

(No Model.)

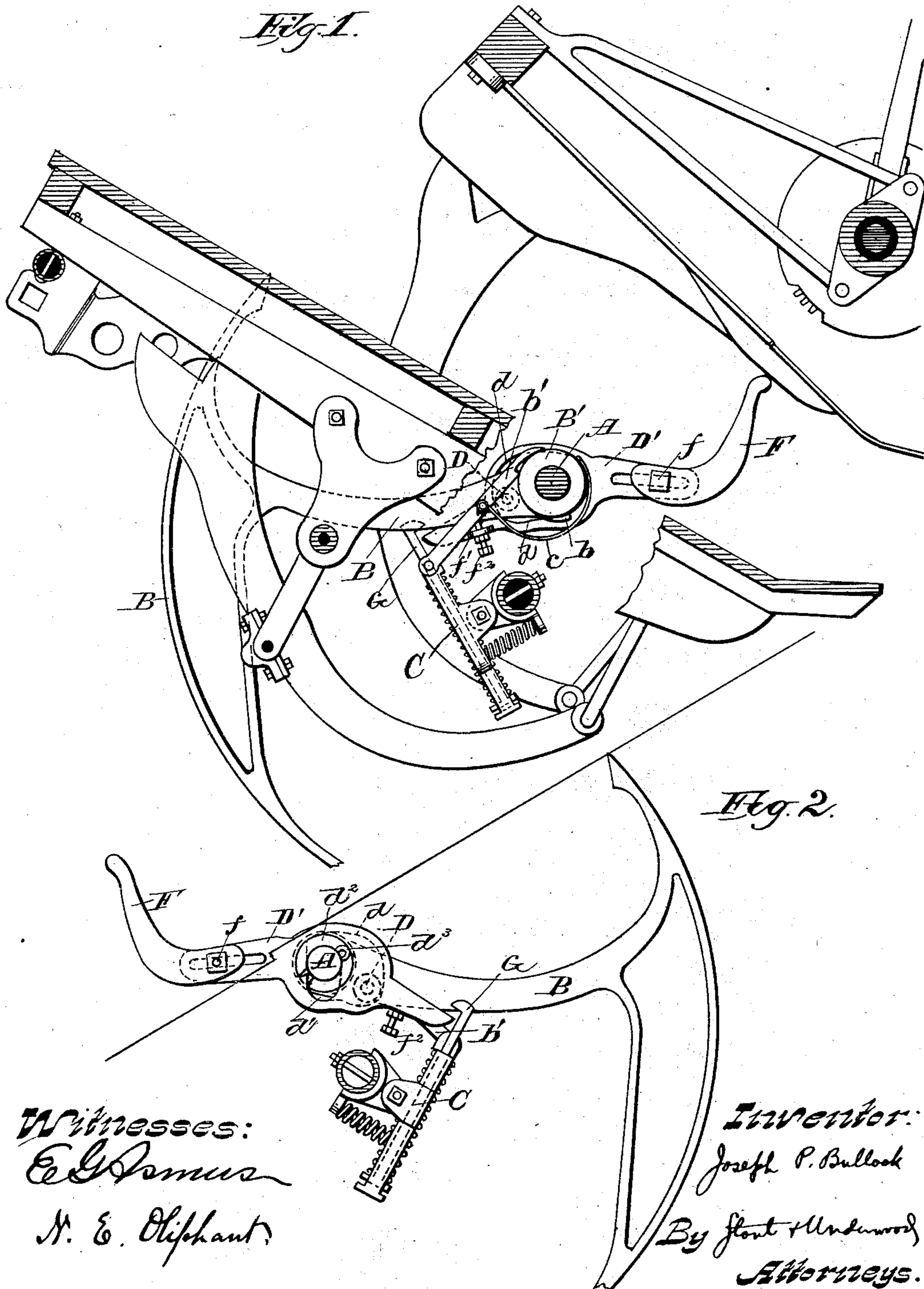
2 Sheets—Sheet 1.

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TRIP MECHANISM FOR GRAIN BINDERS.

No. 374,341.

Patented Dec. 6, 1887.



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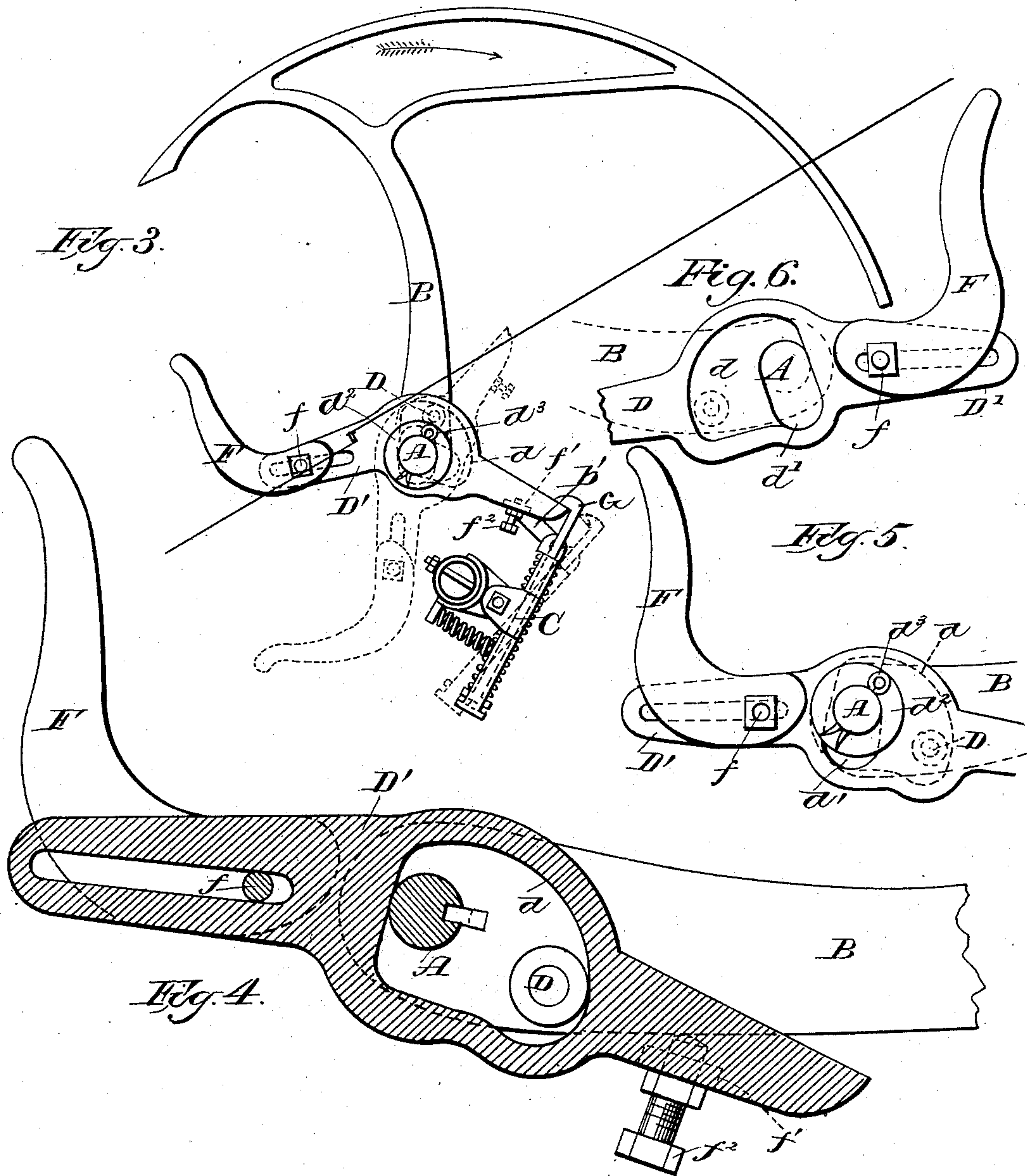
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TRIP MECHANISM FOR GRAIN BINDERS.

No. 374,341.

Patented Dec. 6, 1887.



Witnesses:

E. J. Amos

M. E. Oliphant

Inventor:

Joseph P. Bullock

By J. H. Underwood
Attorneys.

UNITED STATES PATENT OFFICE.

JOSEPH P. BULLOCK, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE MILWAUKEE HARVESTER COMPANY, OF SAME PLACE.

TRIP MECHANISM FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 374,341, dated December 6, 1887.

Application filed October 6, 1885. Serial No. 179,117. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. BULLOCK, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Trip Mechanism for Grain-Binders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My present invention relates to an improvement upon that for which Letters Patent No. 339,142 were granted me April 6, 1886, as will be fully described hereinafter with reference to the accompanying drawings, and subsequently claimed.

In the drawings, Figure 1 is an elevation of the compressing mechanism and trip-arm of a grain-binder embodying my invention. Fig. 2 is an elevation of the trip-arm and needle, taken from an opposite standpoint to that in Fig. 1. Fig. 3 is another elevation of the trip-arm and needle. This view is taken just before the needle has started on its return after the completion of a bundle and just before the latter has been discharged. Fig. 4 is a vertical section through the trip-arm, and Figs. 5 and 6 enlarged elevations of the trip-arm.

A is the needle-shaft, which, as in the Appleby binder, is connected at one end with the driving mechanism. (Not shown.)

B is the needle, the hub B' of which is keyed onto the shaft A, and on one side this hub is provided with a shoulder, *b*, for engagement with a finger, *b'*, when the needle is on its return movement, said finger being held against the hub by a spring, *c*, while the inner end of the finger is pivoted to a spring-catch frame, C, such as fully described in my patent above referred to. On its side opposite the finger *b'* the needle B carries a sleeved stud, D, which is designed to enter an eccentric housing, *d*, in the trip-arm D'. This housing is in the hub of the trip-arm, which latter is slotted, as at *d'*, to allow it to be slipped onto the end of the needle-shaft, where it is held by a washer, *d''*, and key *d'''*. The outer end of the trip-arm is slotted longitudinally to receive a bolt, *f*, by which the trip-fingers F are adjustably bound to it, and the inner end carries a lug, *f'*, that extends out under the needle, and a set-bolt, *f''*, is screwed up through this lug in position for the needle to rest upon it when

the needle is ready to encircle a gavel; and when the needle is in this position the inner end of the trip-arm is in position to engage with the spring-catch G, and as soon as a sufficient amount of grain to form a bundle has been packed upon the fingers F the inner end of the trip-arm is tipped against the resistance of the catch G, bringing set-bolt *f''* into contact with the needle, and, lifting, turns the needle-shaft far enough to cause the tripping mechanism to start the machine, when the needle rises and its sleeved lug lifts and wedges the trip-arm up so as to cause it to compress the bundle, the slot *d'* permitting it to be so lifted, and then after the bundle has been encircled the compression is decreased until the shoulder *b*, striking finger *b'*, causes it to throw catch G off of the trip-arm, when the latter falls to position indicated in dotted lines, Fig. 3, in which position it remains until the needle has gone back in the direction indicated by the arrow, Fig. 3, to position it is shown in in Fig. 4, when by contact with set-bolt it will force the inner end of the trip-arm beneath the catch G, as shown in Fig. 3.

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

1. In a grain-binder, a trip-arm having an eccentric housing in its hub and this housing provided with a slot to receive the needle-shaft, which latter forms a pivot for the trip-arm, in combination with the needle carrying a stud arranged to travel against the sides of the housing and a catch for engagement with the inner end of said trip-arm during its act of compression.

2. The combination, in a binder, of a needle having a stud on one side near its shaft, a pivotal trip-arm having an eccentric housing and slot for the needle-shaft, as well as a lug for engagement with under side of the needle, and mechanism for holding the rear end of the trip-arm while the bundle is being compressed, as set forth.

3. In a grain-binder, a trip arm having an eccentric housing in its hub, and this housing provided with a slot to receive the needle-shaft, which latter forms a pivot for the trip-arm, in combination with the needle carrying a stud arranged to travel against the sides of

the housing, and having its hub provided with a shoulder, and a finger having one end thereof connected to a spring-catch for said trip-arm and its other end arranged to come in the path
5 of the shoulder on the needle-hub, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in

the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

JOSEPH P. BULLOCK.

Witnesses:

S. S. STOUT,

MAURICE F. FREAR.