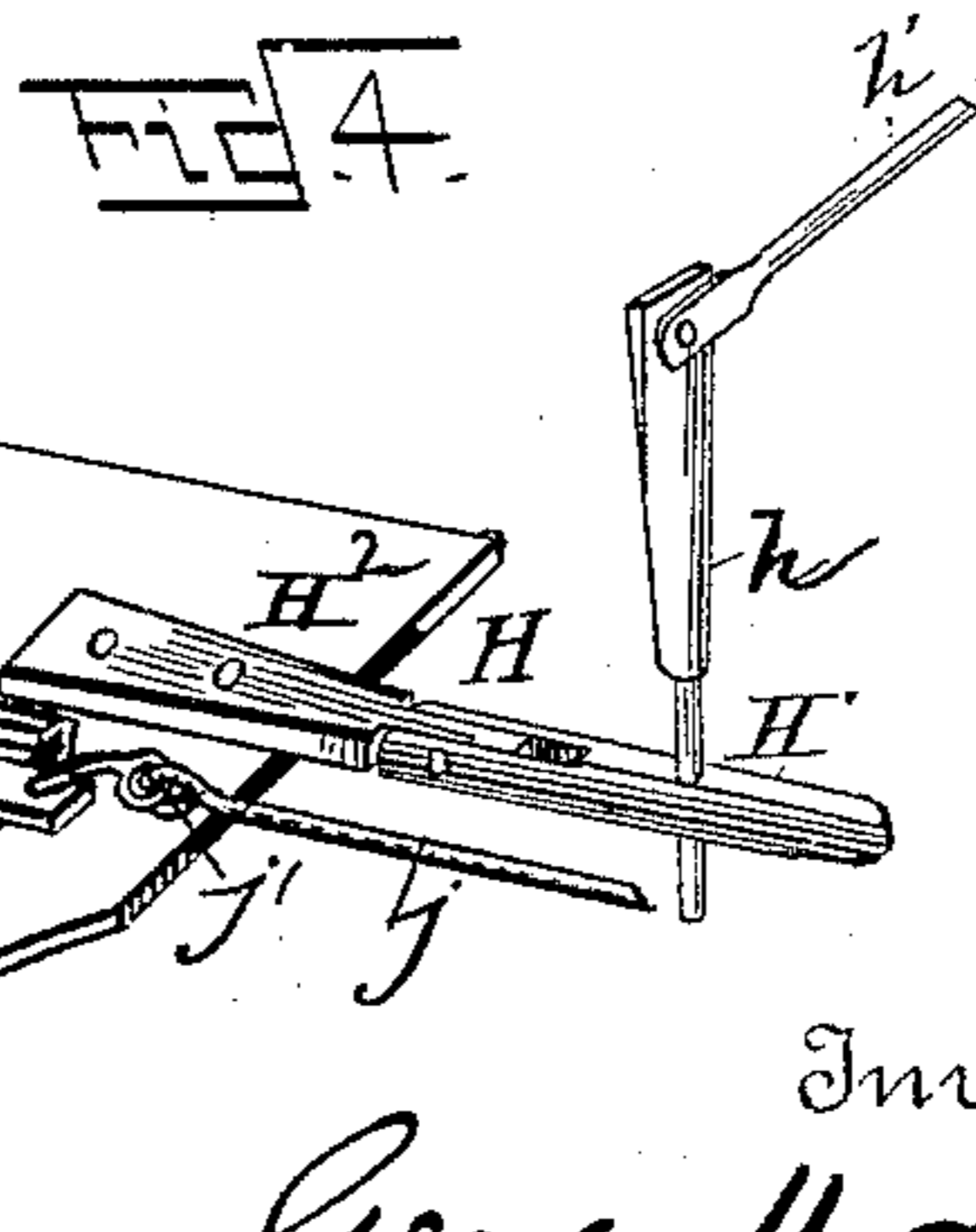
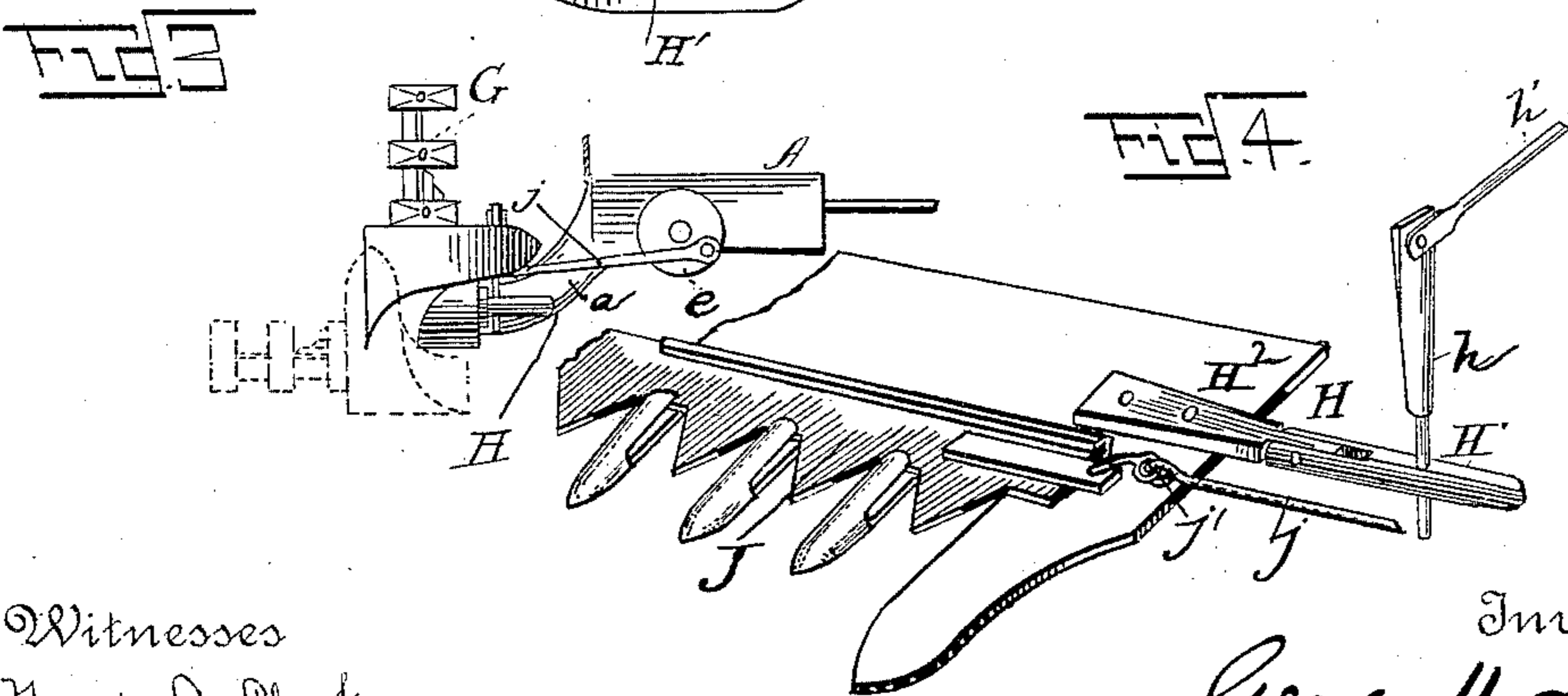
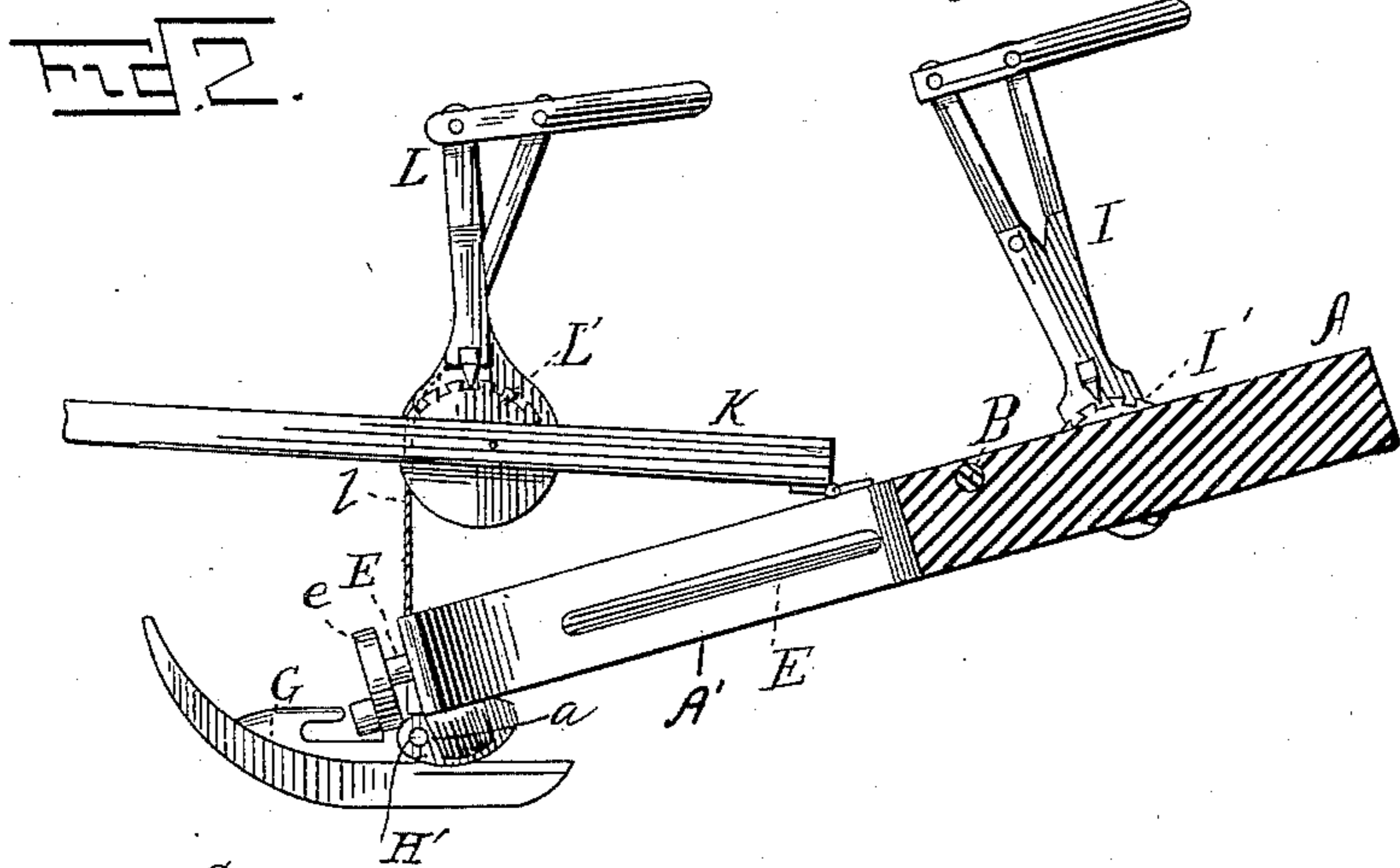
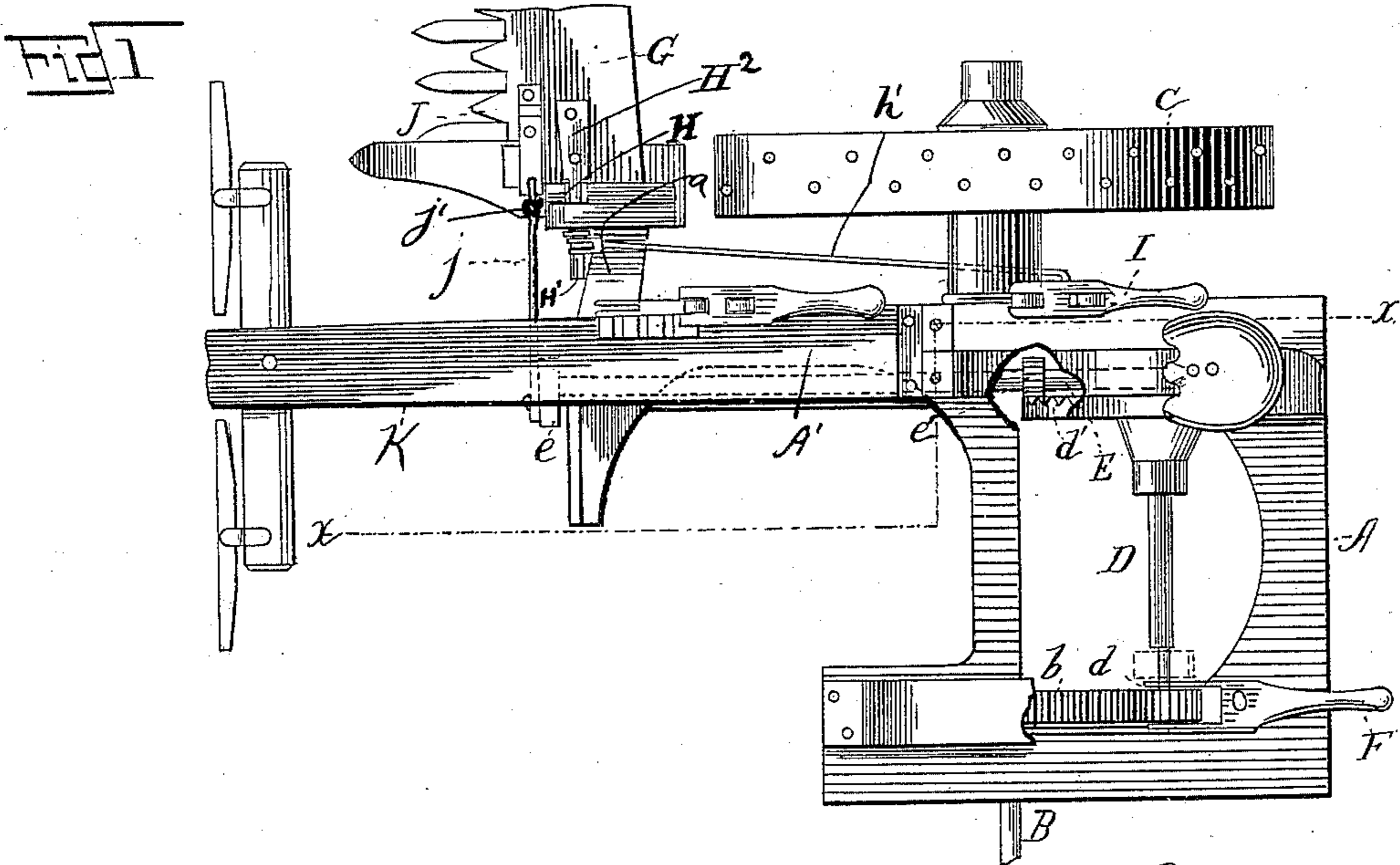


(No Model.)

G. M. SANFORD.  
MOWING MACHINE.

No. 422,162.

Patented Feb. 25, 1890.



Witnesses  
Norris A. Clark

R. W. Bishop.

Inventor

George M. Sanford

By his Attorneys,

R. S. & A. Lacey

# UNITED STATES PATENT OFFICE.

GEORGE M. SANFORD, OF KILBOURN, IOWA, ASSIGNOR OF ONE-HALF TO  
J. BOTTOMLY, OF BROOKFIELD, MISSOURI.

## MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 422,162, dated February 25, 1890.

Application filed March 11, 1886, Renewed July 6, 1889. Serial No. 316,693. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. SANFORD, a citizen of the United States, residing at Kilbourn, in the county of Van Buren and State of Iowa, have invented certain new and useful Improvements in Mowing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to mowing-machines of that class in which the cutter-bar is folded close to the side of the machine to reduce its width, and has an inclination given thereto. It particularly relates to the devices by which these two adjustments are accomplished, as will presently more fully appear from the description and the annexed drawings, in which—

Figure 1 is a plan view of a mowing-machine of my construction, adapted to carry out my invention. Parts of the machine are broken away to show the relative arrangement of the several parts. Fig. 2 is a section on the line X X, Fig. 1. Fig. 3 is a detail view of that portion of the machine showing the manner of connecting the finger or cutter-bar thereto. Fig. 4 is a perspective detail, on an enlarged scale, of the connection uniting the finger-bar to the frame of the machine.

The frame A is provided with an axle B and a drive-wheel C—one on each side. Shaft D, journaled parallel with the axle in the rear thereof, has a pinion *d* at one end, which meshes with a gear-wheel *b*, keyed to the axle and a gear-wheel *d'* at its other end, which meshes with a pinion *e'* on a shaft E, journaled at right angles to the axle and in line with the draft. Pinion *d* is free to slide longitudinally on the shaft D, but is keyed to rotate therewith. Shipping-lever F controls the position of the pinion to throw the same in or out of mesh with the gear-wheel *b*, as indicated by dotted lines. The finger-bar G is flexibly connected with the frame by a hinged bar H, composed of two

parts H' H<sup>2</sup>. The outer end of the part H<sup>2</sup> is flattened and secured to the finger-bar, while the inner end of the part H' is rounded and journaled in a coupling-arm *a*, projecting downward and outward from the frame. The inclination of the cutter-bar to the ground is regulated by partially rotating the hinged bar in its bearings on the frame, which is accomplished by means of an arm *h*, passing through the rounded part H' of the hinged bar, hand-lever I, and connection *h'*, joining the outer end of the arm with the hand-lever. The sickle-bar J is operated from the shaft E by a crank *e* on its outer end, connecting therewith by a pitman *j*, which has a flexible joint *j'* at its point of contact with the sickle-bar to permit of the folding and tilting movement of the cutter-bar. The frame A inclines from front to rear in an upward direction, and that the draft may be applied nearly in line with the axle a draft-frame or tongue K is pivoted to the frame slightly in advance of the axle, forming an angle between it and said frame. The front end of the frame is vertically adjusted by a lever L on the draft-frame, connected therewith by a rope or strap *l*. By this means the finger-bar is vertically adjusted to suit grain of different heights. The levers I and L are each provided with a pawl or latch to engage segments I' and L', respectively. It will be observed that the frame inclines upwardly from the front to the rear, and that the end of the portion A' is about on a level with the cutter-bar. The shaft E is journaled in and shielded by the portion A'. The crank *e*, keyed to the projected end of the shaft, is connected with the cutter-bar by the pitman *j*. By this arrangement the cutter-bar is actuated without any appreciable vertical thrust being imparted thereto, thus diminishing friction and causing the machine to run with lighter draft.

In practice the finger-bar may be readily folded to reduce the width of the machine and vibrated about its connection with the frame to adjust its pitch or inclination to the ground. At the same time it may be adjusted vertically to suit grain of different heights, as will be readily comprehended from the foregoing description.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

A harvesting-machine composed of the axle, the upwardly-inclined cutter-carrying frame  
5 mounted midway of its ends on the axle, the draft-frame pivotally connected with the frame close to and about in a horizontal line with the axle, means interposed between the draft and cutter-carrying frames for adjust-  
10 ing the lower end of the latter frame to and from the ground, the shaft D, driven from and journaled parallel with and in the rear of the axle, the shaft E, shielded by and journaled in the cutter-carrying frame and geared with  
15 the shaft D, the coupling-arm, the finger and cutter bars, the crank *e* on the end of the shaft E, the pitman interposed between the

crank and the cutter-bar and flexibly connected with the latter, the bar H, fixed to the finger-bar and having a hinge-joint between 20 its two parts H' and H<sup>2</sup>, the part H' being journaled in the coupling-arm, whereby the finger-bar can be rocked about said part H' as an axis and be folded out of the way, and means, as the arm *h* and rod *h'*, the hand-lever 25 I, and the segment I', for rocking said finger-bar from the driver's seat, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE M. SANFORD.

Witnesses:

J. H. BONNEY,  
C. W. HOLMES.