

No. 647,199.

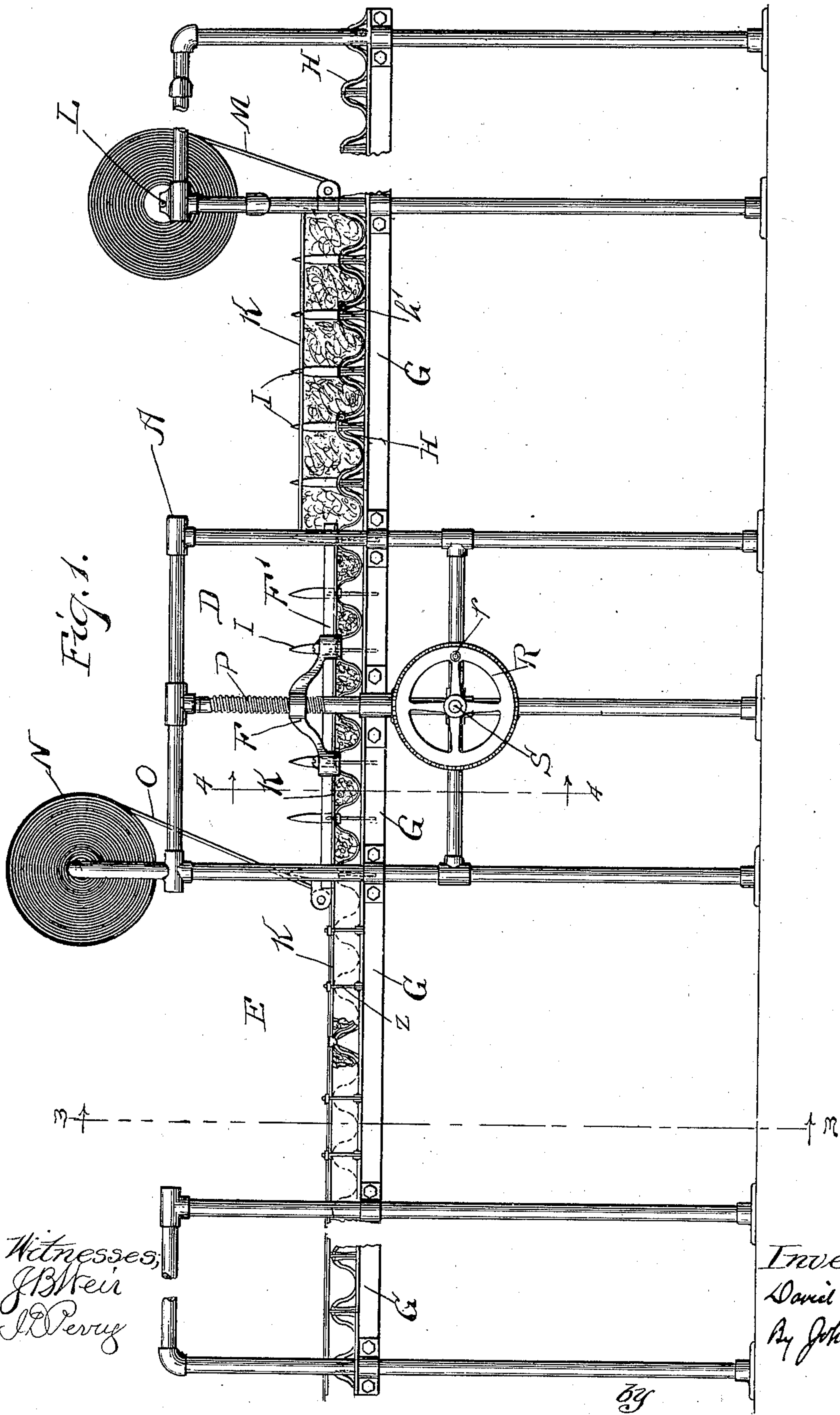
Patented Apr. 10, 1900.

D. E. ROWLEY.
TUFTING MACHINE.

(Application filed July 10, 1899.)

(No Model.)

5 Sheets—Sheet 1.



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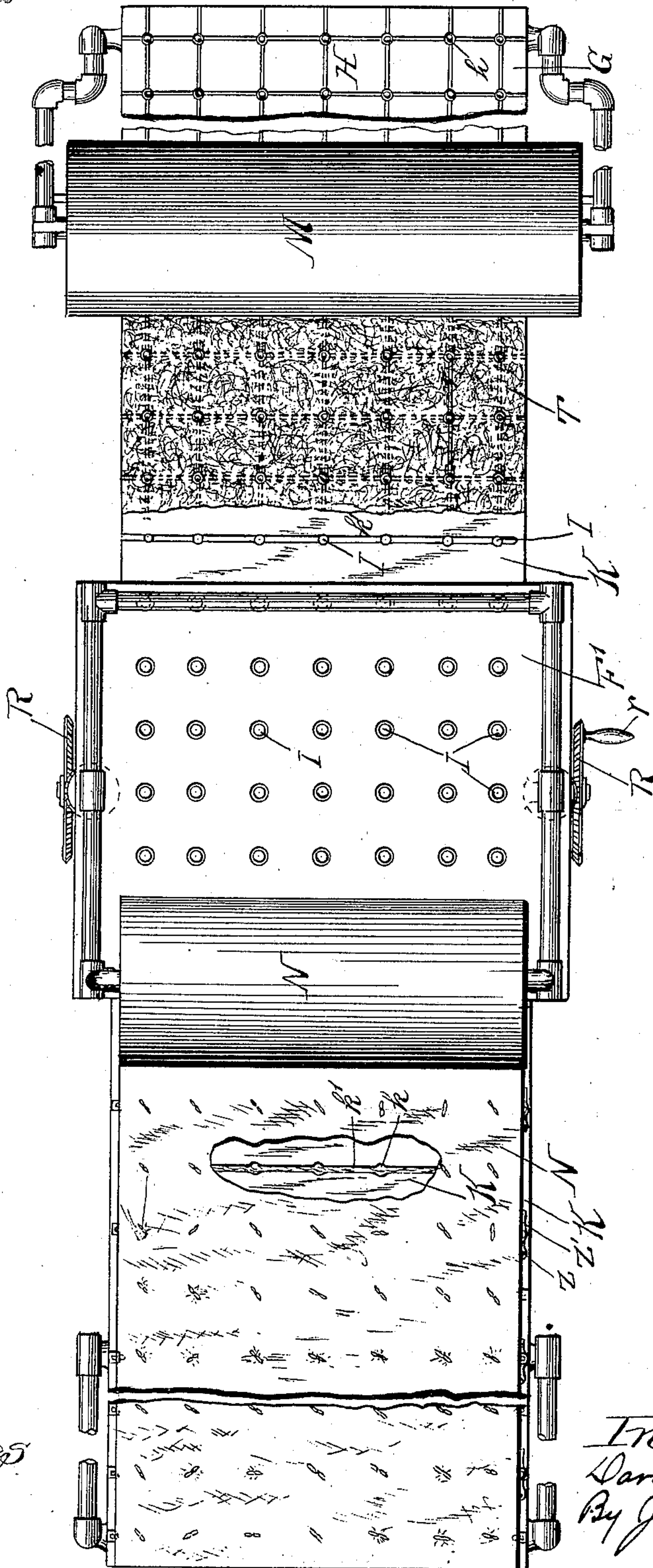
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Fig. 2.



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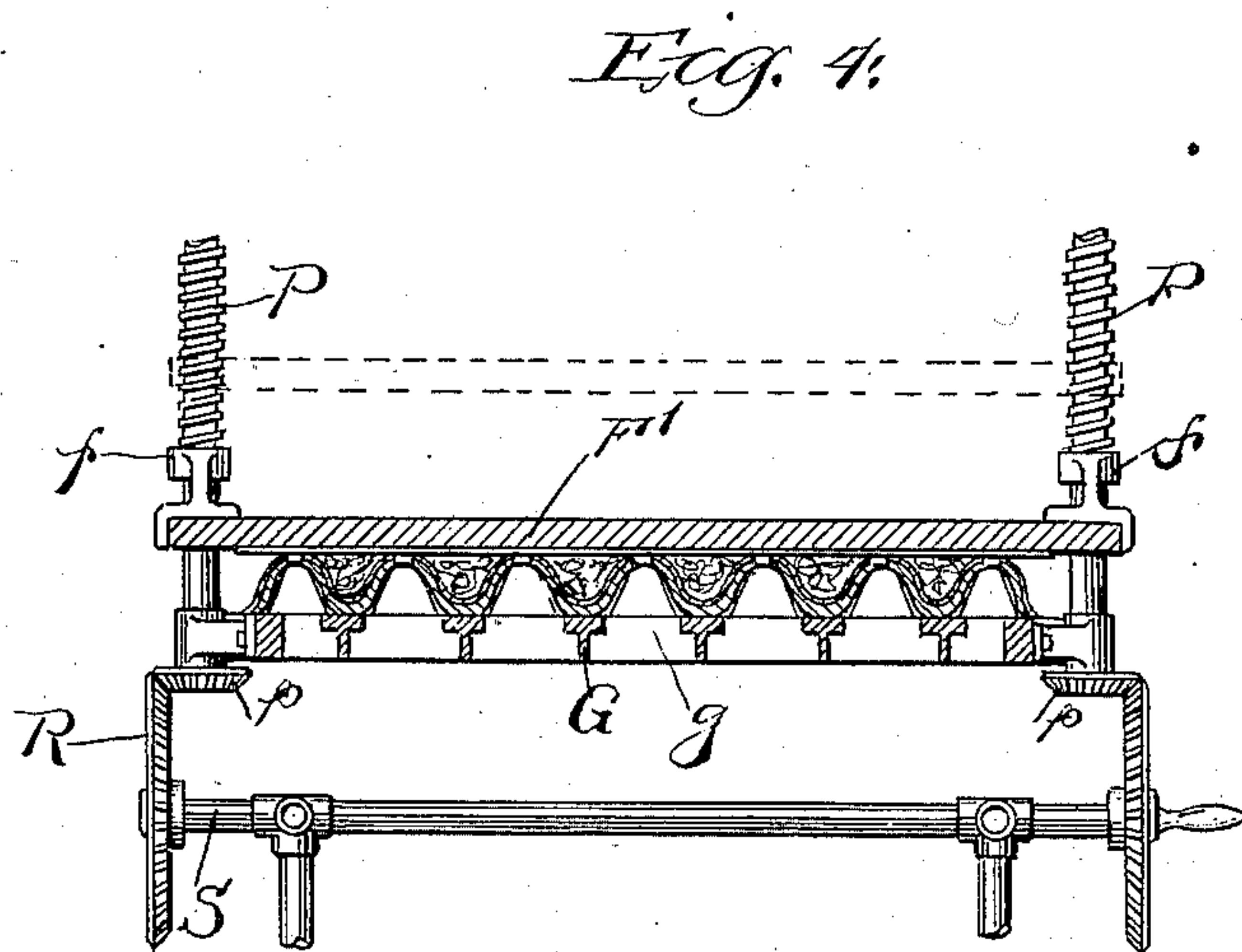
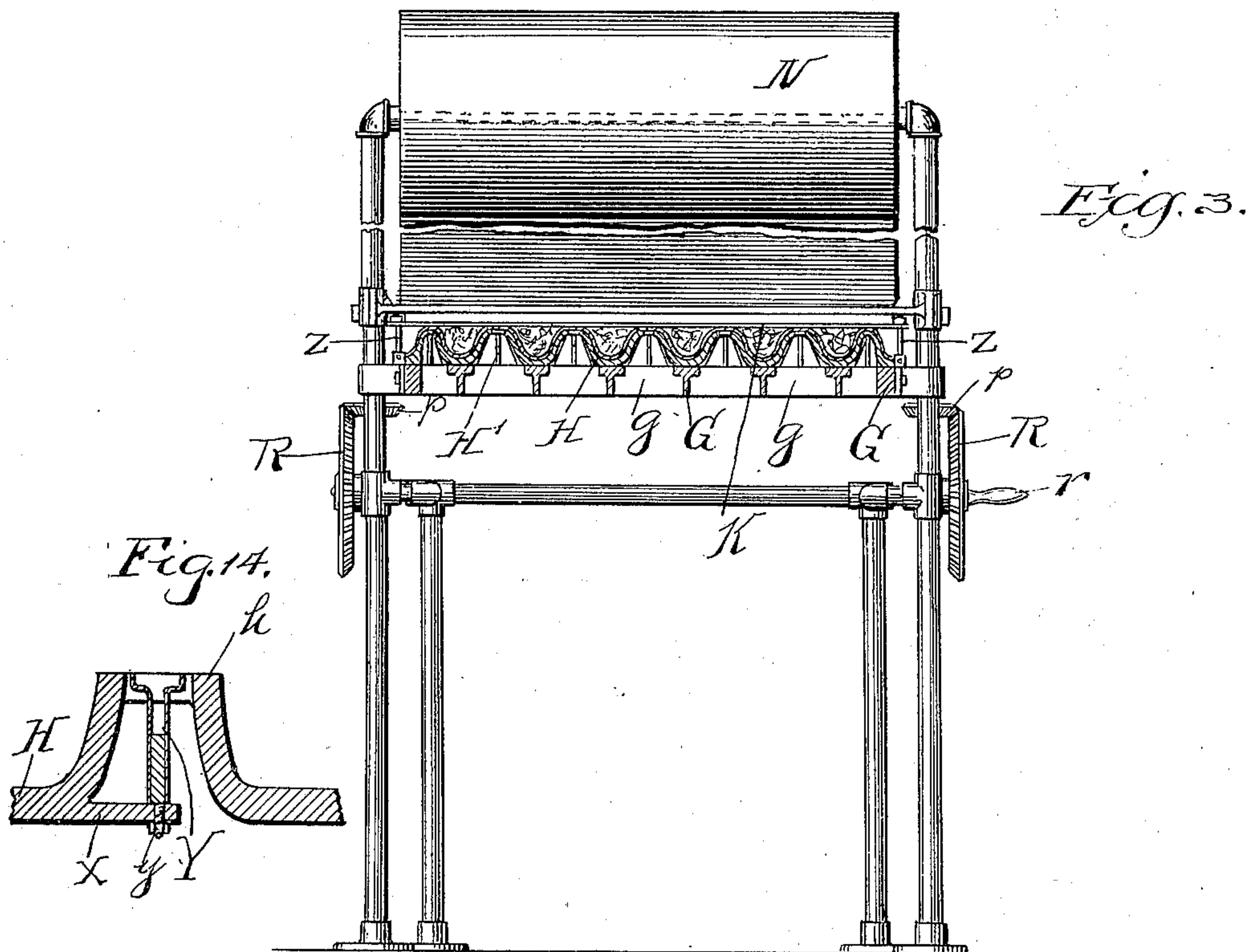
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Fig. 5.

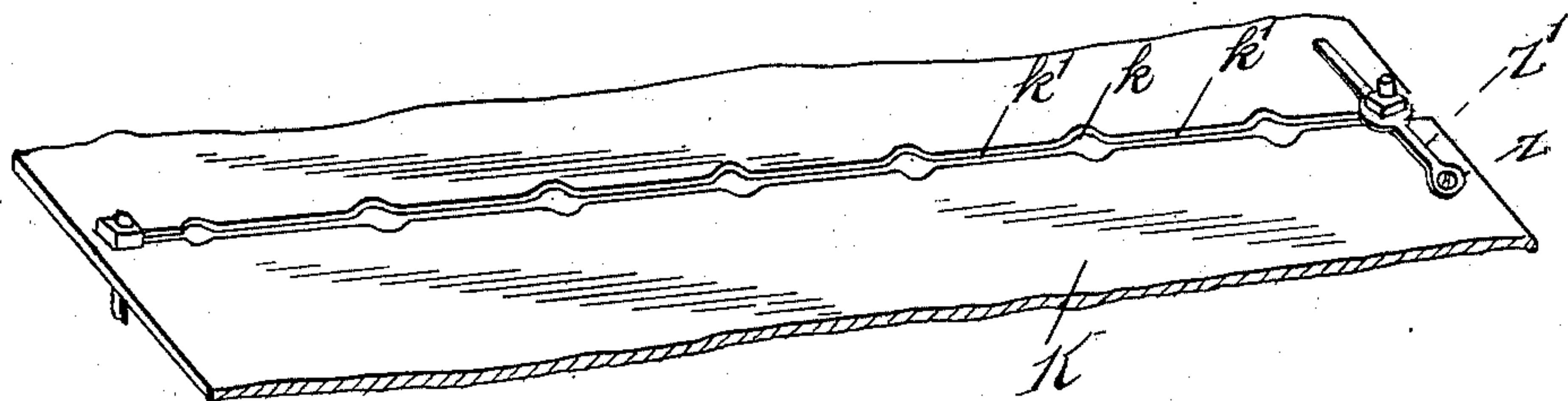


Fig. 9.

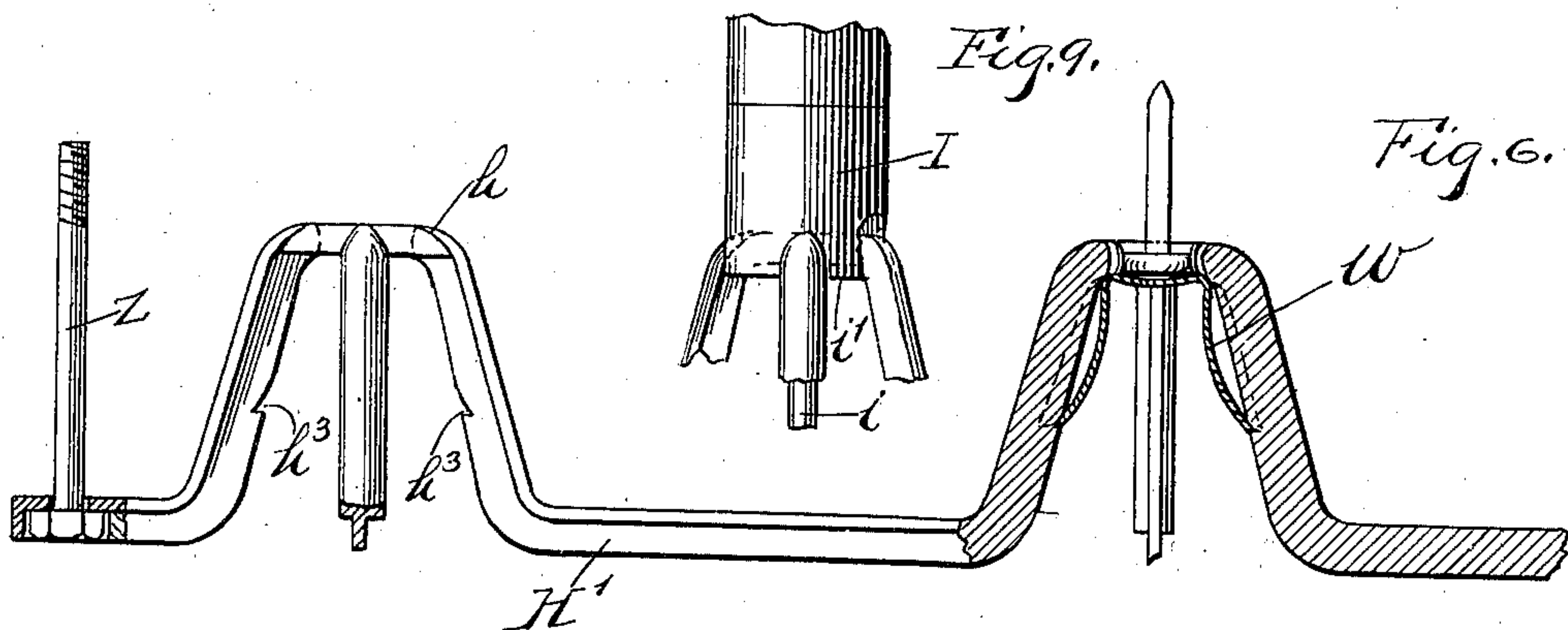


Fig. 6.

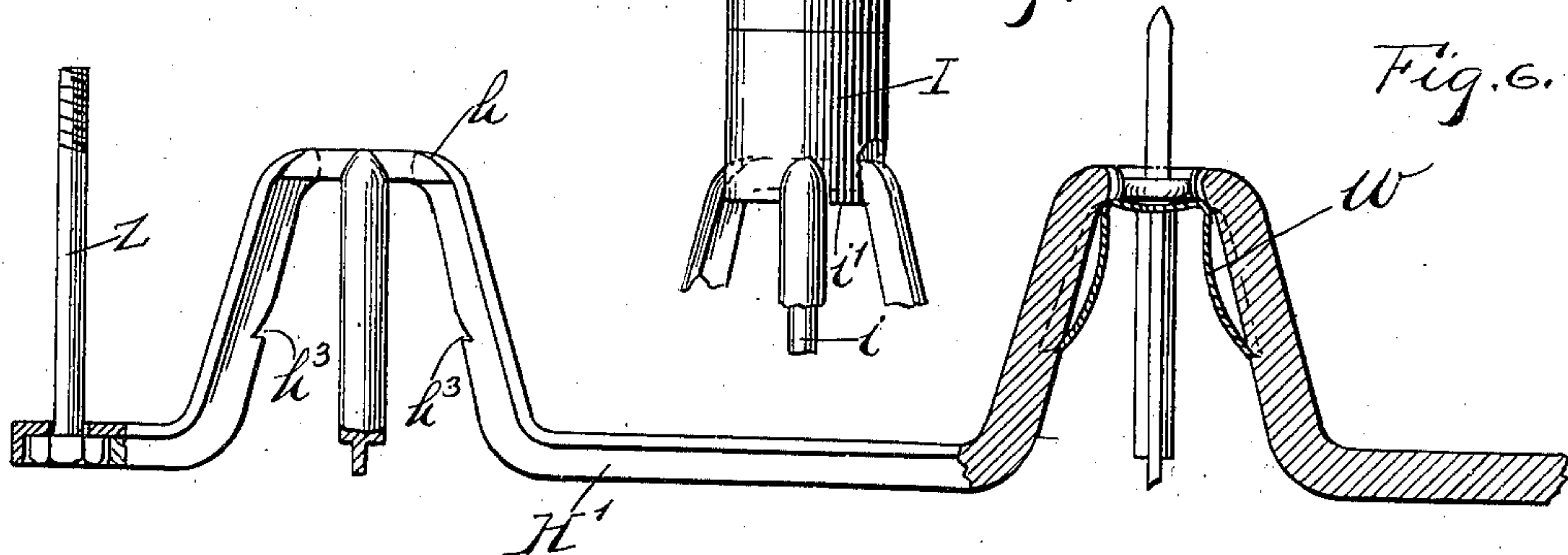


Fig. 7.

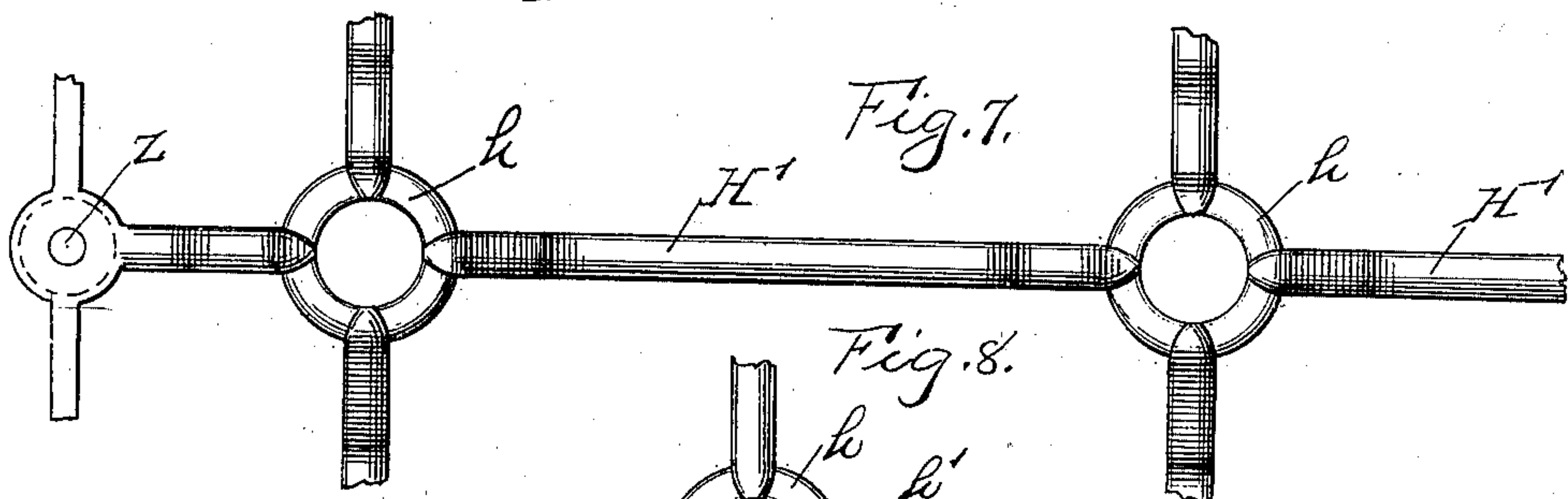


Fig. 8.

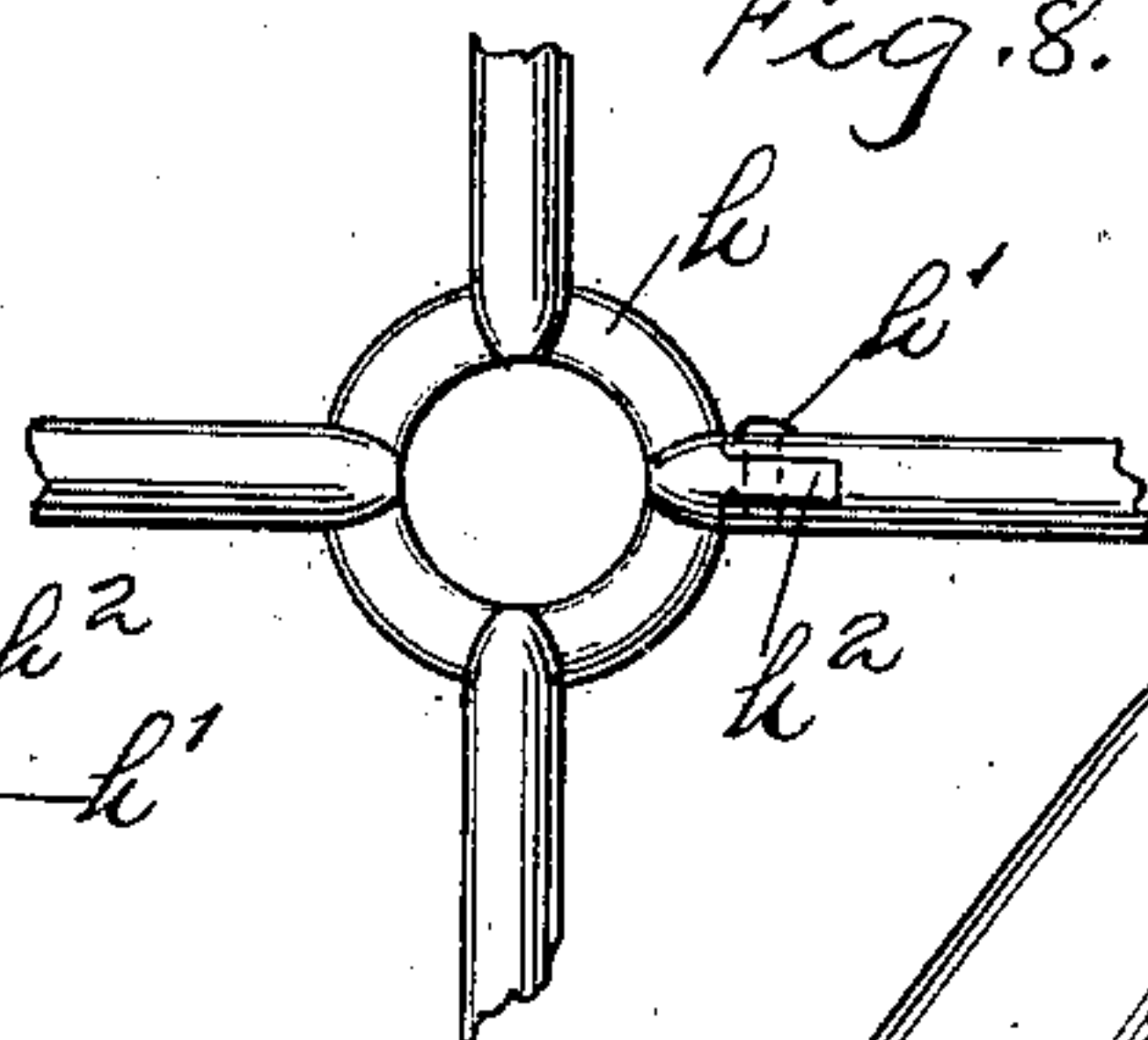


Fig. 12.

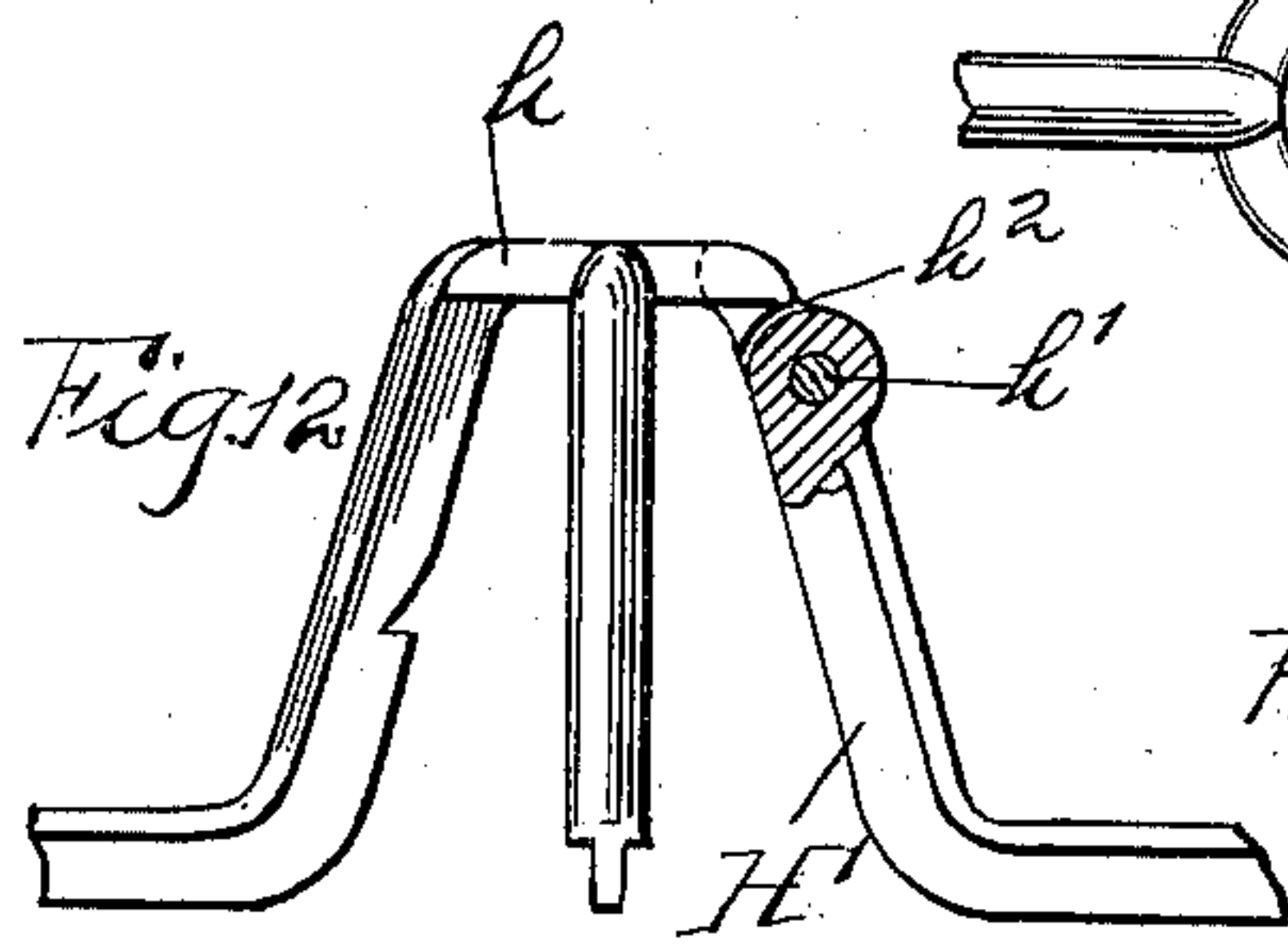


Fig. 10.

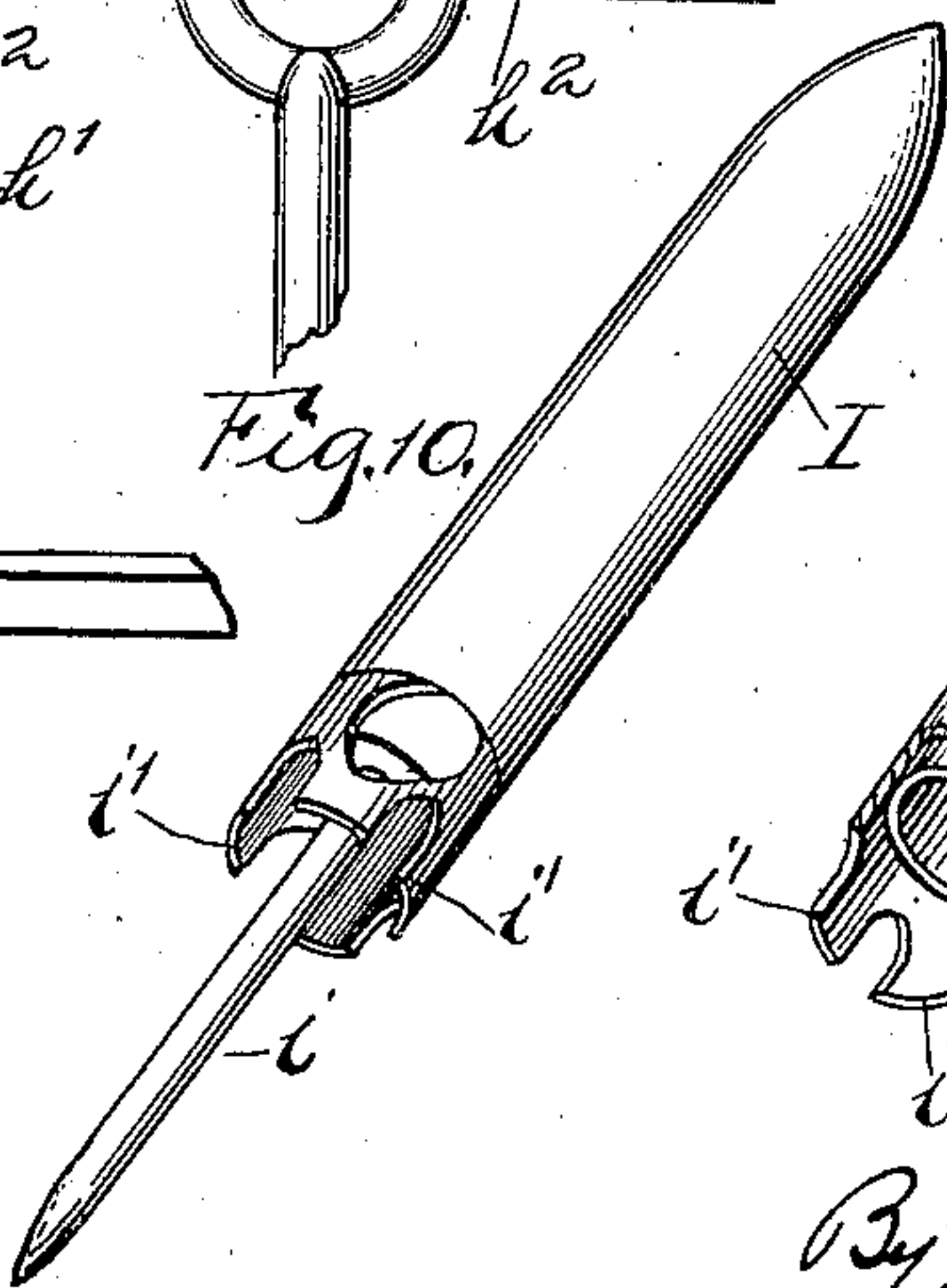


Fig. 13.

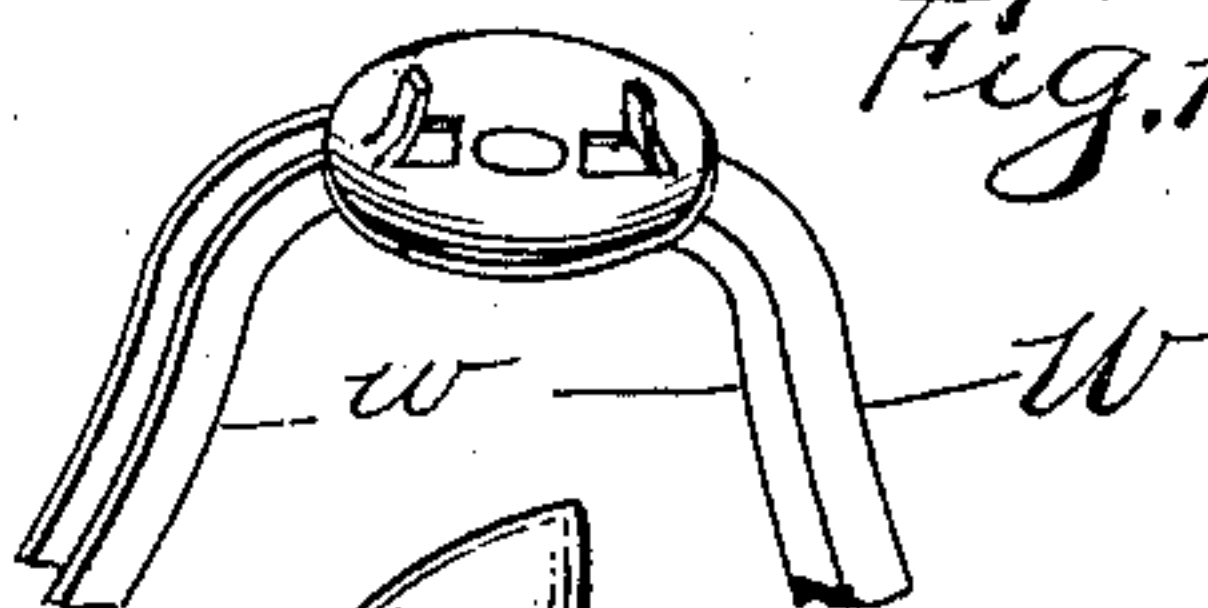
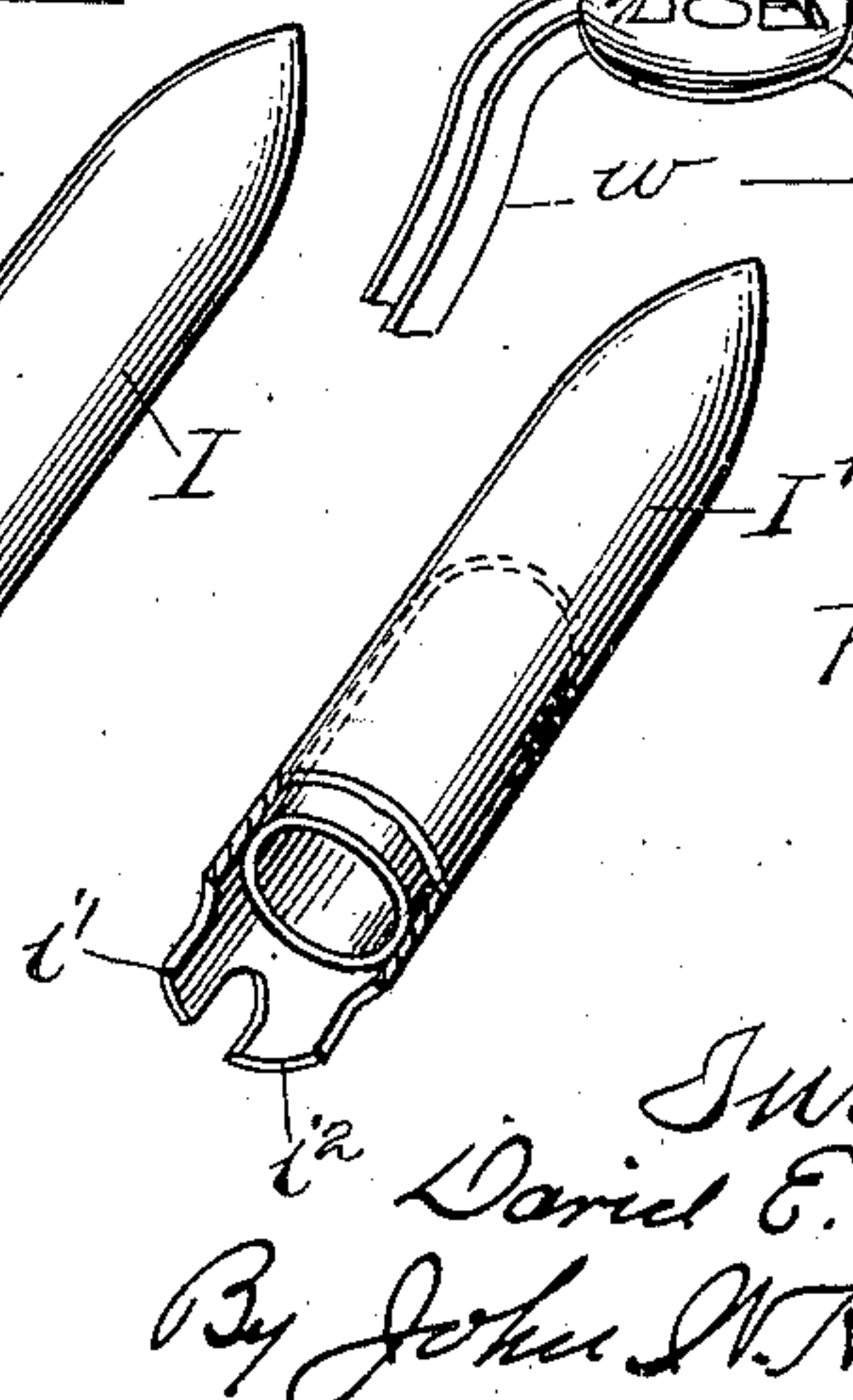


Fig. 11.



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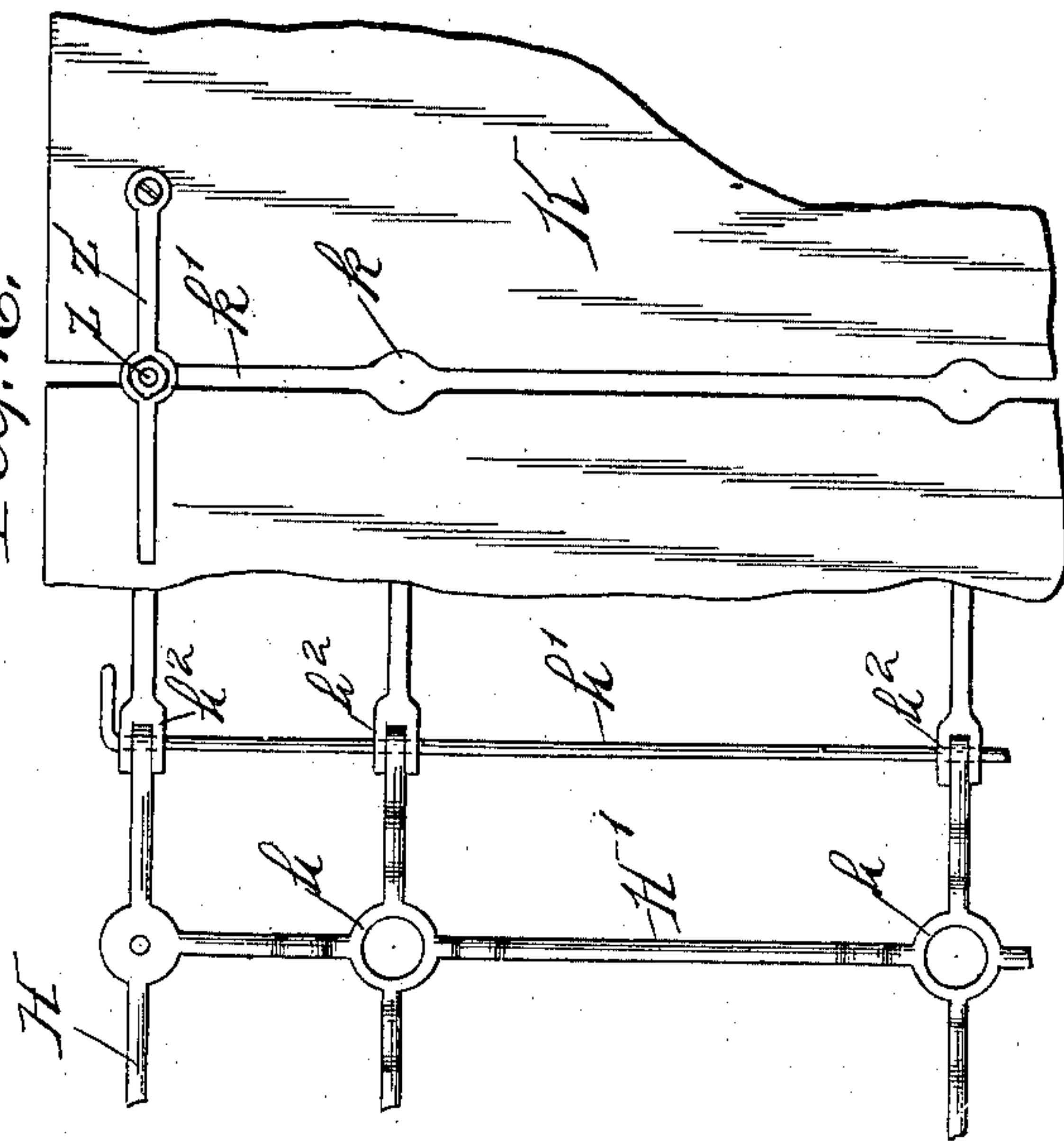
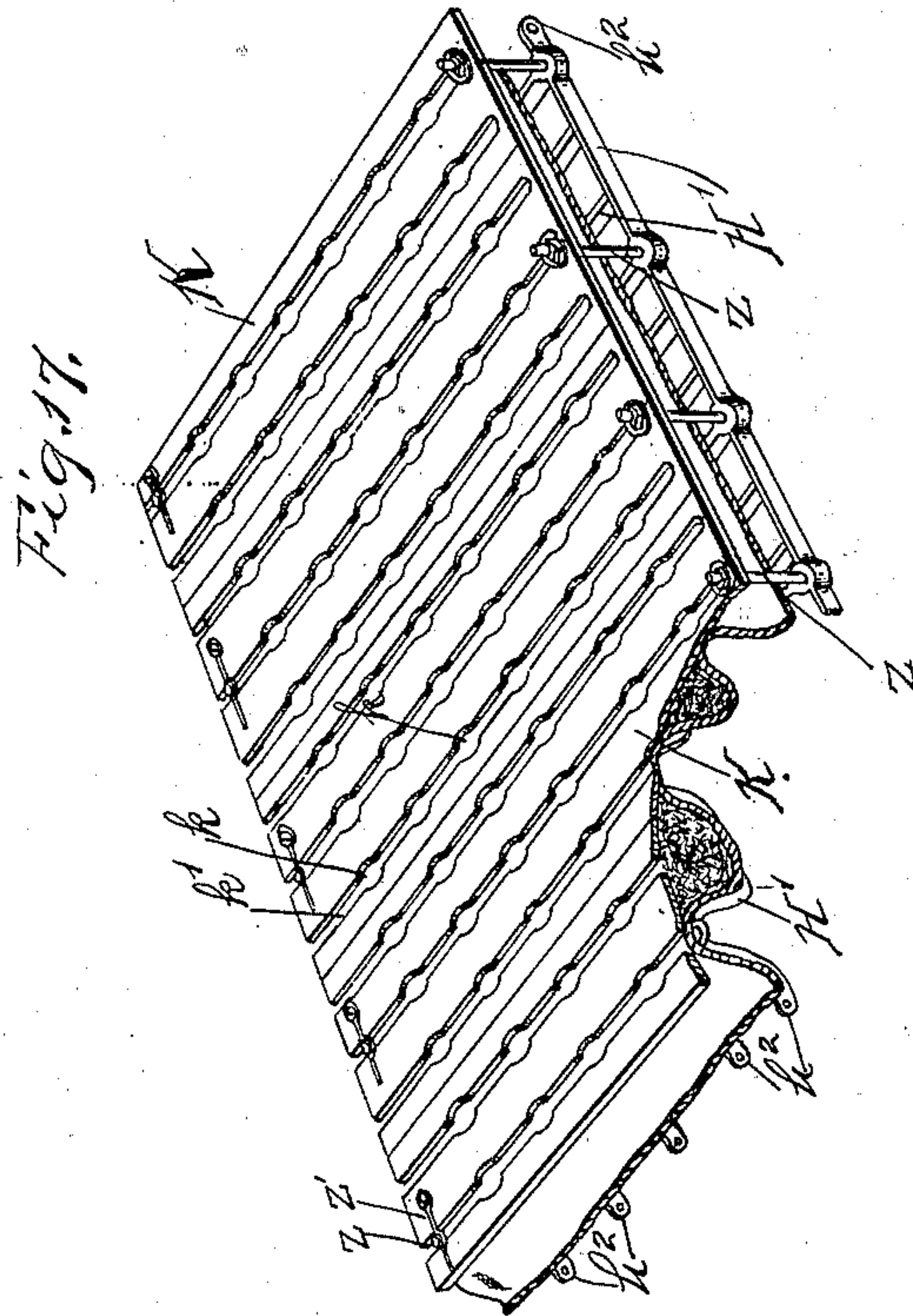
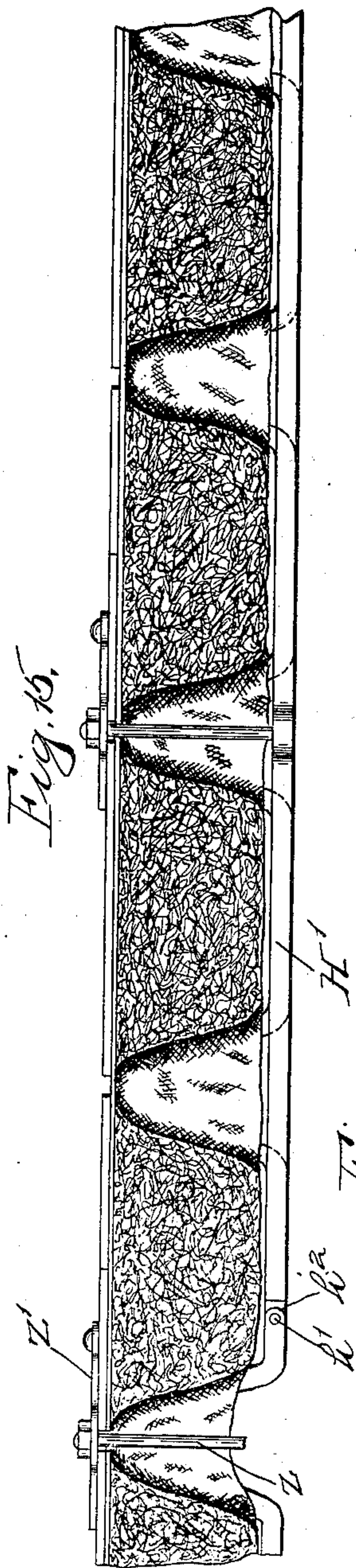
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UNITED STATES PATENT OFFICE.

DAVID E. ROWLEY, OF CHICAGO, ILLINOIS.

TUFTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 647,199, dated April 10, 1900.

Application filed July 10, 1899. Serial No. 723,353. (No model.)

To all whom it may concern:

Be it known that I, DAVID E. ROWLEY, a citizen of the United States of America, residing at Chicago, in the county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Tufting-Machines, of which the following is a description.

Referring to the accompanying drawings, wherein like reference-letters indicate like or corresponding parts, Figure 1 is a side elevation of my improved machine, showing the relative position of the several parts at different stages of the process. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse section in line 3 3 of Fig. 1. Fig. 4 is a partial transverse section in line 4 4 of Fig. 1. Fig. 5 is a perspective view of a part of the follower-board, showing one means of securing the same to the tufting-board. Figs. 6, 7, 8, 9, 10, 11, 12, 13, and 14 are detail views. Fig. 15 is a side elevation of a section consisting of the follower-board and tufting material secured together with the material between them. Fig. 16 is a partial top plan of the same with parts broken away, and Fig. 17 is a perspective view of a part of the same.

The object of my invention is to produce a machine which will economize and simplify the tufting of upholstering material.

To this end my invention consists in the novel construction and combination of parts hereinafter shown and described and more particularly pointed out in the claims.

In the drawings, A represents a suitable framework consisting of three sections B, D, and E. One section, as D, is provided with a suitable press F. The base G extends the full length of the machine, as shown.

H represents the tufting-board, which is preferably made up of detachable sections, for a reason hereinafter set forth.

I represents a securing and guiding pin, the needle *i* of which is adapted to pass through the ring *h* of the tufting-board to position the material upon the same and hold it securely in place.

K is a follower-board provided with holes *k*, arranged to register with the guiding-pins I when in position in the rings *h*. The follower-board K is also provided with slots *k'*,

which adapt it to be withdrawn after the material is placed in position, Figs. 2, 5, and 16.

L is a shaft or spool adapted to support a roll of upholstering material M, while N is a similar shaft or spool adapted to support a roll of suitable fabric—such, for example, as burlap. Any preferred method may be employed for operating the press F. In the preferred construction the vertical screws P P are provided at their lower ends with beveled pinions *p p*, meshing with the beveled gears R R, mounted upon a connecting-shaft S. Upon one of the pinions R a handle *r* is provided for operating the press. The follower F' of the press is provided upon either side with a nut *f*, mounted upon the screws P. The whole constitutes a simple and effective press, which is prompt in operation.

The mode of operation is as follows: One or, if preferred, a plurality of sections of the tufting-board secured together are placed upon the bed or table G in the section marked B, and the fabric M is regularly and evenly placed over the same and positioned in the manner to produce the desired effect, the pins I being passed through the fabric and the rings *h* securely holding the fabric in position. In the preferred construction the said pin is provided with means for engaging the ring, as shown in Figs. 9, 10, and 11. When the fabric is properly positioned, the stuffing material T is arranged and the follower board or boards K placed upon the same, as shown in Fig. 1. This section is then moved forward to the part marked D beneath the follower F' of the press, while another section of the tufting-board may be prepared, occupying the position of that part just removed. At this time while one operator is preparing the material and arranging the same in section B a second workman may operate the press, compressing the follower K to substantially the same plane as that of the rings *h* and giving sufficient pressure upon the stuffing material to secure the desired effect. The follower-board K is then secured to the tufting-board H and the pins I removed before the press is released. When this operation is completed and the second section in the space B is prepared, the operation is repeated

by moving the prepared material in the press forward to the third step, in which the compressed portion occupies the space E, the other parts assuming the position just described. The fabric O may now be drawn down to cover the compressed section and suitable buttons, clench-pins, or other means employed to secure the parts together. The bed G at this part or section is constructed with open spaces to permit the placing of the button within the rings *h*. When the securing means are properly placed, securing the fabric M to the fabric O, inclosing the stuffing material, the follower-board K is released from the tufting-board H and may then be withdrawn sidewise of the fabric, the slots *h'* permitting such an action. When the material is moved forward again to repeat this operation, the section of tufting-board just occupying the space E may, if desired, be again passed through the machine, as before. In the preferred form the tufting-board is made up in sections for this purpose. As shown in Figs. 15 and 16, the sections are united to one another by suitable means—for example, that of passing the removable rod *h'* through the registering eyes *h*², permitting the rod *h'* to be easily withdrawn or replaced when connecting or disconnecting the several sections.

In the tufting-board of the preferred form the ring *h* is held in an elevated position, as shown, the board consisting of the several connecting-bars H', sustaining the several rings in such position. To facilitate the placing and securing of the buttons, I prefer to employ means for firmly holding the button near the lower surface or in contact with the fabric M during such operation. Any preferred means may be employed for this purpose. As shown in the drawings, the supporting-bars are notched below the ring *h*, as at *h*³, and the button-holder W is provided with spring-arms *w*, adapted to engage with said notches to hold the button placed in the holder in proper position within the ring *h*, as shown in Fig. 6. By this means the tufted material may be easily secured either to the article desired or to the burlap O. In the form of button-holder shown in Fig. 14 a bar X extends from one of the connecting-bars H' and supports the vertical button-holder Y, which is detachable from the bar X by means of a screw and thread connection, (shown at *y*.) The securing and guiding pin shown in Fig. 11 is similar to that shown in Fig. 10 with the exception that the needle *i* is omitted and a central hole is provided of a size suitable for the entrance of the legs of a clench-pin or its equivalent. In some cases this form may be preferred, although in practice I have found the form of pin should conform to the manner of operating the machine. Each is preferably provided with downward projections *i'*, constructed to frictionally embrace

the exterior of the rings *h* and temporarily bind the fabric M thereto.

It will be seen that by the means here pointed out the tufting may be done in a continuous strip of padded material, which may be rolled up and placed away for future use as may be desired or needed. It is obvious, however, that if desired the burlap O may not be used, in which case the several sections after being suitably pressed and secured may be removed and the upholstering placed upon the article to be upholstered without further manipulation, as is clearly shown in my Patent No. 627,271, issued June 20, 1899, and in my pending application for Letters Patent filed March 30, 1899, Serial No. 711,177. It is also obvious that in manipulating my improved machine but a single operator is required, if desired, and also that a single section may be completed before another is begun, if preferred. When this method is employed, I prefer to use independent sections, which are constructed in a manner to give sufficient flexibility to facilitate placing the material upon curved or irregular surfaces. For this purpose the flexible connection before described may be retained, or, if preferred, the form shown in Figs. 8 and 12 may be employed, in which the flexibility is secured by means of pivotal connections located near the elevated rings. The latter form insures the even and regular positioning of the buttons upon a curved or irregular surface, which is desirable in fine work. Any well-known means may be employed for securing the follower-board K to the tufting-board H, the form shown in my pending application being adapted for the uses here described. In such form bolts Z extend from the tufting-board to the follower-board upon one side, a screw-nut coacting with the bolts to hold the parts together. Upon the opposite side of the board a similar bolt positioned within the slot *h'* engages with the screw-eye in the swinging bar Z', which is preferably pivotally connected to the follower, as at *z*. Upon unscrewing the bolt from below and releasing the opposite end of the board the board may be readily withdrawn, whether the material be secured upon an article of furniture or to the burlap O, as before set forth.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An upholstering-machine consisting of a bench or table provided with a press located at a point between its ends, providing a preparing-section on one side of the press and a tufting-section on the other side of the press constructed with open spaces, in combination with a tufting-board adapted to coöperate therewith and to retain in position the fabric placed thereon preparatory to stuffing or padding the same, pins adapted to secure the

5 fabric upon the tufting-board and guide the follower-board, one or more follower-boards adapted to be placed upon the stuffing material for compressing the same, and means for temporarily securing the follower board or boards to the tufting-board.

10 2. An upholstering-machine consisting of a bench or table provided with a press located at a point between its ends, providing a preparing-section on one side of the press and a tufting-section on the other side of the press constructed with open spaces, in combination with a tufting-board adapted to coöperate therewith and comprising a plurality of detachable sections and adapted to retain in position the fabric placed thereon as described, pins adapted to secure the fabric upon the tufting-board and guide the follower-board, one or more follower-boards adapted to be placed upon the padding material to compress the same, and means for temporarily securing the follower board or boards to the tufting-board.

25 3. In an apparatus of the kind described, a bench or table provided with a press located at a point between its ends, providing a preparing-section on one side of the press and a tufting-section on the other side of the press constructed with open spaces, in combination with a flexible tufting-board adapted to coöperate therewith, guiding and securing pins, one or more follower-boards provided with holes registering with the guiding-pins, and means for temporarily securing the follower board or boards to the tufting-board.

35 4. In a device of the kind described, a bench or table provided with a press and also with a section constructed with open spaces *g g*, in combination with a tufting-board adapted to coöperate therewith and to retain the fabric in position thereon, securing and guiding pins, one or more follower-boards provided with holes registering with the guiding-pins, and means for temporarily securing the follower board or boards to the tufting-board.

45 5. In an apparatus of the kind described, the combination of a bench or table adapted to support a tufting-board and provided with a section constructed with open spaces *g, g*, through which access can be had to the tufting-board, and a press.

55 6. In a device of the kind described, a bench or table provided with a press and means for supporting the upholstering fabric, and having a section constructed to support the follower-board and the material thereon, said section being provided with open spaces permitting the positioning of the buttons or securing devices.

60 7. In a device of the kind described, the bench or table A, comprising a support for the fabric, a section B for arranging the material ready for pressing, a press constructed to compress the material, and a section E provided with open spaces permitting the positioning of the buttons or securing means.

8. In an apparatus of the kind described, a table, a press supported intermediate the ends of the table, a support for the under fabric M at one side of the press so as to leave a preparing-space between the same and the press, a support for the upper fabric O, and means for guiding the latter fabric to a point adjacent the other side of the press, substantially as and for the purpose described.

70 9. In a device of the kind described, a bench or table consisting of a section upon one end adapted to support the follower-board and material prior to compressing the same, a section upon the other end provided with spaces *g g*, and a press arranged between the two sections substantially as described, in combination with a follower-board comprising a series of elevated rings connected by bars H', guiding and securing pins adapted to temporarily secure the fabric upon the tufting-board, a follower-board A provided with holes *k*, and slots *k'*, means for temporarily securing the follower-board to the tufting-board, and means for supporting the button or securing device.

80 10. In a device of the kind described, a tufting-board comprising elevated rings *h*, connecting-bars H' for supporting the rings, and means for supporting a button-supporting device substantially in the plane of the elevated rings, in combination with a securing and guiding pin I' provided with means for retaining the fabric upon the rings, and also with a central longitudinal aperture.

85 11. In a device of the kind described, a tufting-board comprising elevated rings *h*, connecting-bars H' for supporting the rings *h* having formed therein notches *h'*, in combination with a supporting member W constructed to engage with said notches.

90 12. In a device of the kind described, a bench or table having a preparing-section and a finishing-section, a press intermediate said sections comprising a frame, rotatable screws P P, gears *p p* for driving the screws, and the follower F', provided with nuts *f f* mounted upon the screws, in combination with a shaft S, gears R R on the shaft meshing with the gears *p p*, and means for rotating the shaft S.

95 13. In a device of the kind described, a bench or table provided with a section constructed with openings *g g* through which access can be had to the work for securing the buttons or the like, a press comprising the rotatable screws P P, driving-gears *p p* therefor, and a follower F' operated by the screws, in combination with a shaft S, gears R R carried thereby and coöperating with the gears *p p*, and means for rotating the shaft S.

100 14. In an apparatus for the purpose described, the combination of a press, a tufting-board, a support for the tufting-board on one side of the press, and an open support for the tufting-board on the other side of the press through which access can be had to the work

for securing the buttons or the like, substantially as described.

15. In an apparatus of the kind described, the combination of a press, a support for a covering material, a support for a tufting-board between the press and the cover-support, a support for a second covering material from which the material is led to a point

near the press, and an open support for the tufting-board on the other side of the press whereby tufted work can be made in continuous strips, substantially as described.

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