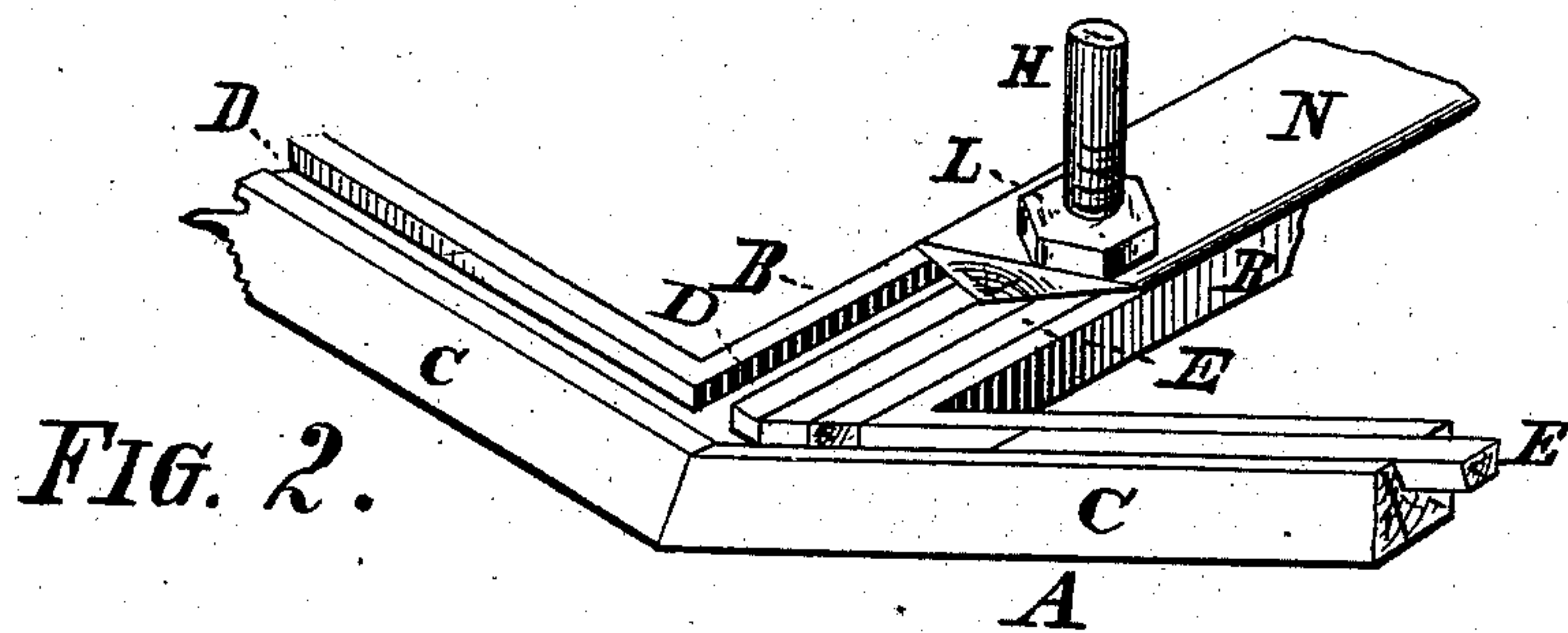
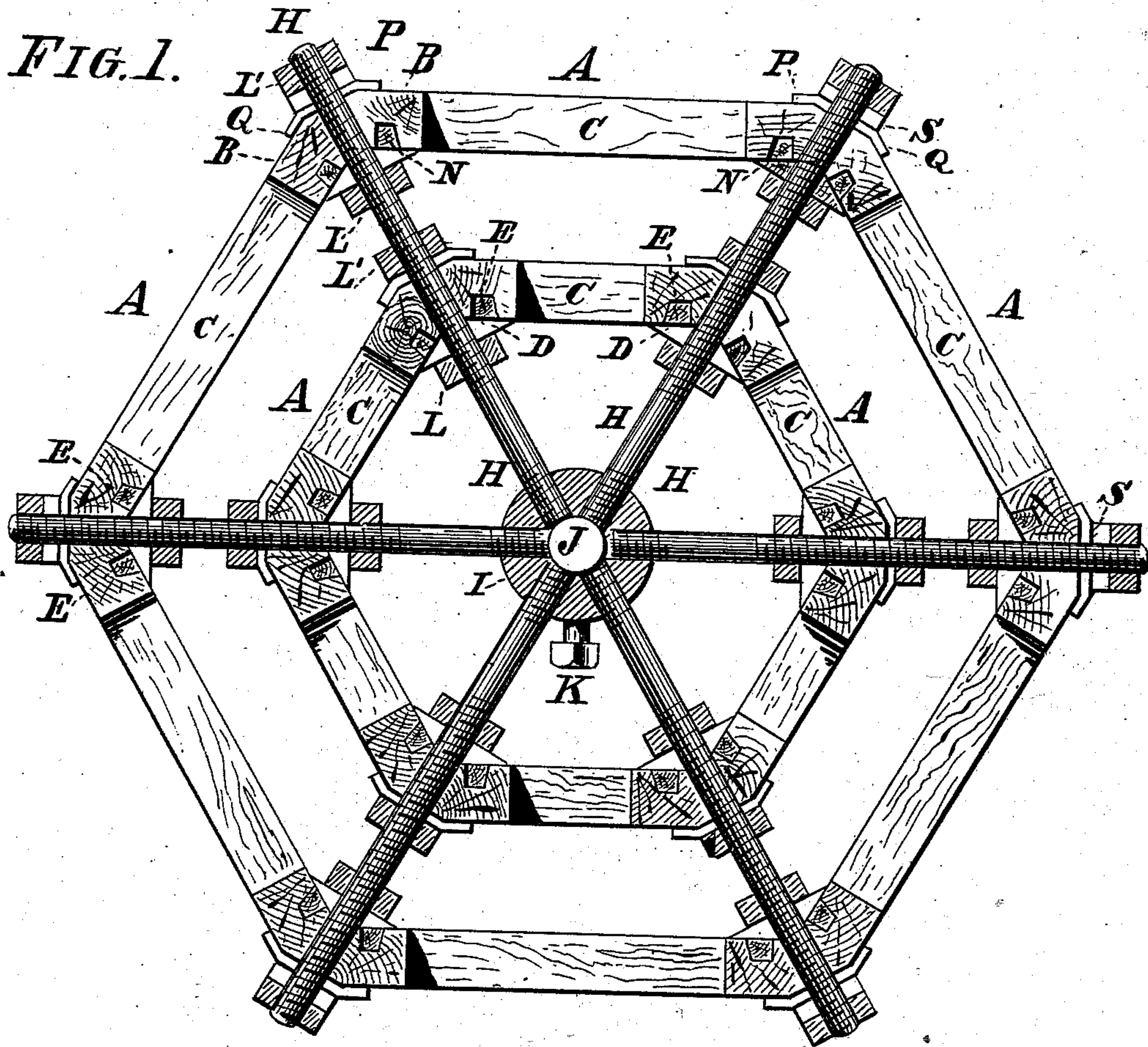


L. J. BENNETT.  
Revolving Screen.

No. 225,206.

Patented Mar. 9, 1880.



Witnesses:

*Michael J. Stark*  
*Emm. A. S. Dopp*

Inventor:

*Lewis J. Bennett*  
*by Michael J. Stark,*  
*Attorney.*



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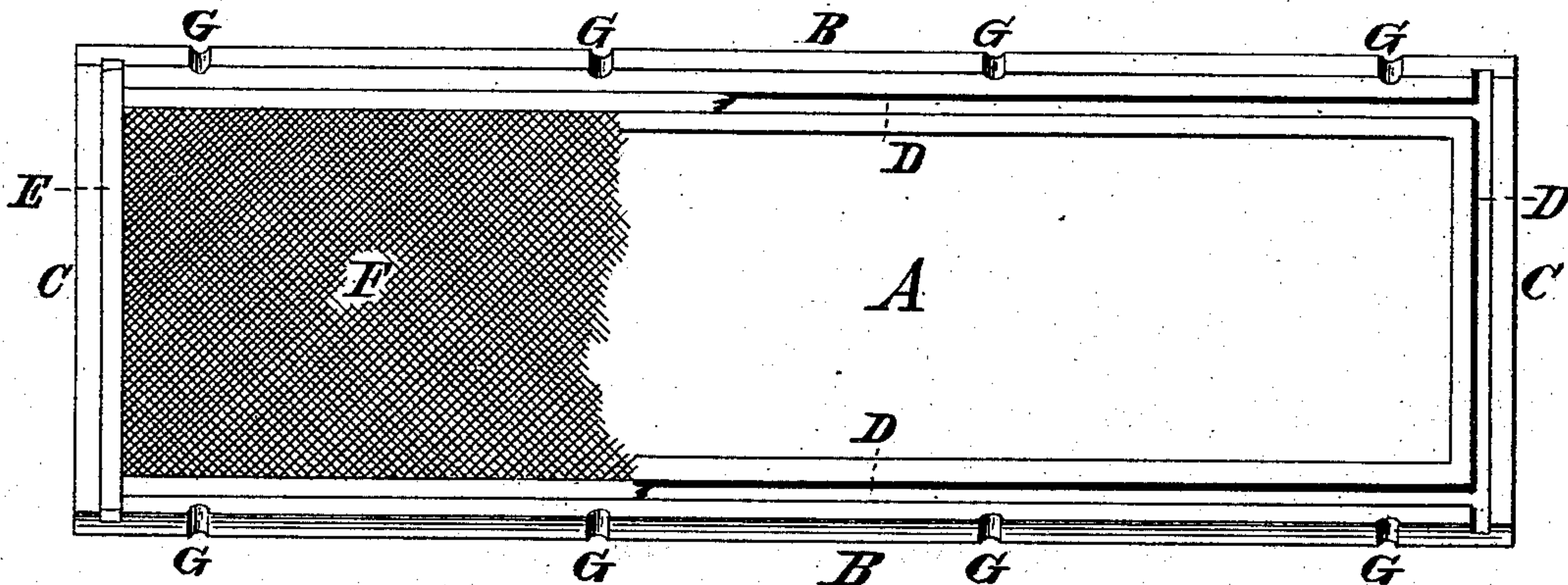


FIG. 3.

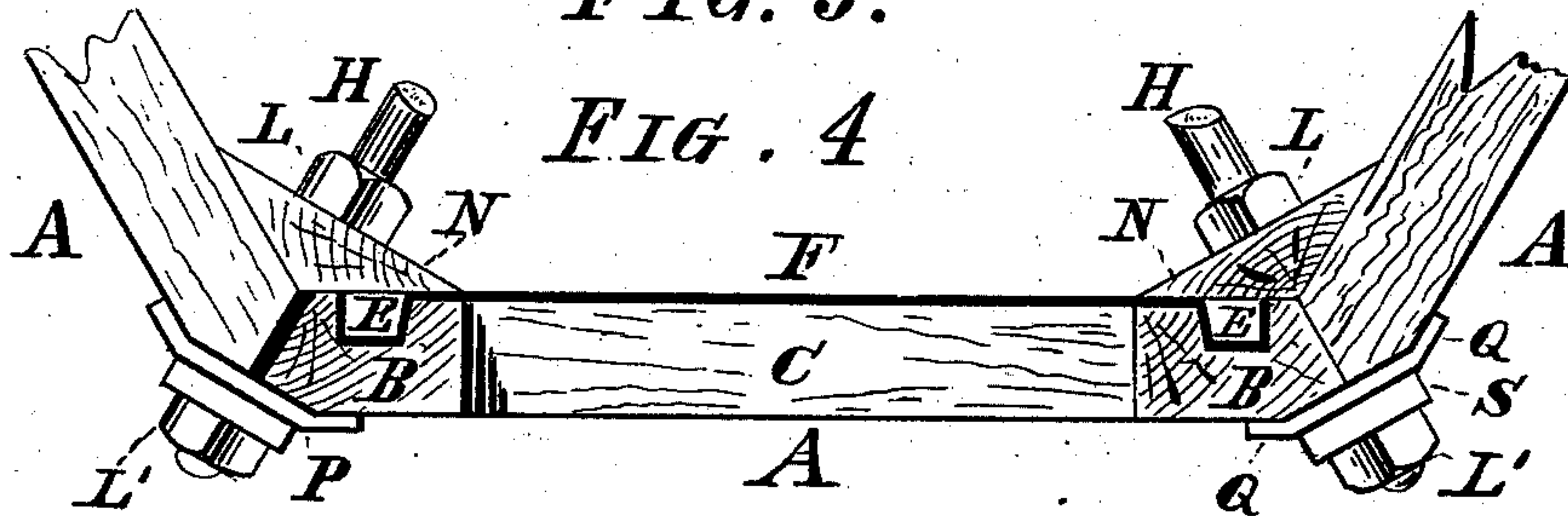


FIG. 4.

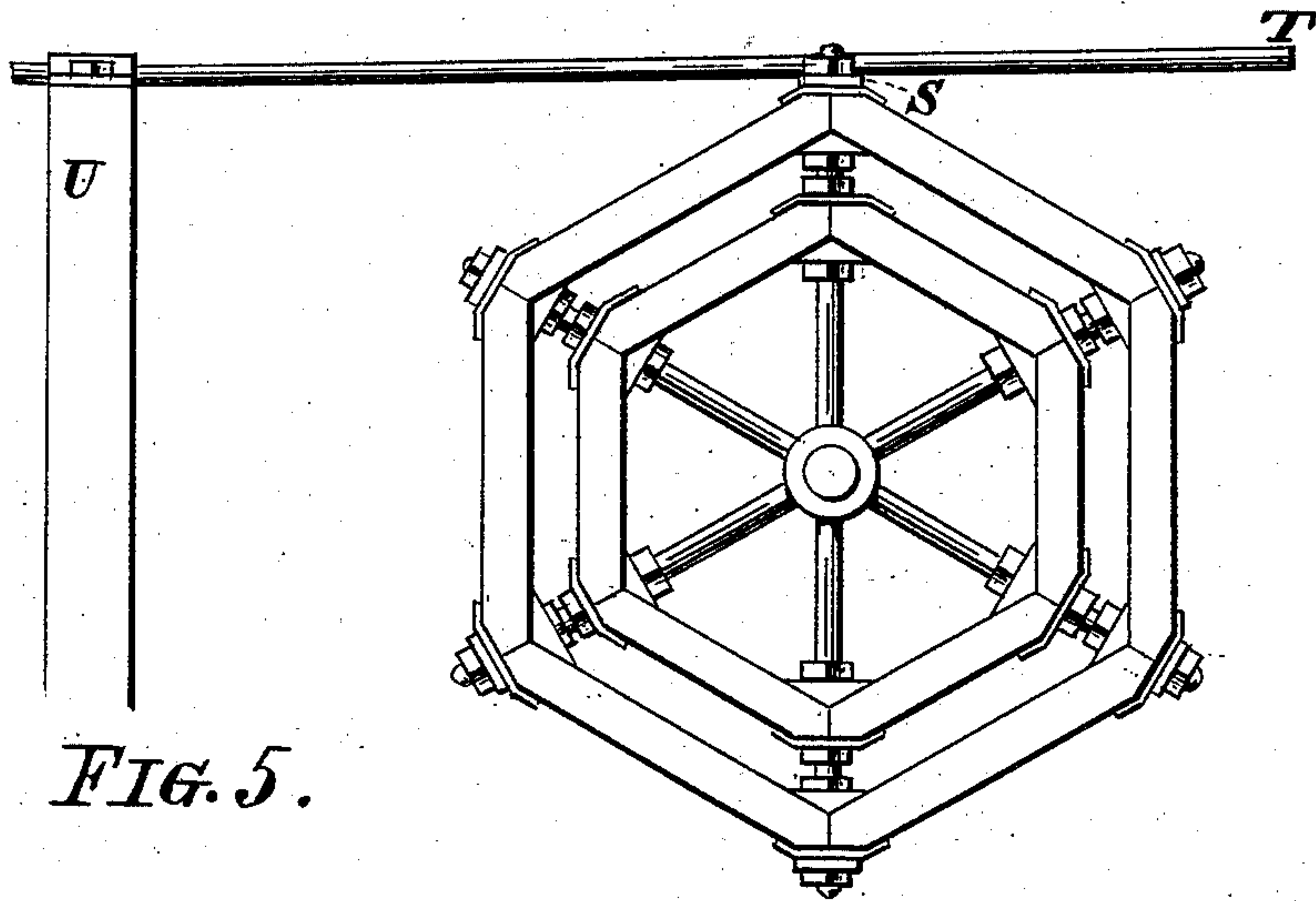


FIG. 5.

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# UNITED STATES PATENT OFFICE.

LEWIS J. BENNETT, OF BUFFALO, NEW YORK.

## REVOLVING SCREEN.

SPECIFICATION forming part of Letters Patent No. 225,206, dated March 9, 1880.

Application filed October 3, 1879.

*To all whom it may concern:*

Be it known that I, LEWIS J. BENNETT, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Revolving Screens; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to revolving screens; and it consists in the peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings, Figure 1 is a transverse sectional elevation of my improved screen. Fig. 2 is a perspective view of a fragment of two adjoining panels. Fig. 3 is a plan of one of the panels. Fig. 4 is an end view of part of my screen, and Fig. 5 an end elevation thereof, like parts being designated by corresponding letters of reference in all the figures.

This screen, which is designed for screening flour, sand, cement, and any other substance or material requiring separation of its particles, is composed of sectional frames or panels arranged around a central axis, said frames being retained in position upon spider-arms, as hereinafter fully set forth and described, and provided with grooves, into which the wire or other cloth is pressed by means of strips, the whole being securely and adjustably retained in position by means of nuts and clamping-plates on the outer surface of said frames.

A is a series of rectangular frames or panels, having their longitudinal sides beveled, so as to form a close joint between the adjacent frames when the latter are in proper position. Each of these frames is composed of two longitudinal pieces, B, and two cross-pieces, C, all of which are grooved on their under or inner side, at D, to receive strips E, by means of which the wire or other cloth F is removably retained in position. The edges of the frames are notched at G for the passage

of the arms H, fixed in the hubs I, the latter being secured to the shaft J by means of a set-screw, K. The arms or spokes H have both ends screw-threaded, one end being inserted into said hub I and the other provided with nuts L L, respectively.

N is a triangular or prismatic strip, the base of which rests upon the nuts L, while its inclined sides carry the longitudinal timbers B, the angularity of said strip being such as to correspond with the angles of two adjoining frames, A.

In constructing this screen I prefer to make the same hexagonal—that is to say, to compose it of six panels placed an equal distance from the central axis. This, however, may be varied and a greater number of panels substituted without changing the nature of my invention.

Having placed the spiders upon the central shaft, J, I proceed to complete the screen by first screwing the nuts L upon the arms H. I now place the prismatic strips N upon these nuts, and then arrange the panels A in position. Now I place clamping-plates P upon the arms H, and then screw the nuts L' down upon the plates, which locks all the parts securely together, and, by contracting the diameter of the screen, closes all the longitudinal joints.

It will be readily observed that the triangular strips N serve a manifold purpose, viz: first, as a rest for the panels A; secondly, to retain the strips E in their respective grooves; thirdly, to fill the inner corner of the adjacent frames, so that the material to be screened rolls easily from one to the next succeeding frame; and, lastly, to protect the screening-cloth from rapidly being worn at its points of attachment to the panels.

The plates P, which may be either in the shape of rectangular washers or composed of flat bars running either for a part of or the entire length of the panel-edges, have downwardly-bent edges or ledges Q, which assist in drawing the frames together, and thereby prevent the joints from opening when the screens are in operation.

In some cases I prefer to construct this screen as a compound screen, placing one or



more sets of frames one within the other. Such a screen is readily produced, and requires no alteration, except to cut the threads on the arms H' far enough to receive the additional set or sets of nuts, &c., as clearly shown in Fig. 1.

It will now be readily observed that my screen is composed entirely of removable panels, so that in cases of necessity I can, in a few moments' time, remove and replace one or more of them. This is of particular advantage in a multiple screen, where ready access should be had to the inner screen or screens in case of repairs or for other purposes, and such is easily accomplished by removing in the outer screen that or those panels directly over that or those inner panels desired to be reached.

A screen constructed as above specified possesses many advantages over other screens, a prominent one being that the wire or other cloth, when worn, can be removed and readily replaced by new material by simply removing the nuts L' in the proper section, removing the particular panel A, withdrawing the strip E and the old cloth F, and then placing the new material upon the frame, pressing the said strips back into their grooves, and finally replacing the parts. Such an operation can be performed in a few moments of time, and can therefore be undertaken without loss occasioned by the stoppage of the screen.

A further advantage derived from this construction is, that the screen can be perfectly centered upon its axis, and that, should the wooden frames shrink in course of time, the slack can be readily taken up with the nuts L' and L.

In constructing a multiple screen I prefer to cover the innermost panels with coarse and the outer panels with successively finer cloth. This enables me to produce screened material of different degrees of fineness at one and the same time, but has the special advantage that the tailings are retained within the innermost section, where the cloth is strongest, and therefore best enabled to carry the heavy weight of the material to be operated upon, and thus passes to the outer section or sections, covered with the finer and comparatively weaker cloth, that part of such material only which escaped the meshes of the coarser cloth, thus relieving said finer cloth from the excessive weight and consequent wear and rapid destruction.

In running a revolving screen it is necessary to jar the same occasionally to clear the meshes of the cloth from adhering substances. Various devices have been designed for this purpose, all of which are either expensive or insufficient in their action.

In my screen I have adopted a jarring device consisting of a metallic bar, T, fastened with one end to any suitable support U, and resting with its other end upon metallic slats S, Fig. 4, placed upon the plates P underneath the nuts L'. These bars S, when revol-

ving with the screen, successively strike the bar T, and thus produce the desired object of jarring the screen in an inexpensive but highly-successful manner.

The bar T may be fixed to the support U, so that the bars S will have a tendency to bend the bar T, or said bar S may be constructed with capability of a vertical movement, so that the weight of said bar will rest upon the screen. In either case the action will be the same; but the latter mode has the advantage that I can increase or diminish the force of the blow by moving the support U nearer to or farther from the screen, thus increasing or decreasing the leverage of said bar T.

The grooves D are slightly beveled, so that the similarly-beveled strip E will wedge the wire or other cloth into said grooves, and thus preclude the possibility of sacking or bagging of the screening-cloth, and thereby always keeping said cloth in proper tension and preserving it for a much longer time than can otherwise be accomplished.

Heretofore compound screens have been produced in which the bolting-cloth was secured to ribs made of two pieces, the cloth being glued onto the opposite faces of said ribs and the latter fastened to spokes. In this construction each rib contains, not its own section of the bolting-cloth, but two adjoining sections, and said cloth being glued onto the ribs the screen is practically non-separable, because in order to remove the ribs the cloth sections must be severed from the ribs, and they are thereby destroyed; nor are in this construction the cloth sections removably affixed to their supports, and the construction is therefore entirely distinct from my present invention.

I am also aware that in the construction of bolting-screens removable panels have been employed; but I am not aware that removable panels having each its own section of the bolting-cloth removably affixed to said panels have ever been employed.

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

1. In revolving screens composed of removable panels, the frames A, consisting of the pieces B and C, all provided with grooves D, for receiving the screening-cloth F and strips E, the latter being retained in position by the triangular strips N, covering the longitudinal strips entirely and the ends of the cross-strips, as and for the purpose indicated.

2. In revolving screens composed of removable panels, the sections A, grooved on their under side, the longitudinal strips E, entering said grooves, and the triangular strips N, serving as a rest for the sections and retaining the said longitudinal strips E and cloth F in position, as stated.

3. The revolving screen hereinbefore described, consisting, essentially, of the frames



A, having the edges of the beams B beveled and notched, as stated, the screw-threaded arms H, provided with the nuts L L', the strips N, and the clamping-plates P, as specified, for the object stated.

5 In testimony that I claim the foregoing as my invention I have hereto set my hand and

affixed my seal in the presence of two subscribing witnesses.

LEWIS J. BENNETT. [L. S.]

Attest:

MICHAEL J. STARK,  
EMMA A. S. DOPP.