

(No Model.)

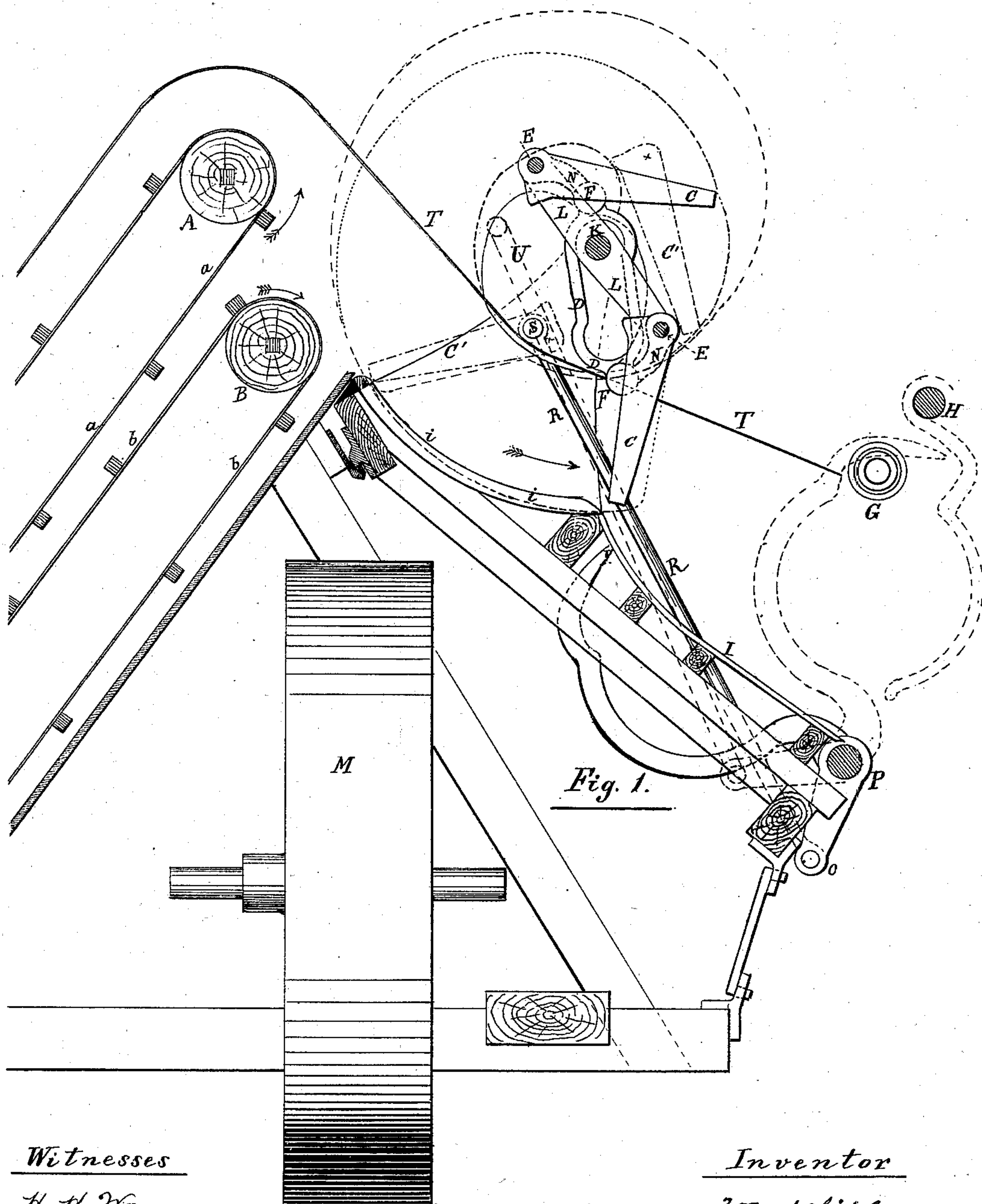
4 Sheets—Sheet 1.

W. N. WHITELEY.

GRAIN PACKER FOR BINDING MACHINES.

No. 258,180.

Patented May 16, 1882.



Witnesses

H. H. Warren

Chas. W. Baldwin

Inventor

W. N. Whiteley
by Ridout Airs & Co.
Attys

(No Model.)

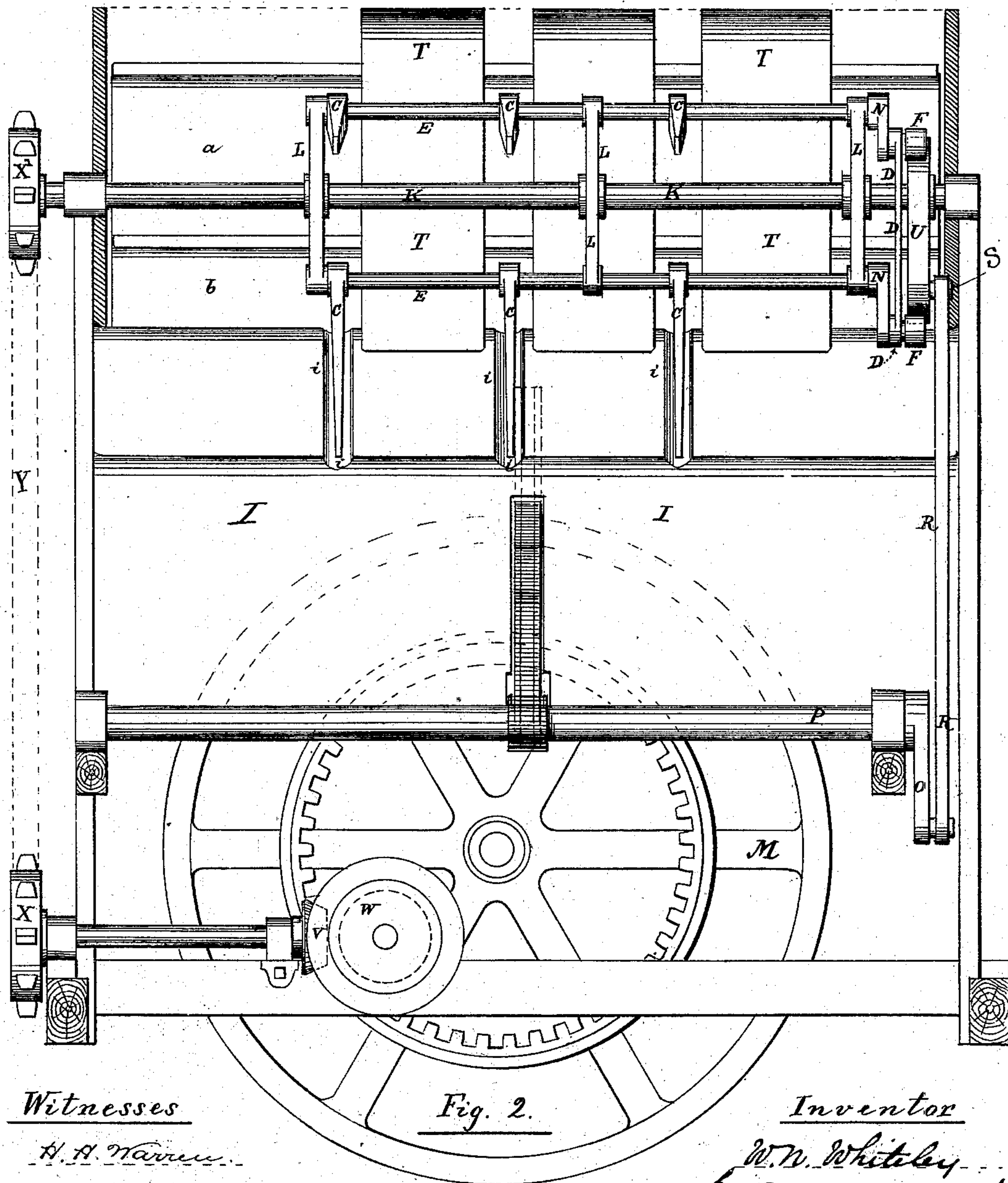
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Fig. 2.

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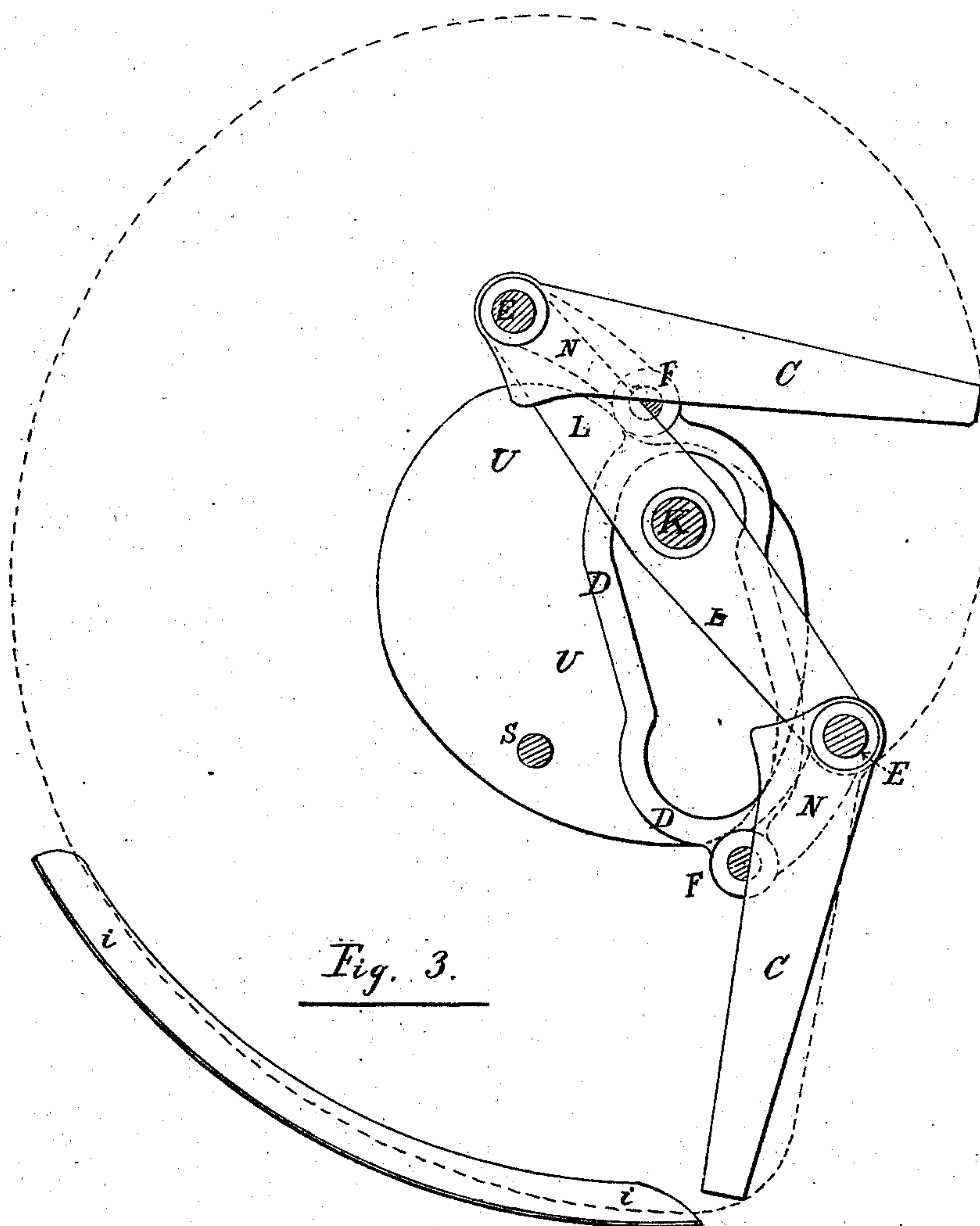


Fig. 3.

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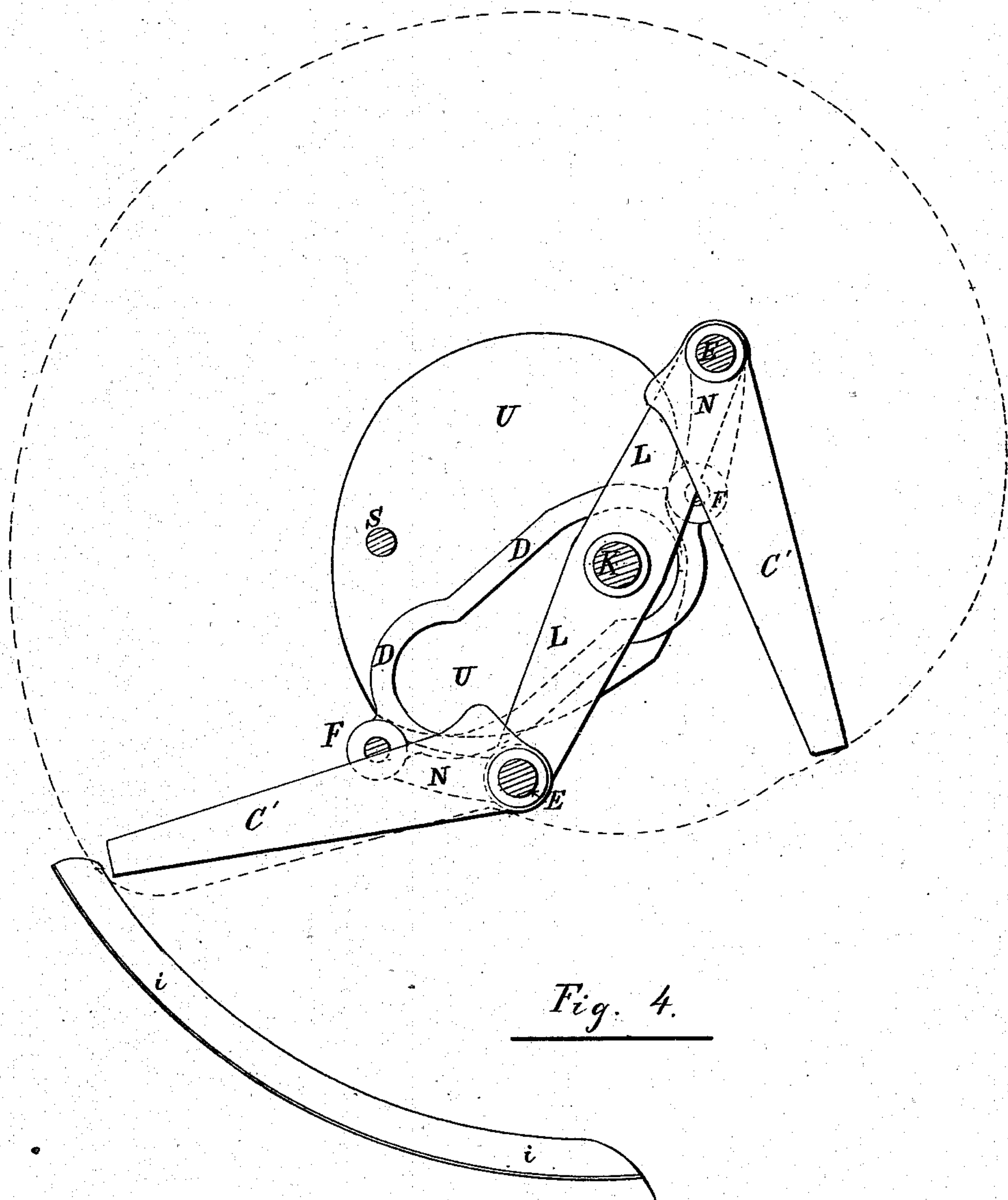


Fig. 4.

Witnesses

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Attn

UNITED STATES PATENT OFFICE.

WILLIAM N. WHITELEY, OF SPRINGFIELD, OHIO, ASSIGNOR TO WHITELEY,
FASSLER & KELLY, OF SAME PLACE.

GRAIN-PACKER FOR BINDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 258,180, dated May 16, 1882.

Application filed December 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NEEDHAM WHITELEY, of the city of Springfield, in the county of Clarke, in the State of Ohio, United States, manufacturer, have invented a new and useful Grain-Packer for Binding-Machines, of which the following is a specification.

The invention relates to a peculiarly constructed and operated revolving falling-tooth packer arranged in connection with an ordinary double-belt elevator and with binding mechanism invented by myself and others and described in previous applications; and it consists essentially in arranging the packing-teeth upon two shafts concentrically hung and guided so that they swing out and sweep the grain away from the elevating-belt and press it back ready to be taken up by the binder-arm, the sweeping motion being secured by a peculiarly-shaped cam connected to the binder-arm shaft of the machine by a connecting-rod, so that it will be adjusted at intervals to prevent the grain coming in contact with the binder-arm, substantially as hereinafter more fully explained.

In the drawings, Figure 1 represents a cross-section, showing relative positions of elevating-belt packing and binding mechanism. Fig. 2 is a back view of the packer, showing sufficient of the mechanism of the main machine to indicate from where the packer derives its motion. Fig. 3 is a detail of the packer in the first position of cam. Fig. 4 is a detail of the packer in the second position of cam.

As my invention relates solely to an improved grain-packer, I have not shown, nor is it necessary to explain, any more of the machine than is required to show how the packer operates in connection with it.

A B are the rollers over which pass the elevator-belts *a b*.

M indicates the position of the master-wheel, and V W the bevel-gears to convey the motion from the master-wheel to the sprocket-wheel X, which is connected to the sprocket-wheel X' on the packer-shaft K by the chain Y. The packer-shaft K is supported in suitable fixed bearings, and the arms L are keyed or otherwise fastened to it. The arms L support the rake heads or rods E.

C C are the rake or packing teeth, keyed or

otherwise fastened to the rods E. One end of each rod E is provided with a crank, N, having a roller, F, on its pin, as indicated. The link D connects the two cranks N together, and holds the rollers F against the cam U, as indicated. This cam U is eccentrically pivoted upon the shaft K, so as to turn thereupon, and is provided with a stud or pin, S, which is connected to a crank, O, on the binder-arm shaft P by the connecting-rod R.

i is a grain-receptacle which receives the grain from the elevator-belts, and I is the bottom of said receptacle, from which the binder-arm takes the gavel.

T is a sheet-metal covering over the grain-receptacle.

G indicates the position of the tying mechanism, and H that of the compressor-shaft.

Having described the general construction of my improved packer and indicated the location of the other parts of the machine to which it is applied, I shall proceed briefly to explain its operation.

Owing to its connection with the master-wheel, the shaft K revolves as the machine moves forward, carrying with it the arms L, which support the rake heads or rods E. These rake-heads are pivoted in the arms L, and derive a rocking motion from the cranks N as they are carried around the cam U. This cam remains stationary as the arms revolve around it, except when turned by the binder-arm shaft P, for the purpose hereinafter explained. When this cam U is held in the position indicated in Fig. 3 the rake-teeth C describe the circle shown in dotted lines, passing over the grain-receptacle *i*. When the position of the cam U is altered into the position represented in Fig. 4 the effect of its shape on the rake-heads E is to draw the teeth C lengthwise away from the grain-receptacle, as indicated by dotted lines. The object of this alternative motion will readily be seen. As the packer-teeth revolve in the manner described they sweep the grain away from the roller B as it is discharged off the elevating-belts *a b*, and when the cam U is in the position shown in Fig. 3 the arms C carry the grain off the receptacle *i* and discharge it on the bottom of said receptacle, where the binder-arm takes it and forms it into a sheaf. Were the arms or teeth C per-

mitted to travel over the receptacle *i* at the time that the binder-arm is up, an interference would occur on account of grain being pressed against back of binder-arm, preventing its re-
5 turning to its place of rest preparatory to receiving the next gavel. Consequently I connect the cam U, as before described, and the binding-arm shaft, by which connection the cam U is swung around at the proper moment
10 before the rake-teeth pass over the receptacle *i*, as shown in Fig. 4, instead of after they have so traveled, as represented in Fig. 3.

What I claim as my invention is—

1. In a grain-binding harvester, the combination of a double-belt elevator, a revolving
15 falling-tooth packer, and a controlling-cam, and means connecting said cam with the binder-arm shaft, whereby the position of the cam may be changed so that it may operate in one position to swing the revolving packer-teeth out
20 to sweep the grain from the elevator-belt to the binder-arm, and in the other position it may operate to withdraw the packer-teeth endwise before they pass over the grain-receptacle.
25 2. The combination of the rotary rake-heads, linked together, as described, and the mova-

ble cam with the connecting-rod R for connecting the cam with the binder-arm shaft located at one end of the receptacle, whereby said cam and the operative parts connected
30 with it are removed from the vicinity of the grain in the receptacle.

3. The double-belt elevator, in combination with the continuously-rotating rakes which sweep the grain from the elevating-belts and
35 deposit it in proper position in the receptacle, a controlling-cam and connecting-rod coupled with a crank on the binder-arm shaft.

4. A continuous rotating rake-packer and means for controlling its path of rotation directly by and in unison with the binder-arm,
40 whereby its movements are so arranged as to always sweep the grain off the elevating mechanism, but to vary the time of grain-deposit in the grain-receptacle, so as to admit of the
45 free working of the binder-arm on its return downward.

WILLIAM NEEDHAM WHITELEY.

Witnesses:

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CHAS. W. BALDWIN.