(No Model.) 2 Sheets—Sheet 1.

W. N. WHITELEY.

GRAIN ADJUSTING DEVICE FOR HARVESTERS.

No. 372,505. Patented Nov. 1, 1887.

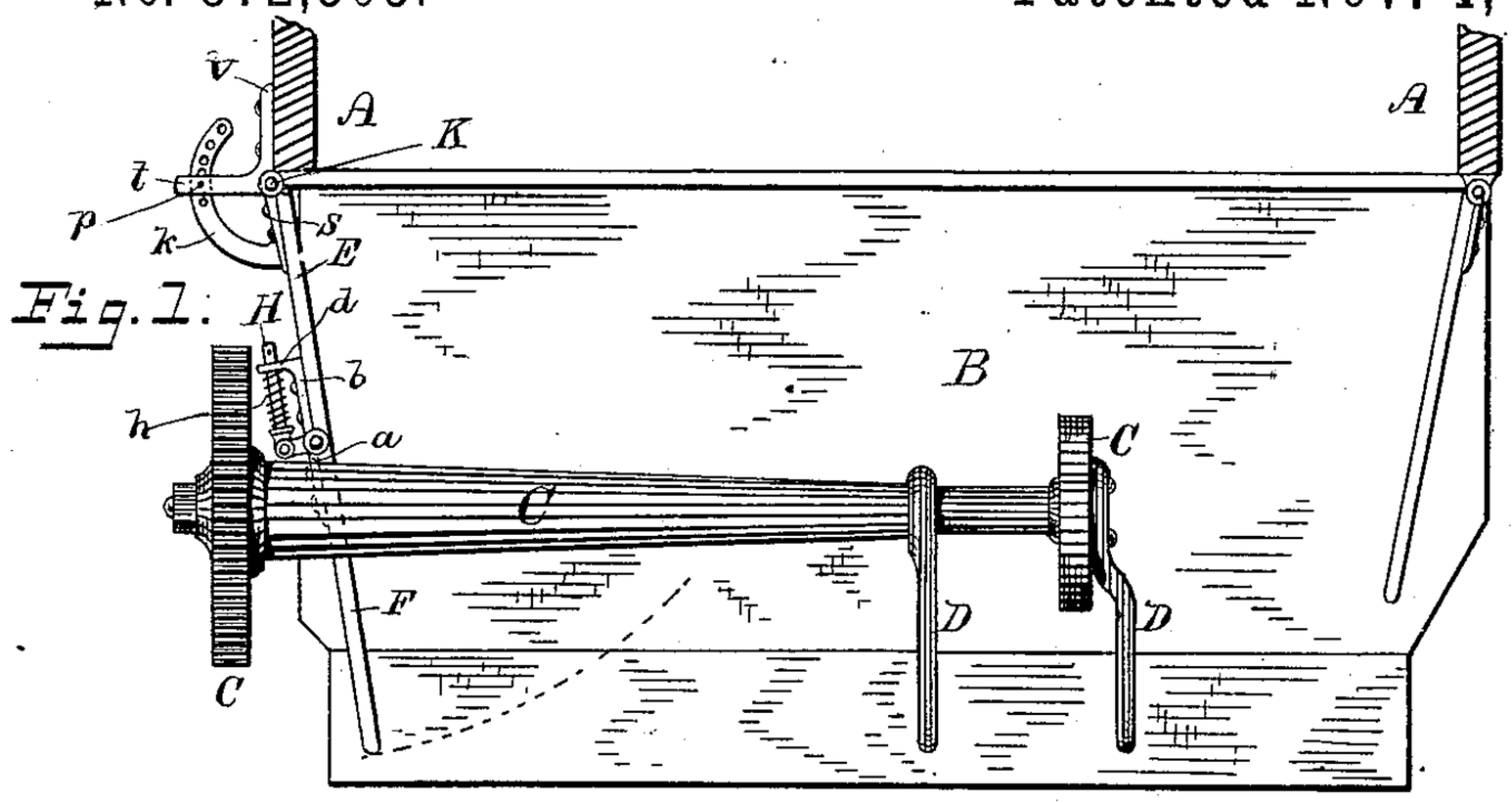

Fig. 1.

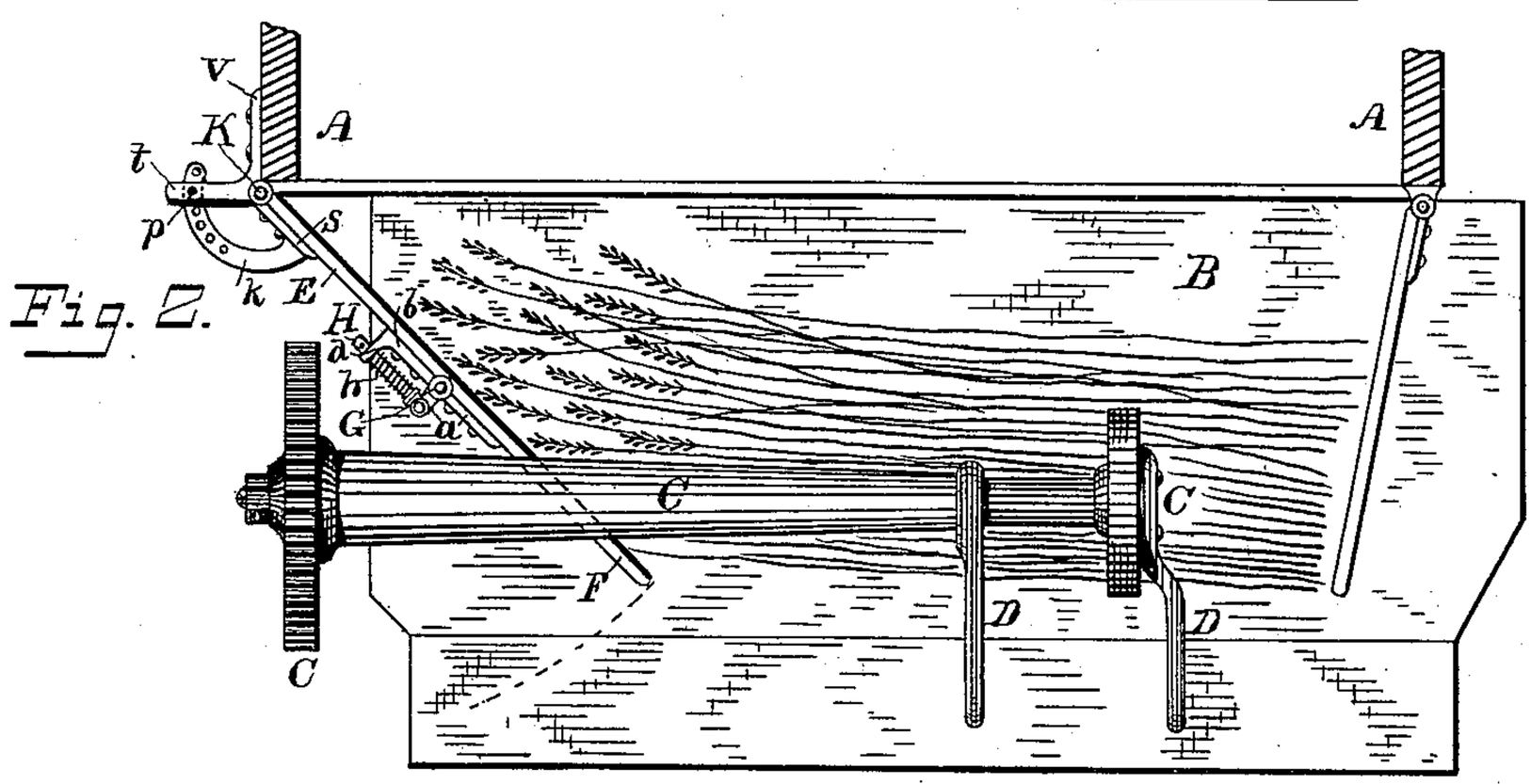

Fig. 2.

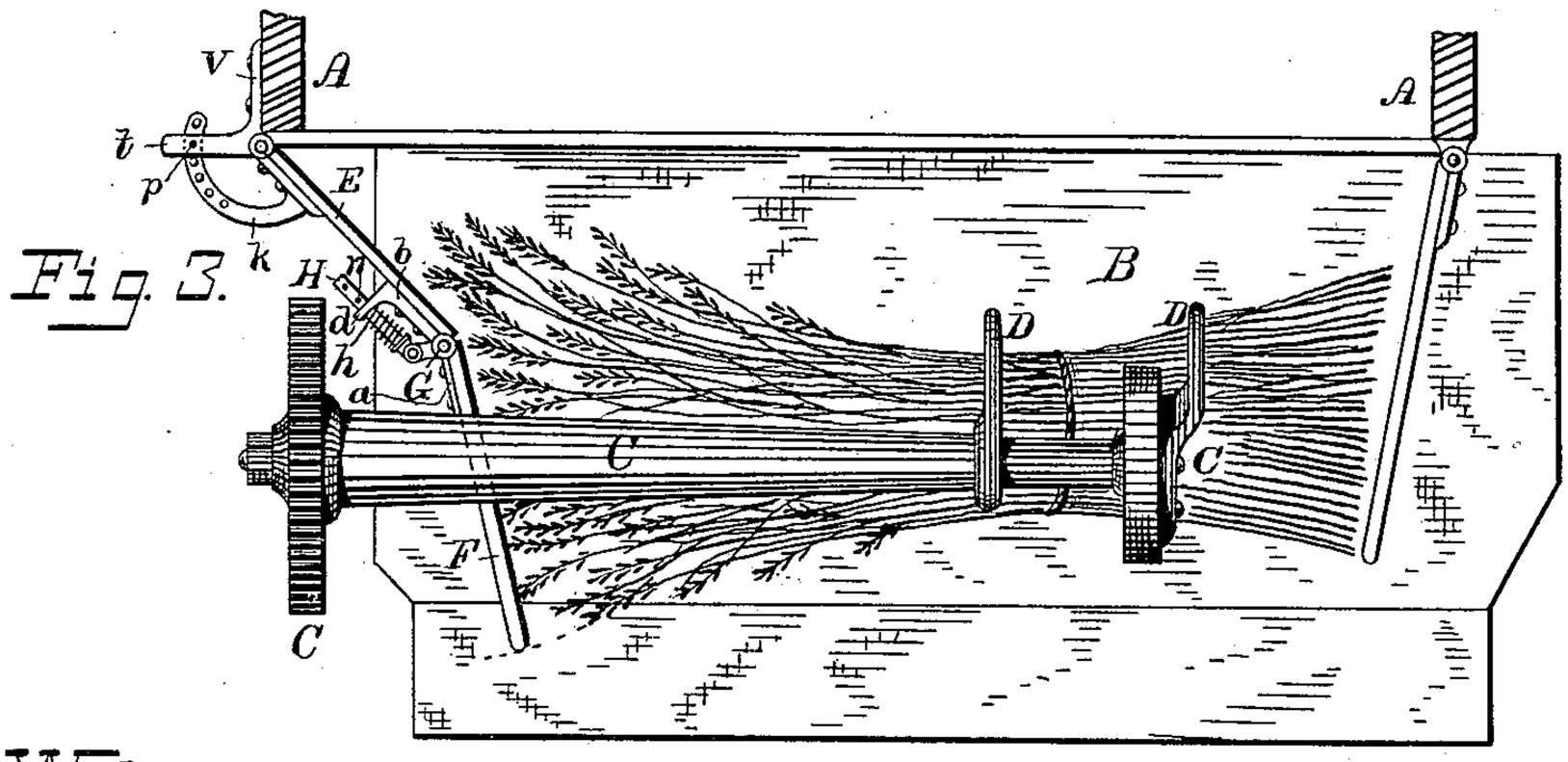

Fig. 3.

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Inventor:
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Fig. 4.

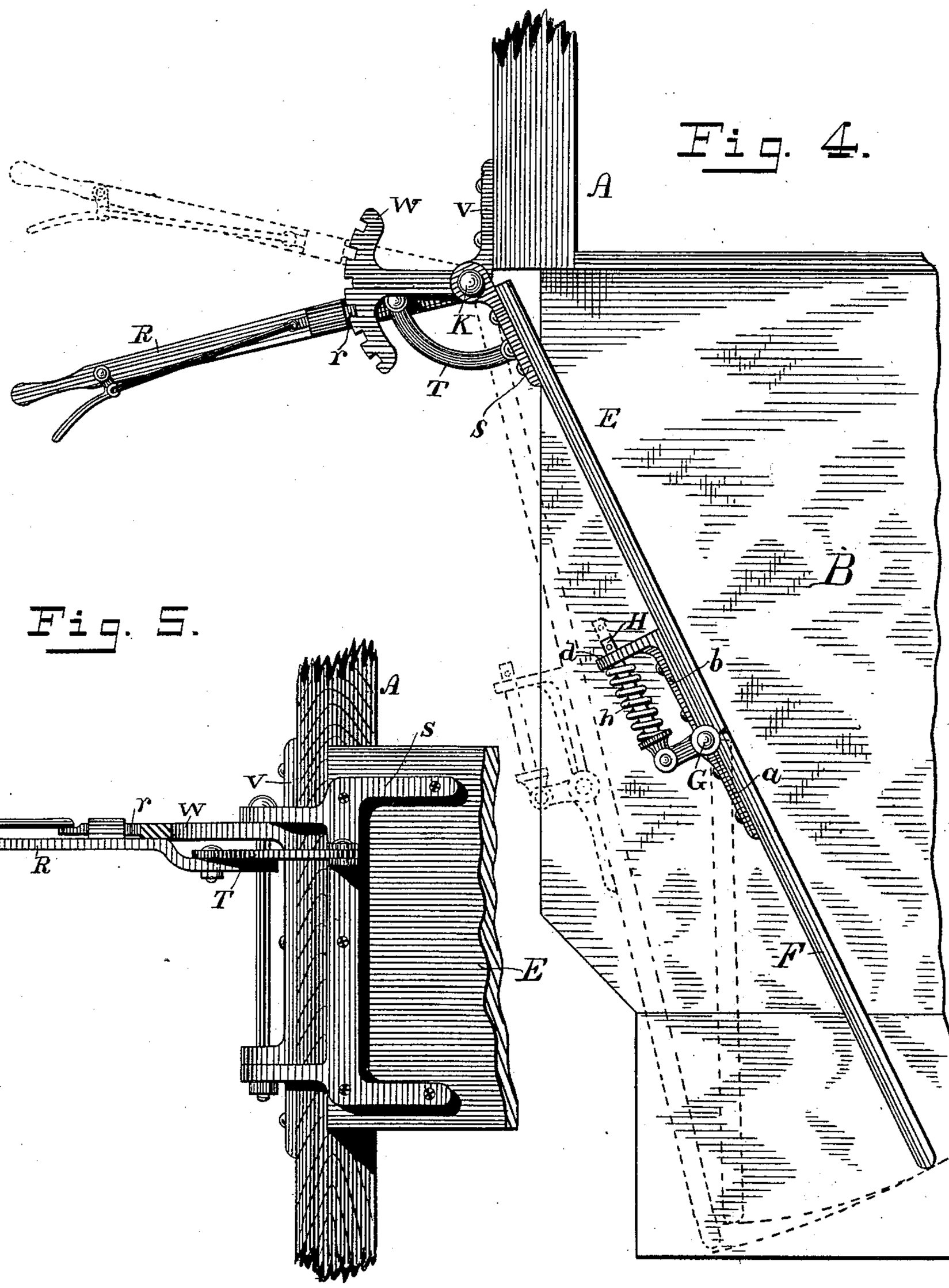

Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM N. WHITELEY, OF SPRINGFIELD, OHIO.

GRAIN-ADJUSTING DEVICE FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 372,505, dated November 1, 1887.

Application filed September 24, 1886. Serial No. 214,430. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. WHITELEY, a citizen of the United States, residing in the city of Springfield, county of Clark, and State of Ohio, have invented certain new and useful Improvements in Head and Butt Boards for Grain-Binders; and I hereby declare the following to be such a full, clear, and exact description of the invention as will enable any person skilled in the art to which it applies to construct and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to self-binding harvesters, and is in the nature of an improvement in the devices, heretofore made adjustable as to angle and of spring metal to be flexible, for guiding the grain from the elevating apparatus to the binding-machine for the purpose of always placing the band around the center of the bundle of grain, whether the same be long or short.

The object of my invention is to provide a head or butt board for automatic grain-binding harvesters, adjustable as to angular position on the binder-deck and jointed midway its length to render its free end flexible, which shall properly guide the grain from the elevators of the harvester down the inclined binding-deck to the binding apparatus, and whose general direction and position may be readily changed and made rigid at the will of the operator, as may be necessary to suit the varying lengths of grain, and that a portion of the said board may be rendered flexible by proper mechanism, for the purpose of yielding to any unusual pressure of grain and allowing it to pass without clogging the machine. I accomplish this object by means of a butt or head board hinged or pivoted to the proper point on the harvester, and held in position or adjusted to any desired angle by means of a stop device attached to or acting in connection with the said hinge or pivot and within reach of the operator, said board being composed of two parts hinged or pivoted to each other, the secondary part being controlled by a spring working in connection with the said hinge and thereby made flexible, the whole being constructed, arranged, and operating as hereinafter described.

In the accompanying drawings, Figure 1 is a plan view of such a portion of a binder as will show my invention, the binder being adjusted for binding long grain. Fig. 2 is a similar view showing the position of the head-board when the binder is adjusted to bind short grain. Fig. 3 is a similar view showing the operation of the head-board when the bound bundle is being ejected. Fig. 4 is a plan view of a modification of the adjusting device of the head-board, and Fig. 5 is an edge view of the adjusting device shown in Fig. 4.

Similar letters refer to like parts in the several views.

Referring to the drawings, A A are the side boards of the usual elevating apparatus, B is the binder-deck, C C C is the binder, and D D the ejectors, all constructed and arranged in any convenient manner.

The head-board is composed of two parts or boards, E and F, which are hinged or pivoted to each other by the hinge G. Pivoted to the part *a* of the hinge G is the rod H, which passes through a perforated projection, *d*, formed on the part *b* of the hinge G. The rod H is provided with a spiral spring, *h*, which, pressing against the shoulder formed on the rod H and the projection *d*, tends to keep the hinge G extended, and consequently the boards E and F in a straight line—*i. e.*, the board F in prolongation with the line of the board E, as shown in Figs. 1 and 2. The upper end of the board E is hinged or pivoted to the elevator-board A by the hinge K, and is held in position by a segment, *k*, formed upon the part *s* of the hinge K, passing through a perforated projection, *t*, formed on the part V of the hinge K, and is held in any desired position by the pin *p*, passing through the projection *t* and any one of the holes in the segment *k*, by which means the grain, when long, may be guided in a straight line down the inclined binding-deck, as shown in Fig. 1, or in the case of short grain it may be guided toward the front of the machine, as shown in Fig. 2, for the purpose of binding the sheaf in the center, in which case the board F, being rendered flexible by the hinge G and spring *h*, may swing back, as shown in Fig. 3, when the bundle is discharged or when excessive pressure is brought against it from any cause.

When it is desired to retain the board F in the position shown in Fig. 3, a pin, *n*, is inserted in the rod H, which, coming in contact with the projection *d* on the part *b* of the hinge G, holds the boards E and F at the same relative angle to each other, no matter what the angle of the board E may be to the harvester.

In the modification represented in Figs. 4 and 5 the part V of the hinge K has formed upon it the toothed segment W, into which the catch-pin *r* of the lever R engages. The adjusting-lever R is pivoted on the same center with the hinge K, and pivoted to it and to the part S of the hinge K is the connecting-link T, by which means the board E may be adjusted and secured in any desired position.

The adjusting-lever R, connecting-link T, and part S of the hinge K may be formed in one piece, if so desired, the link T forming a brace for the part S and lever R.

In the drawings my invention is shown as arranged to act as a head-board; but it may be used with as practical an effect as a butt-board, or the same binder may be provided with both head-boards and butt-boards constructed on the same principles.

Having thus described my invention, its construction, arrangement, and operation, and without wishing to be understood as restricting my claims of invention to any precise form of proportion of parts, or to any particular devices not essential to the principles of construction and mode of operation herein described, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic grain-binder, a grain-guiding board composed of two parts connected with each other by a spring-hinge, one of the parts being also hinged or pivoted to the elevating apparatus or some fixed part thereof.

2. In an automatic grain-binder, a butt-board composed of two or more boards flexibly connected to each other and controlled by springs which tend to keep the boards each in line with the other, one of the said boards being hinged or pivoted to the elevating apparatus or some fixed part thereof, the hinge of said board being so constructed that it may be rendered rigid at any desired point, substantially in the manner and for the purposes shown and described.

WILLIAM N. WHITELEY.

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