

(No Model.)

2 Sheets—Sheet 1.

M. L. NICHOLS.

TUCKER FOR GRAIN BINDERS.

No. 414,161.

Patented Oct. 29, 1889.

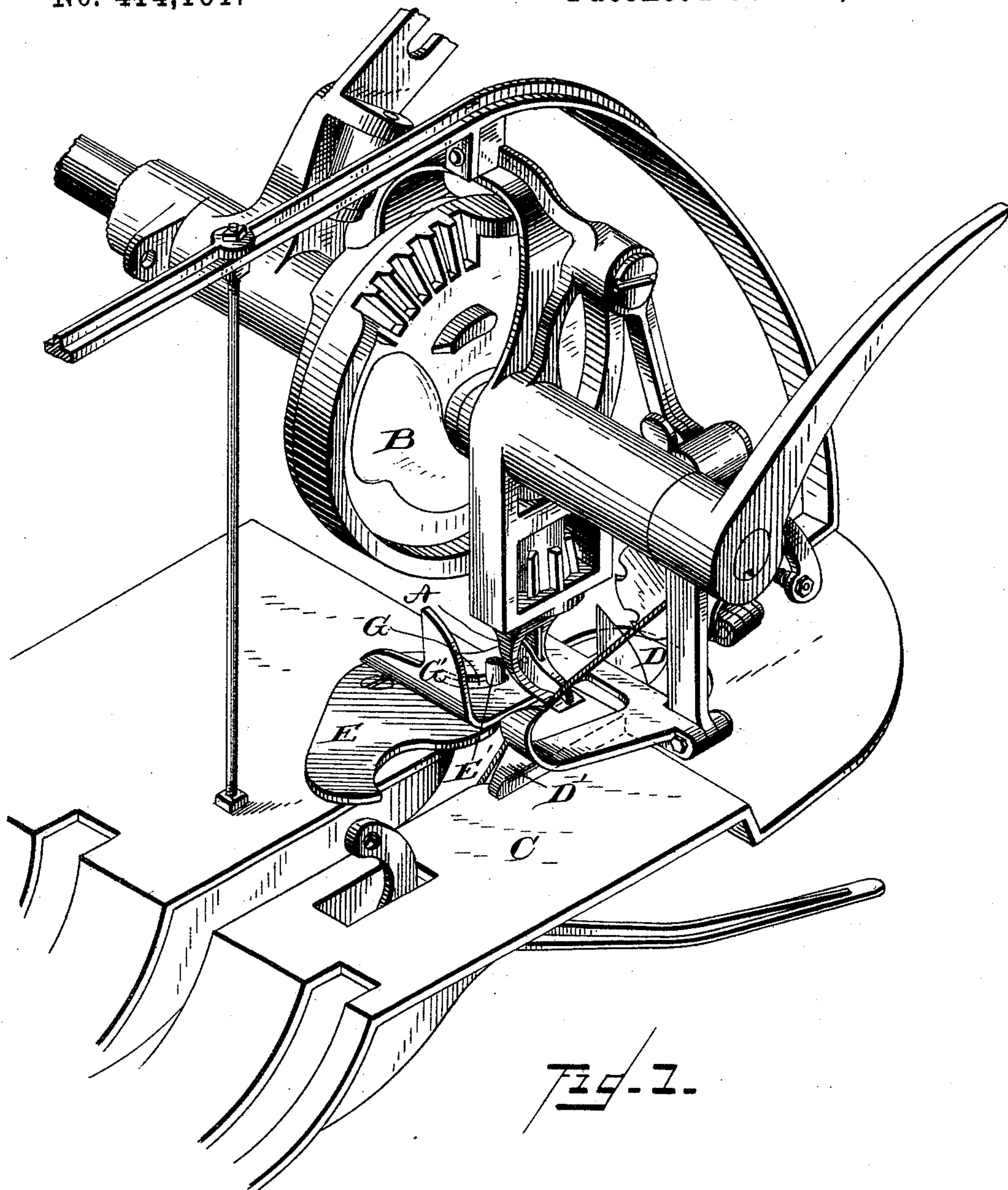


Fig. 1.

WITNESSES

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INVENTOR

Marion L. Nichols

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(No Model.)

2 Sheets—Sheet 2.

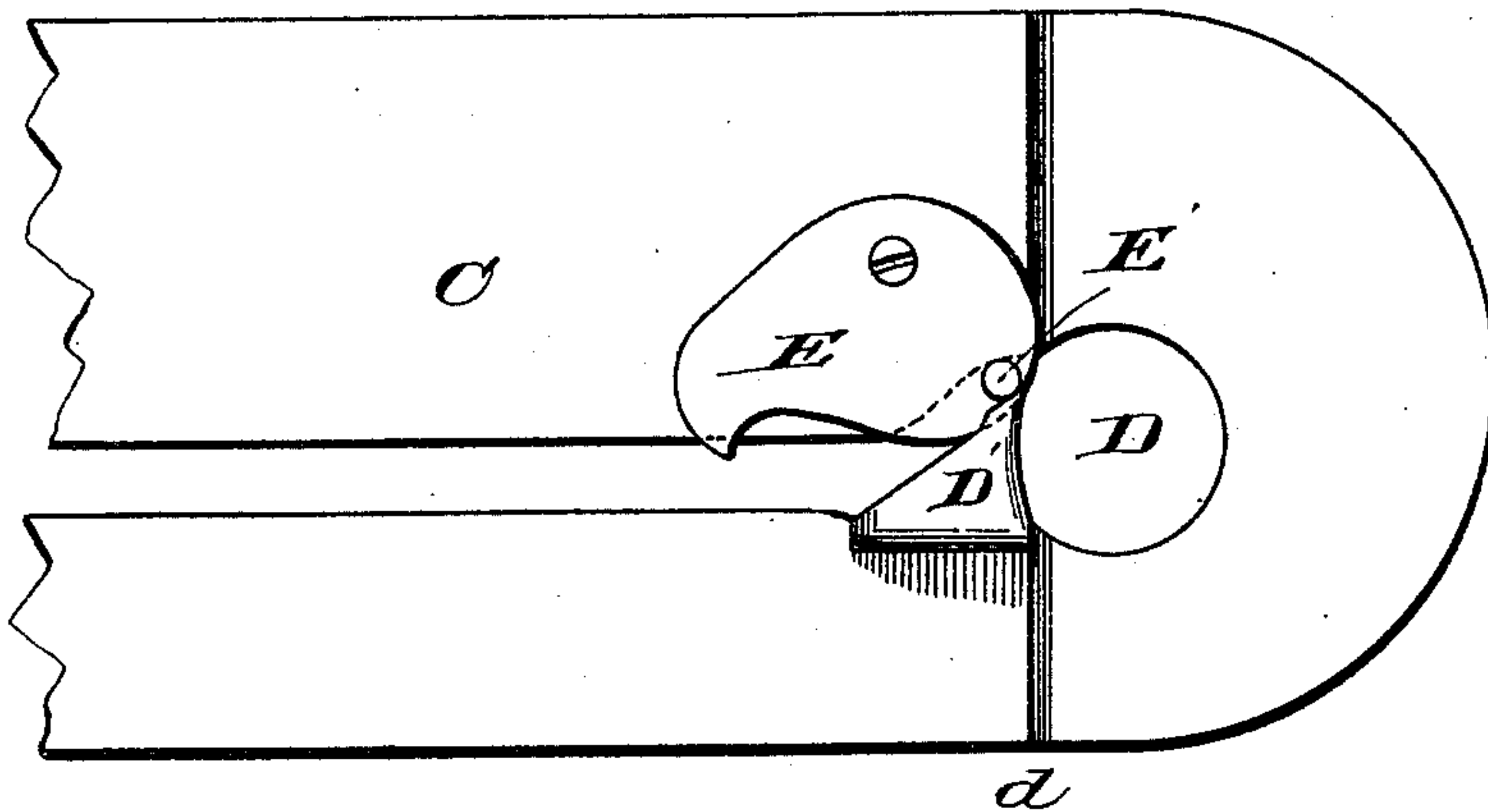
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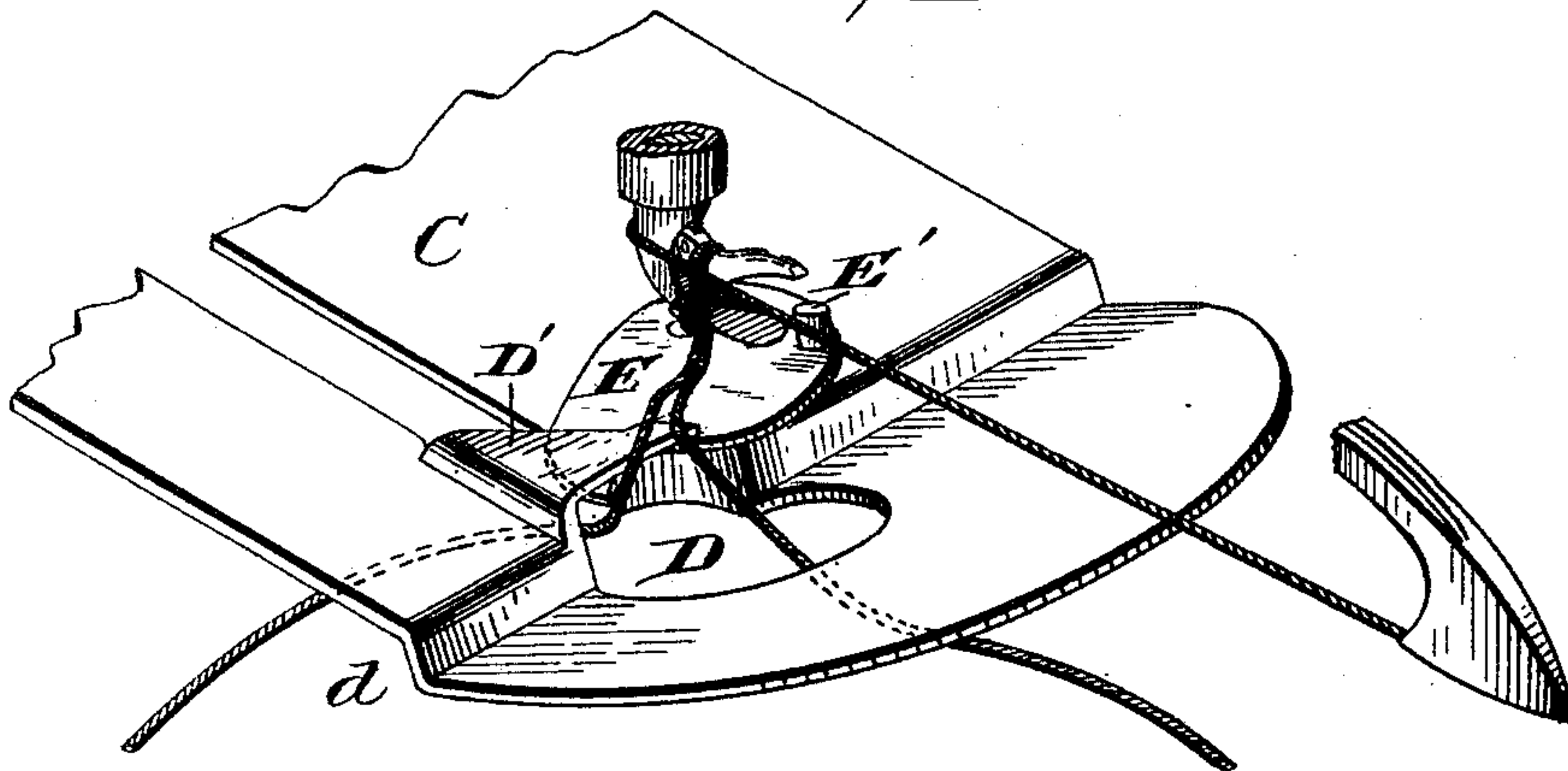
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*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

MARION L. NICHOLS, OF NEW YORK, N. Y.

## TUCKER FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 414,161, dated October 29, 1889.

Application filed February 7, 1889. Serial No. 299,055. (No model.)

*To all whom it may concern:*

Be it known that I, MARION L. NICHOLS, of New York, county of New York, State of New York, have invented new and useful Improvements in Tuckers for Grain-Binders, of which the following is a full and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improved construction of breast-plate and pivoted tucker operating in connection therewith.

The invention consists in forming upon one side of the twine-slot a raised overhanging lip or flange, under which the end or toe of the tucker is caused to move in carrying and tucking the twine under the knotter-bill, whereby the twine is forced under the lower face of the lip or flange on the breast-plate in being tucked under the knotter and thereby prevented from slipping or escaping from the toe of the tucker or from engagement with the knotter when once engaged thereby.

In the accompanying drawings, Figure 1 is a perspective view of the knotting mechanism and mechanism by which it and also the ejector-arms are operated, showing a portion of the breast-plate and also the tucker and the reciprocating stripper by which said tucker is operated, said parts being in the position of rest. Fig. 2 is a plan or top view of a portion of the breast-plate, showing my improved manner of constructing the same, and also the tucker pivoted therein. Fig. 3 is a perspective view of a portion of the breast-plate taken from the discharge end of the binder, showing the point of the needle holding the twine, and also the jaws of the knotter with the twine in the position it is carried and caused to assume when the knotter is being turned to catch the ends between the jaws and the twine is being tucked under the knotter.

The knotter A, the cam and gear-wheel B for operating the same, and the ejector-arms and the manner of operating the same are similar to that described in the patent granted to me April 10, 1888, No. 381,079, and need not therefore be particularly described herein.

The breast-plate C, except in the particulars hereinafter stated, may be constructed in any preferred way, having the slots through

which the packers operate and the twine-guide or slot formed therein.

At a point in advance of the knotter the twine-guide slot is curved backward in the direction of the heel of the knotter when in its position of rest and terminates in a circular opening D. At a point about in line with the side face of the knotter, at the discharge side of the machine, the breast-plate is stepped or made in angle form to allow the twine-guide and stripper to be brought down close to the upper face of the breast-plate, while providing space for the operating-arm of said twine-guide. At a point from where the slot in the breast-plate commences to curve backward, or at a point where the tucker engages the twine back to and in line with the stepped portion of the breast-plate, the plate is provided with a raised lip or flange D', projecting out a short distance over or slightly overhanging the slot, the side edge of the lip or flange being formed on an angle corresponding to the angle of the curved portion of the slot, while its side face is formed on a line parallel with the face of the stepped portion. At the opposite side of the slot in the breast-plate from which the finger is pivoted, is pivoted the tucker E, and in such relation to said slot and the lip or flange that its point shall be caused to move across the slot and under the lip or flange in carrying the twine to the knotter, and with its heel end so formed that it shall close or nearly close the slot when in its position of rest, but shall be moved to open the slot for the passage of the twine as the toe is moved forward to engage the twine to tuck or carry it against the knotter.

The tucker is operated by means of the reciprocating stripper in the following manner: The tucker at its heel end is provided with a pin or projection E', extending from the face thereof, which engages with a slot G formed in the twine-guide and stripper, as will now be described.

The twine-guide and stripper is constructed in any usual or preferred way, except that one of the arms G' is extended in width and has formed in said portion the slot G, made in curved form and with which slot the pin or projection E on the heel of the tucker engages, as before stated. The portion of the slot



which operates or acts on the pin is on a line or parallel with the twine-guide slot and is curved or extended back a short distance, which latter portion of the slot permits the  
5 twine-guide and stripper to be moved forward a short distance after it has completed the movement to the tucker, to permit said stripper to strip the knot without further action on the tucker.

10 The advantages of the improvement herein described will be readily understood and appreciated by those skilled in the art.

Having now described my invention, I claim—

15 1. The shield or breast-plate provided with the raised overlaying lip or flange, arranged upon one side of the slot formed therein, in combination with a tucker pivoted on the opposite side of the slot in such position as to  
20 have its point or toe move under the lip or flange in carrying the twine to the knotter, substantially as described.

2. The combination of the shield or breast-

plate having the twine-slot curved backward at a point under the knotter, the raised over- 25  
laying lip or flange on one side of the slot having its edge adjacent to the slot formed on an angle corresponding to the angle of the slot, the tucker pivoted on the opposite side  
30 of the slot, and a twine-guide and stripper for actuating said tucker, substantially as described.

3. The combination of the shield or breast-plate having the raised overlaying lip or flange arranged at one side of the slot formed 35  
therein, the tucker pivoted at the opposite side thereof, having the enlarged heel end to extend over the slot, and the toe to move under the lip, substantially as described.

In testimony whereof I have hereunto set 40  
my hand this 31st day of December, A. D. 1888.

MARION L. NICHOLS.

Witnesses:

ALEX. MAHON,  
F. L. OURAND.