June 16, 1925. 1,542,126

G. H. HARRIS

HEADER FRAME AND FEED SPOUT CONNECTION

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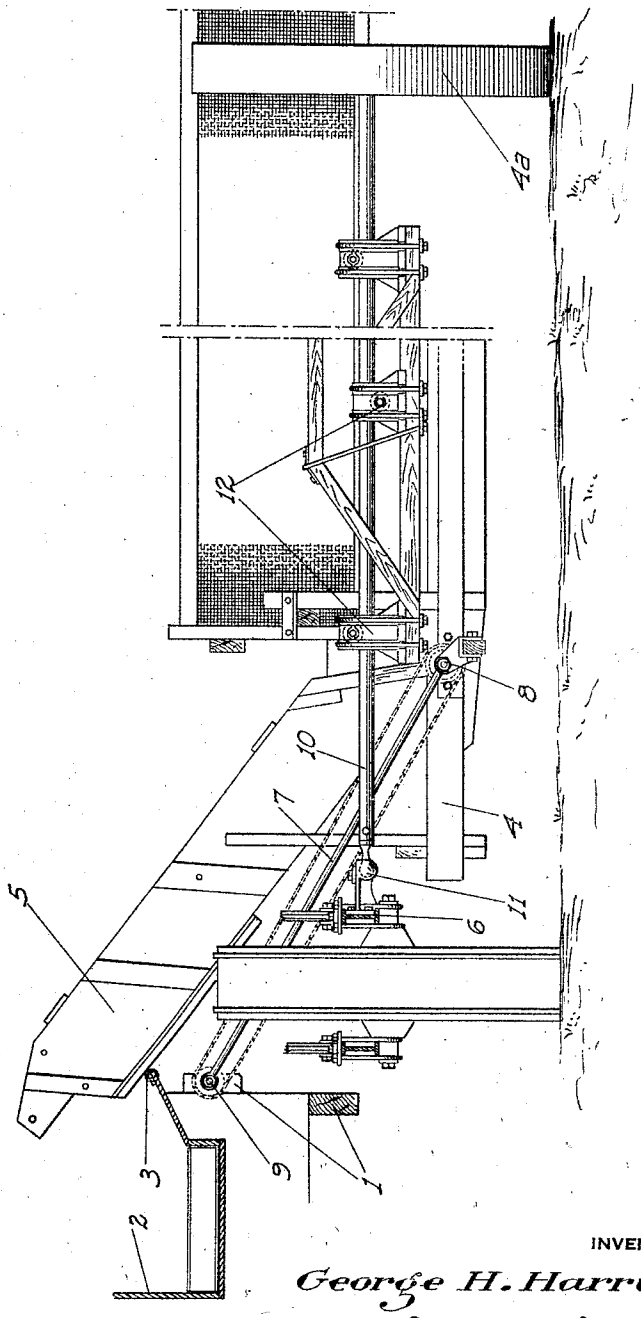

Fig. 1

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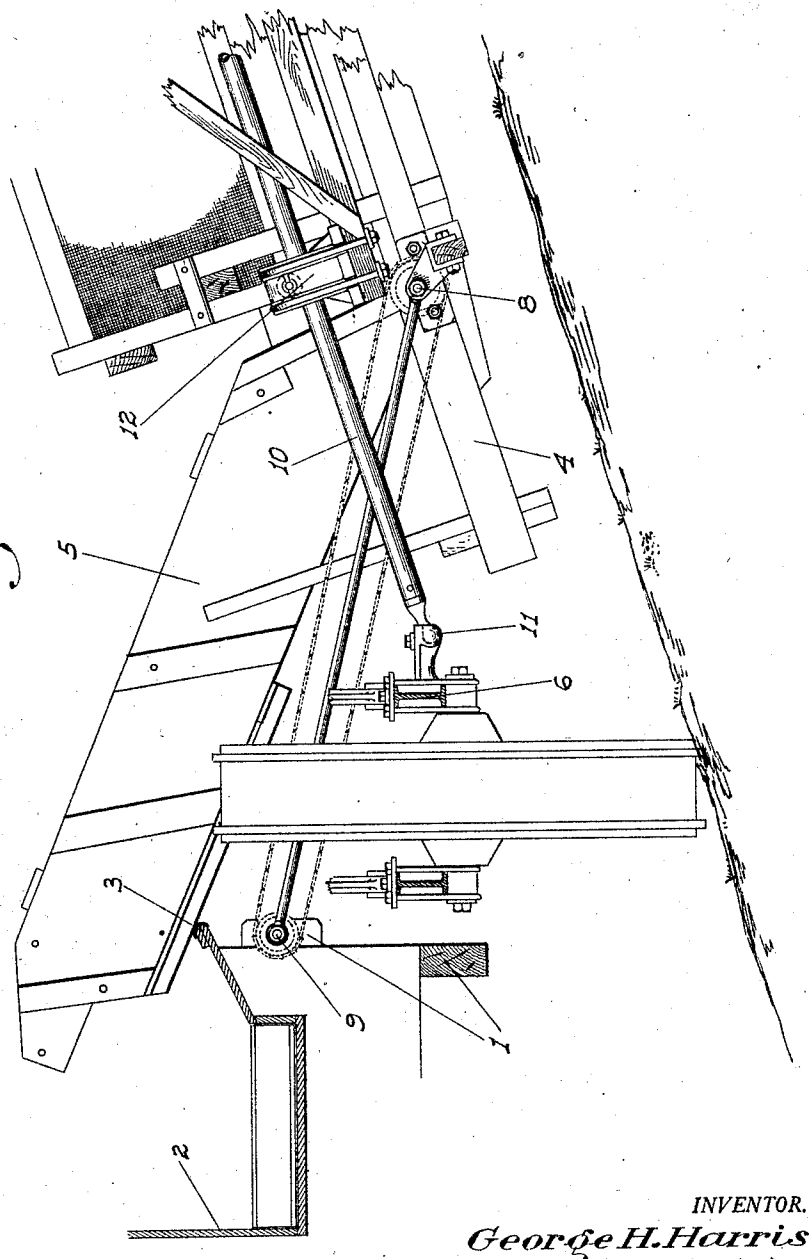
Fig. 2



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UNITED STATES PATENT OFFICE.

GEORGE H. HARRIS, OF STOCKTON, CALIFORNIA.

HEADER-FRAME AND FEED-SPOUT CONNECTION.

Application filed June 16, 1923. Serial No. 645,742.

To all whom it may concern:

Be it known that I, GEORGE H. HARRIS, a citizen of the United States, residing at Stockton, county of San Joaquin, State of California, have invented certain new and useful Improvements in Header-Frame and Feed-Spout Connections; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in side-hill harvesters, and particularly to the means employed in connecting the header frame to the thresher.

In all such harvesters as now constructed, as far as I am aware, the header frames are attached to the thresher in such a manner that when the header is working on side-hills, at which time it is of course at an angle to the thresher, the said spout of the header is thrown into the feed-house into which it discharges to such an extent that its upper end is sometimes moved directly against the back of the feed-house, and tends some times to not only break the back of the same but in any event causes the grain discharged from the spout to pile up and pack in the feed-house, necessitating that it be manually dislodged in order to enable the operation of the thresher to be carried on without interruption.

The principal object of my invention therefore is to so connect the header frame to the thresher that irrespective of the change of angle of the header to the thresher the point of connection of the feed-spout with the feed-house will remain practically constant at all times, and will never approach the back of the feed-house to such an extent as to interfere with the ready discharge of the product from the spout, such as is necessary for the efficient operation of the thresher as a whole.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Fig. 1 is a fragmentary view of the thresher and header-frame and parts immediately adjacent thereto, showing the normal position of the header-frame and spout when the former is in horizontal plane.

Fig. 2 is a similar view showing the header-frame operating on a side-hill, and consequently at an angle to the thresher.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes in general the frame work of the thresher on which is mounted a feed-house 2, having the usual opening at its forward end and facing to one side of the thresher and a rail 3 along the lower edge of said opening.

The header of the thresher has the usual rigid frame 4 on which is pivoted at its lower end the usual feed-spout 5 which rests adjacent its upper end on the rail 3 at all times.

Between the header-frame and the thresher frame is the usual wheel-supported swing frame 6 mounted on the header frame and arranged as usual to be raised and lowered when necessary to maintain the thresher in a constant horizontal plane, irrespective of the slope of the ground on which it may be working.

My improved means of connection between the header-frame and the thresher consists of a rigid bar or rod 7 pivoted at its lower end in horizontal alinement with the pivotal connection of the spout with the header-frame as at 8, the upper end of said rod being pivoted in vertical alinement with the rail 3 and but a short distance therebelow as at 9, the point 9 being at all times above the point 8.

The header-frame 4 is supported from the ground at its outer end by means of the usual wheel 4^a, and is supported at its inner end from the swing-frame and maintained in substantially parallel alinement with the ground at all times by means of a rigid beam 10, having on one end a ball connection 11 with the swing-frame and being slidably mounted on the header-frame 4 by means of bearings 12 on the latter. This construction is particularly described in my co-pending application on "improve-

ments in header construction," Serial No. 651481, filed July 14, 1923.

In operation, when the thresher is working on level ground the point of bearing of the spout 5 with the rail 3 of course remains undisturbed at all times. When operating on side-hills, however, the thresher proper remains in its original horizontal alinement by suitable manipulation of the swing-frames, while the header-frame moves to maintain parallel alinement with the slope of the hill, so that its angle relative to the thresher is altered. The peculiar connection of the header with the swing-frame by means of the beam 10, while supporting the said frame parallel to the ground at all times, enables the frame to move away from the thresher and swing-frame as the header-frame is raised at an angle relative to the thresher as shown in Figure 2. This moving away of the header-frame takes place positively by reason of the connection of the rod 7 therewith. This is because the said rod slopes down from its upper to its lower end and therefore as the header-frame raises, said lower end of the rod will of course be raised likewise; but moving in an arc whose center is at the upper end of the rod 7, the lower end will of course move away from the swing-frame and thresher, taking the header-frame with it.

The result of this arrangement is that the spout, while tending to move laterally into the feed-house as the header-frame is raised, is prevented from so doing by reason of the fact that the header-frame moves away from the thresher while it is raising, and since the spout is attached to the header-frame it also naturally moves away from the feed-house to an extent which almost, if not entirely, counteracts its moving-in tendency.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. In side-hill harvester construction, a thresher having a feed house mounted thereon, said feed-house having an opening facing to one side of the thresher and a rail along the lower edge of said opening, a header-frame flexibly mounted at one end on the thresher for swinging movement relative thereto in a vertical plane, a feed-spout pivoted at one end of the header-frame and resting at the other end on the rail of the feed-house, and means whereby the header frame will move laterally of the thresher with any change of angular setting of said frame relative to the thresher.

2. In side-hill harvester construction, a thresher having a feed house mounted thereon, said feed-house having an opening facing to one side of the thresher and a rail along the lower edge of said opening, a header-frame flexibly mounted at one end on the thresher for swinging movement relative thereto in a vertical plane, a feed-spout pivoted at one end on the header-frame and resting at the other end on the rail of the feed-house, said latter end being at a higher level than the former, and a rigid rod pivoted at one end on the thresher under and close to the rail, and at the other end on the header-frame in alinement with the pivotal connection of the feed-spout therewith.

3. In side-hill harvester construction, a thresher having a feed house mounted thereon, said feed-house having an opening facing to one side of the thresher and a rail along the lower edge of said opening, a header-frame flexibly mounted at one end on the thresher for swinging movement relative thereto in a vertical plane, a feed-spout pivoted at one end on the header-frame and resting at the other end on the rail of the feed-house, a member pivoted at one end on the thresher under and close to the rail, and at the other end on the header-frame in alinement with the pivotal connection of the feed-spout therewith, and additional means connecting the header frame to the thresher in a manner to cause the frame to be supported parallel to the ground while enabling it to move laterally of the thresher with the change of lateral plane of the lower end of the rod due to the swinging thereof about its upper pivot.

4. In side-hill harvester construction, a thresher having a feed house mounted thereon, said feed-house having an opening facing to one side of the thresher and a rail along the lower edge of said opening, a header-frame flexibly mounted at one end on the thresher for swinging movement relative thereto in a vertical plane, a feed-spout pivoted at one end on the header-frame and resting at the other end on the rail of the feed-house, a member pivoted at one end on the thresher under and close to the rail, and at the other end on the header-frame in alinement with the pivotal connection of the feed-spout therewith, a swing-frame mounted on that side of the thresher from which the header frame projects and between said frame and thresher, and a horizontal rigid bar flexibly connected to the swing frame and slidably mounted on the header frame.

In testimony whereof I affix my signature.

GEORGE H. HARRIS.