BRACE CONSTRUCTION FOR HEADERS

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Fig. 1

Fig. 2

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The construction of headers such as are pro

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tected in the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in the construction of headers such as are provided with harvesting machines, and particularly to the framework thereof.

Headers of this character are supported at their outer ends by a single wheel parallel to the harvester proper, the header mechanism, which consists essentially of the cutter bar or sickle, draper and reel, projecting in front of the wheel. This mechanism is turnable as a unit about the wheel as an axis, its weight being practically counterbalanced by a weighted arm structure extending rearwardly of the wheel.

It is necessary that the header parts, including the frame thereof, shall be as light as possible, since owing to the usually great length and overhang of the header beyond the wheel, the weight thereof even then is considerable for the one wheel to support and for the weight structure to counterbalance.

The inner or harvester end of the header has fair support to prevent twisting or sagging movement thereof, but at the outer end, especially at the supporting point for the reel at that end, the light framework necessary used for the above stated reasons tends to sag and warp out of line, destroying the efficiency of operation of the reel.

The principal object of my invention therefore is to eliminate the above named defects, without altering the size weight or arrangement of the standard framework now used, by applying to the frame at the places most needed a simple brace structure which while effectively preventing warp of the framework, will add but a few pounds of weight to the normal total.

Another object is to provide for altering the tension of the main brace member at its outer end, so that the alignment of the header parts connected thereto may be adjusted to a nicety.

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

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

Fig. 1 is a perspective outline of a portion of the outer end of a header, showing my brace structure installed thereon.

Fig. 2 is a top plan view of the brace, with the parts to which it is directly connected.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the main horizontal framework of the header, supporting a shaft or axle 2 which carries the header supporting wheel 3 at its outer end.

Ahead of the wheel in speed alinement parallel to the shaft 2 are uprights 4, secured and braced to the framework 1. These uprights serve as supports for the vertical curtian or screen 5 behind the reel 6, which is journaled and supported at its outer end on a horizontal beam 7 extending at right angles to the line of uprights 4, and beyond or outside of the wheel.

This beam of course extends ahead of the line of uprights a considerable distance in order to reach the center of the reel, and also extends rearwardly of the uprights to a point adjacent the rear edge of the wheel, at which point it is connected to an upright 8 projecting upwardly from the horizontal outer end beam 1 of the framework 1, said beam being unsupported at the end to which said upright is connected. The beam 7 is also bolted to the outermost upright 4 of the uprights 4.

The above described construction is standard to headers, and as stated in the preamble to this specification, there is a tendency for the beam 7 to sag down at the reel end, warping and drawing out of true the various uprights to which it is directly or indirectly connected.

My improved brace structure, which overcomes this defect, comprises a brace beam 9, horizontally disposed adjacent the upper ends of the members 4 and to the rear thereof, being so proportioned as to have great strength against longitudinal deflection in a horizontal plane.

This beam rests against certain of said uprights 4 and is securely bolted thereto.
As it approaches the outer upright 4, however it slopes away rearwardly thereof so as to leave a certain space therebetween, as clearly shown in Fig. 2.

A bolt 10, adjustable in the beam 9, passes through the members 4 and 9, so that the setting of the former, on which the main weight of the reel is thrown, may be adjusted relative to the rigid brace beam to maintain the said upright 4 in parallel alinement with the other uprights, and to prevent sagging of said upright and the reel supporting beam 7.

In effect what I have done is to couple certain of the uprights 4, which by reason of their location on the frame 1 may be held fairly rigid therewith without any trouble, to the upright 4, which not only bears the burden of the weight of the reel, but is the least able to sustain this weight owing to the necessarily somewhat flexible member 1 which supports the upright 8. Since this upright in turn supports the rear end of the beam 7, and since as previously stated the member 1 is not and cannot be supported at its rear end due to the peculiar position which it necessarily occupies, the uprights 4 and 8 tend to sag forward with the weight of the reel connected thereto and ahead of the same. The beam 9 and the particular manner in which it is installed overcomes this, as will be evident.

A horizontal diagonal brace rod 11 extends from the beam 9 intermediate its ends to the upper end of the upright 8, aiding in maintaining the proper setting of the latter.

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. A brace structure for headers comprising the combination with a header-reel beam and an upright support therefor, of a horizontal inflexible brace supported independently of said upright, and projecting to a point adjacent the same and at right angles to the beam, and means connecting the free end of said brace to the upright to permit relative fore and aft adjustment therebetween.

2. A brace structure for headers comprising the combination with a header-reel beam and an upright support therefor, of a horizontal inflexible brace supported independently of said upright, and extending at right angles to the beam, said brace projecting across a vertical face of the upright in spaced relation thereto, and adjustable means connecting the free end of the brace to the upright to permit of the space therebetween being altered.

3. A brace structure for headers comprising the combination with a header-reel beam and an upright support therefor, of a horizontal inflexible brace supported independently of said upright, and extending at right angles to the beam, said brace projecting across a vertical face of the upright in spaced relation thereto, and a bolt passing through the upright and beam and adjustable in the latter.

4. A brace structure for headers comprising the combination with a header-reel beam and an upright support therefor, and additional uprights arranged in a line at right angles to said beam supporting upright, of a horizontal inflexible brace secured to said additional uprights and extending across the face of the first named upright in spaced relation thereto, and adjustable means connecting said first named upright and the beam-end adjacent thereto in a manner to allow of the space therebetween being altered.

In testimony whereof I affix my signature.

GEORGE H. HARRIS.