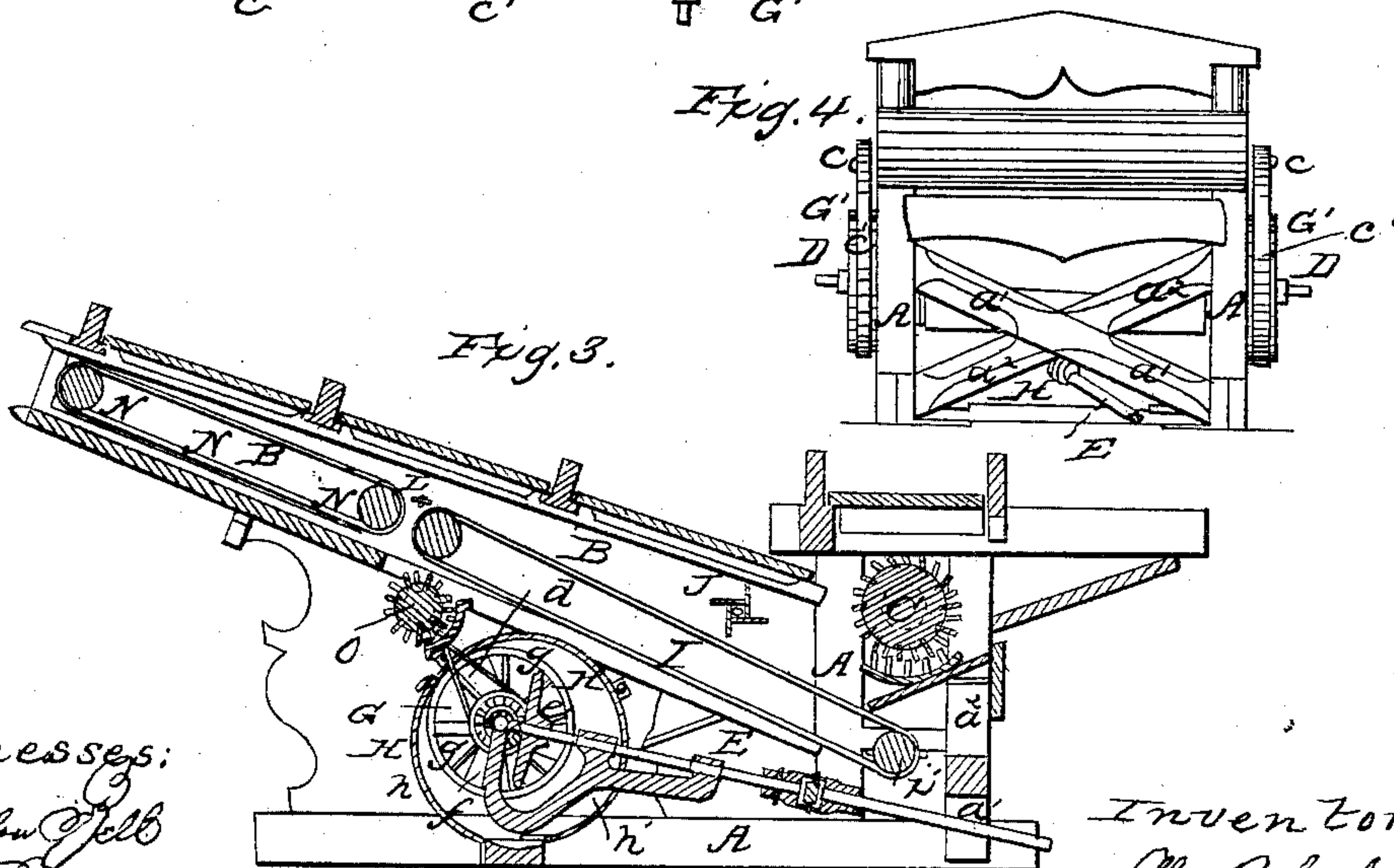
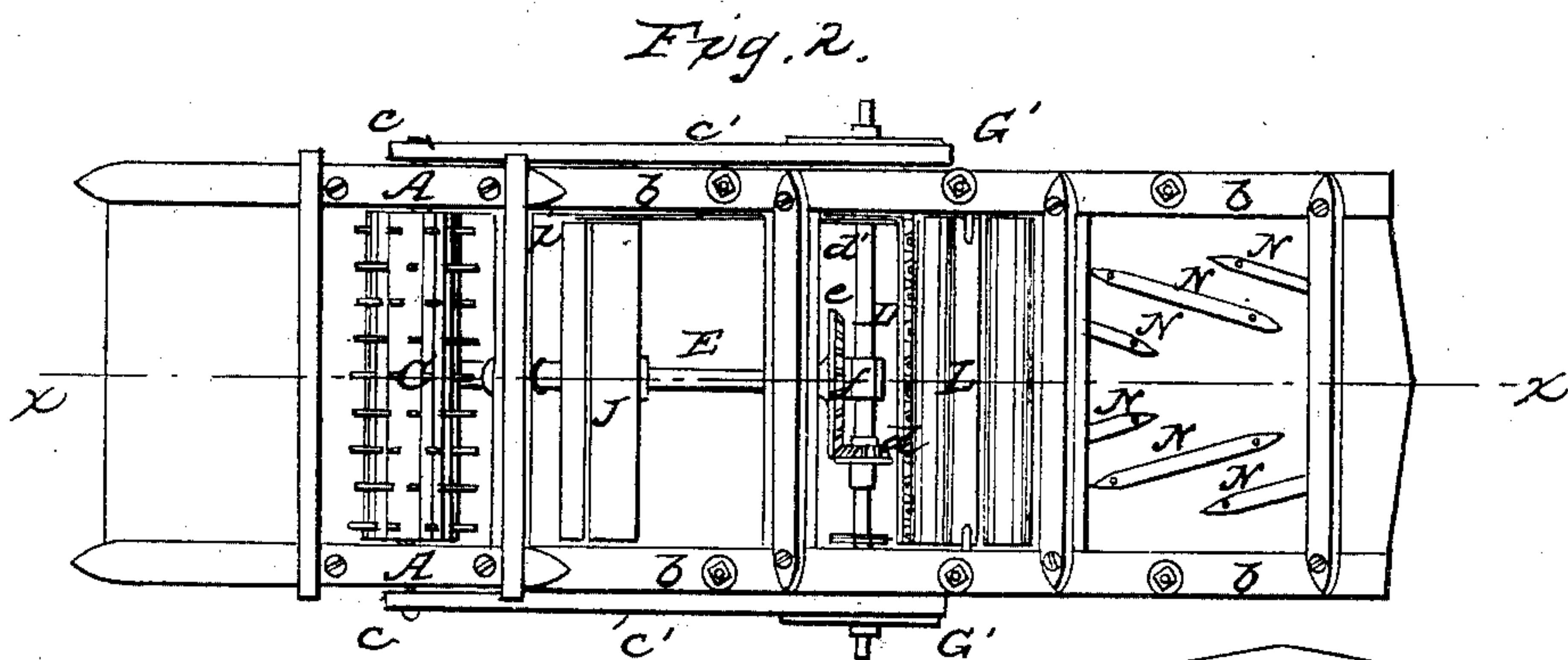
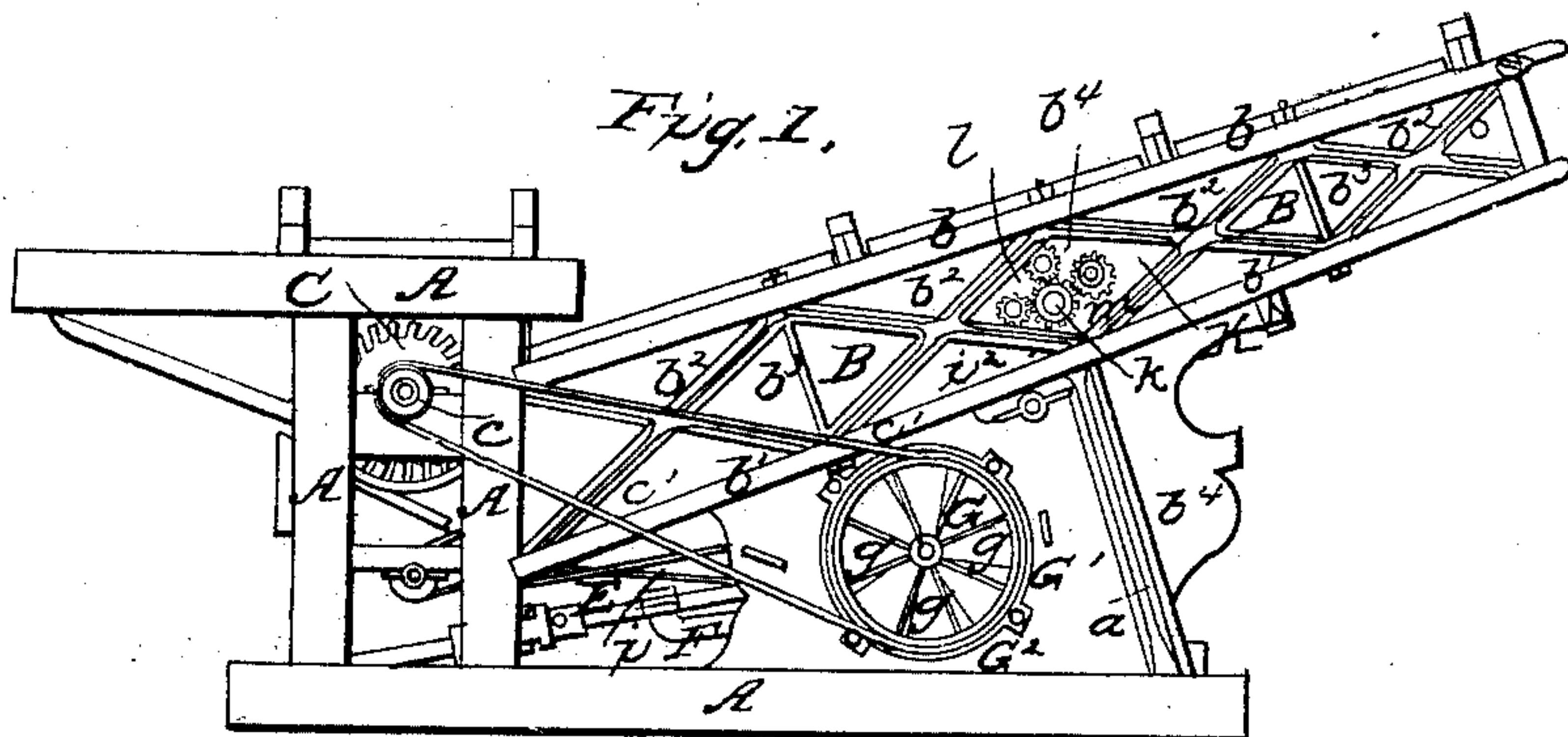


W. F. COCHRANE.
Grain Thrasher and Separator.

No. 37,128.

Patented Dec. 9, 1862.



Witnesses:
J. Charles Galt
& John

Inventor
William F. Cochrane

UNITED STATES PATENT OFFICE.

WM. F. COCHRANE, OF SPRINGFIELD, OHIO, ASSIGNOR TO HIMSELF AND
WARDER & CHILD, OF SAME PLACE.

IMPROVEMENT IN GRAIN THRASHERS AND SEPARATORS.

Specification forming part of Letters Patent No. 37,128, dated December 9, 1862.

CASE D.

To all whom it may concern:

Be it known that I, WILLIAM F. COCHRANE, of Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Machinery for Thrashing and Separating Grain, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a view in elevation of one side of a machine for thrashing and separating grain, embracing my improvements. Fig. 2 represents a plan or top view of the same, with the grain-belt, the straw-carrier and the covering of the frame removed, in order more clearly to display the construction, arrangement, and operation of the other portions of the mechanism. Fig. 3 represents a vertical longitudinal section through the same at the line *x x* of Fig. 2, with all the parts in their proper positions. Fig. 4 represents a view in elevation of the front end of the same.

The improvements claimed under this patent consist, first, in mounting the driving or line shaft, through which motion is communicated to the machine from the prime mover, upon a loose bracket or bearing pivoted to the counter-shaft, and capable of turning freely around it in a vertical plane, by which arrangement the position of the driving-shaft may be varied without deranging the gearing; secondly, in inclosing the swinging-bracket in the fan-case in such manner that when in its lowest position the bracket shall be supported by the case, and yet be free to play up and down within certain limits; thirdly, in the use of diagonal braces on the front of the frame, whereby greater room is obtained for the play of the line-shaft, as hereinafter shown.

In the accompanying drawings, which represent a convenient arrangement of parts for carrying out the objects of my invention, the mechanism is shown as sustained and inclosed in a stout frame, A, and in a grain-belt frame, B. A thrashing-cylinder, C, of the usual construction, is mounted in the frame

A, near the rear end of which a cross-shaft, D, is mounted. This shaft, in this instance, forms both the fan-shaft and counter-shaft of the machine. It is driven by means of a line-shaft, E, actuated by any suitable prime mover, and carrying on its end a bevel-wheel, *e*, which gears into a corresponding pinion on the cross-shaft D. The line-shaft E has its bearings in a swinging bracket, F, which has at one end a journal-box, *f*, inclosing the cross-shaft D, by which arrangement the line-shaft is at liberty to play freely up and down around the cross-shaft without deranging the working of the gearing. As the shaft is thus enabled to adjust itself to any change in the position of the gearing or driving mechanism, the advantages of this arrangement are manifest. The diagonal arrangement of the braces *a' a²* also gives greater room for the play of the shaft (while at the same time the strength of the frame is increased) than could otherwise be secured. The bracket and gearing are, for the most part, inclosed within the casing H of the fan, which arrangement protects it and the gearing from dust, &c. The edge of the fan-case serves to support the bracket when in its lowest position at the point where it passes through the case, which has a slot in it for that purpose. A sliding cover may be attached to the bracket to prevent the escape of the blast through the slot thus left in the fan-case for the passage of the bracket.

It is deemed unnecessary here to describe in detail the construction and operation of the other parts of the mechanism, as they form no part of the subject-matter herein claimed; and, besides, are fully described in two other applications filed simultaneously with this and marked, respectively, Division "C" and "E."

What I claim under this patent as my invention is—

1. Mounting the line-shaft, through which motion is communicated to the mechanism from the prime mover, in or upon a swinging bracket pivoted to the counter-shaft and capable of turning freely round it in a vertical plane, substantially in the manner described.

2. Inclosing the swinging bracket within the fan-case, substantially in the manner and for the purposes described.

3. The use of diagonal bracing on the front end of the frame, in combination with a line-shaft having vertical play, substantially as described, and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

WILLIAM F. COCHRANE.

Witnesses:

WM. WARDER,
JOHN H. WARDER.