

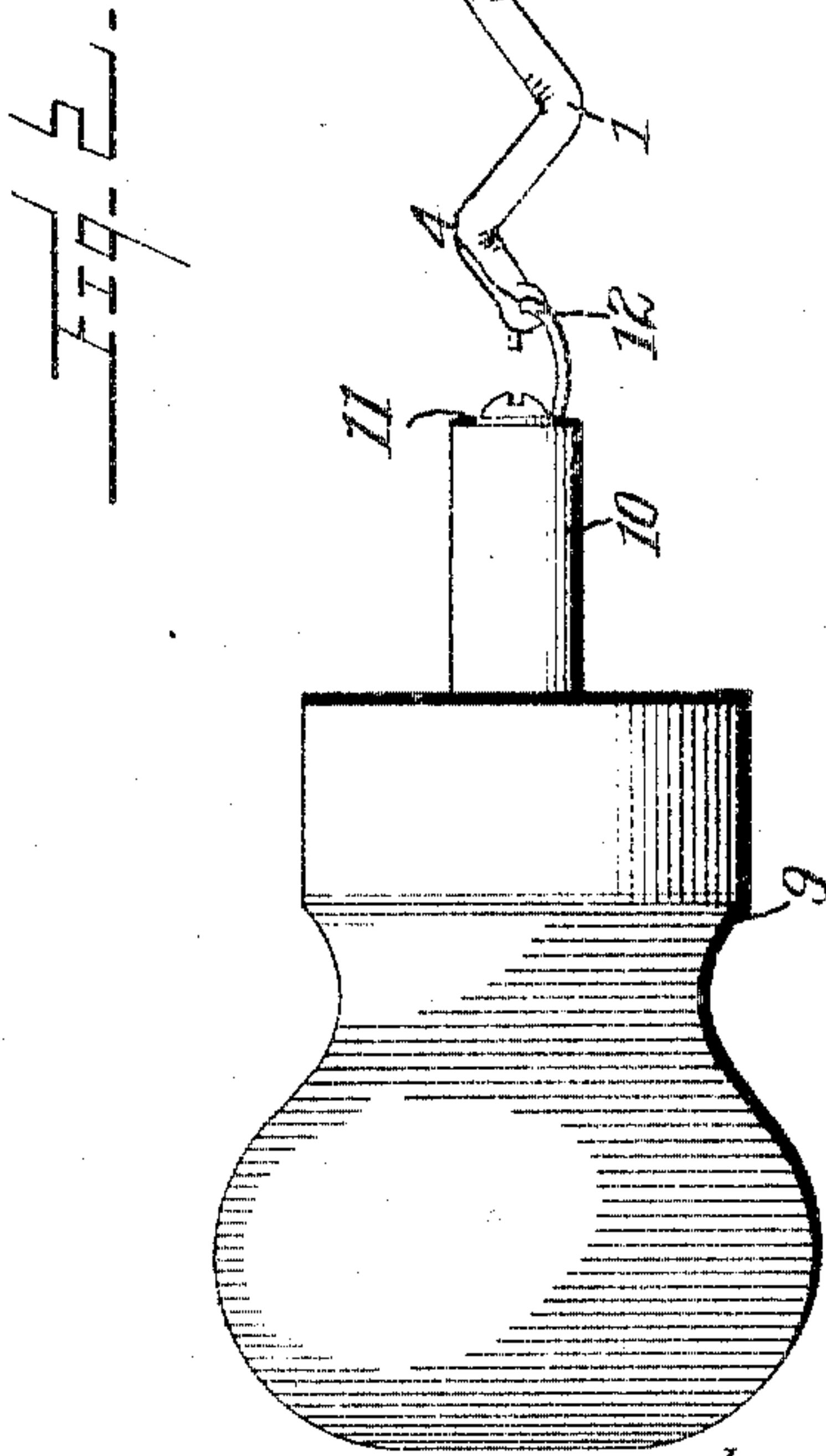
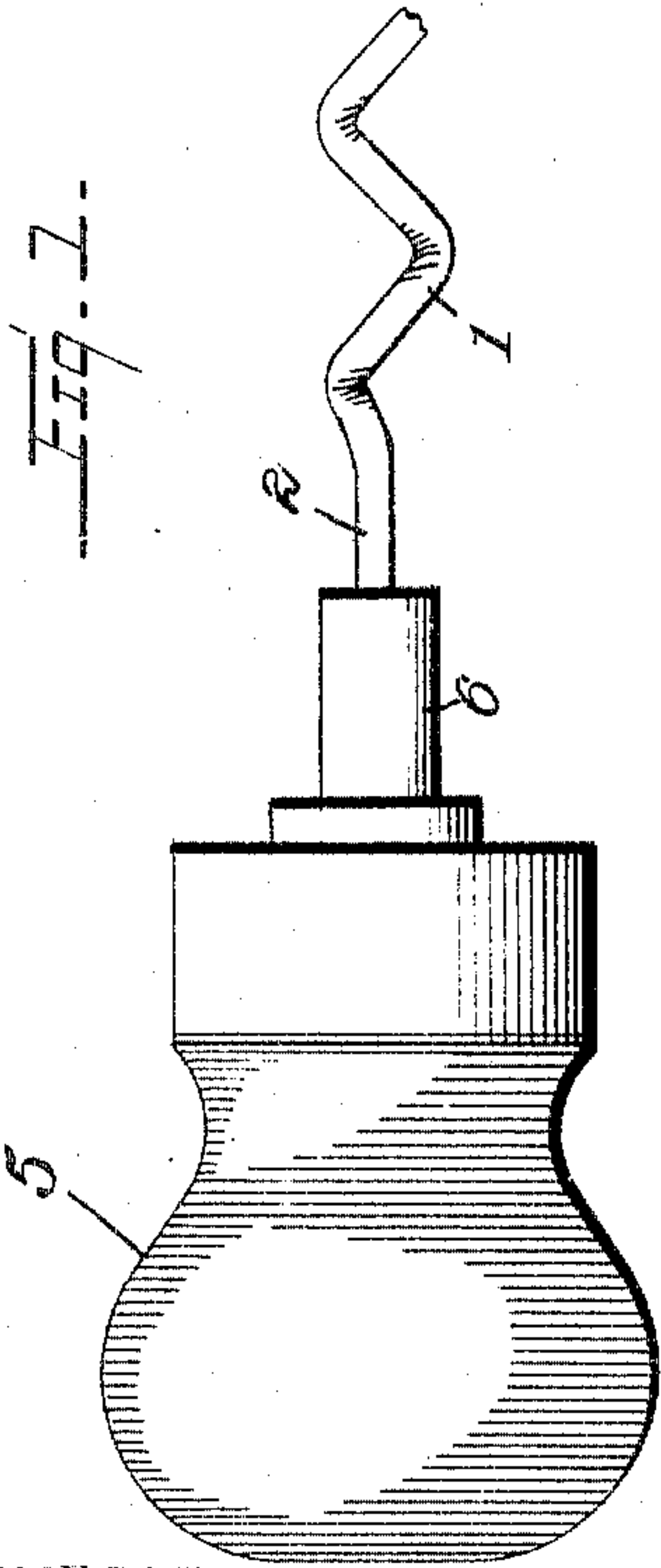
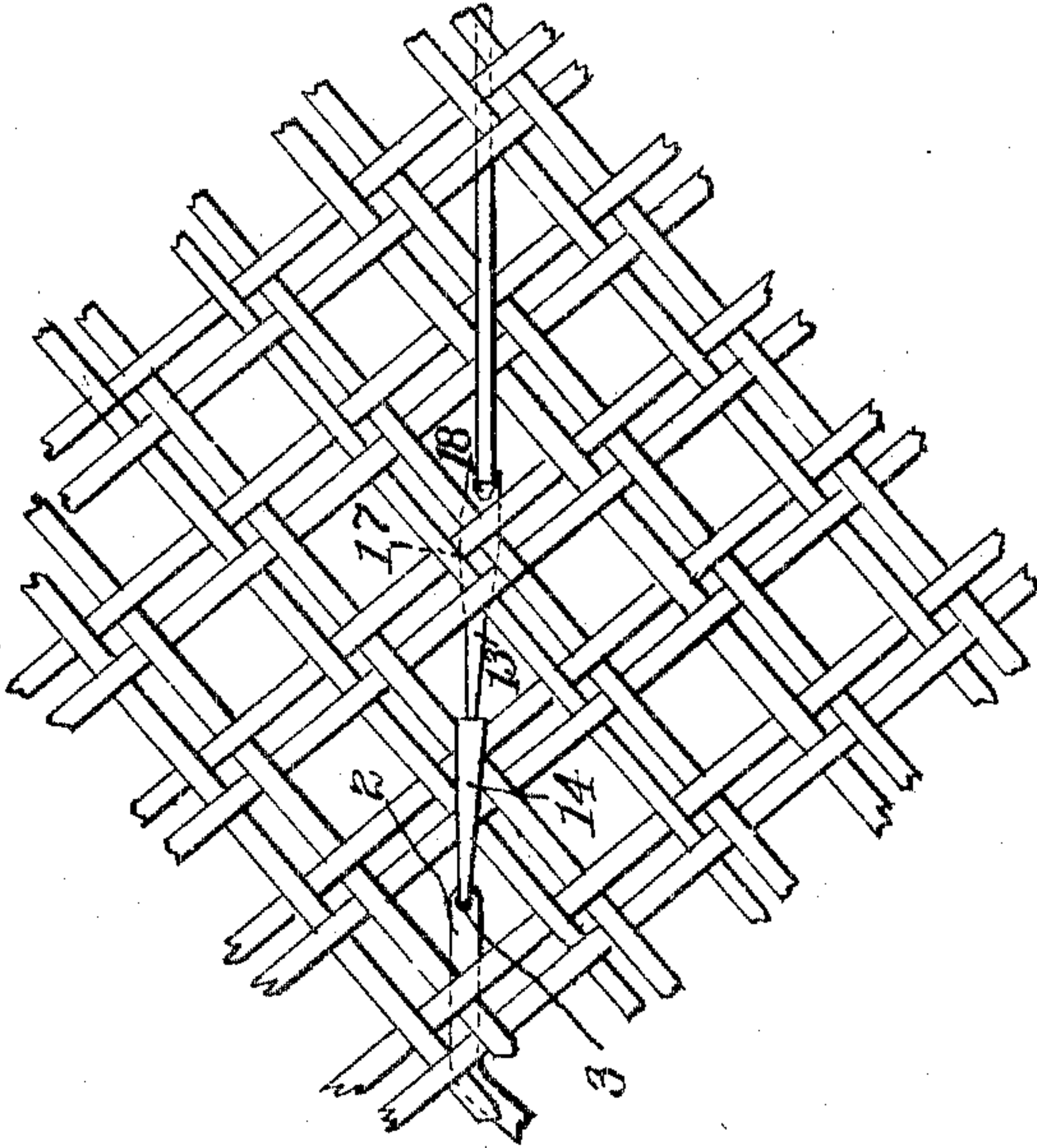
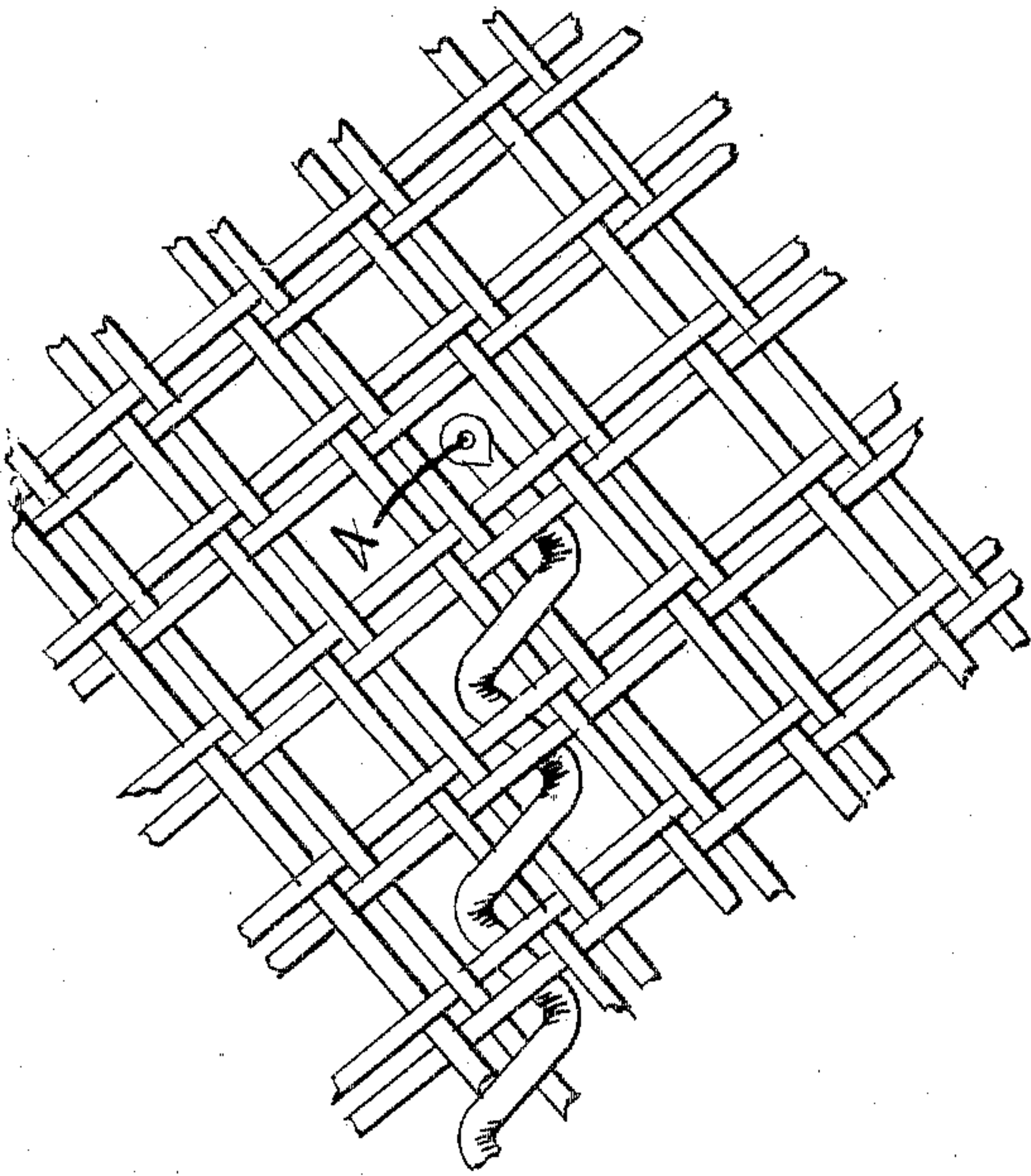
No. 777,608.

PATENTED DEC. 13, 1904.

H. C. DEAN.
TOOL FOR WEAVING CHAIR BOTTOMS.
APPLICATION FILED MAR. 31, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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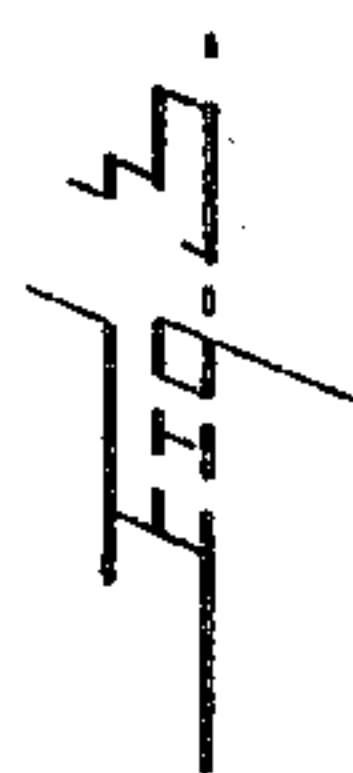
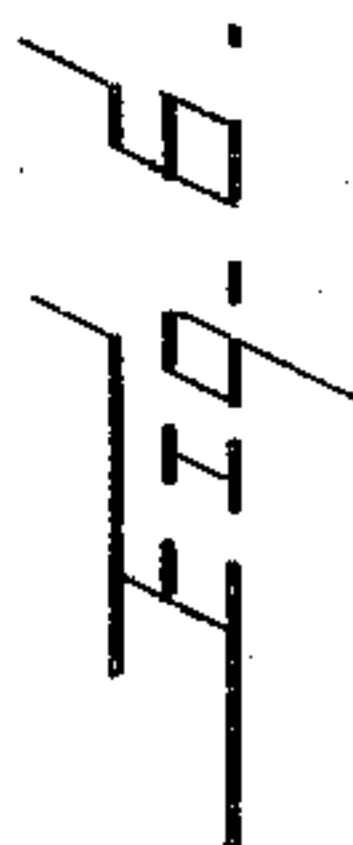
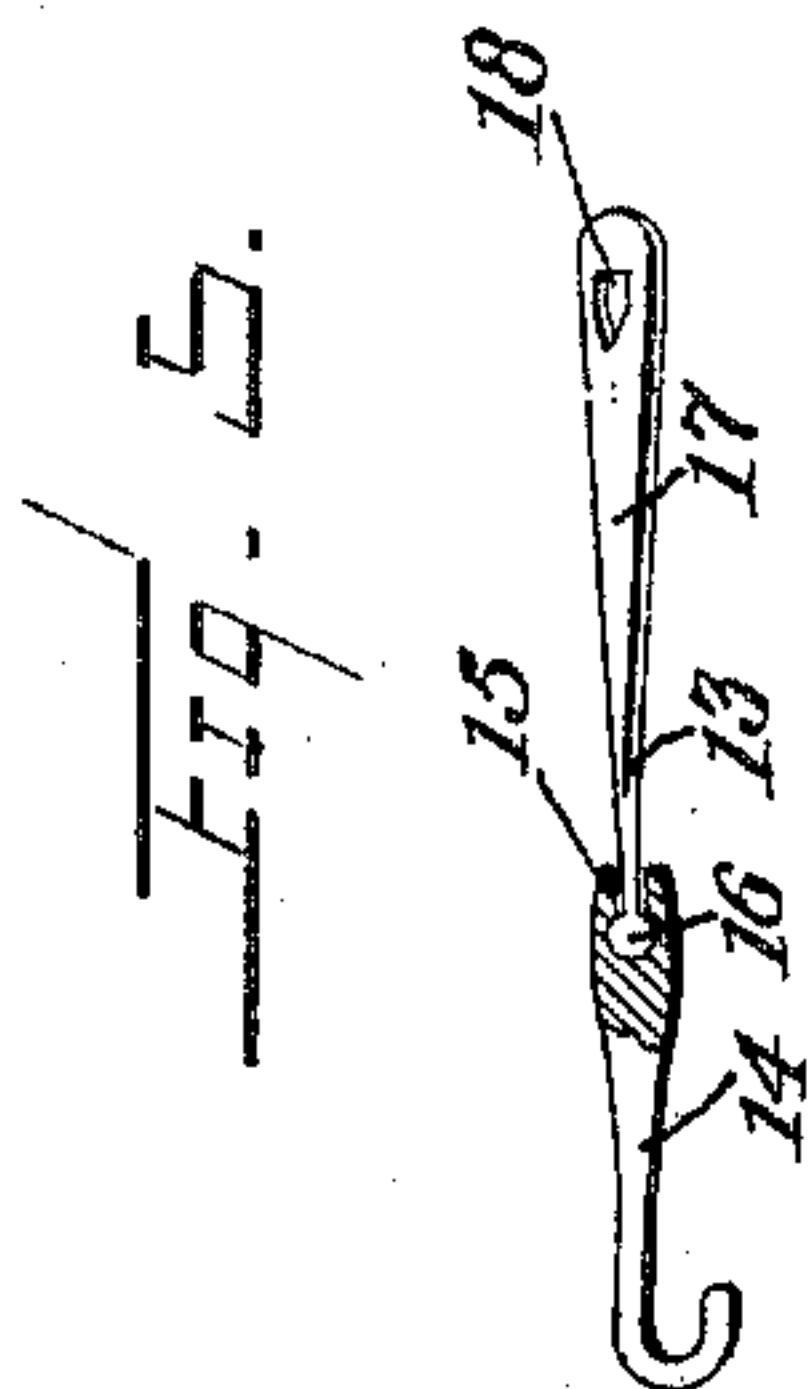
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WITNESSES:

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UNITED STATES PATENT OFFICE.

HARRY C. DEAN, OF GARDNER, MASSACHUSETTS, ASSIGNOR TO JOHN A. DUNN COMPANY, OF GARDNER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

TOOL FOR WEAVING CHAIR-BOTTOMS.

SPECIFICATION forming part of Letters Patent No. 777,608, dated December 13, 1904.

Application filed March 31, 1904. Serial No. 201,018. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. DEAN, a citizen of the United States, residing at Gardner, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Tools for Weaving Chair-Bottoms, of which the following is a specification.

This invention relates to improvements in tools for weaving diagonal strands or strips in cane fabric such as is used for chair-bottoms.

The primary object of the present invention is the provision of a tool of the character mentioned, by the use of which the introduction of the diagonal strands may be accomplished with great rapidity and accuracy and the construction of which is such as to permit the same to be forced through the foundation fabric with both a pushing and pulling action in contradistinction to those tools which are simply pushed, thus permitting the introduction of the strands with the greatest degree of rapidity and absolutely insuring their accurate positioning in the fabric and alignment with the other diagonal strands.

Subordinate to the foregoing the invention also contemplates, in the construction of the herein-described tool, the provision of novel and efficient means whereby the cane-strip is attached to the needle and under the influence of the latter is quickly and accurately drawn through the foundation fabric.

With these general objects in view, and others which will appear as the nature of the improvements is better understood, the invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and finally pointed out in the appended claims.

While the form of the invention herein shown and described is what is at this time believed to be a preferable embodiment thereof, it will of course be understood that the invention is susceptible of various changes in the form, proportion, and minor details of construction, and the right is therefore re-

served to modify or vary the invention as falls within the spirit and scope thereof.

In the drawings, Figure 1 is a plan view of a section of foundation fabric having the needle of the herein-described tool inserted therein and illustrating the initial stage of its progress through the fabric. Fig. 2 is a similar view illustrating the needle in the final stage of its progress, the strand-carrier or shuttle being attached thereto. Fig. 3 is a longitudinal sectional view of the pushing-handle. Fig. 4 is a similar view of the pulling-handle. Fig. 5 is also a longitudinal sectional view of the strand-carrier or shuttle. Fig. 6 is a perspective view of another form of the invention.

Referring to the drawings, the numeral 1 designates the needle of the herein-described tool. This is preferably formed of stout wire bent into spiral form and provided at one of its ends with an elongated shank 2, which is coincident with the longitudinal axis of the body of the needle. This shank 2 is preferably flattened and is provided in its extremity with a perforation 3 for a purpose to be presently stated. The other end of the needle 1 is also provided with a perforation 4, and the purpose of this will also be presently stated. A pushing-handle 5 is provided for introducing the needle 1 into the foundation fabric and forcing the same a sufficient distance there-through to permit the end of said needle in which the opening 4 is provided to emerge from the edge of the foundation fabric opposite to that wherein the needle has been introduced, and said handle has swiveled therein a shank 6, which works upon suitable ball-bearings 7 to reduce the friction incident to its movement to a minimum, said shank being also provided with a bore 8, corresponding to the shape of the shank 2 and being designed to receive said shank. Thus it will be seen that when the shank 2 has been introduced into the bore 8 the needle 1 becomes incapable of rotation in said shank, but will freely rotate with the shank. A pulling-handle 9 is also employed in conjunction with the needle 1, said handle having swiveled therein

a shank 10, which is preferably in the form of a screw and upon which is mounted a binding-sleeve 11, a hook 12 being fixedly connected to said shank, between the binding-sleeve and the head thereof, whereby said hook is adapted to rotate with said shank. The hook 12 is designed to engage the perforation 4 of the needle 1, and the purpose of the handle 9 is to effect the final stage of the passage of the needle 1 through the foundation fabric, as hereinafter described.

It is essential that some means be provided for attaching the cane strand or strip to the needle 1, so that said strand or strip may be drawn through the foundation fabric into which the same is to be woven, and to the accomplishment of this end a strand-carrier or shuttle 13 is employed. This strand-carrier or shuttle comprises a hook-section 14, in one end of which is provided a socket 15, and fitted within said socket is a ball-head 16, formed on a follower-section 17 and held within said socket, whereby the hook-section and the follower-section are connected together through the medium of a swivel-joint. The follower-section 17 is provided with a perforation 18, through which the strand or strip of cane is inserted and held, and the hook-section 14 is designed to engage the opening 3 of the shank 2, so that as the needle 1 is drawn through the foundation fabric the strand-carrier or shuttle will follow its movements, and thus effectually weave the strand into said foundation fabric.

In the use of the tool the needle 1 is inserted into the pushing-handle 5, the shank 2 being introduced into the bore of the shank 6 thereof, and the opposite end of the needle being then introduced into the foundation fabric. Pressure is exerted upon the handle 5, whereupon by reason of the swivel connection between the shank 6 and the handle 5 the needle 1 may freely rotate as it progresses through the fabric. The spiral formation of the needle 1 gradually advances the same until the forward end of said needle is emerged from the edge of the fabric opposite to that wherein the needle has been introduced. The pushing-handle 5 is now removed, it being understood that two operators are usually employed in the use of the invention, and the pulling-handle 9 is fastened to the forward end of the needle by the second operator, the hook 12 being engaged with the perforation 4 in the needle 1. The strand-carrier or shuttle 13 is then attached to the shank 2, the hook-section engaging the perforation 3 of said shank, and a strand of cane is connected to said carrier or shuttle through the opening 18. A pulling action now being exerted upon the handle 9 by the second operator it is obvious that the needle 1 is caused to complete its movement through the foundation fabric, and as the same advances it is obvious that the strand of cane carried by the shuttle will be drawn through

the entire width of fabric and woven into the warp and weft thereof. When the passage of the needle has been completed, the pulling-handle 9 is removed, together with the strand-carrier, the needle is inserted in a new position in the fabric, and the operation described repeated until the entire number of diagonal strands have been introduced into the fabric.

In Fig. 6 is illustrated another form of the invention wherein the pulling-handle 9 is eliminated entirely. In such form the handle 5 is so connected to the needle 1 as to be fixed thereto, but permit the needle 1 having free rotary movement, as in the other form, and when this form is used the needle 1 is driven through the web until the forward end emerges from the latter. The strand-carrier or shuttle 13 is attached to the needle at the opening 4 thereof, and by exerting a pulling action on the handle 5 it is obvious that the carrier 13 will be drawn through the fabric together with the strand connected thereto.

Having thus described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a tool of the class described, the combination with a needle, of a handle for pushing the needle during the initial stage of its passage through a fabric, a second handle for pulling the needle during the final stage of its passage through the fabric, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric and to be connected to the needle when the pushing-handle is removed.

2. In a tool of the class described, the combination with a needle of spiral form, of a handle for pushing the needle during the initial stage of its passage through a fabric, a second handle for pulling the needle during the final stage of its passage through the fabric, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric and to be connected to the needle when the pushing-handle is removed.

3. In a tool of the class described, the combination with a needle of spiral form and having at one end an elongated shank coincident with the axis of the needle, of a handle to be connected to said shank for pushing the needle during the initial stage of its passage through a fabric, a second handle for pulling the needle during the final stage of its passage through the fabric, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric and to be connected to the shank of the needle when the pushing-handle is removed.

4. In a tool of the class described, the combination with a needle of spiral form and provided with perforations in each of its ends, of a handle for pushing the needle during the initial stage of its passage through a fabric, a second handle provided with a hook adapted to engage the perforation in the forward end of the needle for pulling the latter during the

final stage of its passage through the fabric, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric, said strand-carrier or shuttle being provided
5 with a hook adapted to engage the perforation in the rear end of the needle for connecting the strand-carrier or shuttle to the latter when the pushing-handle is removed.

5. In a tool of the class described, the combination with a needle, of a handle for pushing the needle during the initial stage of its passage through a fabric, a second handle for pulling the needle during the final stage of its passage through the fabric, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric and to be connected to the needle when the pushing-handle is removed, said strand-carrier comprising a hook-section and a follower-section swiveled together, the hook-section being adapted to be connected to the needle, and the follower-section being provided with a perforation for the reception of the strand to be woven.
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6. In a tool of the class described, the combination with a needle of spiral form and provided at one end with an elongated shank, of a handle for pushing the needle during the initial stage of its passage through a fabric, said handle being provided with an elongated swiveled shank having a bore to receive the elongated shank of the needle, a second handle having a hook adapted to engage the needle for pulling the latter during the final stage of its passage through the fabric, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric and to be connected to the needle when the pushing-handle is removed.
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7. In a tool of the class described, the combination with a needle of spiral form, the forward end of said needle being perforated, and the rear end being flattened and forming an elongated shank coincident with the axis of the needle, said shank being also perforated, of a handle for pushing the needle during the initial stage of its passage through a fabric, said handle having an elongated shank provided with a bore for the reception of the shank of the needle, a second handle for pulling the needle during the final stage of its passage through the fabric, said second handle
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dle having a hook swiveled thereto and adapted to engage the perforation in the forward end of the needle, and a strand-carrier or shuttle for drawing the strand to be woven through the fabric, said strand-carrier or shuttle having a hook to be connected with the perforation of the shank of the needle when the pushing-handle is removed. 55

8. In a tool of the class described, the combination with a needle of spiral form, a handle for passing same through a fabric, said handle having a rotatable shank for the reception of the needle. 60

9. In a tool of the class described, the combination with a needle of spiral form, a handle for passing same through a fabric, said handle having a rotatable shank provided with a bore for the reception of the needle, of a strand-carrier or shuttle for drawing the strand to be woven through the fabric. 65
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10. In a tool of the class described, the combination with a needle of spiral form, a handle for passing same through a fabric, said handle having an elongated rotatable shank provided with a bore for the reception of the needle, of a strand-carrier or shuttle for drawing the strand to be woven through the fabric, said carrier or shuttle being formed of swiveled sections. 75
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11. In a tool of the class described, the combination with a needle of spiral form, and means for passing the same through a fabric, of a strand-carrier or shuttle for drawing the strand to be woven through the fabric, said carrier or shuttle being formed of swiveled sections. 85

12. In a tool of the class described, the combination with a needle of spiral form, and means for passing the same through a fabric, of a strand-carrier or shuttle for drawing the strand to be woven through the fabric, said carrier or shuttle comprising a hook-section and a follower-section swiveled together. 90

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 95

HARRY C. DEAN.

Witnesses:

GEO. F. BALCOM,
ARTHUR C. BURRELL.