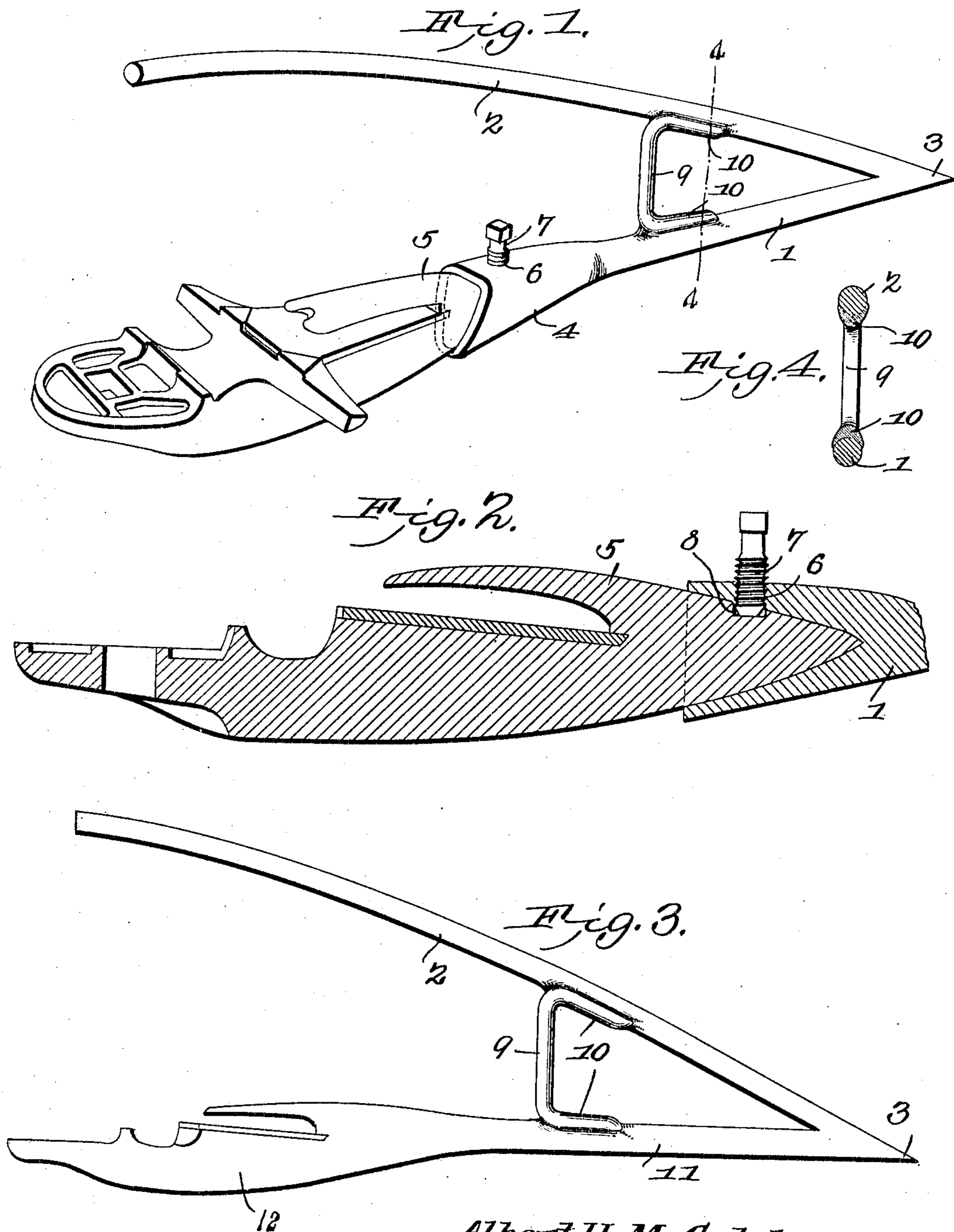


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A. H. McCUTCHAN.
GRAIN LIFTING ATTACHMENT FOR HARVESTERS.

APPLICATION FILED MAR. 2, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBERT H. McCUTCHAN, OF GOLTRY, OKLAHOMA TERRITORY, ASSIGNOR OF
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GRAIN-LIFTING ATTACHMENT FOR HARVESTERS.

No. 843,164.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed March 2, 1906. Serial No. 303,874.

To all whom it may concern:

Be it known that I, ALBERT H. McCUTCHAN, a citizen of the United States, residing at Goltry, in the county of Woods and Oklahoma Territory, have invented a new and useful Grain-Lifting Attachment for Harvesters, of which the following is a specification.

This invention relates to harvesters and binders, and especially to the cutting apparatus of this class of machines.

The invention has for its prime object to lift or to elevate grain that has been broken down either on account of being overripe and heavy or by being beaten down by rain or by hail, so as to cause the straw to be severed properly by the cutting apparatus and the heads to be guided onto the platform, and thus avoiding the waste which commonly takes place when operating in down grain by severing the stems close to the heads, permitting the latter to drop upon the ground and to pass under the machine.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a perspective view showing an ordinary guard-finger having the improved grain-lifting device applied thereto. Fig. 2 is a sectional view illustrating more particularly the means for securing the grain-lifting device upon the guard-finger. Fig. 3 is a side view illustrating a modified form under which the grain-lifting device is made integral with the guard-finger. Fig. 4 is a sectional detail view taken on the plane indicated by the line 4 4 in Fig. 1.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The improved grain-lifting attachment is

applied to the guard-fingers of the cutting apparatus of harvesters and binders, it being intended in practice to apply one of the grain-lifting devices to each guard-finger of the cutting apparatus.

The lifting device, which is preferably made of cast or malleable iron, comprises a lower member 1 and an upper member 2, converging at the front in a point or apex 3. In Figs. 1 and 2 of the drawings the lower member 1 has been shown as provided at its rear extremity with a socket 4, adapted to receive the forward end of a guard-finger 5 of ordinary construction, it being understood that the socket 4 may be modified to adapt it for engagement with the guard-fingers of various machines. The upper wall of the socket 4 has an aperture 6, into which is threaded a set-screw 7 for the reception of the point of which the guard-finger 5 is provided with a notch 8, as will be seen in Fig. 2 of the drawings, thus enabling the device or attachment to be firmly secured in operative position upon the guard-finger, from which it extends in a straight forward direction to the extent of the length of the member 1, which extends forwardly in the approximate plane of the guard-finger.

The upper member 2 inclines upwardly and rearwardly from the apex 3 and is to be extended rearwardly to a sufficient extent to deliver material onto the platform of the harvester, as will be readily understood.

The members 1 and 2 are connected with each other by means of an intermediate reinforcing member or brace 9, approximately U-shaped, the limbs 10 10 of said brace being joined to the members 1 2, so as to thicken, stiffen, and reinforce the latter for a portion of their lengths intermediate the apex 3 and the butt or rear end of the member 1, where experience has proven that strength is particularly needed in order to prevent breakage.

Under the modification shown in Fig. 3 of the drawings the socket 4 and the attaching means are simply dispensed with, the lower member (here designated 11) of the lifting device being made integral with the guard-finger, which is here designated 12. The other parts of the device remain unchanged and have been designated by the same reference-numerals as in Figs. 1 and 2.

The operation and advantages of this in-

vention will be readily understood from the foregoing description, being taken in connection with the drawings. The improved grain-lifting device may be in the nature of an attachment, as shown in Figs. 1 and 2, which may be readily applied to the guard-fingers of harvesting and binding machines already in use, or it may be made integral with the guard-fingers and form part of the equipment of new machines. When a machine is equipped with the improved grain-lifting device, grain that is down will be engaged by the apex 3 of the lifting devices connected with the guard-fingers of the cutting apparatus and will be gradually lifted sufficiently to cause the stems to be severed at the proper distance from the ground, the heads being guided over the rearwardly and upwardly inclined members 2 onto the grain-platform, thus avoiding loss and waste of material.

By reason of the arrangement of the several parts as herein described, and shown in the drawings, it is possible to provide a simple and strong grain-lifting attachment for a finger-guard. At the same time the attachment is light and will not add materially to the weight of the machine to which it is attached or have a tendency to tilt the forward end of the finger-guard to which it is attached in a downward direction. As the brace 9 extends vertically from the lower member 1 to the upper member 2 and as the limbs 10 extend along the said members from the brace 9 toward the apex or point of convergence of the said members, those portions of the finger-guard lying between the brace 9 and the apex 3 are strengthened and made rigid, while the rear end of the member 2 is free to vibrate, which vibration will have its effect in untangling the grain and erecting the same. In other words, the forward portion of the grain-lifter is so braced as to be devoid of vibration, but serves as an entering wedge, while the rear end of the upper member 2 is free to vibrate.

I am aware that patents have been granted for grain-lifters which in general appearance somewhat resemble the construction herein described and shown; but such patented devices are either objectionable for the reason

that they add excessive weight to the machine to which they are applied or by reason of injudicious arrangement of parts are not braced and strengthened at the points subjected to the greatest strain; hence are frail and are liable to be twisted out of shape as the result of slight use.

Having thus described the invention, what is claimed is—

1. A grain-lifting device adapted to be attached to the finger-guard of a harvester consisting of a forwardly-extending member, a member extending rearwardly from the forward end of said forwardly-extending member and being inclined at an angle with relation to said forwardly-extending member, a U-shaped limb inserted between said members and having its ends extending toward the point of connection between the two said members and inclined toward each other, the outer sides of the ends of the limb being secured along their entire length to the said members and being concave to conform to the contour thereof.

2. A grain-lifting device adapted to be attached to the finger-guard of a harvester consisting of a forwardly-extending member, a member extending rearwardly from the forward end of said forwardly-extending member and being inclined at an angle with relation to said forwardly-extending member, a brace extending vertically between the forwardly-extending member and the rearwardly-extending member and attaching with both and having limbs which extend therefrom along both of said members toward the point of juncture only and bracing that portion of the lifting device lying between the brace and the point of juncture of the forwardly and rearwardly extending members and leaving the rear portion of the rearwardly-extending member free for vibration.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT H. McCUTCHAN.

Witnesses:

FRED WALLACE,
E. L. HUYCK.