

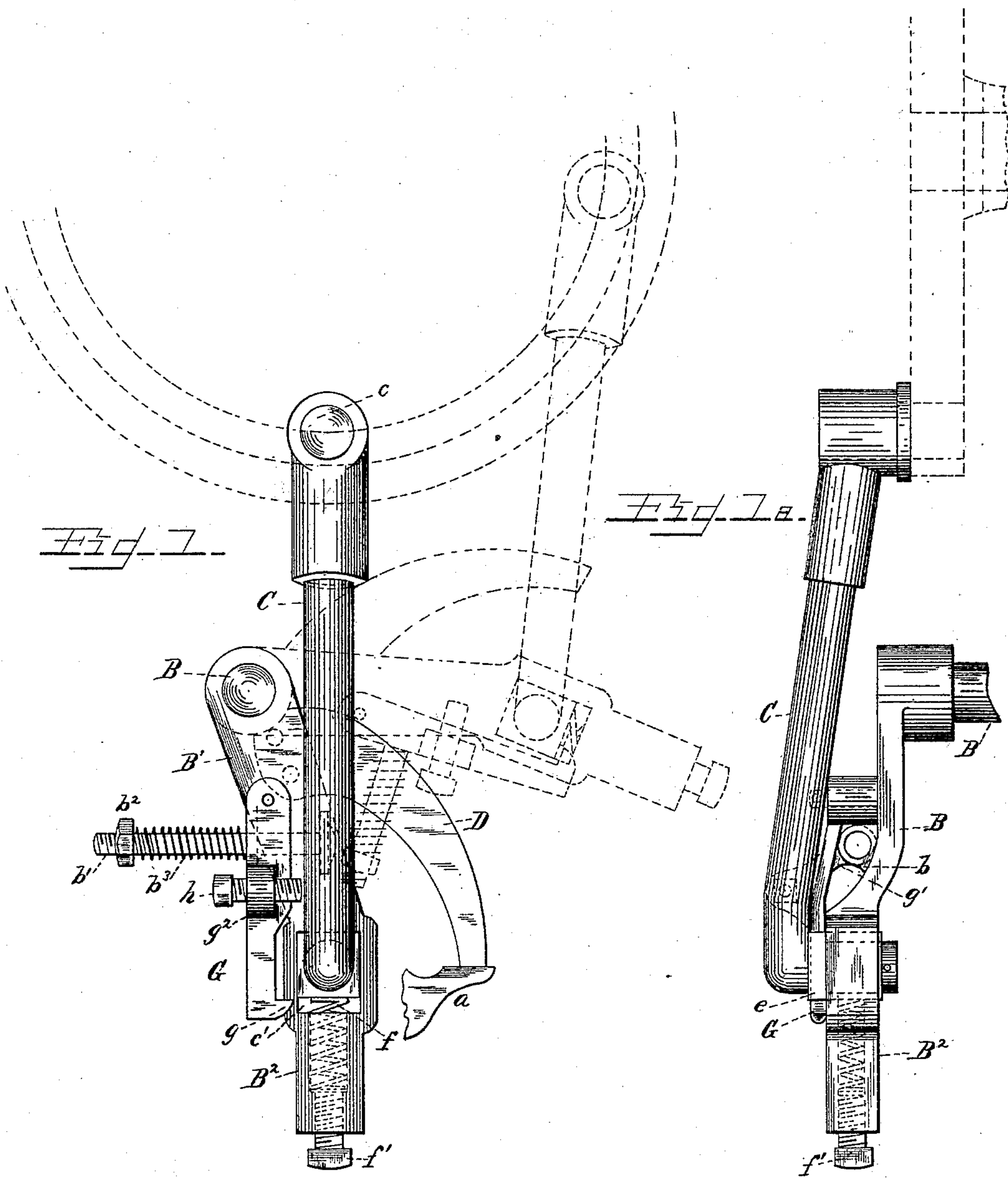
(No Model.)

3 Sheets—Sheet 1.

J. F. SEIBERLING.  
GRAIN BINDER TRIP MECHANISM.

No. 426,550.

Patented Apr. 29, 1890.



Attest:  
 Rex. M. Smith.  
 John Robertson

Inventor:  
John F. Seiberling,  
By A. M. Smith & Son  
Attorneys.

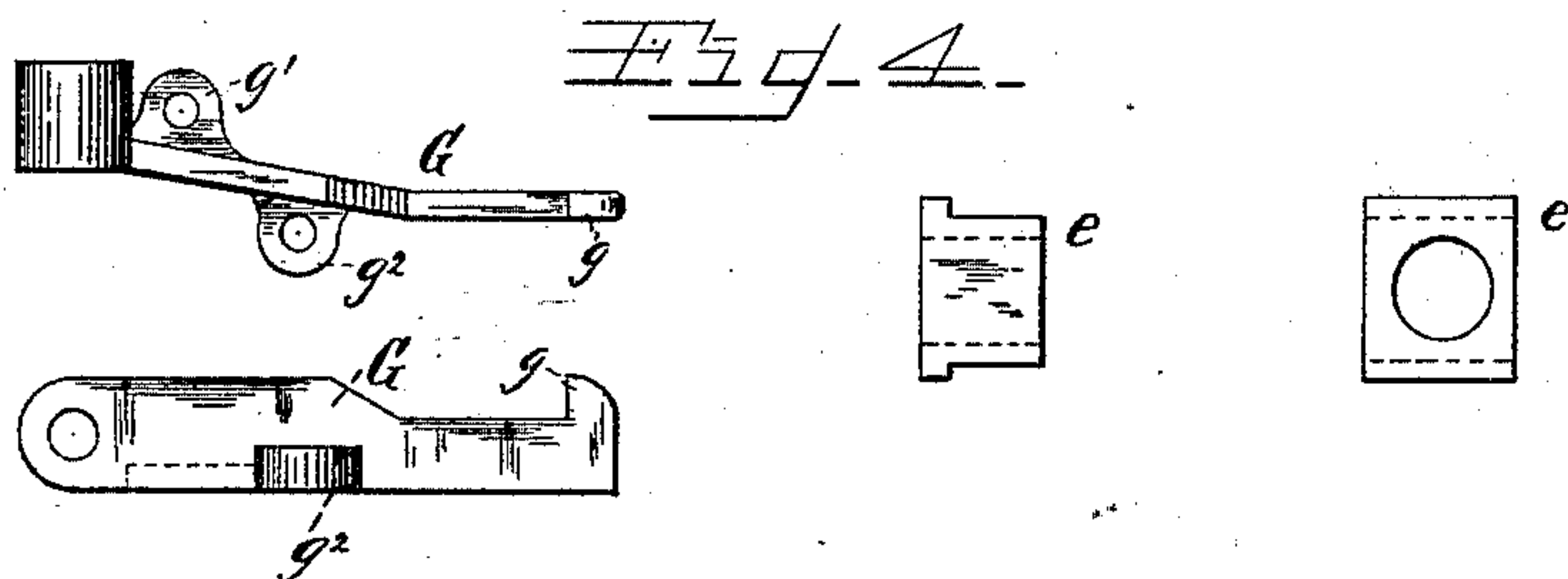
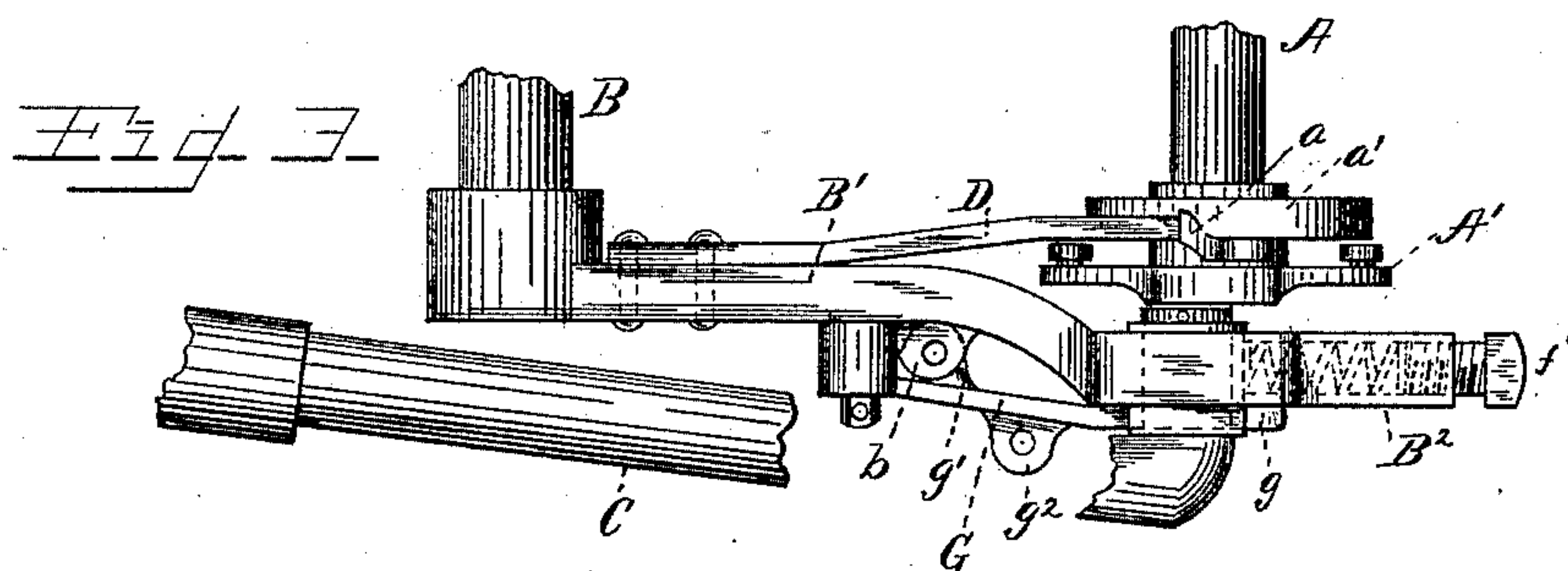
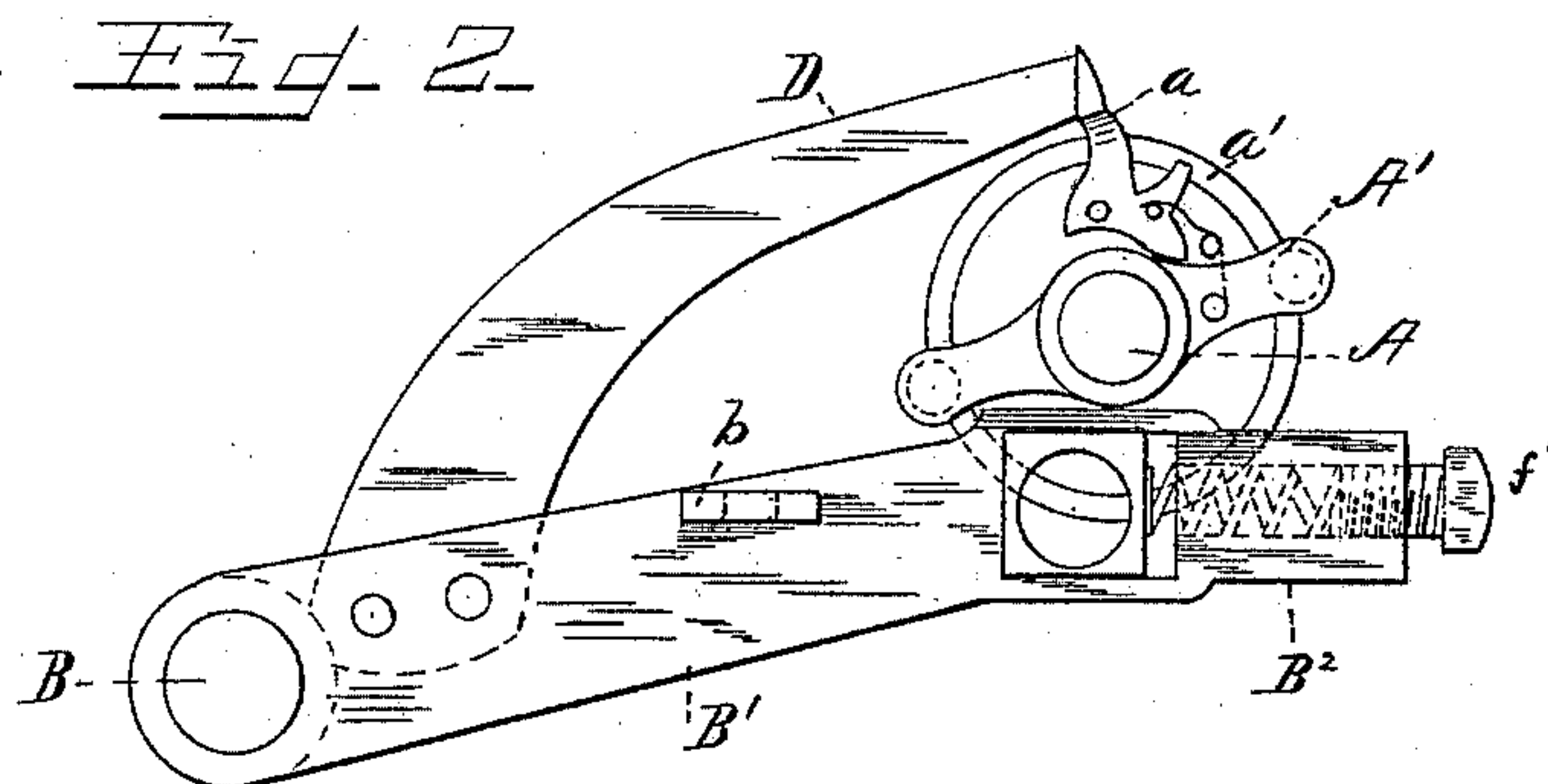
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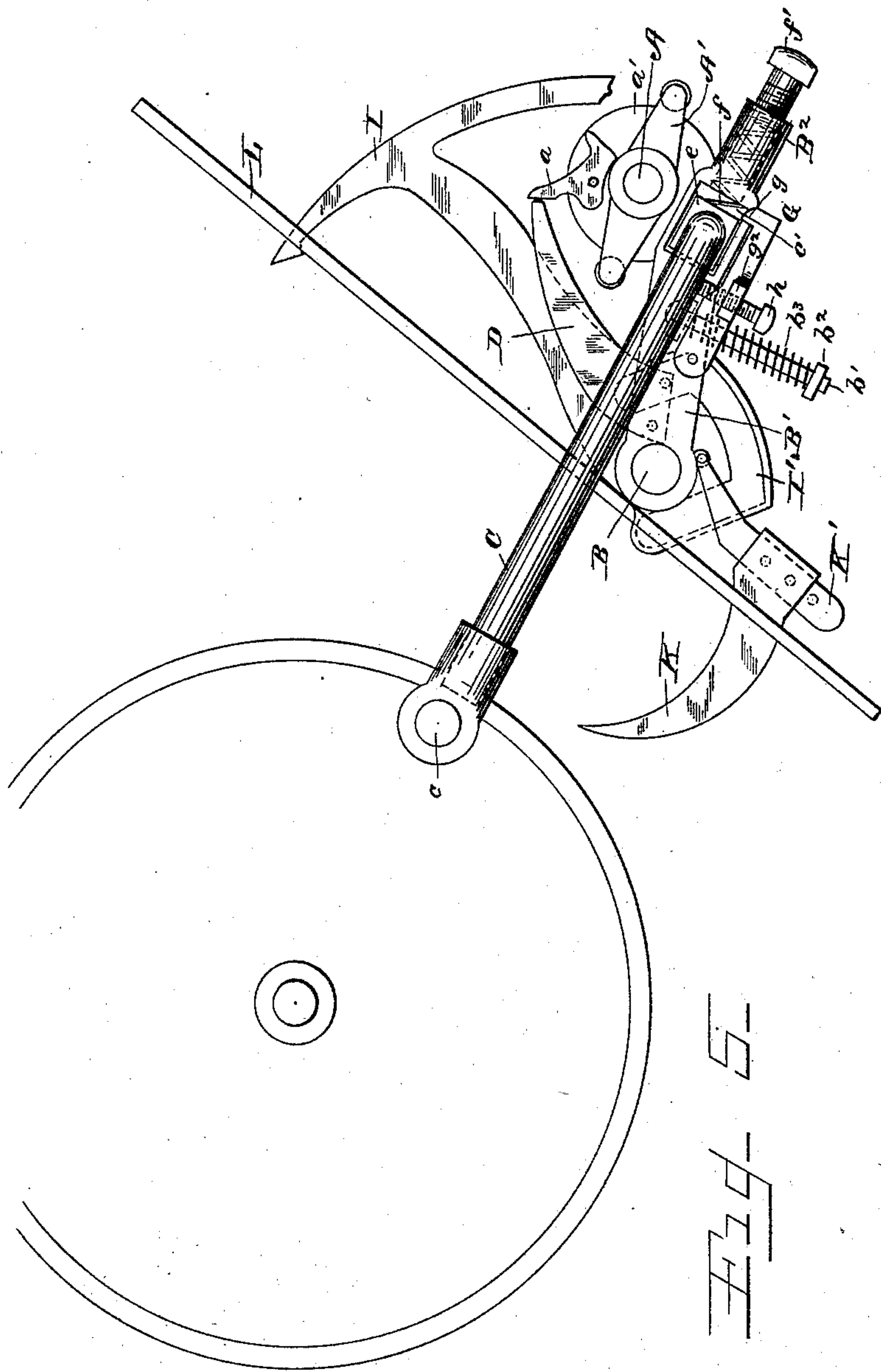
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Witnesses:  
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 Jm. Robertson,

John F. Seiberling, Inventor,  
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# UNITED STATES PATENT OFFICE.

JOHN F. SEIBERLING, OF AKRON, OHIO.

## GRAIN-BINDER TRIP MECHANISM.

SPECIFICATION forming part of Letters Patent No. 426,550, dated April 29, 1890.

Application filed September 13, 1889. Serial No. 323,964. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. SEIBERLING, a citizen of the United States, and a resident of Akron, county of Summit, and State of Ohio, have invented a new and useful Improvement in Grain-Binder Trip Mechanisms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

The invention relates to the manner of connecting the pitman which actuates the binder-arm shaft with the crank-arm of said shaft, whereby said crank-arm is adapted to yield relatively to the pitman for releasing and throwing the binder-gear mechanism into action; also, to the means for locking and releasing the sliding box through which the pitman is connected with the crank-arm, whereby it is held firmly locked in position during the operation of binding.

In the accompanying drawings, Figure 1 is a front elevation of my improved binder-shaft crank-arm and its pitman-connection, and Fig. 1<sup>a</sup> is a side elevation of the same. Fig. 2 is a front view showing the relation of the binder-shaft crank-arm to its driving-gear shaft; Fig. 3, a plan view of the same, and Fig. 4 detail views of the sliding pitman-box and its latch. Fig. 5 is a rear elevation showing the binder-table, binder-arm, and compressor and their relative arrangement.

The binder mechanism in its general arrangement of parts may be of the well-known Appleby type, and need not, therefore, be described in detail further than necessary to an understanding of my improvements.

A in the accompanying drawings indicates the gear-shaft from which motion is communicated to the binder gear-shaft, and which ordinarily, also, is provided with the crank-arms which actuate the packers. This shaft is in continuous operation and carries a cross-head A', which engages a dog a on a pinion a', from which, through any suitable train of gearing, motion is imparted to the binder mechanism in a well-known manner.

B indicates the binder-arm shaft, and B' the crank on one end of said shaft for actuating it, and to which a vibratory movement is imparted for vibrating the needle or binder

arm by means of a pitman C, connecting it with a crank-pin c on the outer face of a gear-wheel (indicated in dotted lines) on the forward end of the knotter-actuating shaft in the usual manner.

The crank-arm B', when the binder mechanism is at rest, occupies the position shown in Fig. 1, in which it forms an acute angle with the pitman, and is provided at its outer end with an angular extension or arm B<sup>2</sup>, forming an obtuse angle with the crank-arm proper and lying in a plane parallel with the pitman C extended. This extension is slotted at its inner end, at c', to receive a perforated box e, which engages the end of the pitman C, and which is arranged to slide in the slot c' to allow slight relative movement of the crank-arm and pitman. The arm B<sup>2</sup>, outside of the slot c', is bored longitudinally to receive a spiral spring f, and at its outer end the perforation has its walls screw-threaded to receive a set-screw f', by the adjustment of which the tension of the spring f may be adjusted as required. The spring f at its inner end bears against the box e and serves, when its tension is not overcome, to hold said box at the inner end of the slot c'.

The crank-arm B' carries an arm D for tripping or throwing the binder mechanism out of gear, and has a latch-lever G pivoted at its inner end to its outer face, said latch-lever having a hook or spur g on its outer end, adapting it to engage the outer face of the box e when the latter is at the inner end of the slot c' and to lock and hold the box in said position.

The outer face of the arm B' has a perforated lug b formed on it, and the latch G has similar lugs g' g<sup>2</sup>, the former near its pivoted end on the inner face and the latter on its outer face, as shown. The lug b has a pin b' secured to it and passing through the lug g' on the latch G. The pin b' has its outer end screw-threaded to receive a nut b<sup>2</sup>, between which and the lug g' a spiral spring b<sup>3</sup> surrounds the pin and serves by its tension to press the latch into engagement with the box e. The tension of the spring b<sup>3</sup> is regulated by adjusting the nut b<sup>2</sup>. The perforation in the lug g<sup>2</sup> has its wall screw-threaded to receive a set-screw h, by the adjustment of



which the point in the throw of the crank-arm at which the release of the box *e* from the latch *G* is effected is regulated as desired. The arrangement of the lug *g*<sup>2</sup> and set-screw *h* is such that as the crank-arm *B'* approaches the end of its backward throw or movement for bringing the binder-arm into position to receive the grain for another bundle it swings into contact with the end of the set-screw *h*, and, acting through the latter on the latch *G*, forces said latch out of engagement with the box *e*, thereby leaving the crank-arm when in its position of rest free to be vibrated independently of the pitman under the action of the grain upon the compressor sufficiently to rock the arm *D* out of engagement with the dog *a*, and thereby to throw the binder mechanism in gear in a well-known manner. The spring *f*, the instant the crank-arm is freed from the compressing action of the grain thereon, serves to thrust the box *e* inward, and as the pitman swings outward away from the set-screw *h* the latch *G* is left free to swing inward under the tension of the spring *b*<sup>3</sup>, and is thereby made to engage and lock the box *e* at the inner end of the slot *c'* until by the return movement of the crank-arm the latch is again withdrawn, as explained.

In Fig. 5 the arrangement of the parts described relative to the binder-arm, table, and compressor is shown, *I* indicating the binder-arm, *I'* the cam thereon, *K* the compressor,

*K'* the compressor-arm, and *L* the inclined binder-table.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the binder-arm secured to the shaft *B*, of the crank *B'*, provided with the longitudinal slot arranged in oblique relation thereto and in line with the pitman extended when the parts are at rest, the journal-bearing for the pitman elastically and adjustably secured therein, and the trip-arm *D*, operating as shown and described.

2. The combination, with the binder-arm shaft and its crank provided with the longitudinal slot and the yielding journal-bearing, of the pitman secured therein and the locking-pawl *G*, pivoted on the binder-arm crank and adapted to engage said yielding journal-bearing, as shown and described.

3. The combination of the binder-shaft crank-arm *B'*, provided with the slot formed therein, the journal-box *e*, arranged to slide in said slot, the locking-pawl *G*, the tension-spring *f*, the pitman *C*, the adjusting-screw *f'*, and the trip-spring *b*<sup>3</sup>, substantially as described.

In testimony whereof I have hereunto set my hand this 30th day of August, A. D. 1889.

JNO. F. SEIBERLING.

Witnesses:

JOSEPH S. BENNETT,  
ELLEN L. WHITE.