the strains to which it would be subjected in use. The construction is therefore strong and simple and capable of wear for a long time.

Having thus described the invention, what I claim is—

1. A spring-clip for the cutting apparatus of mowers, reapers, and the like, comprising a base-plate having a vertical pivot-post, a

rigid finger pivoted upon said post and extending forward over the cutter and free to oscillate therewith, and a spring reacting between the post and the finger to hold the latter down elastically on the cutter.

2. A spring-clip for the cutting apparatus of mowers, reapers, and the like, comprising a base-plate having a vertical pivot-post, a rigid finger having a pair of perforated ears at its rear end by means of which it is pivoted on the post so as to oscillate freely, and a spring coiled around the post between the ears and reacting between the post and the lower ear to hold the finger down so that its forward end which projects over the cutter is held elastically down thereon.

3. A spring-clip for the cutting apparatus of mowers, reapers, and the like, comprising a base-plate having a vertical pivot-post, a rigid finger pivoted upon said post and extending forward over the cutter and free to oscillate therewith, a washer on the pivot-pin, and a coiled spring reacting between the washer and the finger to hold the front end of the latter down elastically on the cutter.

4. A spring-clip for the cutting apparatus of mowers, reapers and the like, comprising a base-plate d, having a vertical post f, a rigid finger g pivoted on said post to oscillate freely and having its front end extending forward and bearing down on the cutter, and a spring m coiled around the post, the finger having a pair of perforated ears h, h', by means of which it is pivoted to the post, and a washer n or other projection on the post under the upper ear and between which and the lower ear the spring reacts.

5. The combination with one of the cutters of a mower, reaper, or the like, of a clip comprising a spring-depressed finger having a nib or projection on its forward end, and a groove or depression formed in the cutter into which the nib engages so that the finger is oscillated by the reciprocations of the cutter.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD A. JOHNSTON.

Witnesses:

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CHAS. W. ALLEN.