

W. F. COCHRANE.

Grain Thrasher and Separator.

No. 37,129.

Patented Dec. 9, 1862.

Fig. 1,

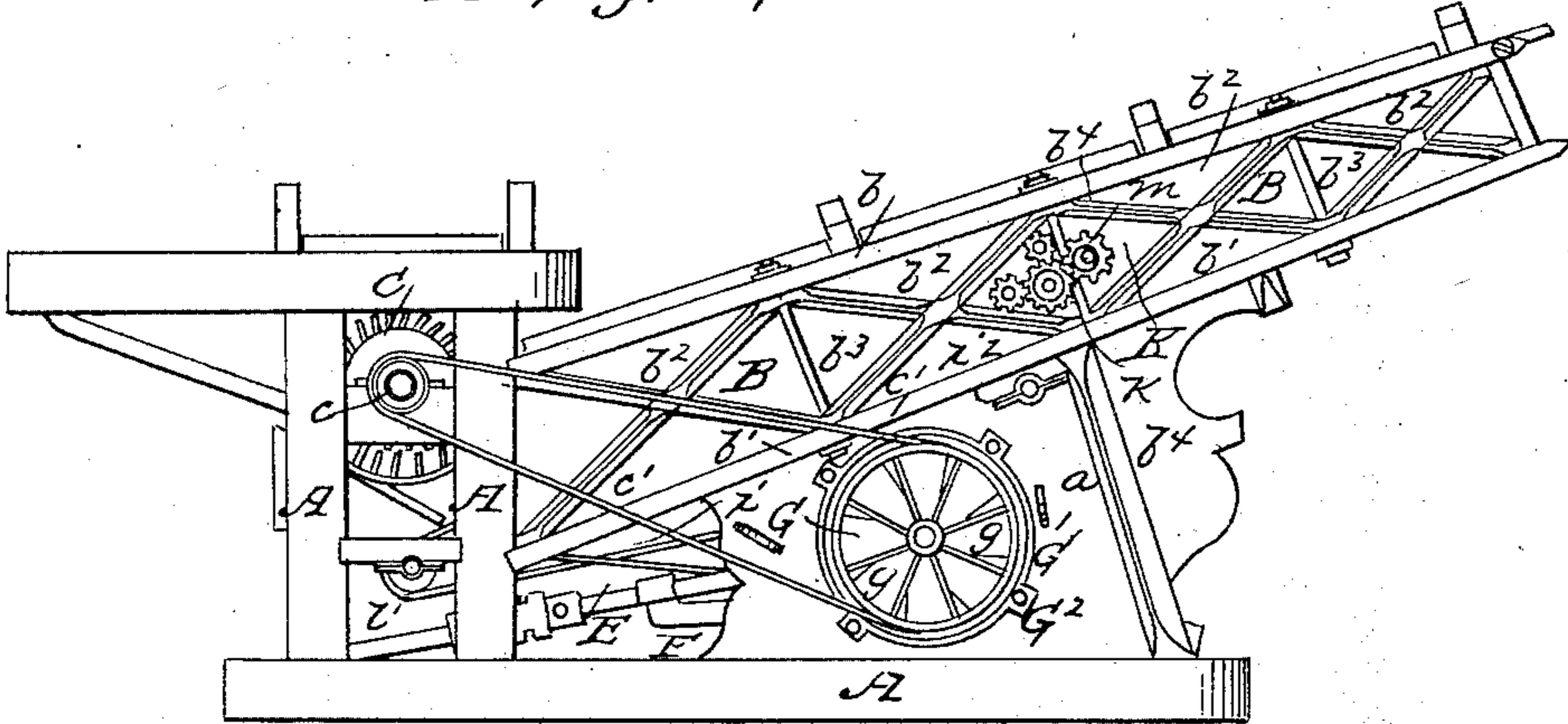


Fig. 2,

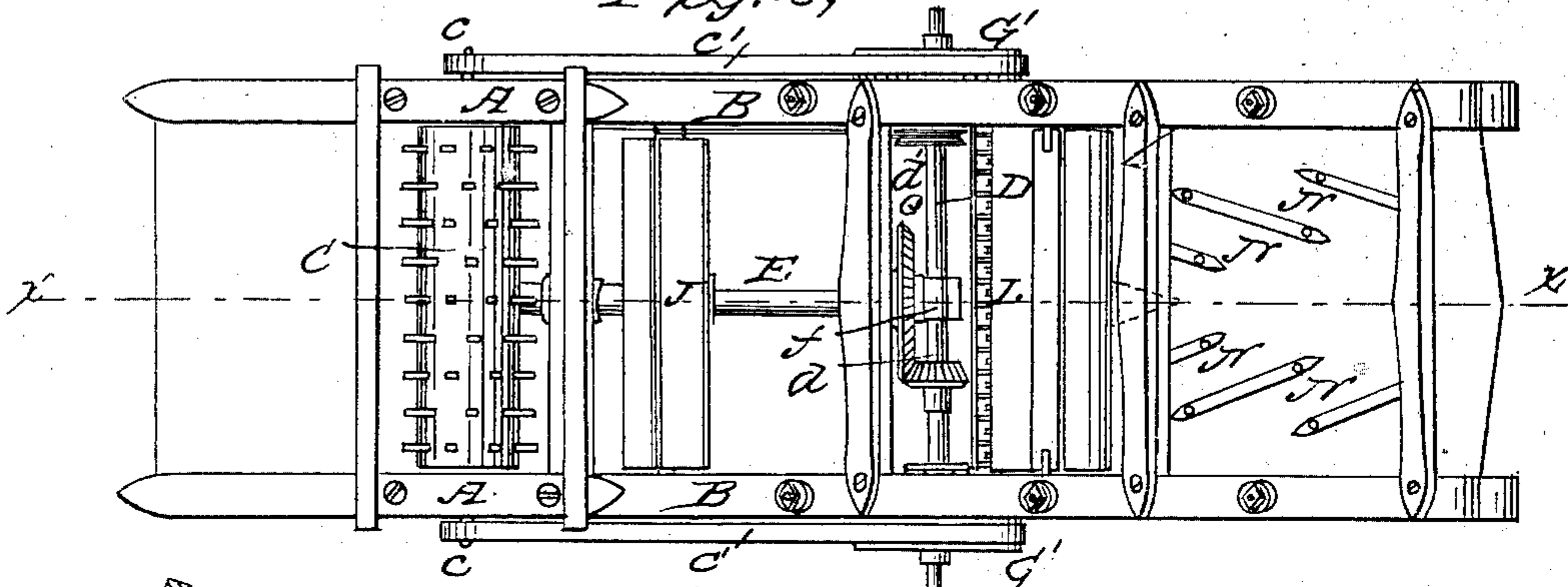
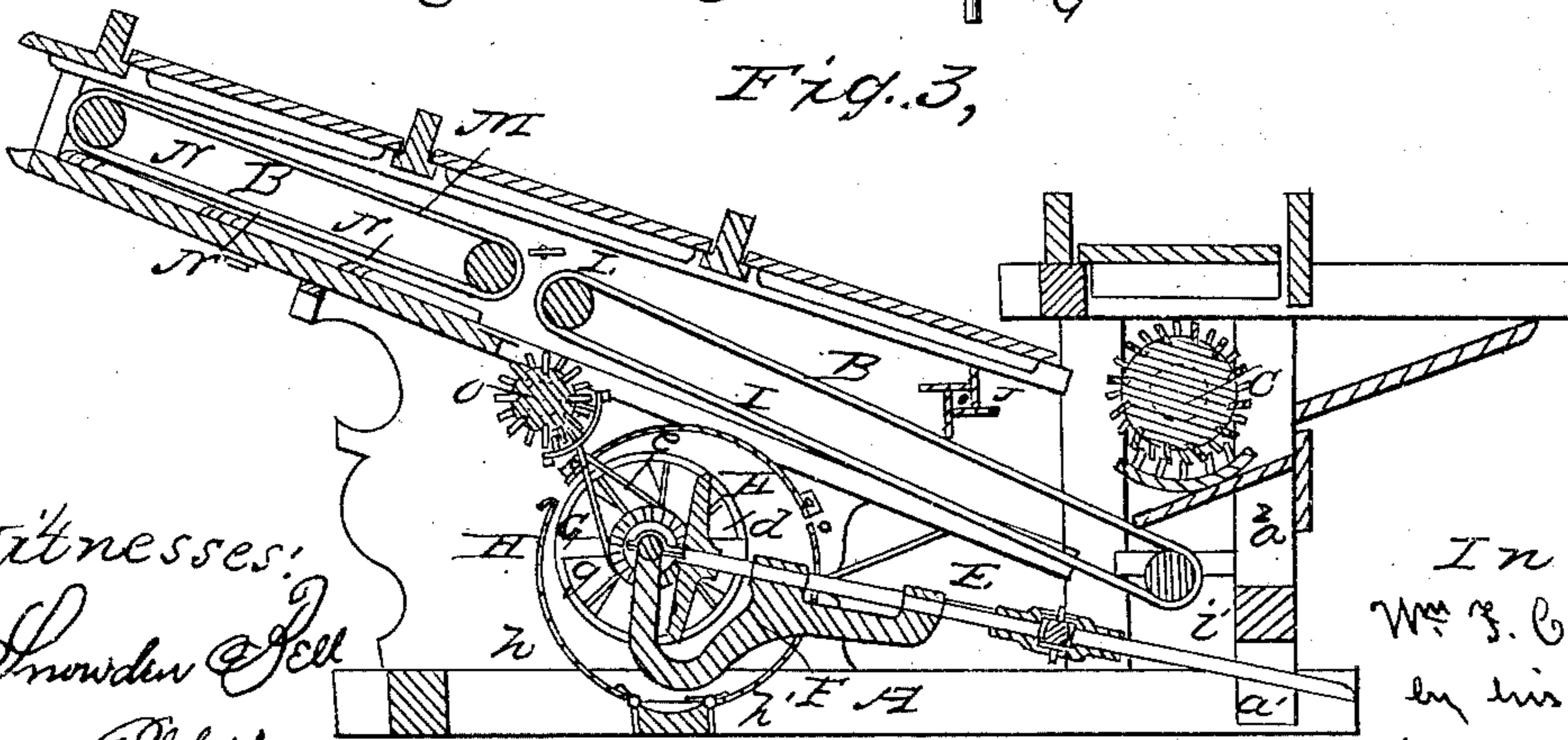


Fig. 3,



Witnesses:  
J Snowden & Co  
& Pohlert

Inventor  
Wm F. Cochrane  
by his Attorney  
Wm D Baldwin

# UNITED STATES PATENT OFFICE.

WILLIAM 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. 37,129, dated December 9, 1862.

### DIVISION E.

*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 *xx* of Fig. 2, with all the parts in their proper positions.

The improvements claimed under this patent consist, first, in constructing the grain-belt frame of diagonally-braced lattice-work, held together by nuts and screw-rods, as hereinafter described, whereby strength and lightness are secured, together with a capability of rapidly taking the frame apart and putting it together again; secondly, in arranging upon the upper surface of the bottom of the grain-belt frame a series of diverging scattering-boards, for the purpose of distributing the grain properly upon the supplementary cylinder as it falls from the grain-belt or straw-carrier; thirdly, in mounting the shafts and gearing by which the straw carrier and picker are driven in a solid metallic plate or frame on each side of the grain-belt, whereby the binding or straining of those parts of the mechanism is prevented.

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. Each side of the grain-belt frame B is composed of an upper beam, *b*, and a lower beam, *b'*, the space between which is occupied by the diagonal braces *b<sup>2</sup>*, arranged as shown

in Fig. 1 of the drawings. These braces are mortised to fit each other at their points of intersection, but not into the upper and lower beams against which they abut, and against which their ends merely press. The beams and braces are held firmly together by means of screw-bolts *b<sup>3</sup>* and nuts, by which any required degree of compression can be secured. The belt-frame is secured to the main frame by means of a long screw-bolt, *b<sup>4</sup>*, which passes down alongside of the rear diagonal brace *a* of the frame. The inside of the belt-frame is lined with a suitable casing. By removing the bolts, the main and belt frames can be quickly separated, which is a great desideratum under many circumstances. The details of the construction of the other parts of the frame are not given here, being common to all machines of this class. The thrashing-cylinder C is driven by bands from the countershaft D, upon which, in this instance, the fans are also mounted. The grain-belt I is driven by a band or cord, *i*, which encircles a pulley, *d'*, on the cross-shaft D, and one upon the lower roller, *i'*, of the grain-belt. The beater J is driven by similar means and in like manner. Upon each side of the belt-frame I place a solid metallic plate or gear-frame, K, in which plates the upper roller of the grain-belt, the lower roller of the straw-carrier M, and the picker-shaft L have their bearings. A pinion, *i<sup>2</sup>*, on the upper roller of the grain-belt, drives an idle-wheel, *k*, which drives a pinion, *l*, on the picker-shaft, and another one, *m*, on the lower roller of the straw-carrier, as shown in Fig. 1. By this means the several wheels and shafts are always held in the same relative positions, notwithstanding the warping and twisting of the belt-frame, and the straining or binding of the gearing is prevented. Upon the upper surface of the bottom of the grain-belt frame, and beneath the straw-carrier, I arrange a series of inclined dispensing-boards N, as shown in Fig. 2 of the drawings, in order to distribute the grain or unthrashed heads which fall from the carrier evenly upon the surface of the supplementary thrashing-cylinder O, which is arranged beneath the grain-belt, and driven by a cord and pulley from the countershaft. A suitable screen or shaking-

shoe is also to be arranged beneath the supplementary cylinder.

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 "D."

What I claim under this patent as my invention is—

1. The combination of the diagonal braces  $b^2$  and screw-rods  $b^3$   $b^4$  with the longitudinal beams  $b$ , in the manner and for the purpose described.

2. The combination of the dispensing boards and supplementary cylinder, substantially as described, and for the purpose specified.

3. Mounting the shafts and gearing by which the straw-carrier and picker-shaft are driven in a solid metallic frame on each side of the grain belt frame, as and for the purpose described.

In testimony whereof I have hereunto subscribed my name.

WILLIAM F. COCHRANE.

Witnesses:

WM. WARDER,  
JOHN H. WARDER.