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H. GREEN.

MECHANISM FOR CHANGING THE ELEVATION OF HEADER PLATFORMS.

(Application filed May 25, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 4.

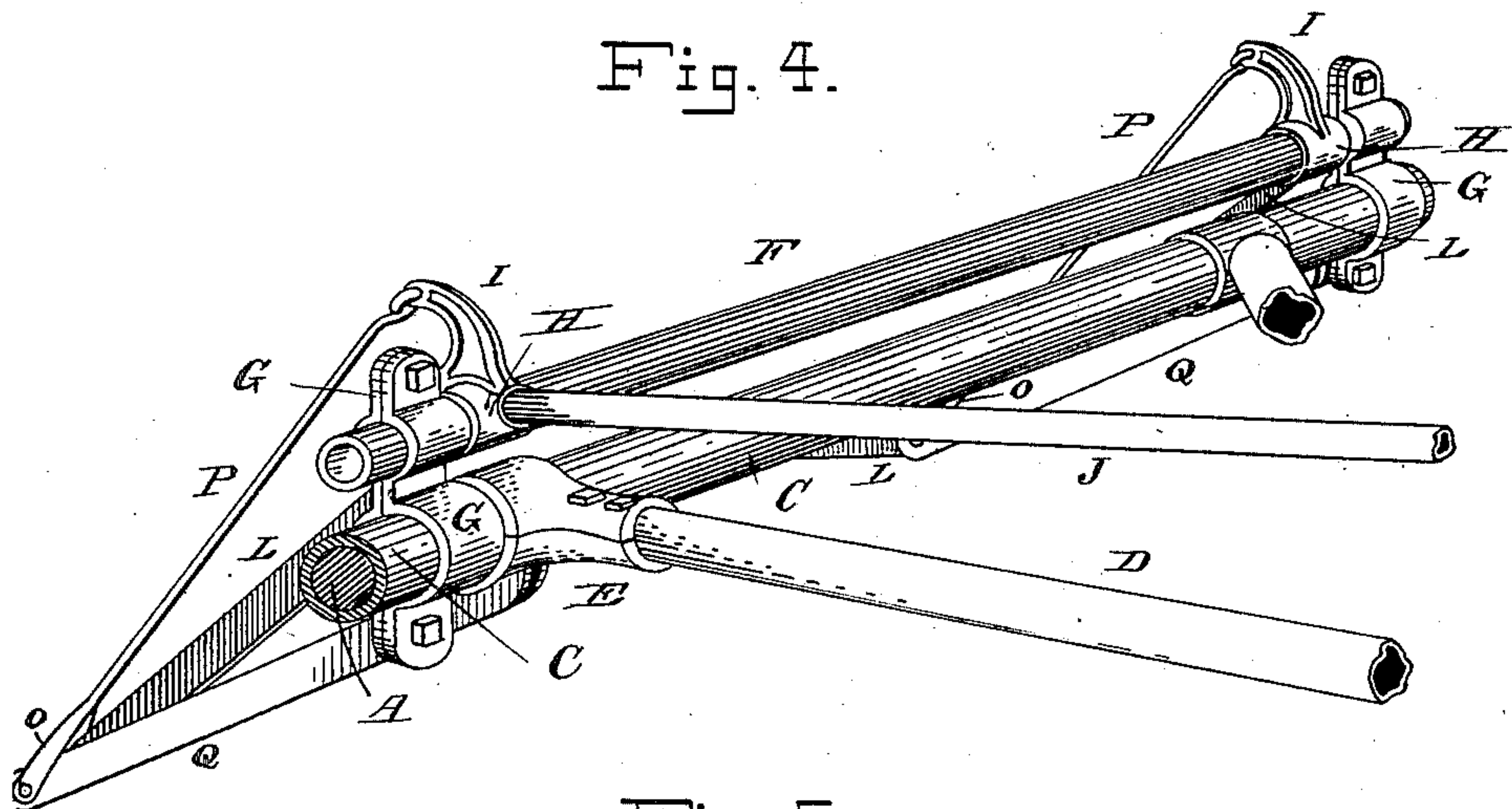


Fig. 5.

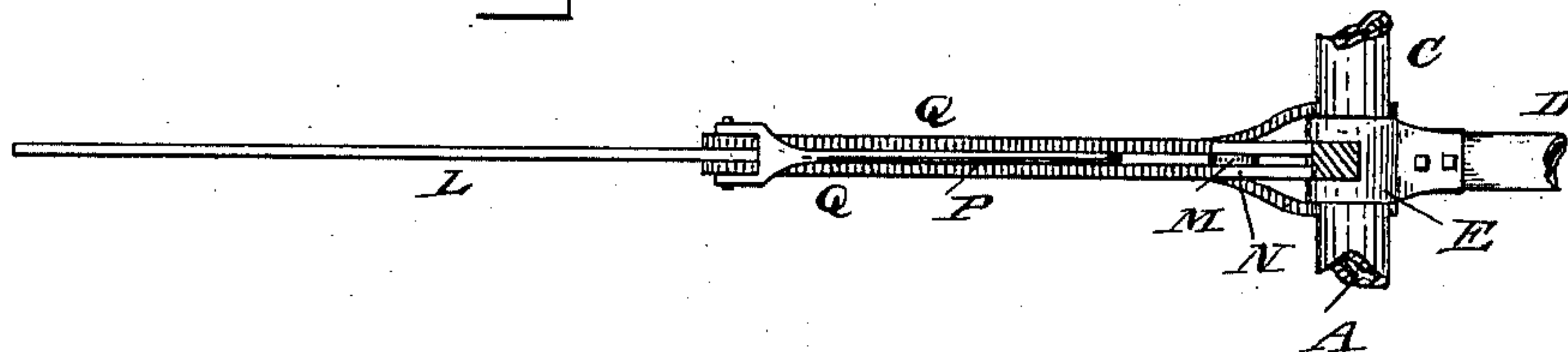
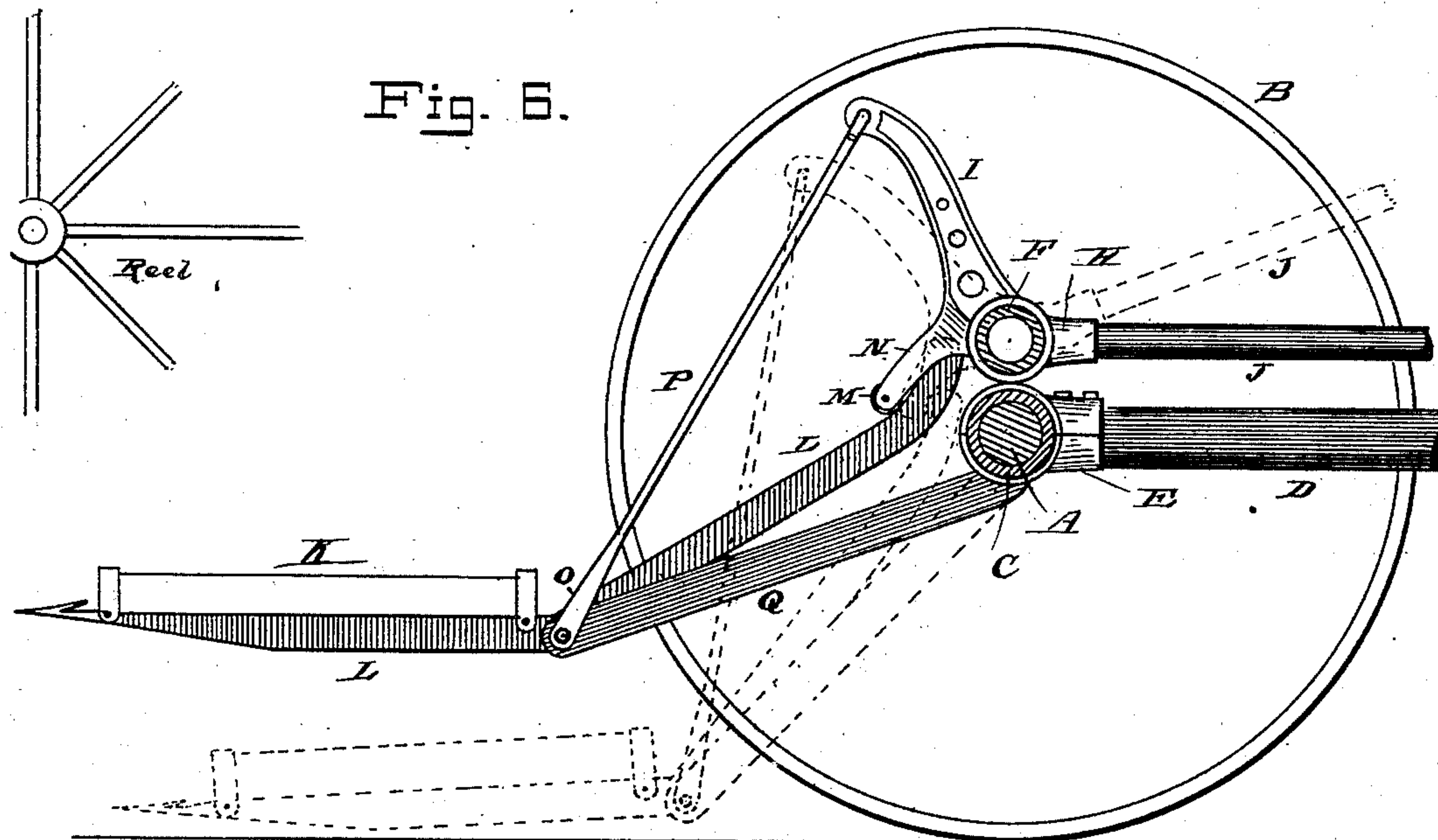


Fig. 6.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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MECHANISM FOR CHANGING THE ELEVATION OF HEADER-PLATFORMS.

SPECIFICATION forming part of Letters Patent No. 704,632, dated July 15, 1902.

Application filed May 25, 1900. Serial No. 18,000. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY GREEN, a citizen of the United States, residing at Pekin, in the county of Tazewell and State of Illinois, have  
5 invented certain new and useful Improvements in Mechanism for Changing the Elevation of Header-Platforms; and I do hereby declare that the following is a full, clear, and  
10 exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in harvesting-machines, but more especially to that class known as "headers."

15 An object of my invention is to furnish efficient means for elevating and lowering the platforms carried by such machines.

My further object is to simplify the construction of the mechanism employed for the  
20 purpose of raising such platforms. Heretofore the apparatus for accomplishing this has been bulky and complicated, falling far short of its purpose by reason of the clumsy construction and unmechanical means employed,  
25 and in many of the old constructions it is necessary to change the location of certain parts in cutting grain of varying height, whereas by proper methods of building and designing such shifting of position would be unnecessary.  
30 In my device all such objectionable features are eliminated.

In the drawings presented herewith, Figure 1 is a side elevation of a header, showing my invention. Fig. 2 is a plan view of the  
35 same. Fig. 3 is a detail view of the axle of the machine in part section, showing a portion of an arm in connection therewith. Fig. 4 is a perspective view of my improved apparatus. Fig. 5 is a plan view of a modified  
40 form of parts shown in the other figures. Fig. 6 is a part-sectional view of the machine in elevation, the sectional part being taken on line *xx*, Fig. 2.

In the figures, A represents the axle of the  
45 harvesting-machine or header, and B the wheels. A tube C is slipped upon the axle and connects with the tongue D by means of a suitable coupling E. The said axle and tube support a rod or tube F above by means  
50 of clamps or brackets G near each end, as shown in Figs. 1 and 4. These clamps are

constructed in such a manner as to tightly grip the pipe C, while the pipe F will be permitted to rock in its seat in said clamps. A sleeve H, clamped to the said pipe F at each  
55 end, carries an arm I, which will be understood as the description proceeds. A tubular lever J is attached rigidly to one of the sleeves H in any suitable manner, whereby the pipe F can be rocked in its bearings by a  
60 vertical movement of such lever. The rear end of the tongue is provided with the usual operator's stand *a*, supported by a castor-wheel *b*, operated by a lever *c*. A bar *e* is pivoted at its lower end to the tongue and carries  
65 the rear end of the lever J in any suitable manner and has the customary locking means, which, however, is not shown.

The platform K is hung in the following manner: Two arms L of the form shown pass  
70 under the platform and are attached thereto, while the free ends thereof turn up behind the platform and engage a friction-roller M between the forked ends of an arm N, formed with the arm I and the sleeve H. In the  
75 angle of each lever J is pivotally attached a stirrup O, carried at one end of a rod P, the upper end of which hangs from the eye of the arm I, as shown. Held also at one end in the same pivotal point are two arms Q Q,  
80 whose opposite ends are notched to conform to and rest against the curved under surface of the fitting E. In the notched edge of each arm Q is a pin R, (shown in Fig. 3,) adapted to enter a hole or slot S in the said fitting E,  
85 which prevents sidewise movement of such arms. It will be seen that by a vertical movement of the lever J the arms I and N will rock in the arc of a circle by means of the rocking pipe F, and since the arms L are pivotally  
90 hung from the arms I by means of rods P, but limited by contact with the roller M, the movement of said lever J will effect the height of said arms L at their lower ends, and consequently the height of the platform K.  
95

As shown in Fig. 6 in unbroken lines, the platform is raised to its highest limit. By raising the lever J to the position shown in dotted lines the arms I will be carried downward in the arc of a circle, thereby lowering  
100 the platform to the position shown by broken lines, using the upper end of the rod L as a



fulcrum at its point of contact with the roller M. The arms Q Q are employed in order to hold the platform in its proper position. These hold the said platform against movement in a rearward direction by the aid of the pins R. Their upper ends having connection with the fitting e, as described, cause the platform to lower in the arc of a circle, as evidenced by the change of position shown in Fig. 6 of the drawings. In these movements the upper end of the lever L, which is curved, as shown, to keep the platform in horizontal position, moves in contact with the said roller M. As shown in Fig. 5, the arms Q may be bent away from each other at their upper ends to form a fork, which will straddle the said fitting E and rest upon the pipe C. However, the same results will obtain in either case. The reel (indicated in Fig. 6) may be supported from the arms I in suitable manner or attached to the tube F, so that it will be moved with the platform. It will be seen that the platform may be placed at any desired height by locking the lever J at any desired point by means of the spring-catch usually provided.

By my construction I am afforded a wide range of vertical movement. As indicated hereinbefore, some constructions are so limited in their movement that it is necessary to change the pivotal connections of some of their parts to other positions in order to accomplish the desired end. This is not practicable, and the advantage and simplicity of my arrangement will therefore be appreciated. Besides the advantages enumerated the following may be taken into consideration: When carrying the platform close to the ground, as in cutting short grain, the platform may at times dig into irregularities in the ground, and this is especially true when the carrying-wheels drop into depressions at the same time. When this occurs, the nose of the platform will easily clear itself by raising on the pivotal point of the lever L, where it hangs from the rods P. As the upper end of such lever is free, it will leave the friction-roller M at such times, and thus no breakage of parts can result. I have shown none of the appendages ordinarily used in machines of this class except the sickle and guards, as they form no part of my improvement. I may alter my construction in various ways without departing from the spirit of the invention. It is evident that by providing the upper end of the arm L with a slot and carrying it in the arm N in place of the roller M the arms Q may be dispensed with. However, by such an arrangement the platform would not always be level, and a greater strain would be brought on the parts. Furthermore, the platform would not be free to rise and fall when encountering irregularities in the ground. Since the arm N is below the center of the tube F, it moves rather in a rearward direction, while the arm I moves forward and downward to lower the rod P.

These movements result in holding the platform level continually.

Having thus described my invention, I claim—

1. In mechanism for changing the elevation of the platforms of headers, the arms for carrying said platform, upturned ends for such arms, the same extending upward and rearward from the horizontal portions thereof which carry the said platform, means for carrying the arms in pivotal manner at the bend in said arms immediately behind the platform, and means for supporting the upturned ends of the arms to limit the downward movement of the platform, said last-named means permitting the platform to swing upward on the pivots formed by the first-named means to permit the said platform to rise and fall when contacting with obstacles as set forth.

2. In combination with the axle and platform of a header, arms beneath the platform for supporting the same such arms projecting upward and rearward therefrom, pivotal means for pivotally supporting the arms immediately behind the platform, a stop for the upper free ends of the arms, a lever for raising and lowering the pivot-point of the arms, and rearwardly-extending arms pivoted at one of their ends to the arms carrying the platform and supported at the other beneath the axle of the machine for the purposes set forth.

3. In mechanism for changing the elevation of header-platforms, arms for carrying said platform the same extending rearwardly therefrom, and having upturned extensions, stops for receiving said upturned ends and permitting them to slide thereon, depending rods pivotally supporting the arms at a point immediately behind the platform, a lever for carrying the upper ends of the rods and rearwardly-extending braces pivotally attached at one end to the arms carrying the platform and supported at their other ends on the machine-frame and adapted to shift thereon substantially as set forth, and arranged substantially as described whereby a vertical movement of said lever will change the elevation of the platform.

4. In mechanism for changing the elevation of header-platforms, arms for carrying the platform horizontally, the same extending rearwardly from said platform and turned up behind the same a stop for the upturned ends, a lever mounted on the machine-frame, rods attached to such lever forward of its fulcrum and attached to the arms behind the platform, and arms having pivotal connection with the arms carrying the platform and having contact with the machine-frame to sustain the platform in its level working position.

5. In mechanism for changing the elevation of header-platforms, arms L carrying said platform and having upward and rearward extensions, stops on the machine against which the upward extremities are adapted to have slidable contact, a lever pivoted on the said



machine having connection with the arms L at a point just behind the platform, rearwardly-projecting arms Q having connection with such arm at one end and resting on the machine at the other end for sustaining the platform in its working position all arranged substantially as described whereby a vertical movement of the lever will change the elevation of the platform for the purpose set forth and described.

6. In mechanism for changing the elevation of header-platforms, the combination with the carrying-wheels and axle of the header, of a horizontal tube supported above said axle and adapted to rock in its supports, a lever attached to said tube, arms I and N on the tube, arms L supporting the platform of the header and bent behind the latter to slidably engage the arm N, rods P hung from the arms I and connected pivotally with the arms L, and arms Q pivoted to the latter arms and resting against the machine-frame all for the purpose set forth.

7. The combination of the carrying-wheels B, the axle A, tongue D, support G on the axle, tube F loosely held in said support, the lever J on the tube, arms I and N secured to the tube portion the platform K, arms L passing thereunder and secured thereto and having the rear ends turned up to engage with the arms N, rods P attached to the said arm L at the rear of the platform and the arm I substantially as and for the purposes set forth.

8. In mechanism for changing the elevation of header-platforms, the combination with the platform having the usual canvas carriers and cutting apparatus, of arms supporting the same in a horizontal position, such arms having upturned rear extensions, stops for engaging the tops of the arms at the upturned ends for holding such arms at said upturned ends, a lever having arm extensions pivoted on the machine, supporting-rods pivoted at one end to the said arm extensions and pivotally connected at their lower ends to the arms carrying the platform, and arms pivoted to the latter arms at the pivotal point of the supporting-rods, the same extending backward and adapted to bear upon the machine-frame for preventing the rearward displacement of the platform substantially as set forth and described.

9. In mechanism for changing the elevation of header-platforms, the combination of the axle of the machine having the usual carrying-wheels, of a tube above said axle the same being carried in bearings and adapted to rock therein for the purposes described, a lever for rocking said tube, upwardly-extending arms on said tube, rods pivoted thereto, downwardly-extending arms beneath said arms, a friction-roller on each of said downwardly-extending arms, a platform having the usual canvas carriers and cutting apparatus, arms beneath attached to and adapted to carry said platform, said arms having upward and rear-

ward extensions engaging the said friction-rollers, and having an upward pressure thereon substantially as set forth, pivotal connection between the arms and the rods which are connected to the upward-extending arms on the tube above the axle, such point of connection being immediately behind the platform, arms pivoted at one end to the arms which carry the platform, the opposite ends thereof bearing against the machine-frame and adapted to keep the said platform in its normal position for working all being arranged substantially as set forth and described.

10. In a mechanism for changing the elevation of header-platforms, the combination of the axle A, the pipe F above it adapted to rock in its supports, a lever J for rocking such pipe, arms I projecting forward of the pipe and adapted to move therewith, the depending short arms N adjacent to said arms I and adapted to move with them, rods P suspended from the free ends of the arms I, the arms L having the horizontal portions, the platform K carried on such horizontal portions, said arms L extending upward and rearward from the rear of the platform and pivotally supported at the bend by the said rods P, the upper ends of the arms being curved and supported in the hollow of said curves by the ends of the said depending arms N, the relation of the parts being such that by raising and lowering the lever J the arms I and N are made to move about the center of the pipe F as a pivot to vertically move the arms L and platform K in a horizontal position as set forth.

11. In a mechanism for changing the elevation of header-platforms, the combination of the axle A, the pipe F above it adapted to rock in its supports, a lever J for rocking such pipe, arms I projecting forward of the pipe and adapted to move therewith, the depending short arms N adjacent to said arms I and adapted to move with them, a friction-roller M on the end of each arm N, rods P suspended from the free ends of the arms I, the arms L having the horizontal portions, the platform K carried on such horizontal portions, said arms L extending upward and rearward from the rear of the platform and pivotally supported at the bend by the said rods P, the upper ends of the arms being curved and supported in the hollow of said curves by the ends of the said depending arms N, the relation of the parts being such that by raising and lowering the lever J the arms I and N are made to move about the center of the pipe F as a pivot to vertically move the arms L and platform K in horizontal position as set forth.

12. In a mechanism for changing the elevation of header-platforms, the combination of the axle A, the pipe F above it adapted to rock in its supports, a lever J for rocking such pipe, arms I projecting forward of the pipe and adapted to move therewith, the de-



pending short arms N adjacent to said arms I and adapted to move with them, rods P suspended from the free ends of the arms I, the arms L having the horizontal portions, 5 the platform K carried on such horizontal portions, said arms L extending upward and rearward from the rear of the platform and pivotally supported at the bend by the said rods P, the upper ends of the arms being 10 curved and supported in the hollow of said curves by the ends of the said depending arms N, the relation of the parts being such that by raising and lowering the lever J the

arms I and N are made to move about the center of the pipe F as a pivot to vertically 15 move the arms L and platform K in a horizontal position, and arms Q pivotally connected to the arms L at one end and bearing against the machine for a support at the other end for the purposes set forth. 20

In testimony whereof I affix my signature in presence of two witnesses.

HENRY GREEN.

Witnesses:

W. H. BINNIAN,  
H. C. WAX.