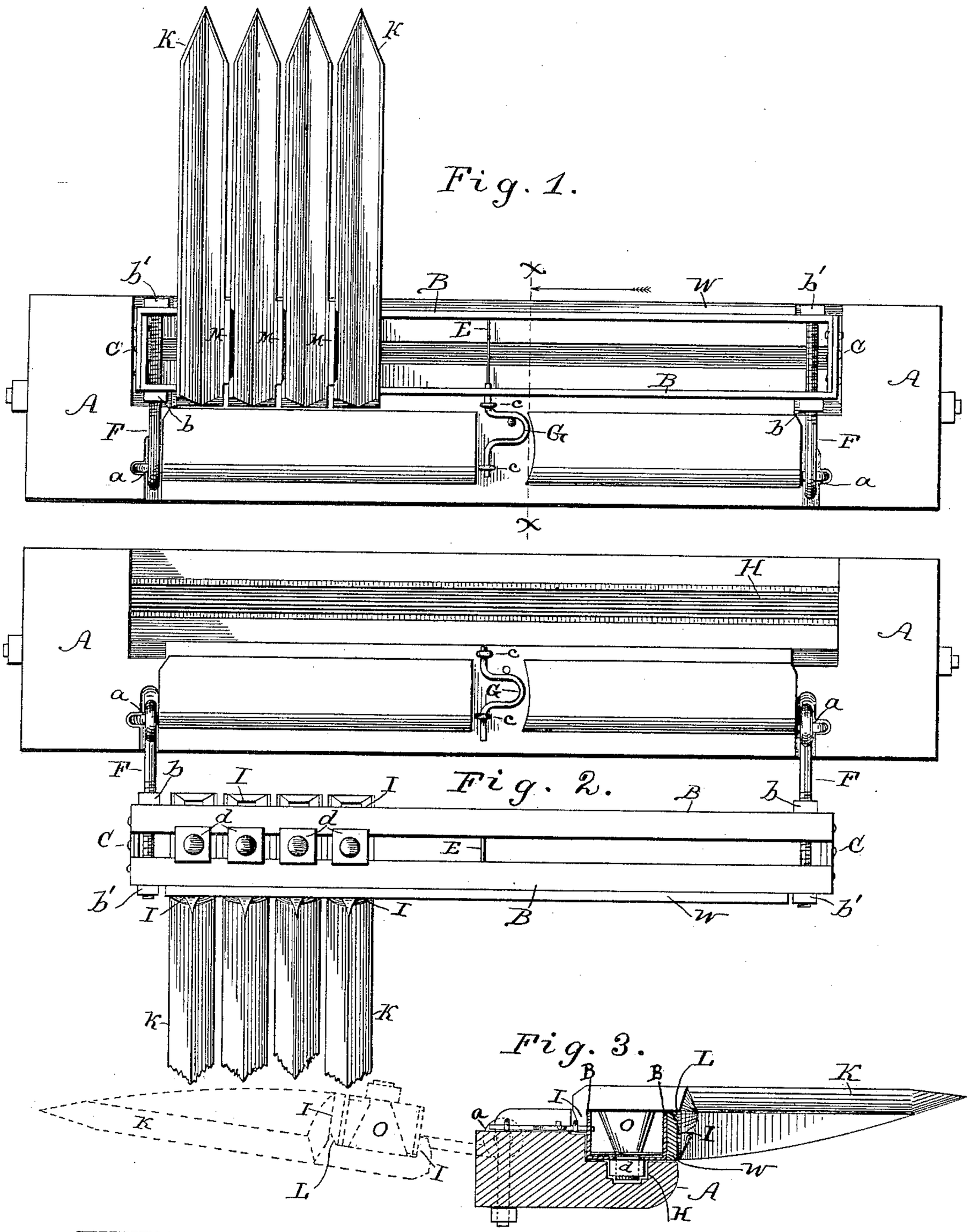
(No Model.)

J. I. C. NAFF.

COMB FOR GRASS SEED HARVESTERS.

No. 325,109. Patented Aug. 25, 1885.

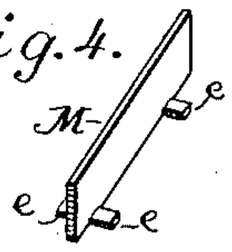


WITNESSES:

Thos. Houghton.

Edw. M. Byrn

Fig. 4.



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UNITED STATES PATENT OFFICE.

JACOB I. C. NAFF, OF WINCHESTER, KENTUCKY.

COMB FOR GRASS-SEED HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 325,109, dated August 25, 1885.

Application filed October 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, JACOB I. C. NAFF, a citizen of the United States, residing at Winchester, in the county of Clarke and State of Kentucky, have invented certain new and useful Improvements in Combs for Grass Seed Harvesters, of which the following is a description.

Figure 1 is a plan view of the comb with a portion of the teeth in place. Fig. 2 is a plan view with the comb thrown back on its hinges. Fig. 3 is a cross-section through the line *x x* of Fig. 1, and Fig. 4 is a perspective view of one of the separator-plates.

The object of my invention is to provide an improved comb for grass-seed harvesters or headers, in which the teeth may be adjustable to adapt the same comb to grass-seed at different stages of ripeness, also to different kinds of grasses—such as blue-grass, timothy, orchard, &c. My object is also to secure a stronger and better connection for the teeth of the comb, to prevent looseness and loss of the nuts securing the teeth, and to facilitate the construction of the comb. These objects are attained in the construction which I will now proceed to describe.

In the drawings, A is the wooden cross-bar which carries the comb, and which cross-bar is attached to the front end of the frame of the machine. This cross-bar may be made in one or more pieces, as desired.

B B is a trough-like frame, which is made of one-quarter-inch angle iron, or may be cast, if desired. The regular size of this trough-shaped frame is one inch deep, two inches wide, and five to six feet long. If made of wrought-iron, the ends are turned up at right angles and securely riveted, as at C. This trough has a three-eighth-inch slot running in the bottom of the same from one end to the other, formed by the space between the angle-irons.

E are cross-bolts running across said slot at the bottom at different points to prevent the device from giving or springing to the strain caused by the tightening of the nuts that hold the teeth of the comb.

F F are bolt-hinges, which are jointed at *a* to the cross-bar A, and have threaded ends that pass through the trough-frame B and nuts *b b'*, one of which, *b*, acts as a stop, and may be replaced by a shoulder or collar, and the other of which, *b'*, serves to hold the trough-frame on the bolt-hinges, and yet permits it to be taken off with the teeth when desired. These bolt-hinges F permit the comb to be thrown back, as in Fig. 2 and dotted lines in Fig. 3, or be folded down horizontally, as in full lines in Figs. 1 and 3, as may be desired. By making the comb thus adjustable it is designed to be secured when the machine is being transported, so as to avoid any injury to its teeth from running against obstacles in traveling.

G is a locking-bolt arranged about the middle of cross-bar A and running through staples or keepers *c* on the frame, and also into a hole in the trough-frame of the comb to hold the latter down against being accidentally turned or sprung up when at work.

K are the teeth or fingers of the comb, which at their front ends are of a construction as shown in my previous patent of August 26, 1884. These teeth are formed with tapered bolt projections O, Fig. 3, on their under sides at their inner rear ends and with shoulders I on each side of the same. These bolt projections pass down through the trough and the slot, and are secured by nuts *d* on the under side of the bottom slot of the trough, while the shoulders I I rest the one in front and the other in rear of the trough-frame, and serve to brace and strengthen the connection of the teeth to the said frame. At the angle between the front shoulder and the body of the tooth is formed an inclined surface, L, that prevents a sharp angle at this point, which in castings are always a source of weakness. On the front side of the trough-frame is also a wooden bar, W, which, by slightly yielding to the front shoulder I, avoids the nice and expensive fitting of one metal surface against another. Thus, if the shoulders I I of the tooth were compelled to fit directly against and embrace the rigid metal trough B B, slight variations in the casting would make some of these shoulders too close together and others too far apart, and much filing and fitting of the shoulders to the trough would be required. The wooden bar W will give sufficiently to accommodate itself to this variation and gives a solid fitting without any expensive filing or fitting in metal. The wooden bar W is beveled on top to fit the inclined surface L.

H is a treble countersink or grooved rabbet

formed in the front edge of cross-bar A to receive the lower side of the comb. The middle one of these grooves is made of a width corresponding exactly to the width of the nuts on the bolts of the teeth, so that when the comb is turned down into this groove or countersink these nuts pass into this middle groove, and are by it prevented from turning and coming off, thus forming a secure nut-lock for all the nuts of all the teeth of the comb, and at the same time this countersink forms a receptacle into which any nut may drop if it should get detached, thus avoiding loss.

In fitting the nuts which secure the teeth tl.e comb is turned back on its bolt-hinges, as shown in Fig. 2 and in dotted lines in Fig. 3.

To adapt the teeth to different spacings in their adjustment on the trough-frame I use separators M, which may be of different thickness, and which, when placed between the rear ends of the teeth, separate them a greater or less distance. These separators have lugs *e* at their lower edges projecting at right angles, which prevent the separators from rising and getting out of place when the teeth are fitted.

I am aware that it is not new to hinge a comb so as to permit it to be thrown back, and I do not claim this, broadly.

Having thus described my invention, what I claim as new is—

1. The combination, with the comb frame in a grass-harvester, of the cutting or stripping teeth and separators with lugs for spacing the teeth and holding the separators in place, substantially as described.

2. The combination, with the trough-like frame having slot in its bottom, of the tooth K, having the bolt O, adapted to pass through said slot, the shoulders I I, adapted to bear against the sides of the trough, and a nut for securing the bolt beneath the trough, substantially as shown and described.

3. The combination, with the comb-frame having a wooden bar, W, on its side, of the tooth K, having shoulders, one of which is adapted to bear against this wooden bar to facilitate the fitting of the teeth, as and for the purpose described.

4. The combination, with the trough-frame B B, of the bolt-hinges having threaded ends with a removable nut for permitting the ready detachability of the comb, as described.

5. The combination, with the comb-frame and the cross-bar A, of a sliding locking-bolt, G, as and for the purpose described.

6. A grass-header comb having its teeth secured by nuts on the under side, in combination with a subjacent frame adapted to bear against all the nuts, in the manner described, when the comb is in operative position to lock the nuts against turning, as described.

7. The combination, with the comb having its teeth secured by nuts on its under side, of the grooved or rabbeted cross bar A, having its grooves or rabbets adapted to bear against the said nuts and lock them, as described.

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Witnesses:
M. G. TAYLOR,
J. M. HODGKIN.