

(No Model.)

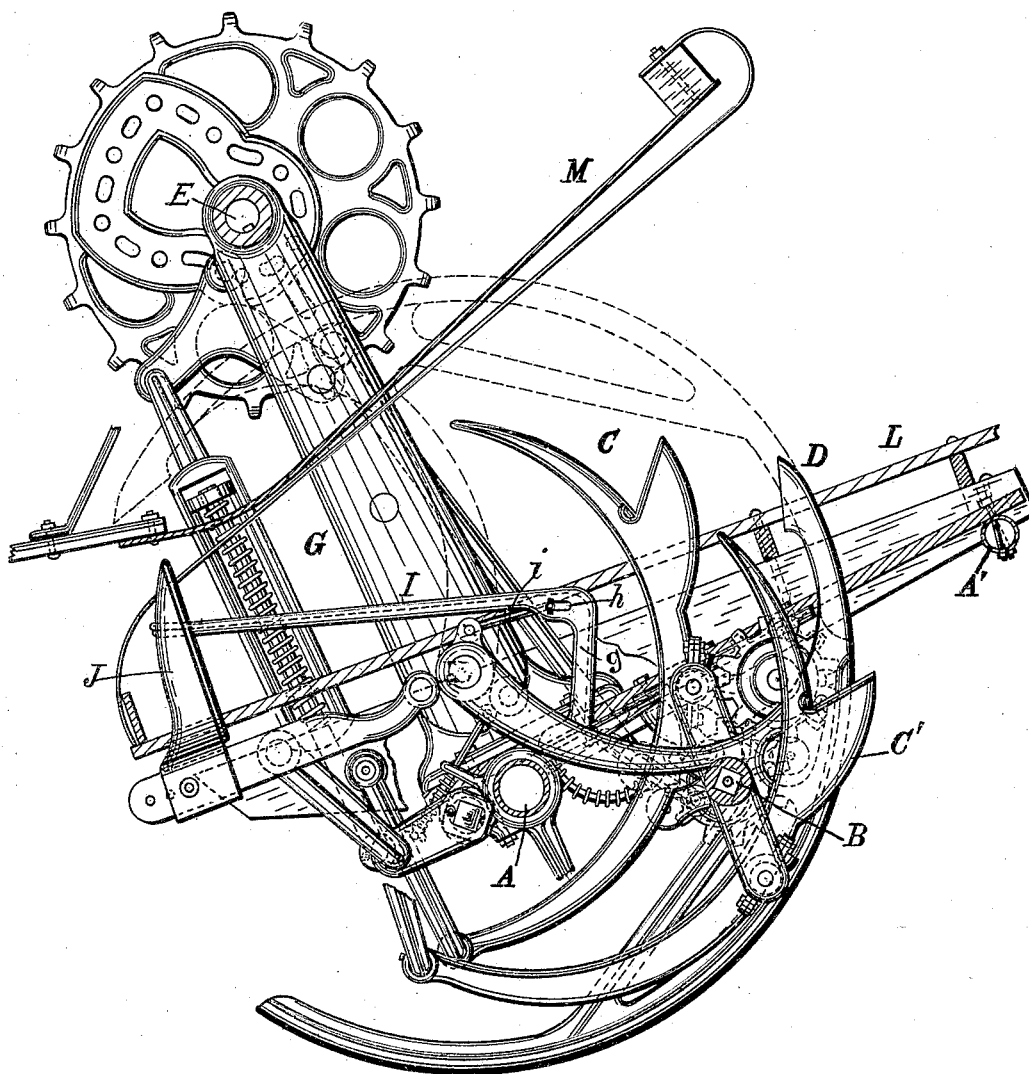
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F. G. BECKER.
GRAIN BINDER.

No. 423,115.

Patented Mar. 11, 1890.

Fig. 1.



Witnesses
Fred F. Church.
C. G. Crannell.

Inventor
Fred. G. Becker.
By his Attorney
Geo. B. Selden.

(No Model.)

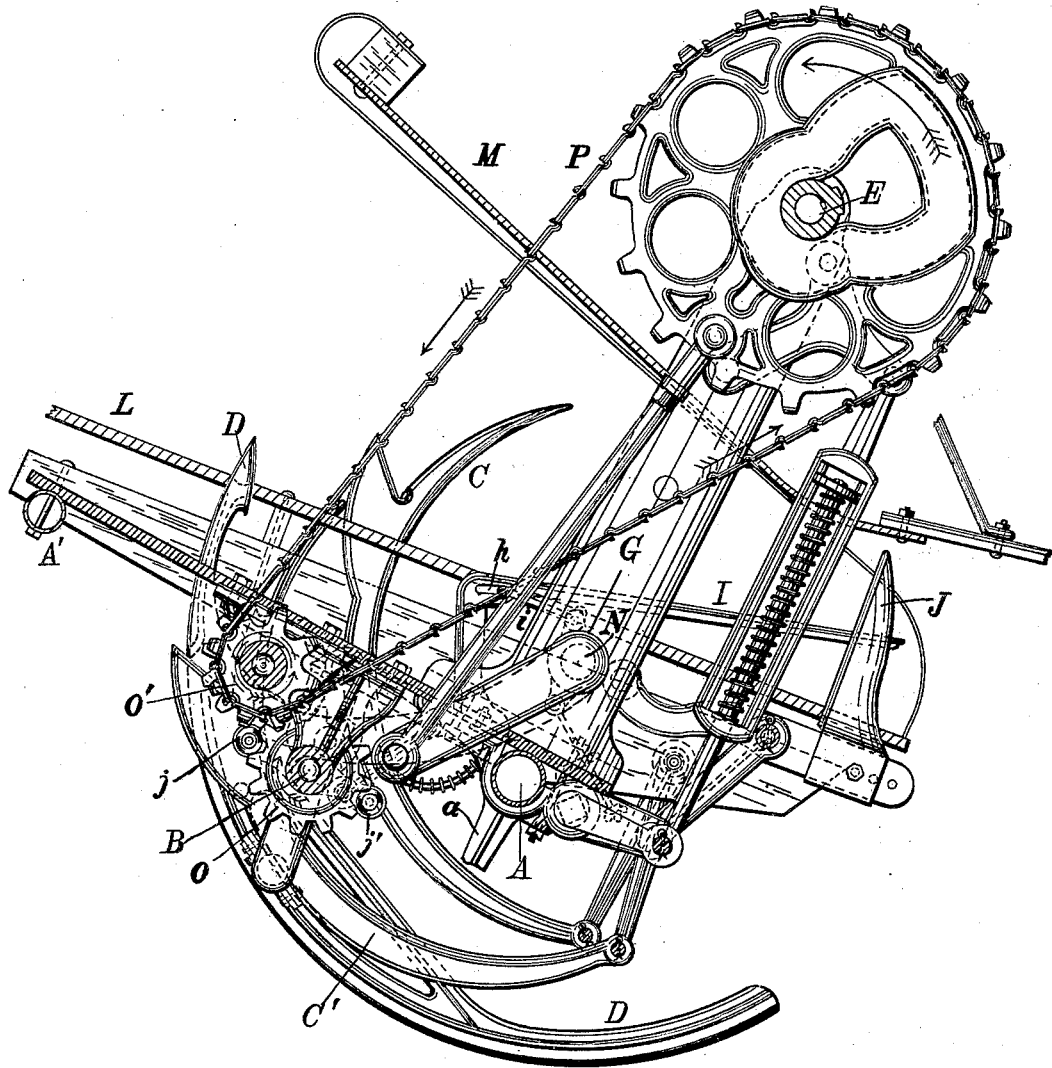
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Fig. 2.



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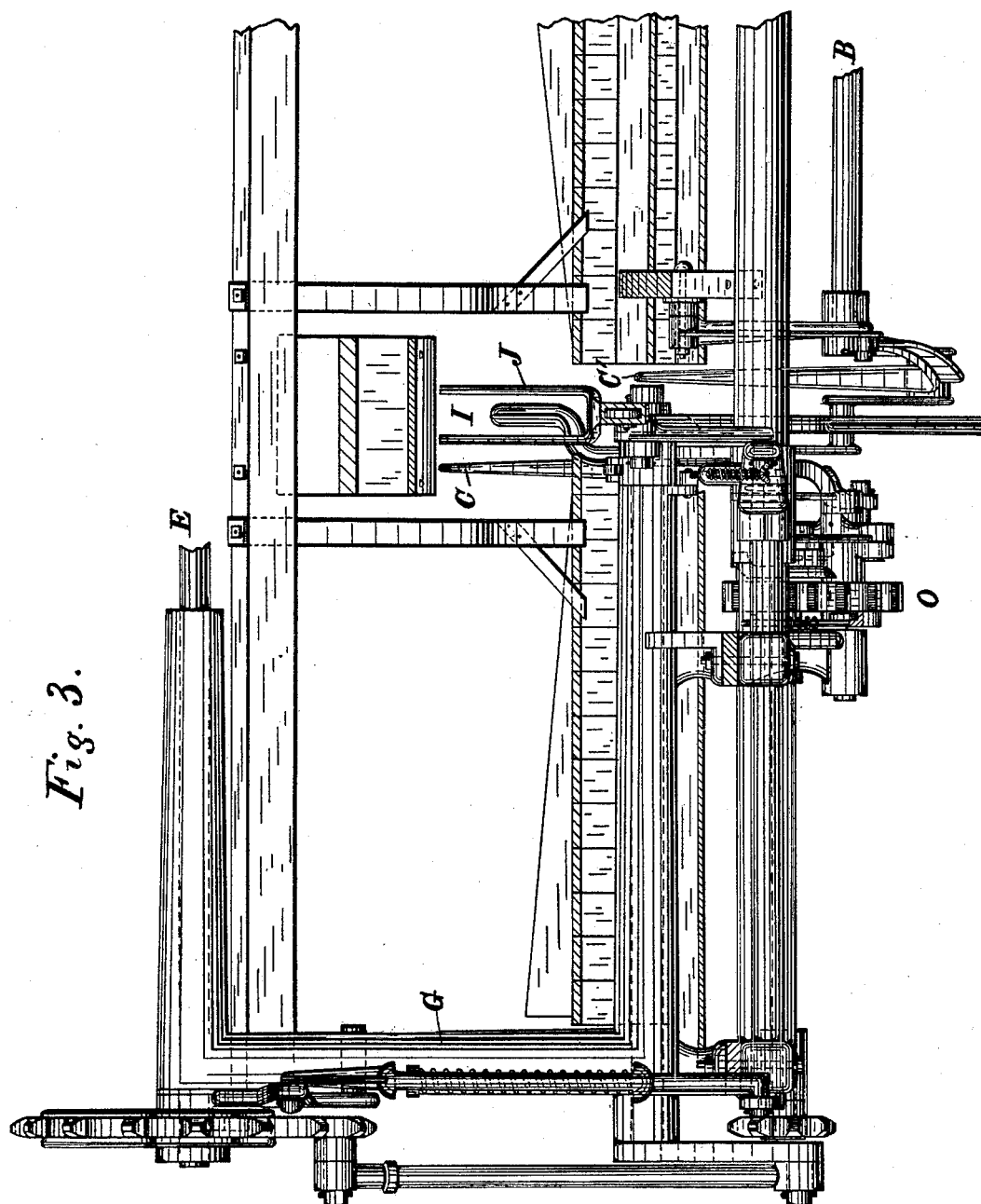


Fig. 3.

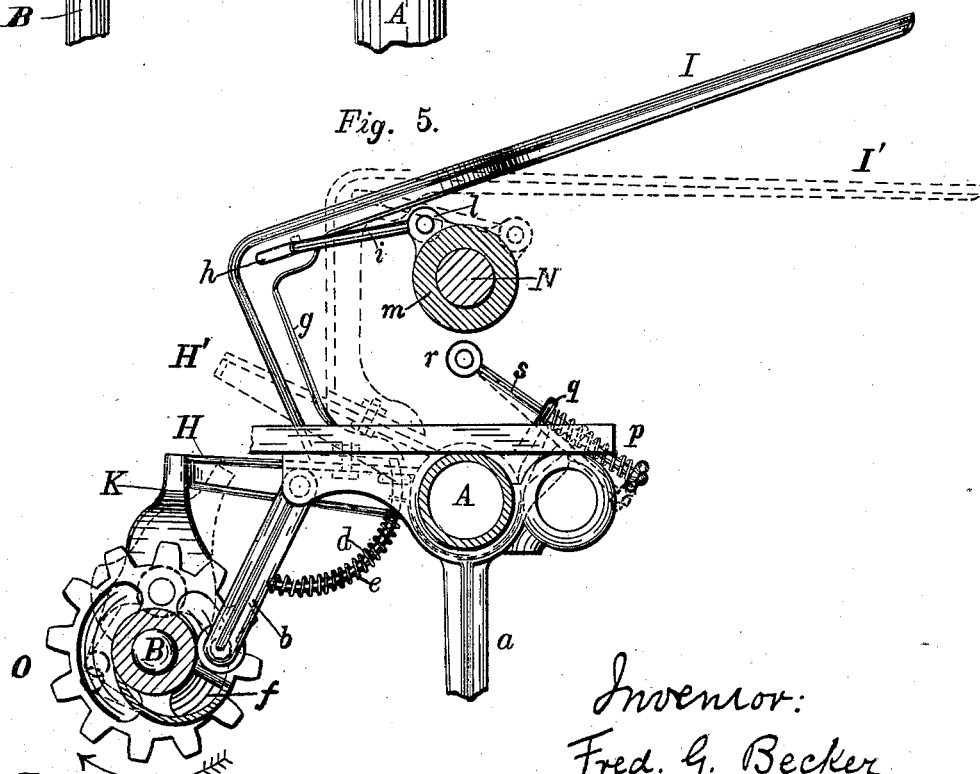
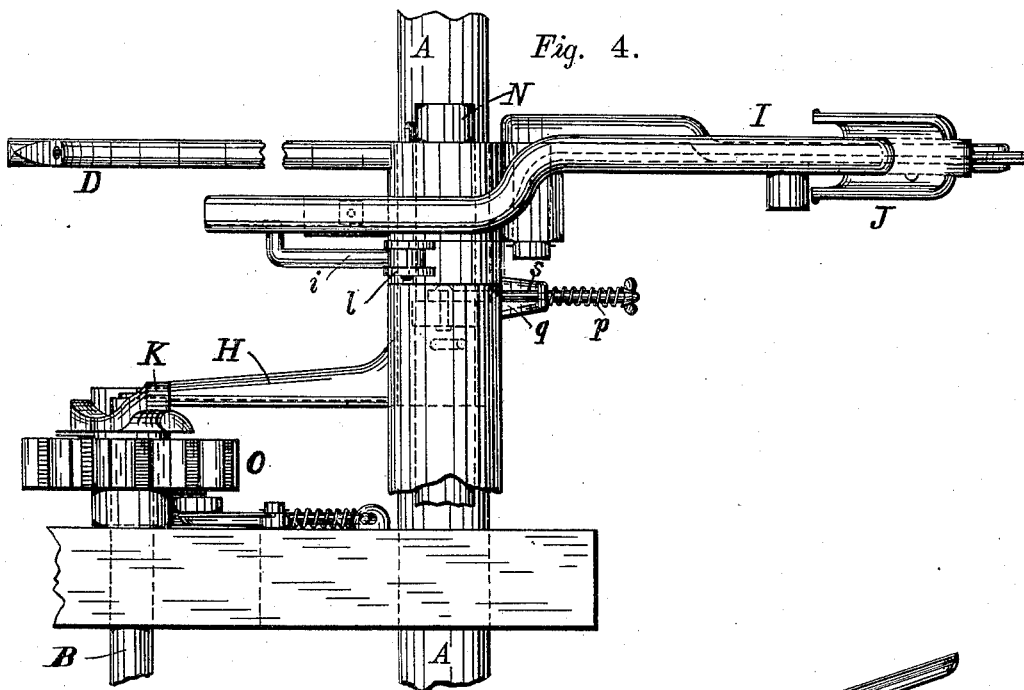
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UNITED STATES PATENT OFFICE.

FREDERICK G. BECKER, OF BROCKPORT, NEW YORK, ASSIGNOR TO THE
D. S. MORGAN & COMPANY, OF SAME PLACE.

GRAIN-BINDER.

SPECIFICATION forming part of Letters Patent No. 423,115, dated March 11, 1890.

Application filed November 6, 1888. Serial No. 290,077. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK G. BECKER, of Brockport, in the county of Monroe, in the State of New York, have invented certain Improvements in Grain-Binders, of which the following is a specification, reference being had to the accompanying drawings.

My present invention relates to certain improvements in grain-binders of the well-known Appleby type, and having for its object the simplification of the trip mechanism.

My improvement is fully described and illustrated in the following specification and accompanying drawings, and the novel features thereof specified in the claim annexed to the said specification.

In the accompanying drawings, representing my improvements in grain-binders, Figure 1 is an end elevation. Fig. 2 is a transverse section. Fig. 3 is a side elevation of the binding mechanism as seen from the stubble side of the machine. Fig. 4 is a plan view of the trip mechanism detached. Fig. 5 is a side elevation of the same.

In the accompanying drawings I have represented my improvement as applied to a grain-binding mechanism of the usual type, in which—

A A' are the cross-bars of the frame-work. B is the main driving-shaft of the binder; C C', the reciprocating packers; D, the needle; E, the knotter-shaft; G, the main frame; J, the bundle-compressor; L, the deck, and M the breast-plate. As the construction of these parts is well known, they do not require further description. The driving-shaft B runs continuously and actuates the packers when the machine is in operation.

As indicated in Fig. 2, the knotter and needle shafts are operated from the driving-shaft B by means of the gears O O' and chain P. A clutch of ordinary construction is interposed between the driving-shaft B and the gear O.

K, Figs. 4 and 5, is the dog or arm of this clutch, and H the trip which arrests its rotation and disengages the clutch. As the driving-shaft makes a number of revolutions for each vibration of the needle, it is necessary to hold the trip H out of the path of the revolution of the dog K until the needle has

completed or nearly completed its movement. In order to accomplish this, I connect the trip-lever or bundle-sizer I with the lug l, Fig. 5, on the collar m, attached to the needle-shaft N by the link or connection i, a slot h being made in the trip-lever, so as to permit the tripping movement before the needle-shaft commences to turn. The trip-lever I is held down, as indicated by the dotted lines I' in Fig. 5, by the connection i, in which position the trip H is elevated, as at H', out of or above the path of the dog K. The trip-lever I is made in one piece with the trip H, or they may be attached together in any suitable manner.

As represented in the drawings, the trip-lever I is provided with an arm g, fastened, by means of corresponding flanges secured by bolts, (see dotted lines in Fig. 5,) to the trip H, which swings about the rod or tube A. A spring p on a rod s insures the return of the trip H into the path of the dog K, when the needle-shaft returns to its normal position after the completion of the binding operation. The rod s passes through a lug q on the trip, its inner end being secured at r to a projection on the main frame G. An arm or brace a supports the cross-bar A. A pivoted arm b, carrying a roller at its end, operates, in connection with a projection f on hub of wheel O, to prevent any reverse motion of the latter when the clutch is disengaged. A curved rod d and spring e force the arm toward the shaft, the roller on the arm riding over the projection when the shaft revolves. j j' are the rollers of the clutch.

I claim—

The combination, in a grain-binder, of the needle-arm shaft, the clutch on the drive-shaft, and the pivoted trip H, of the trip-lever I, rigid with the trip H and having slot h, the link i, attached to a lug on the needle-arm shaft and engaging the slot h, whereby the trip is held out of the path of the clutch-dog until the needle-arm completes its vibration, substantially as described.

FREDERICK G. BECKER.

Witnesses:

GEO. B. SELDEN,
WILLIAM GOMM.