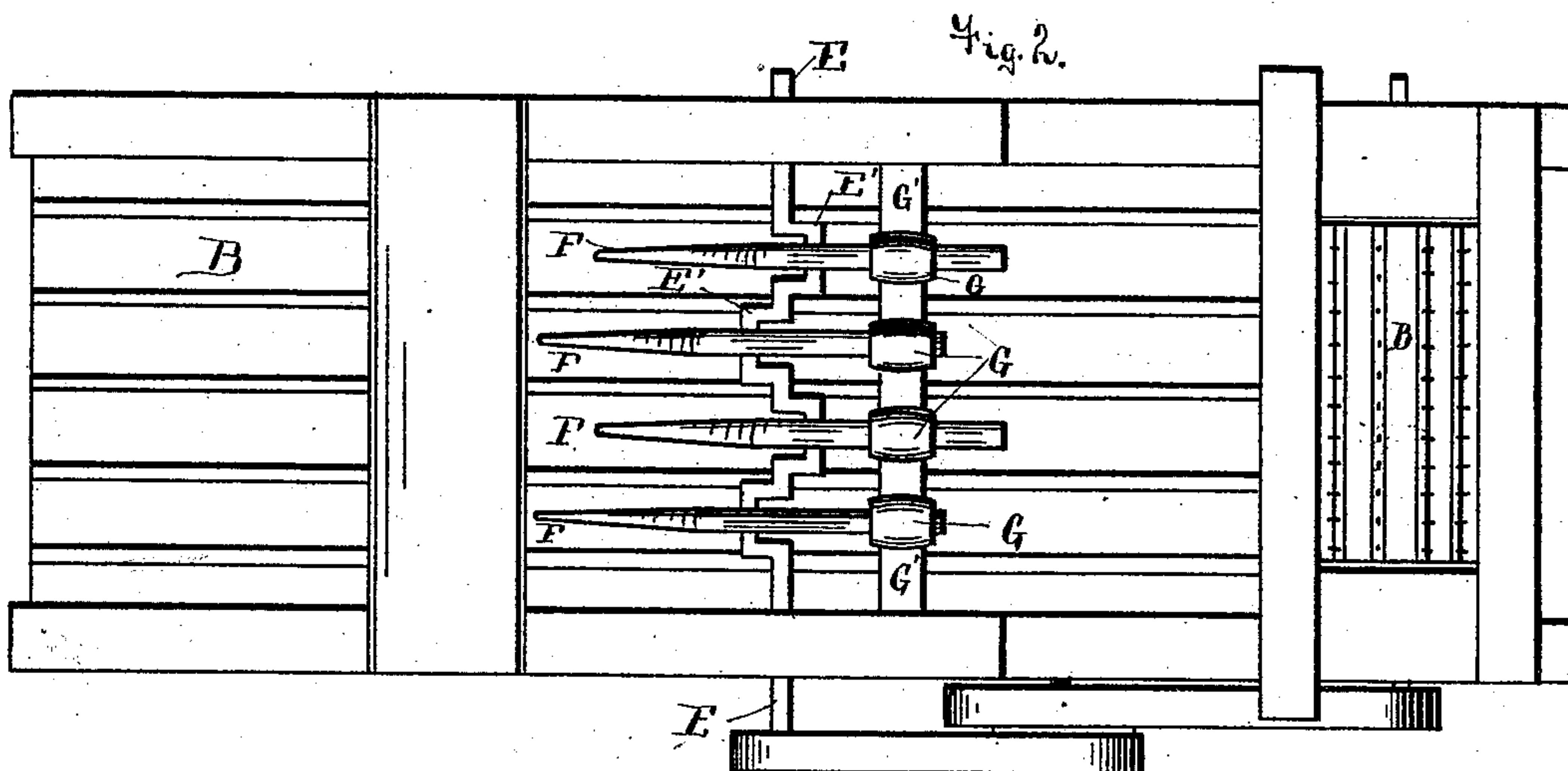
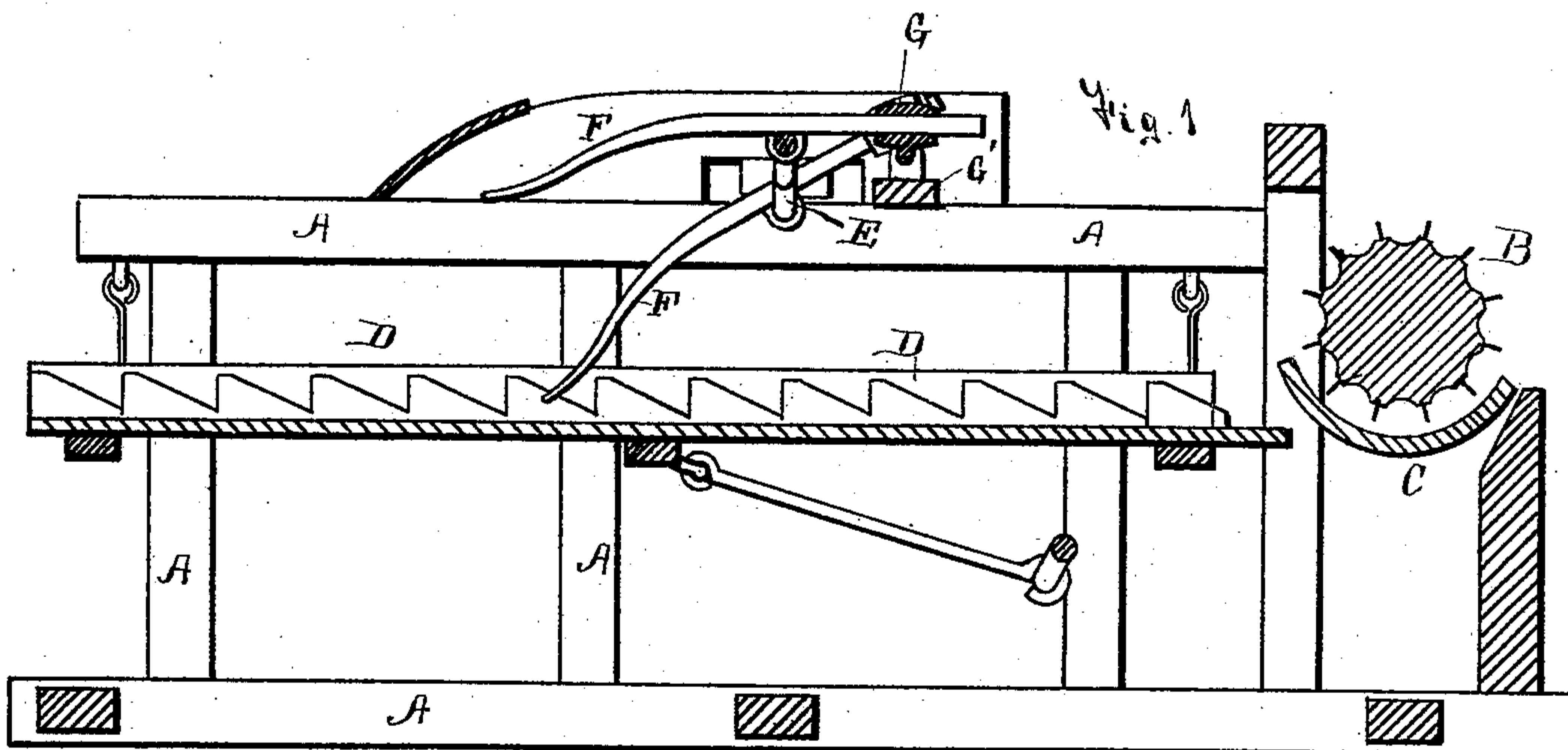


A. A. RUSSELL.  
Grain Separator.

No. 235,965.

Patented Dec. 28, 1880.



WITNESSES

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W. O. Donnelly

INVENTOR

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Fig. 3.

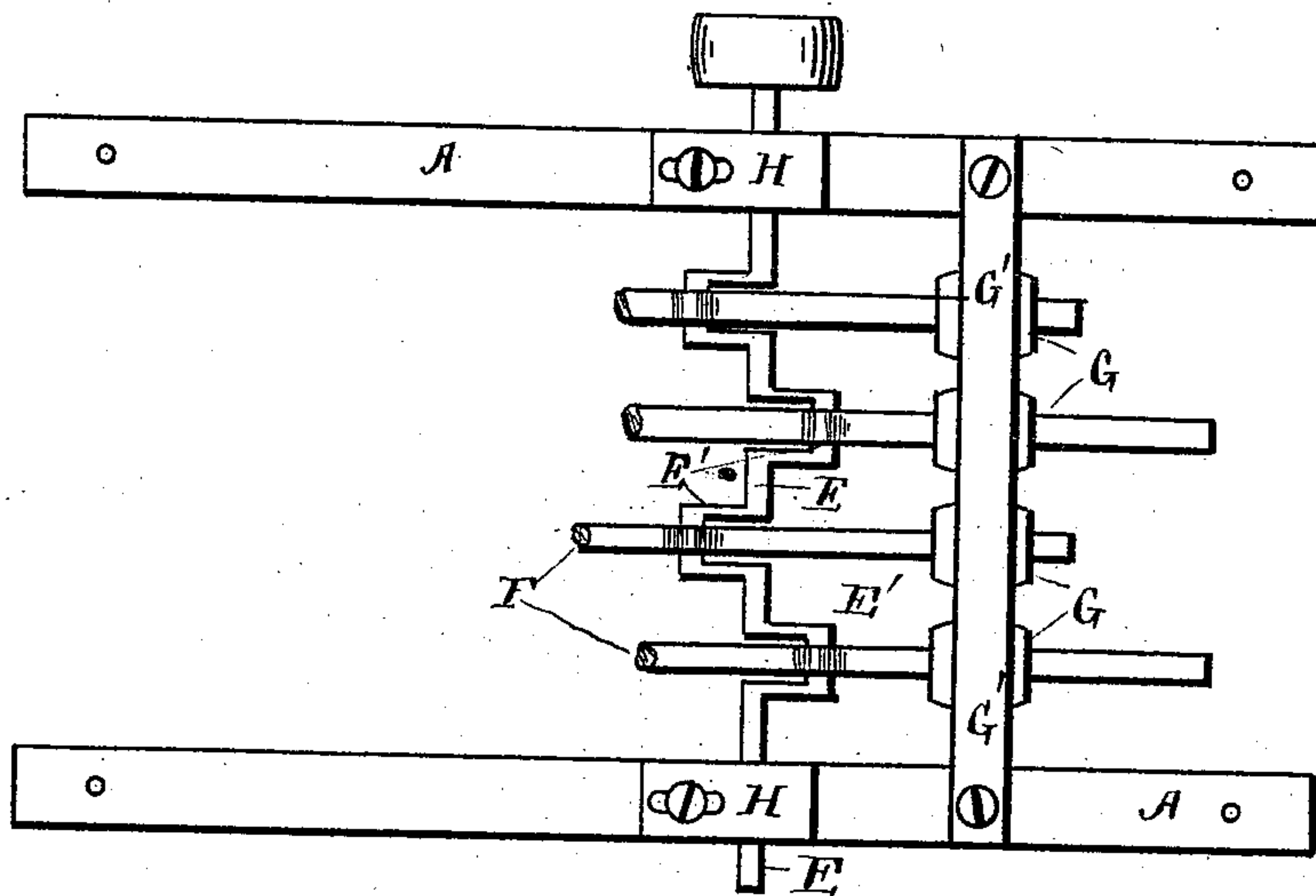
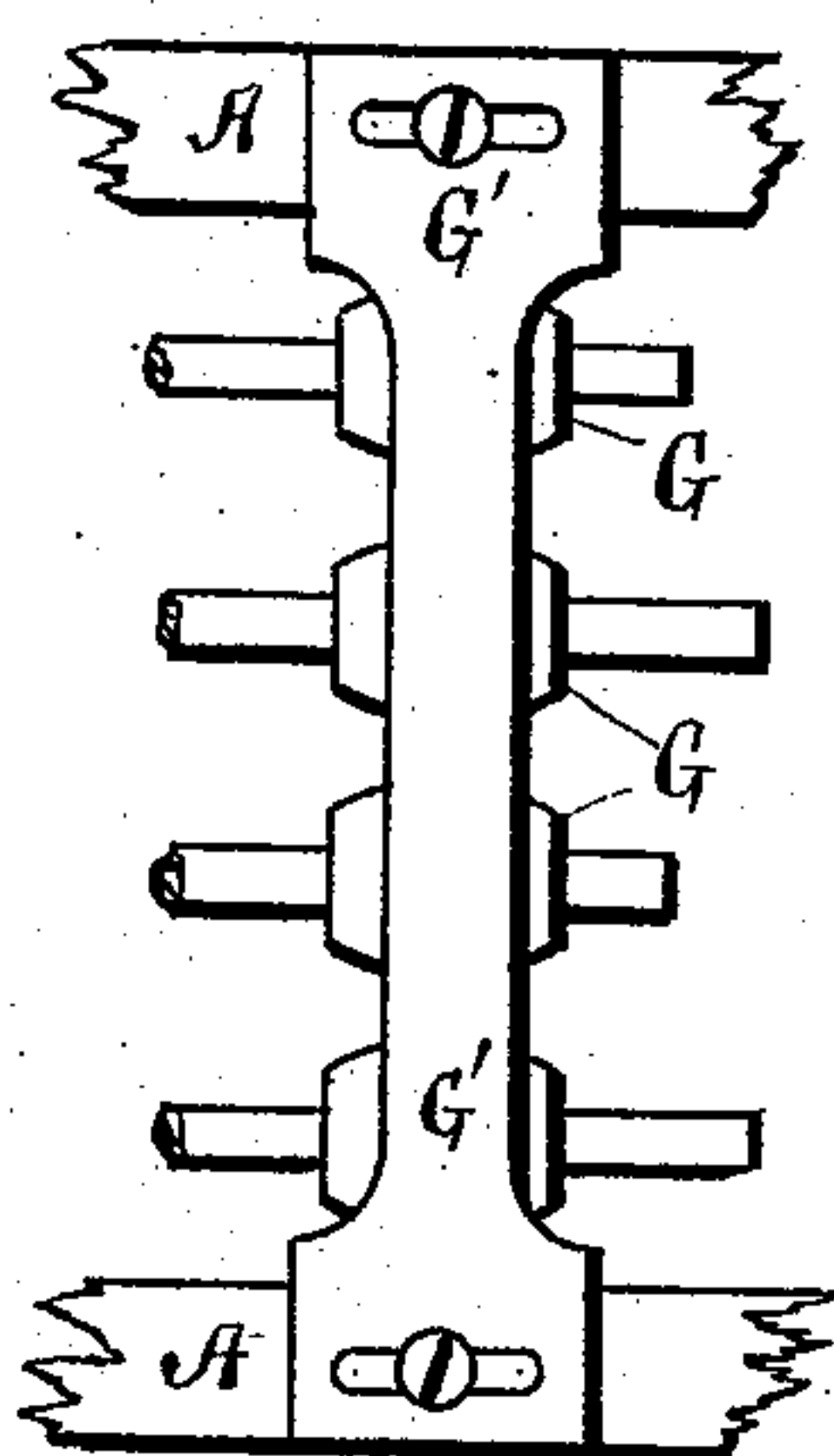


Fig. 4.



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# UNITED STATES PATENT OFFICE.

ALLEN A. RUSSELL, OF INDIANAPOLIS, INDIANA.

## GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 235,965, dated December 28, 1880.

Application filed February 27, 1880.

*To all whom it may concern:*

Be it known that I, ALLEN A. RUSSELL, of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Grain-Separators; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to grain thrashing and separating machines; and it consists of the specific combination of parts hereinafter described and claimed.

In the drawings, Figure 1 represents, in longitudinal vertical section, a device constructed according to my invention. Fig. 2 is a plan view of the same. Fig. 3 is a detached view, showing the method by which the crank-shaft of my agitator may be adjusted nearer to or farther from the sliding bearing of the agitator-teeth. Fig. 4 is a view of a modified form of my device, where, instead of an adjusting movement being allowed to the crank-shaft, as shown in Fig. 3, said crank-shaft is made stationary, and the bar carrying the sliding bearings of the agitator-teeth is made adjustable to and from said crank-shaft. The object of the construction shown in Figs. 3 and 4 is to regulate and determine the throw of the agitator-teeth.

In the said drawings, A is the frame of a thrashing or hulling machine. B is the thrashing or hulling cylinder; C, its concave, and D a straw carrier or table. The parts A, B, C, and D may be of any character or construction whatever.

E is a crank-shaft carrying two or more cranks, E'. F are the agitator fingers or prongs. Each prong F is attached or journaled at or near its middle portion to its crank E'. The shank of each prong F is made straight, and is passed through a rocking sliding bearing, G. One of these bearings is provided for each prong-shank, and said bearings are attached to a bar or rest, G'. As to the character or location of this bar G', I do not limit myself to the particular form of the support to which the boxes of the sliding bearings G are attached. As the cranks E' are revolved in their normal direction the prongs or agitator-fingers F are given a forward pitching movement, first dipping down, then forward, then up, and then back. This movement is effected

through the journal-connection that each prong has with its crank, in combination with a rocking and sliding bearing, in which the shank of each prong moves.

The cranks E' should be so adjusted that the prongs or fingers F shall not all act together. Part of them should be passing downward while others are passing upward, or in intermediate positions.

The degree of throw that will be imparted to the prongs F depends upon the distance between the crank-shaft E and the rocking sliding bearings G. I therefore provide the adjusting device H, whereby the crank-shaft E may be moved and fixed at any required distance from the bar G'; or, instead of this construction, another, which would serve the same purpose, would consist in journaling the crank-shaft stationary, and making the bar G', which carries the rocking and sliding bearings G, adjustable longitudinally of the machine, (see Fig. 4 of the drawings,) the object in either case being to adjust the distance between the cranks E' and the rocking sliding bearings G. Upon the end of the crank E is placed a belt-pulley, crank, gear-wheel, or any device whereby a rotary motion can be imparted; and this motion is derived from the driving mechanism of the machine in any suitable way.

I am aware that it is old to actuate agitator-fingers so as to impart a combined lifting and discharging movement to the straw in a straw carrier and thrasher.

I am also aware that a rake and tedder has been provided with forks mounted on cranks, and having their upper inclined extremities sliding in rocking bearings, the latter being adjustable relatively to the crank-shaft. Hence I restrict my improvement to the particular construction shown and claimed.

What I claim is—

In a grain-separator, the combination, with the shaker D, of the fingers F, crank-shaft E, and rocking slide-bearings G, said shaft and rocking bearings being adjustable relatively to one another, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALLEN A. RUSSELL.

Witnesses:

JNO. CROWELL Jr.,  
WILLARD FRACKER.