

(No Model.)

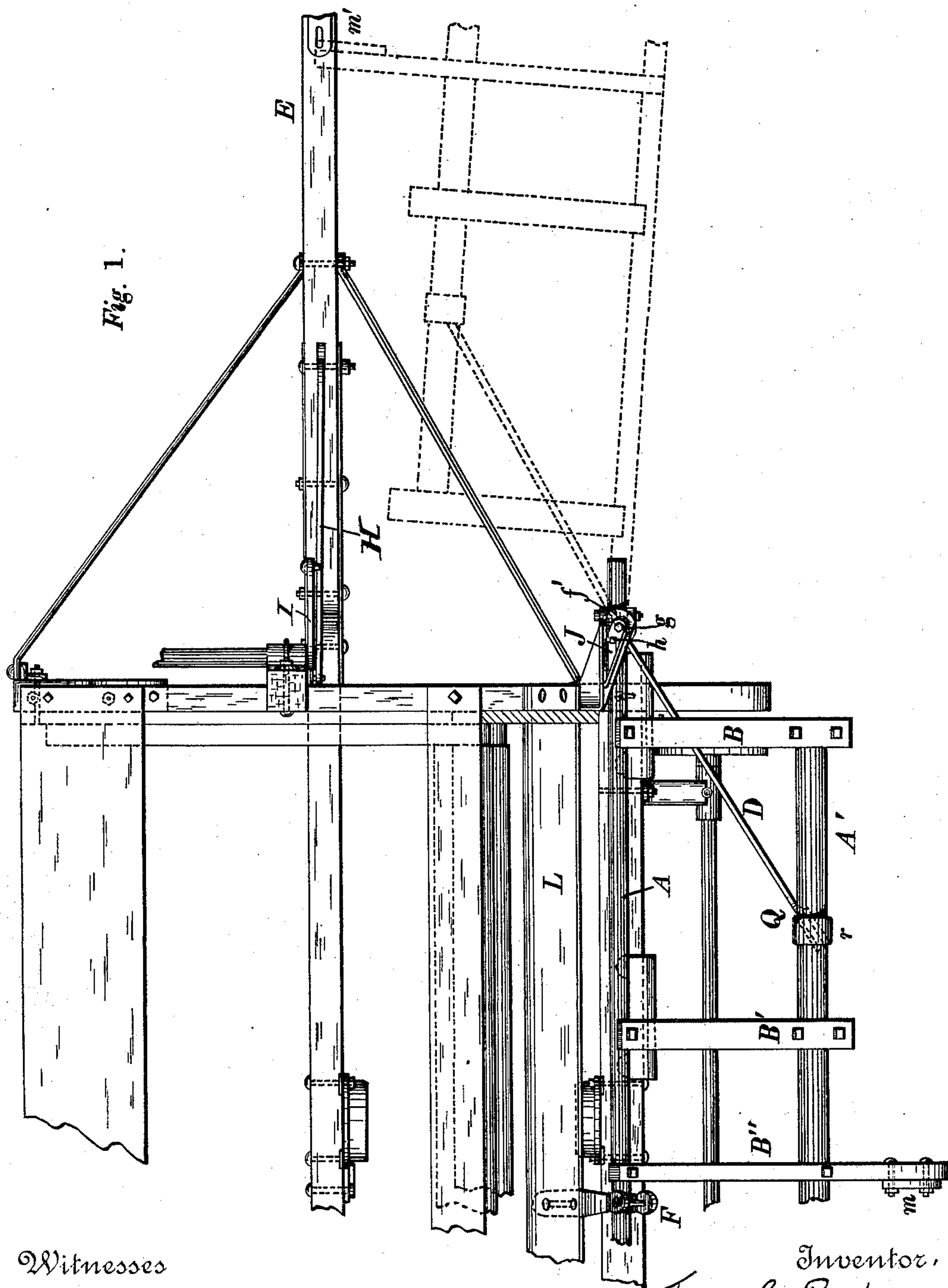
3 Sheets—Sheet 1.

F. G. BECKER.

GRAIN BINDER.

No. 396,976.

Patented Jan. 29, 1889.



Witnesses

H. G. Phillips.
Geo B Malby

Inventor,

Fred. G. Becker,

By his Attorney

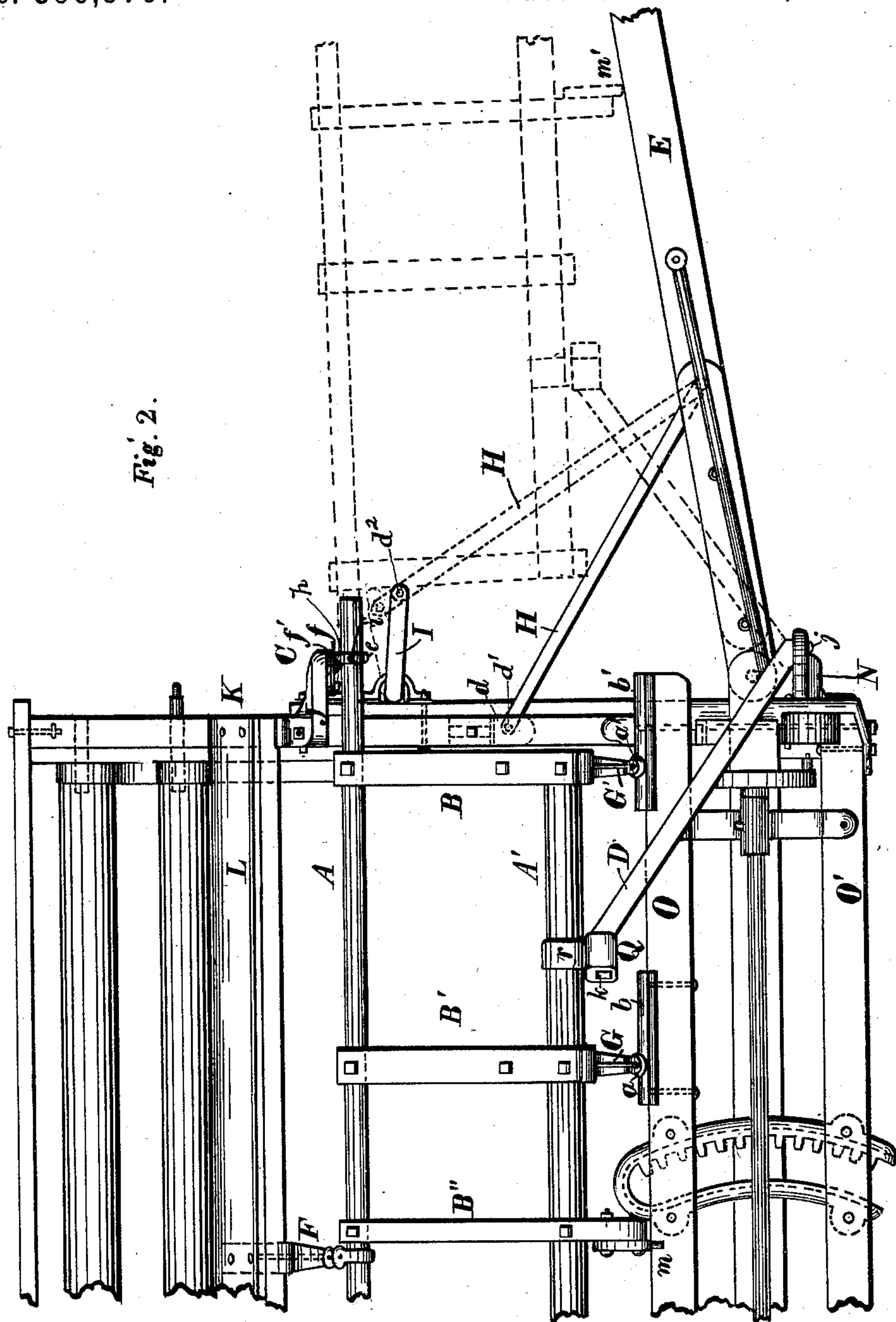
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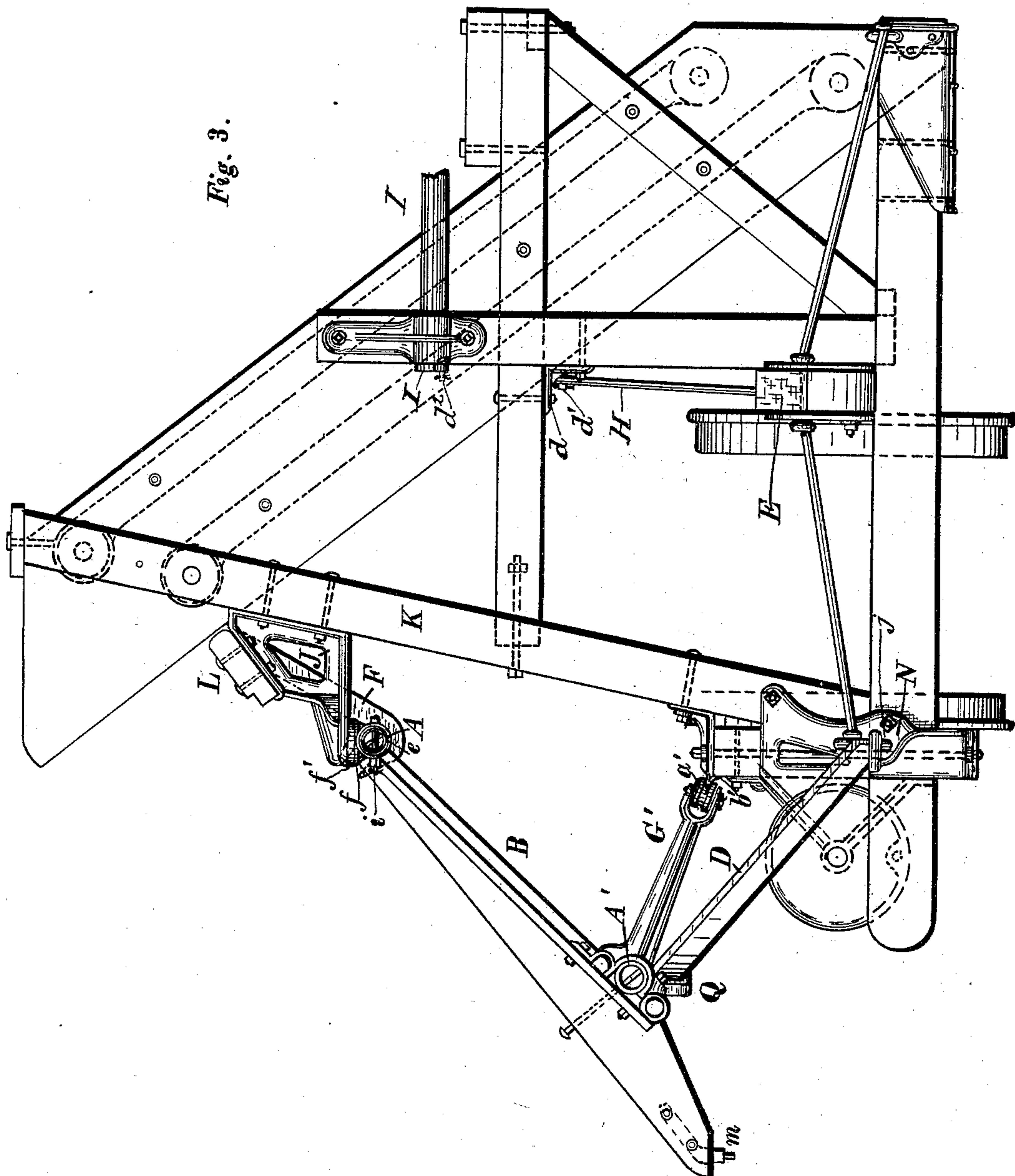
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UNITED STATES PATENT OFFICE.

FREDERICK G. BECKER, OF BROCKPORT, NEW YORK, ASSIGNOR TO D. S. MORGAN & COMPANY, OF SAME PLACE.

GRAIN-BINDER.

SPECIFICATION forming part of Letters Patent No. 396,976, dated January 29, 1889.

Application filed May 11, 1886. Serial No. 201,820. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK G. BECKER, a citizen of the United States, residing at Brockport, in the county of Monroe and State of New York, have invented certain Improvements in Grain-Binders, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improved means of pivoting the binder-frame and binding mechanism to the frame of the harvester, so that the binder may be turned forward over the pole of the harvester in order to reduce the dimensions of the machine and to permit its passage through gates of ordinary width.

My present invention is fully described and illustrated in the following specification and accompanying drawings, and the novel features thereof specified in the claims annexed to the said specification.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is a front view.

In my present invention the binder-frame, which may be of any ordinary or usual construction, consisting, essentially, of two bars or rods, A A', attached together by the cross-braces B B' B'', is pivoted to the frame of the harvester at C and arranged to be supported by the brace D, so that the binder may be swung bodily around and shifted from the position indicated by the full lines in Fig. 2 to that indicated by the dotted lines, in which the end of the binder rests on top of the pole E. When the binder occupies the position represented by the full lines in Figs. 1 and 2, the upper bar, A, of the binder is supported in a hanger, F, at or near its rear end. When in this position, in which the machine is adapted to the practical operation of binding grain, the supporting-brace D is removed by first lifting the stud *j* out of its bearing in bracket N and then withdrawing the opposite end from the socket Q.

The braces B B' are provided at their lower ends with suitable brackets, G G', Figs. 2 and 3, carrying rollers *a a'* at their lower ends, arranged to travel on a track or ways, *bb'*, fastened to the upper sill, O, of the harvester-frame, so as to permit of the adjustment of the binder backward and forward lengthwise of

the grain. The cross-bar B'' is provided at its lower end with a stud or pin, *m*, which when the binder is swung forward rests in a recess in a suitable slotted plate, *m'*, on the upper side of the tongue, so as to hold the binder in that position.

In order to effect the swinging of the binder, the rear end of the frame is lifted upward, raising the upper bar, A, of the binder-frame out of the notch in the hanger F, and it is then swung round into its forward position, the weight being supported by the inclined brace D. When the binder is swung forward, I secure the pole E rigidly to the harvester-frame by means of the tilting-lever connection H, which is pivoted or attached at its lower end to the pole, and at its upper end is attached to a casting or bracket, *d*, on the harvester-frame by being passed over a small pin, *d'*, thereon. When the binder is in operative position, the connection H is attached to the forward end of the lever-arm I of the tilting mechanism by a bolt, *d''*, the connection being shown in this position in dotted lines in Fig. 2.

My improvement is capable of being used in connection with any ordinary type of binding mechanism which is applied to the binder-frame, consisting of the bars or rods A A' (preferably of gas-pipe) and suitable cross-braces, B B' B''. At its forward end the upper rod, A, of the binder-frame is provided with a collar, *e*, having at its upper side a flange, *f*, which fits against the lower side of the corresponding flange, *f'*, on a bracket, J, secured to the forward upright post, K, of the harvester-frame. The two plates *f* and *f'* are secured together by a bolt, *g*, which permits the lower plate to turn on the upper one when the binder is swung forward. In addition to the bolt *g*, I sometimes use the bolt or pin *h* for the purpose of securing the plates *f f'* more firmly together to prevent any twisting or rocking of the lower plate when the binder is shifted backward or forward to adapt the machine for binding long or short grain. The bolt or pin *h* should be removed when it is intended to swing the binder forward. The bracket J serves also to support the forward end of the inclined board L, which forms the upper part of the grain-table. The arm or

bracket F, which supports the rear end of the binder-frame, is attached to the board L. The collar *e* is attached to the upper rod, A, of the binder-frame by inserting a pin, *i*, through it
 5 or through the rod when it is desired to swing the binder forward. In order to permit the adjustment of the binder lengthwise of the harvester-frame, the pin *i* should be removed. A suitable bracket, N, is attached to the lower
 10 cross-sill, O', of the harvester-frame and receives the pin or stud *j* at the lower end of the inclined supporting-bar D. At its upper end the supporting-bar D is provided with a bent extension, *k*, which fits into the socket Q, at-
 15 tached to the collar *r*, riveted onto the gas-pipe A', forming the lower part of the binder-frame. This socket Q is removed from the inner or pivotal end of the frame, so as to be more nearly under the center of gravity of the
 20 binder-frame, the advantage of which construction is at once apparent, for if the brace were connected to the end of the frame, as heretofore, the bracket and pivotal point would of necessity have to be moved farther forward
 25 in order to afford strength enough to overcome the powerful leverage exerted by the binder-frame upon the nearly perpendicular brace—a construction highly impractical in machines of this type.
 30 An advantage derived from the employment of a socket instead of a clamp or bolt connection, and which should not be overlooked, is that the brace may be readily disconnected when the binder is to be put into operation by
 35 moving the binder-frame rearward a short distance on the tracks, which will slip the end of

the brace out of the socket, as will be readily understood.

I place on top of the pole a plate, *m'*, having a recess which receives the stud *m* on the
 40 lower end of the brace B² of the binder-frame when the latter is swung forward. This recess is preferably a slot extending lengthwise of the pole, so as to permit a slight amount of spring or variation in the relative position of
 45 the harvester-frame and the pole without straining the binder-frame.

I claim—

1. In a harvester-binder, the combination, with the main frame, the binder-frame, the
 50 tongue, and a tilting lever mounted on the main frame, of a link, II, pivoted to the tongue and separably connected with the tilting lever, and a bracket on the main frame adapted to receive the link when disconnected from the
 55 tilting lever, whereby the link may be caused to tilt the machine or lock it and the tongue rigidly together, substantially as described.

2. The combination, with the pivoted binder-frame, consisting of the rods A A' and braces B
 60 B' B'', of the collar *e*, flanges *f f'*, and bracket J, substantially as described.

3. The combination, with the pivoted binder-frame, consisting of the rods A A' and braces B B' B'', of the collar *e*, flanges *f f'*, bracket
 65 J, and pivoted supporting-brace D, substantially as described.

FREDERICK G. BECKER.

Witnesses:

GEO. B. SELDEN,
 H. G. PHILLIPS.