

No. 610,525.

Patented Sept. 13, 1898.

A. DAVIS.
ATTACHMENT FOR HARVESTERS.

(Application filed Jan. 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

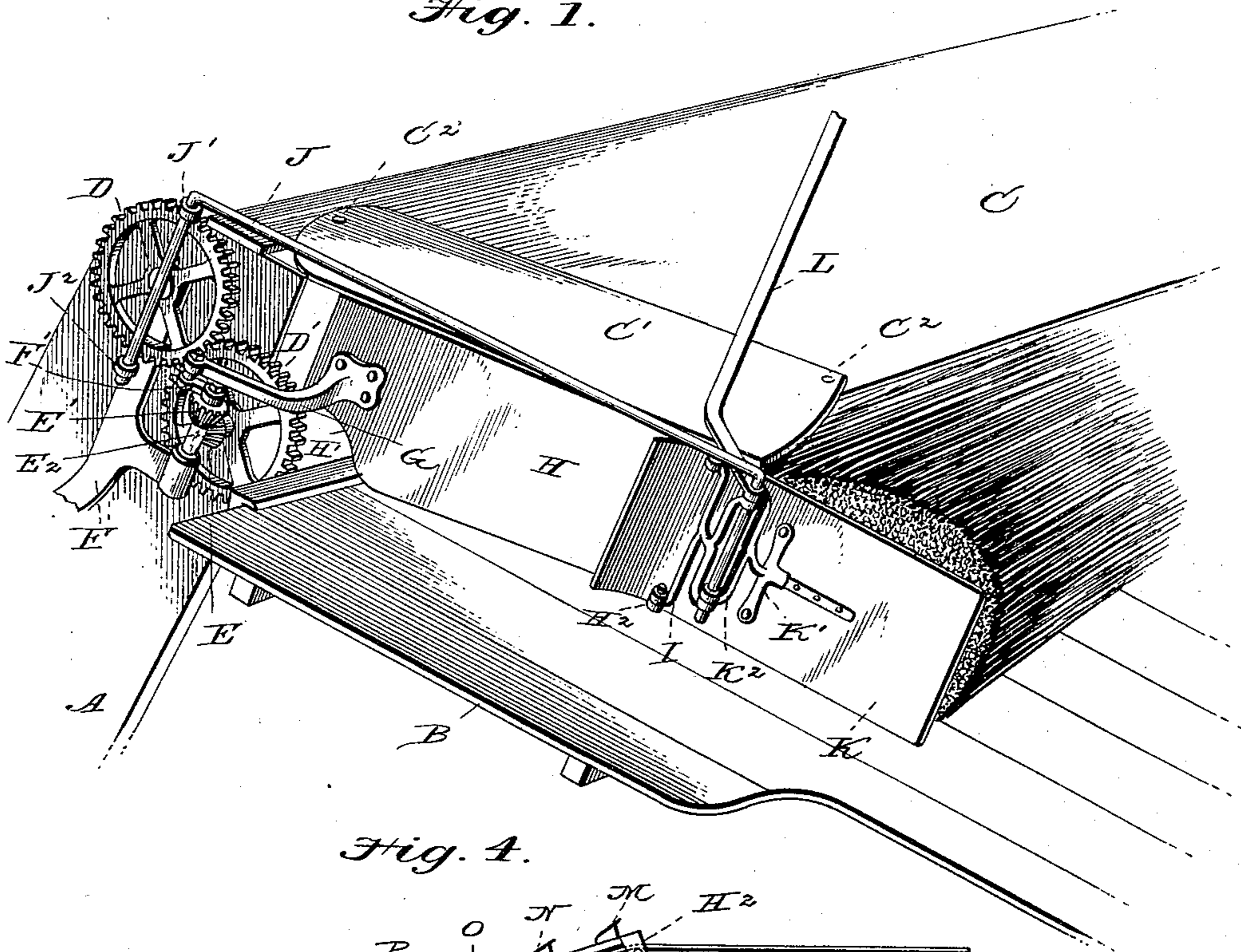


Fig. 4.

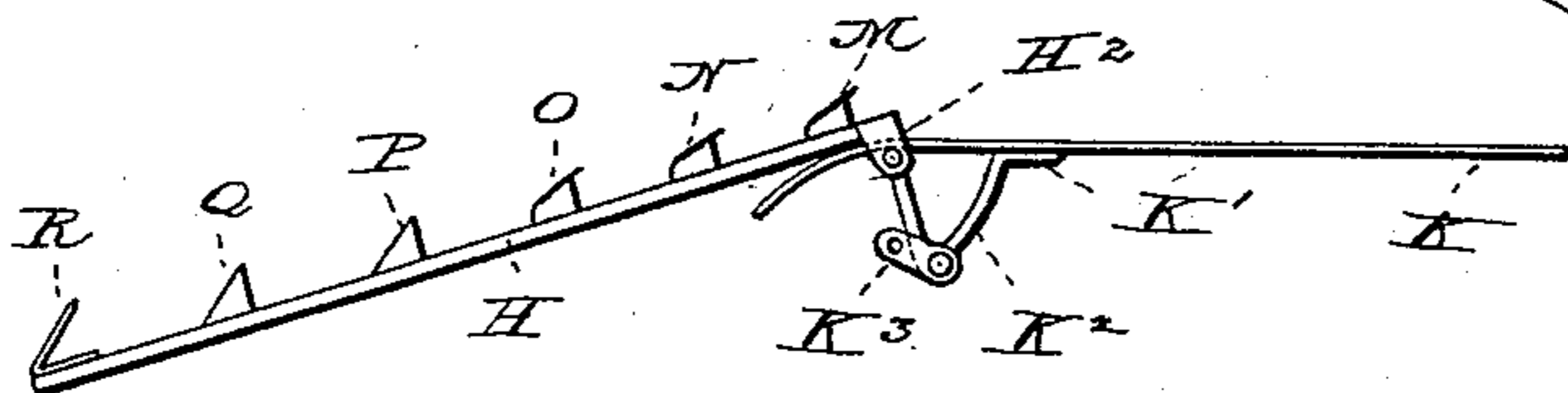


Fig. 6.

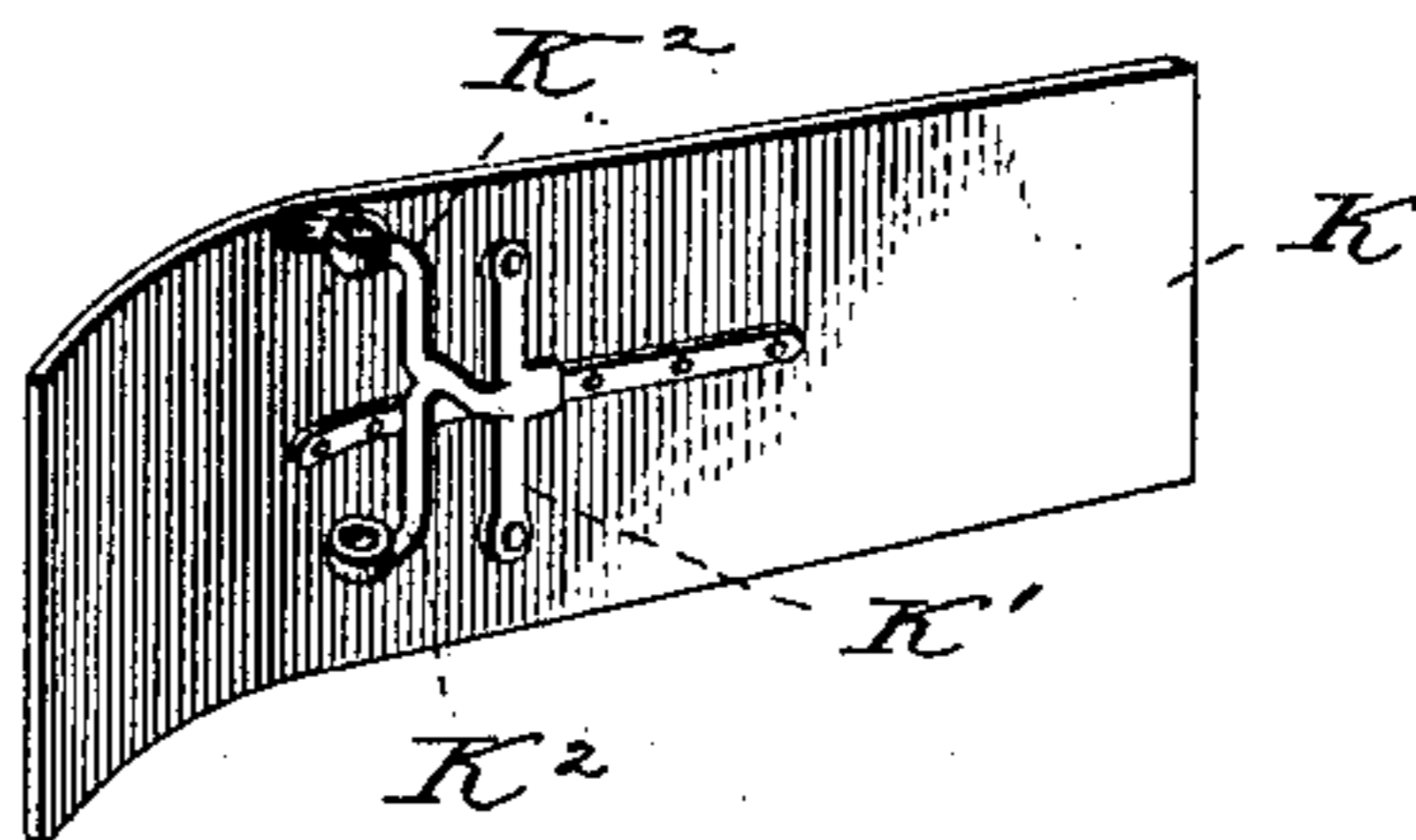


Fig. 5.

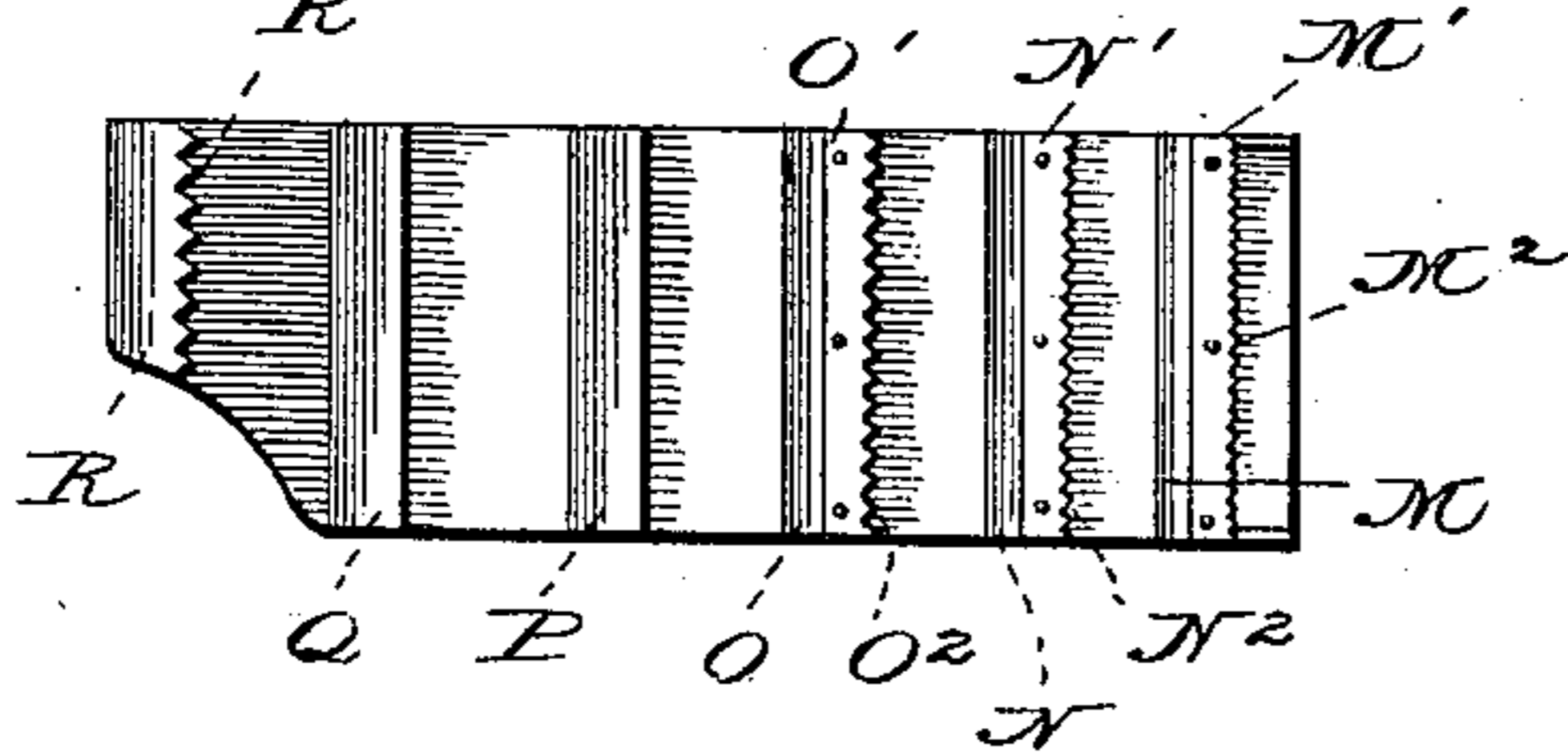
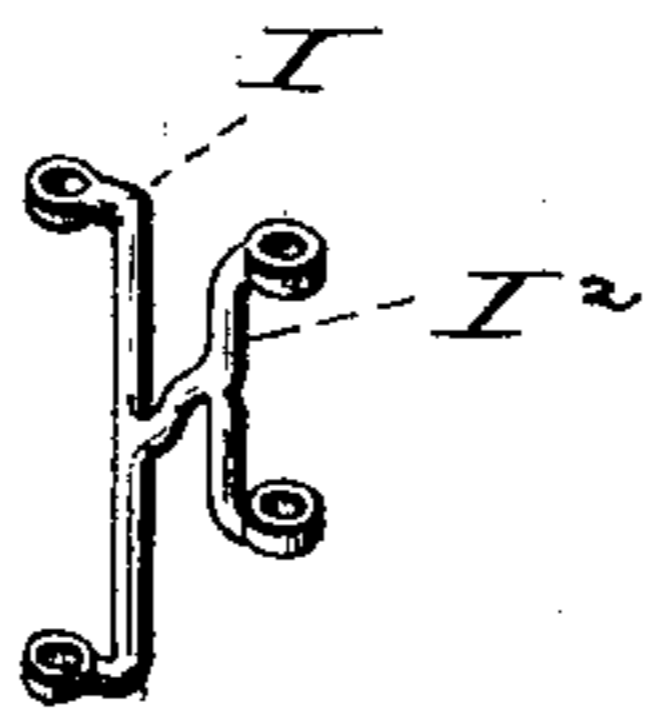


Fig. 7.



Witnesses

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Fig. 2.

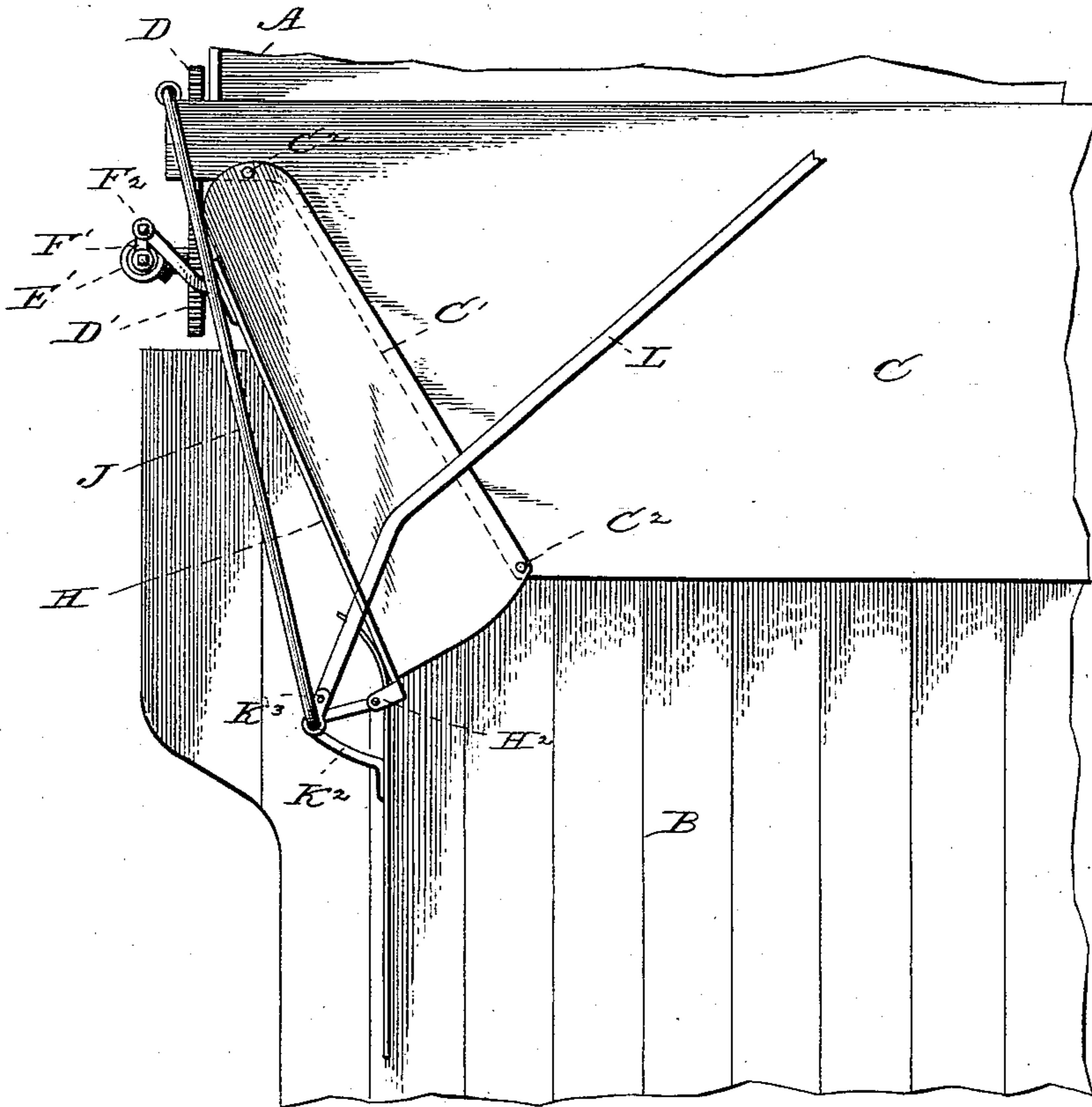
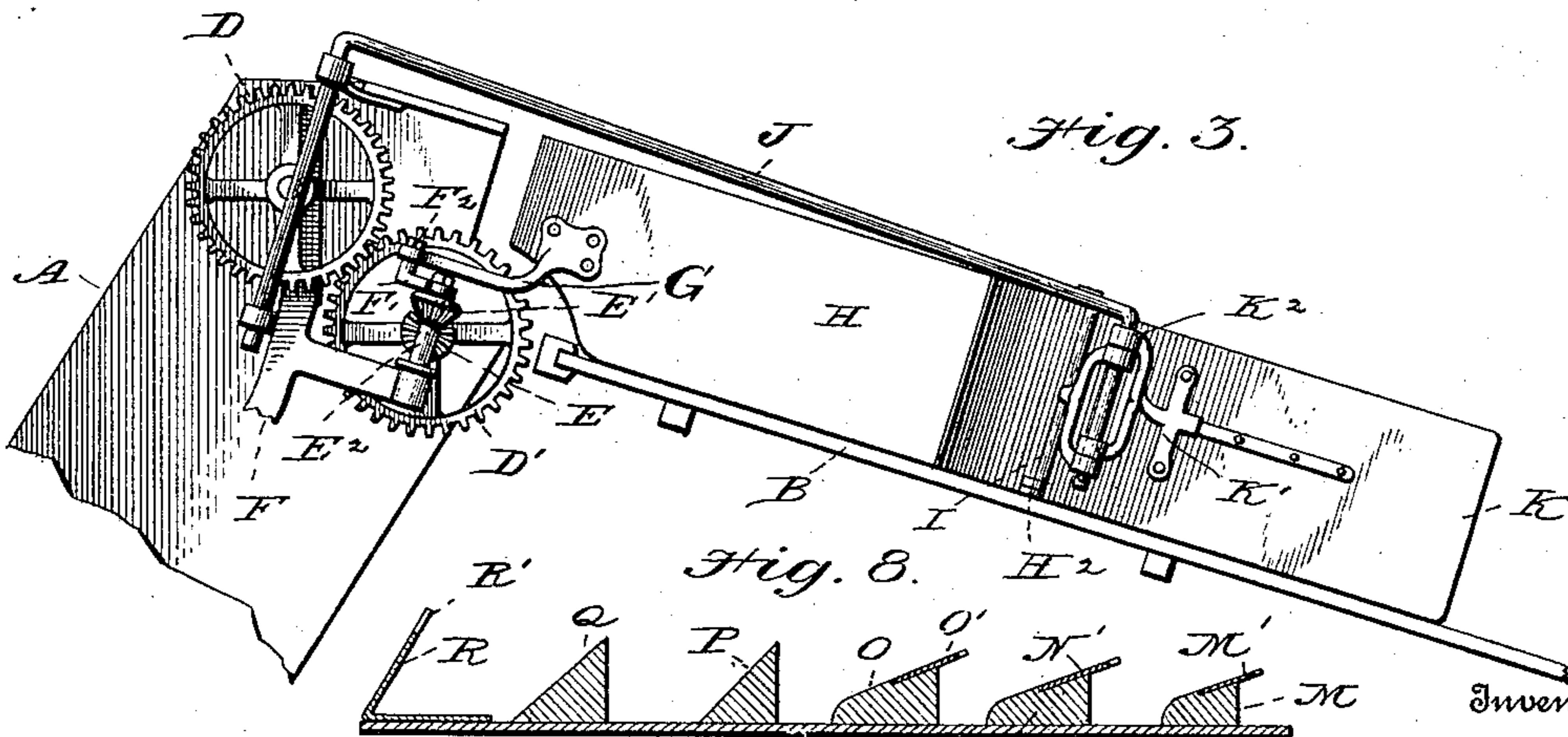


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALDEN DAVIS, OF NORTH SALEM, INDIANA.

ATTACHMENT FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 610,525, dated September 13, 1898.

Application filed January 20, 1898. Serial No. 667,227. (No model.)

To all whom it may concern:

Be it known that I, ALDEN DAVIS, residing at North Salem, in the county of Hendricks and State of Indiana, have invented a new and useful Attachment for Harvesters, of which the following is a specification.

My invention relates to an improved attachment for grain-binding harvesters, and more particularly to an improved vibrating butter-board to be used in connection with the binder mechanism. In machines of this character the butts of the grain coming from the elevator fall in slanting positions, the heads of the same falling in advance of the butts, and the weight of said heads causes the straw to be compressed at that end, while the packers connected with the binder press the center of the straw. This causes the short grain to slip ahead and the bundle will be delivered to the binder in an uneven position, thereby forming a slovenly-made bundle with uneven butts, which will, when it is shocked, stacked, and pitched to the threshing-machine, keep continually shedding straws, making dirty work, and causing much waste. The object of my invention is to obviate all of these difficulties by providing an improved vibrating butter-board adapted to act upon the straw and push the butts evenly to a line where the packers operate on them and to deliver them to the binding mechanism in a square and true position, thereby making a square-butted bundle in all kinds and conditions of grain.

A further object of my invention is to provide a series of cleats on the vibrating board adapted to engage with the butts and to push them down, so shaped that on the upward stroke of said board they will easily pass the oncoming grain and also prevent the straw from being caught and pulled between the top of the lower elevator and the binder-deck.

With these objects in view my invention consists in the novel construction, combination, and arrangement of parts, such as will be hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, which form a part of this specification, and in which similar letters of reference are used to indicate like parts, Figure 1 is a perspective view of so much of a harvester as is deemed neces-

sary to show the application of my improved device. Fig. 2 is a top plan view of the mechanism shown in Fig. 1. Fig. 3 is a side elevation of the same. Fig. 4 is a detail plan of my improved butter-board shown in connection with the extension-shield. Fig. 5 is an elevation of the board, showing the side which acts upon the grain. Fig. 6 is a detail perspective of the extension-shield and the connecting-brackets therefor. Fig. 7 is a detail perspective of the bracket for connecting the vibrating board, frame-rod, extension-shield, and adjusting-lever. Fig. 8 is a longitudinal section, on an enlarged scale, taken through the butter-board, showing the cleats therein in their proper relative positions.

In illustrating my invention I have deemed it necessary only to show the upper end of a harvester-elevator and a portion of the binder-deck, these being the parts to which my improvements are applied.

In the said drawings, A designates the elevator-frame, B the binder-deck, and C the top covering for said deck. On the shaft of the upper roller of the elevator is a gear-wheel D, adapted to mesh with a second gear D', mounted on a stub-shaft suitably secured in the elevator-frame. On the outer ends of this stub-shaft is a pinion E, adapted to mesh with a pinion E', mounted on a stub-shaft E², journaled in a supporting-bracket F, secured to the elevator-frame. Rigidly secured to the stub-shaft E² and adapted to revolve there-with is an arm F', carrying on its outer end an upwardly-extending crank-pin F², which is pivotally connected to a bracket-arm G, said bracket-arm being secured at its other end to the butter-board H. The butter H consists of a piece of flat material cut off, as at H', so as not to hit against the gearing when it is vibrating. At the rear end of the board H, I provide the outwardly-extending ears H², to which is bolted the bracket I. The bracket I is provided with the outwardly-extending arms I², provided with openings for the reception of the frame-rod J. The other end of the frame-rod J is bent at right angles, as shown, and adapted to be pivotally mounted in a bearing J' J², secured to the frame.

K designates an extension-shield, consisting of a metallic sheet curved outwardly at its forward end and adapted to set at right

angles to the binder-deck and on a plane parallel with said deck. The bracket K' is bolted to the outer side of the shield K , having the arms K^2 K^2 provided with openings 5 through which said frame-rod J passes, as shown in Figs. 1 and 3 of the drawings.

Thus it will be seen that the board H and shield K are hinged together by means of the frame-rod J , passing through the brackets I 10 and K' , and by adjusting from this point the radius of the swing of the butter-board H can be changed as desired.

On the upper end of the bracket-arm K^2 is formed a tang K^3 , to which is rigidly secured 15 an adjusting-lever L . The other end of the adjusting-rod L is secured to the top of the binder-deck, as shown in Fig. 1 of the drawings. By shortening this rod L the radius of swing of the butter-board H is adjusted, when 20 desired, to be used on shorter grain. To the inside of the butter H are secured a series of cleats M , N , O , P , Q , and R , extending the entire height of said board, as shown in Fig. 5, and of a shape substantially as shown in Fig. 25 8 of the drawings. The cleat M , which is located at the extreme forward end of the board, is the smallest and is provided on its outer surface with a metallic strip M' , provided with a series of fine teeth or serrations 30 M^2 . The rear edge of this cleat is rounded, as shown. These teeth M^2 are adapted to engage on the downward stroke the finer straws, and the rounded end of the said cleat is provided, so as to allow the straws to easily pass 35 over it on the upward stroke of the said butter-board. The cleat M^2 is substantially the same as M with the exception of its proportion. It projects about an eighth of an inch farther from the board H than the cleat M 40 and also carries a strip N' , provided with the teeth or serrations N^2 . These teeth are a little coarser than the teeth M^2 and act on the straws of a larger size in the same manner as the cleat M . The cleat O is substantially the 45 same as the cleat N with the exception of its proportion, it extending outwardly about an eighth of an inch farther than the cleat N . It is also provided with a metallic strip O' , provided with the teeth or serrations O^2 , which 50 are larger than the teeth N^2 and are adapted to act upon larger straws. The cleat P is substantially triangular in cross-section and extends outwardly three-eighths of an inch farther than the cleat O . It is provided with 55 a slanting rear edge, so that the straws will easily pass over it during the upward stroke of the board. The cleat Q is substantially the same as P with the exception of its proportion, it being an eighth of an inch deeper 60 than P . It is also provided with the slanting edge and for the same purpose as that of P . The last cleat R is made of metal bent at about an angle of sixty degrees and projects three-quarters of an inch farther away from 65 the butter-board than the cleat Q . It is provided with coarse teeth R , as shown in the drawings, and is the first cleat to act upon

the straw, serving to feed it forward. By constructing these cleats in the proportions described I am enabled to act upon all sizes 70 and lengths of straws to feed them forward evenly. The top of the binder-deck C is cut away, as shown at C' in Fig. 2, so as to give space for the vibrating board H . A cover is provided for this opening which is bolted to 75 the said top C , as shown at C^2 . This cover is raised slightly above the butter-board and allows the said board to freely move under it without friction. If from any cause whatever the straw should become clogged, this 80 board can be easily removed and a remedy effected.

The operation of my device may be described as follows: Power is transmitted from the elevator-shaft, through the medium of the 85 gears D D' and the pinions E E' , to the arm F , to which is pivoted the bracket G of the butter-board, the revolutions of said arms giving the required vibratory movement to the said butter-board, the forward end of said 90 butter-board being pivoted by means of the frame-rod B to the bracket-arms of the shield K . The radius of swing of this butter-board is adjusted by lengthening or shortening the rod J . This adjustment also adjusts the 95 shield K by moving it either in or out to accommodate either long or short grain. The shield K is stationary at all times, being held in its position by the frame-rod J and the adjusting-rod L . It will thus be seen that when 100 the machine is running the vibratory movement which is given to the butter-board causes the cleats on said butter-board to engage the straws of all sizes and lengths and push them in and feed them forward, so as to present an 105 even-butted bundle to the binding mechanism.

I am aware that vibrating butter-boards have been used in this class of machinery, and I do not desire to claim the same broadly, 110 but only in combination with my improvements.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is— 115

1. A butter-board for grain-binding harvesters, comprising a side board, a series of cleats on the interior of said side board increasing in depth as they approach the rear of said board, and the front half of said series being provided with serrations of different sizes, all constructed and arranged substantially as described. 120

2. The combination with the vibrating board H , of the cleats M , N , O of different depths 125 carrying serrated strips M' , N' , O' , the cleats P , Q and the cleat R provided with the serrated edges, all adapted to act on the butts of the grain for the purpose set forth.

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Witnesses:

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