

(No Model.)

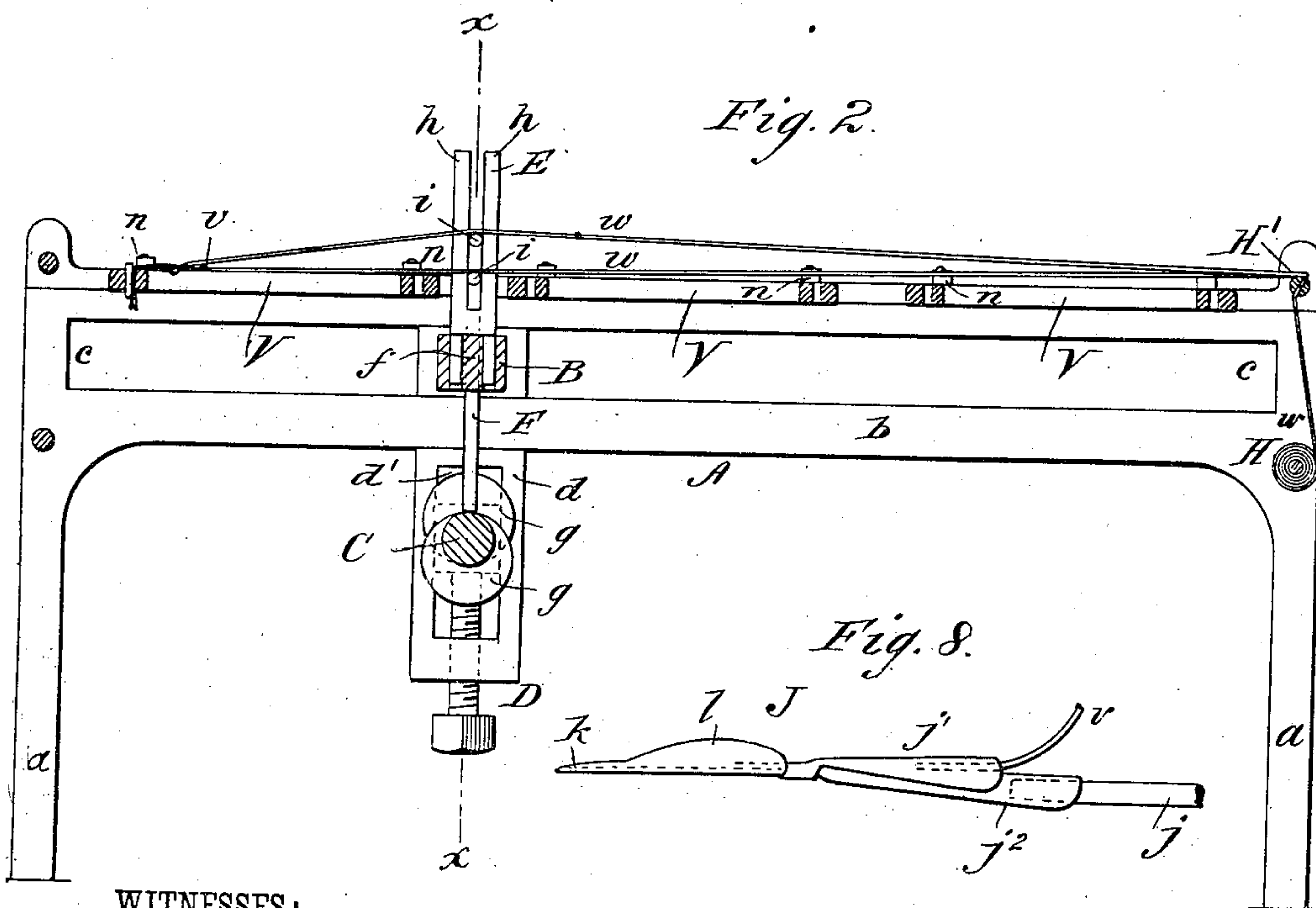
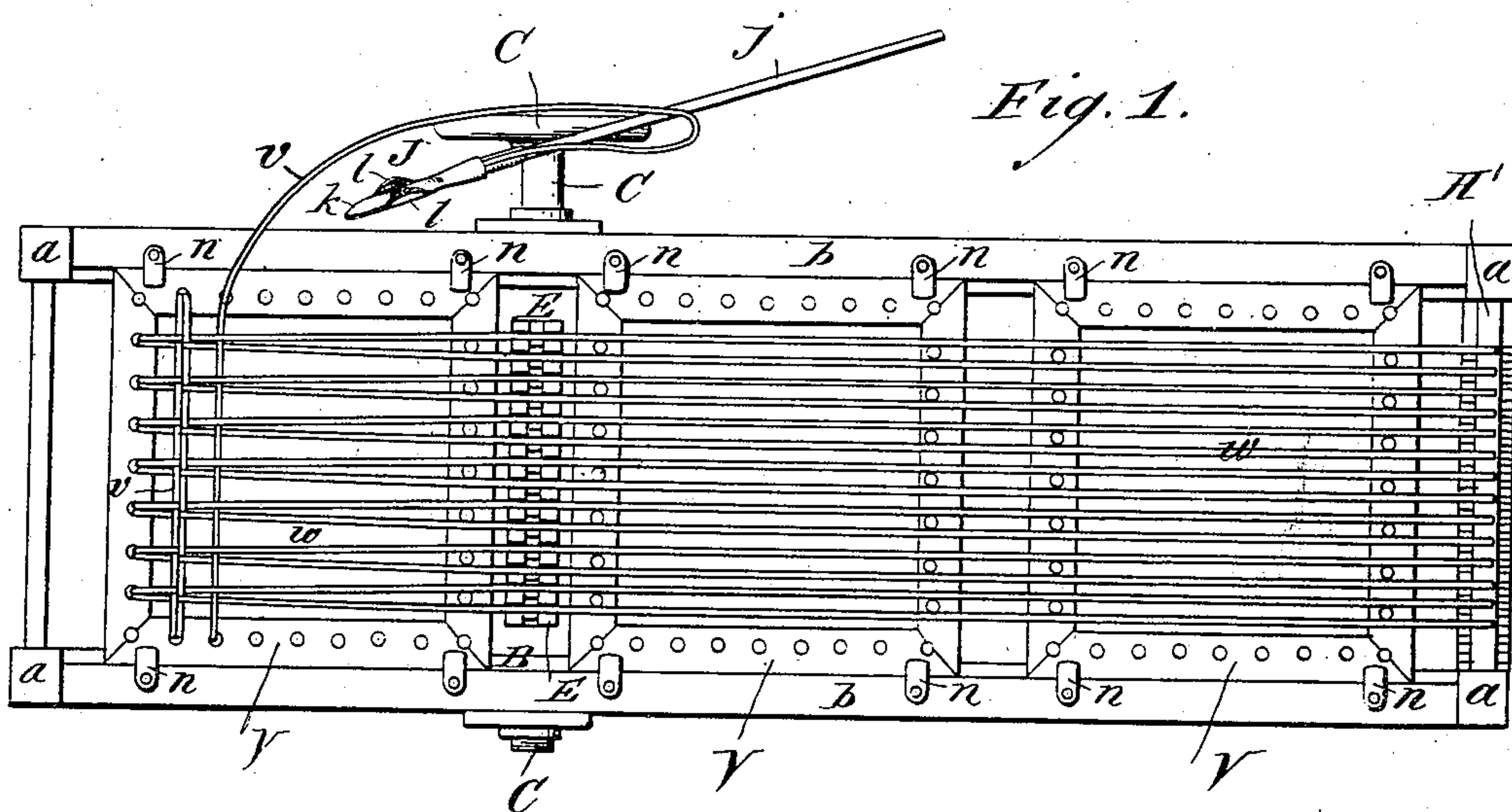
2 Sheets—Sheet 1.

J. S. HODGSON.

MACHINE FOR CANING CHAIR BOTTOMS.

No. 342,963.

Patented June 1, 1886.



WITNESSES:
John H. Deemer
C. Sedgwick

INVENTOR:
J. S. Hodgson
BY *Munn & Co*
ATTORNEYS.

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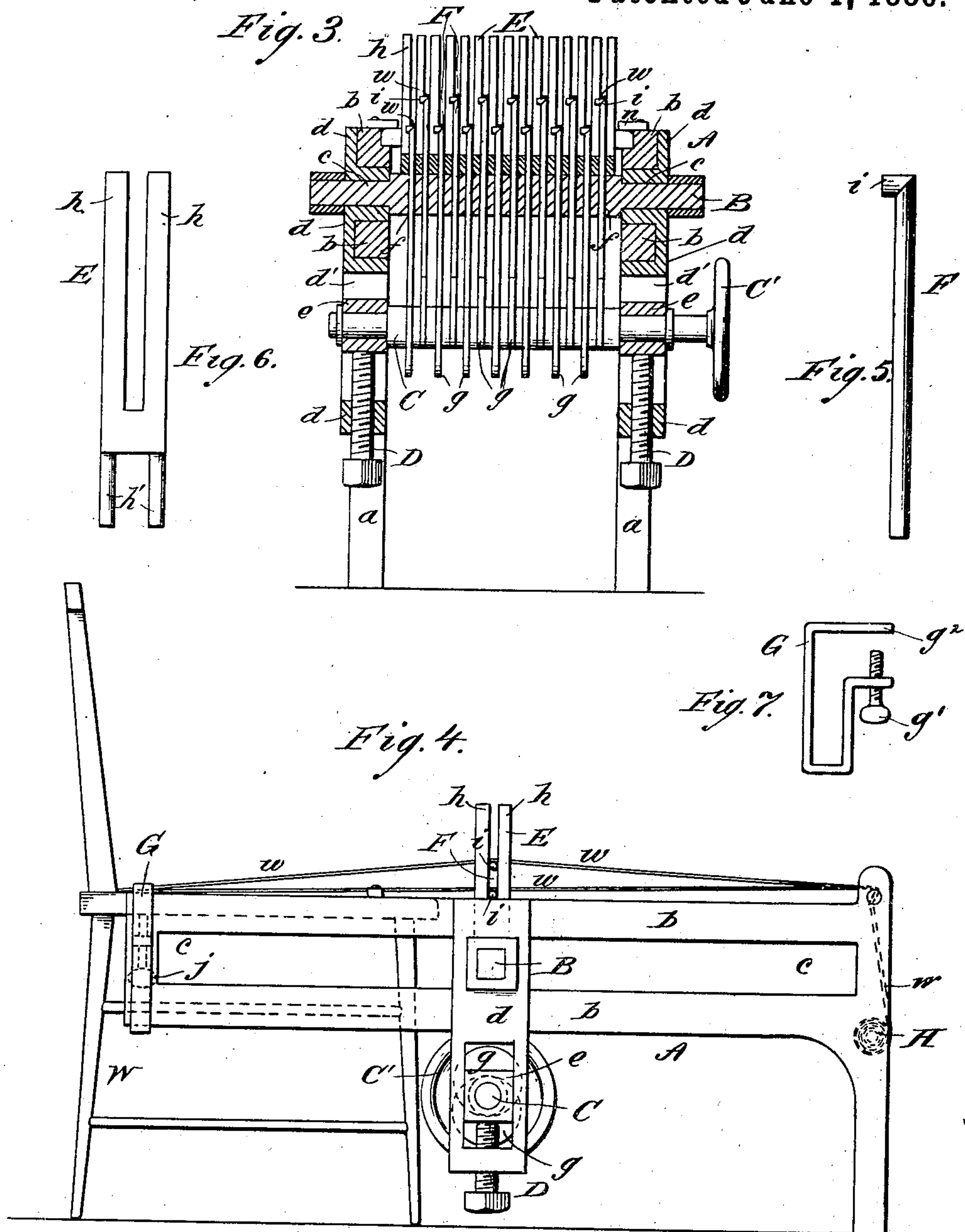
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UNITED STATES PATENT OFFICE.

JAMES S. HODGSON, OF BROOKLYN, NEW YORK.

MACHINE FOR CANING CHAIR-BOTTOMS.

SPECIFICATION forming part of Letters Patent No. 342,963, dated June 1, 1886.

Application filed February 11, 1885. Serial No. 155,592. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. HODGSON, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Machines for Caning Chair-Bottoms, &c., of which the following is a full, clear, and exact description.

The object of this invention is to facilitate the weaving of cane into chair-bottoms and other articles of furniture; and the invention consists, principally, of a suitable frame combined with lifting devices for lifting or spreading the warp-strands of cane, so that the west-strands may be easily and quickly passed between them.

The invention also consists of a special form of shuttle for carrying the free end of the west-strand of cane.

The invention also consists of means for attaching the machine to the seat-frame of a chair for caning or recaning it; and the invention finally consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my invention, showing the main frame of the machine provided with several chair-seat frames, showing, also, the warp-strands attached for weaving, and the shuttle arranged for passing the west-strand between the warp-strands. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a transverse sectional elevation taken on the line *x x* of Fig. 2. Fig. 4 is a side elevation showing my invention applied to a chair for recaning it. Fig. 5 is a side view of one of the warp-lifters removed from the machine. Fig. 6 is a side view of one of the lifter-guides removed from the machine. Fig. 7 is an edge view of the clamp I prefer to use for securing the frame of the machine to the seat-frame of a chair; and Fig. 8 is an enlarged side view of the shuttle.

The frame A, except when adapted to be attached to a chair, W, as shown in Fig. 4, will be supported upon four legs, *a*, and will by preference be made of a length suitable to receive several frames, V, to be caned. The side pieces, *b b*, of the frame A have the long slots or openings *c* formed in them to form

ways for the ends of the cross-bar B to slide in. The ends of the cross-bar B are by preference held in metallic frames *d*, which fit upon the side pieces, *b*, as shown in Fig. 3, and are adapted to slide thereon for shifting the cross-piece B backward or forward in the frame A. The lower ends of the metallic frames *d* project below the side pieces, *b*, of the main frame A, and have the slots or openings *d'* formed in them to receive the vertically-movable blocks *e* in which the shaft C is journaled. Screws D are fitted in the lower ends of the frames *d*, for raising and lowering the blocks *e* for adjusting the shaft C vertically. The cross-bar B supports the guides E for the lifters F, which are placed between the guides E, and reach down through holes *f* made in the cross-piece B. The shaft C is formed or provided with oppositely and alternately arranged cams or eccentrics *g*, (shown clearly in Figs. 2 and 3,) and the lower ends of the lifters F rest upon the cams or eccentrics, as shown in Figs. 2 and 3, so that when the shaft C is revolved the cams or eccentrics will raise and lower the lifters F, operating them in pairs alternately. The guide-pieces E also serve as division-pieces to separate the warp-strands *w* of cane, and they are by preference bifurcated to form the members *h*, and the upper ends of the lifters F are by preference formed with a side lug, *i*, that runs between the members *h*, so that there will be no lateral movement of the guides E. At their lower ends the guides E are formed with the pins *h'*, which fit in corresponding holes made in the cross-piece B, so that the guides when put in place will be securely held, and at the same time adapted to be removed from the cross bar at pleasure.

In the form of machine shown in Fig. 4 one end of the machine is without legs, it being supported by the chair W, to the seat-frame of which it is secured by two clamp-irons, G, attached to the frame and provided with set-screws *g'*, to grasp the seat-frame between the screws and the upper horizontal arms, *g''*, of the clamp-irons, as will be understood from Figs. 4 and 7.

The shaft C is provided at one end with a hand-wheel, C', for turning the shaft, and a reel, H, is journaled at one end of the frame A, upon which the warp-strands *w* of cane are wound, as shown clearly in Fig. 2.

The shuttle J, by which the weft-strand *v* is carried between the warp-strands *w*, is made of metal, and is placed upon the handle *j*, which is of convenient length to pass the shuttle from one side of the frame to the other, carrying the end of the weft-strand with it.

The shuttle proper is formed with a recess, in which the free end of the strand *v* is forced and held at the time of carrying it between the warp-strands; and in this instance the recess is formed by the shield or sleeve *j'* placed over the handle-socket *j*, so that the end of the strand of cane may be forced between the outer surface of the socket and the inner surface of shield or cap *j'*, where it will be bound or held by a slight spring action of the shield *j'* with sufficient force to carry it through the warp-strands. The forward part of the shuttle is made spoon shaped—that is, with the flat round-pointed tongue *k*, and the upturned side pieces, *l l*, which are rounded at their edges, and which serve to spread the warp-strands slightly as the shuttle is forced between them.

In fitting the machine for use one end of the warp-strands *w* will be secured to the frame to be caned and carried between the guides E and back over or passed through holes made in the roller H' at the rear of the machine and then wound upon the drum H. The strands between the guides E will rest upon the upper ends of the lifters F. The machine being thus fitted, the operator will take the shuttle J, insert handle *j*, and force one end of the weft-strand *v* into the recess of the shuttle, and force the shuttle by means of the handle across the machine or rather the frame to be caned between the warp-strands *w*. This done, the operator will give the hand-wheel C' a one-half turn, which will lower one set of the lifters F and raise the other, which will lift and lower every other weft-strand respectively. Then the operator will insert the weft-strand in the recess of the shuttle and return it through the warp-strands, and then he will again turn the hand-wheel C', and repeat the operation, thus weaving the strands together, as illustrated in Fig. 1. When one frame V is covered, the frame next to it in the machine will be removed and the side pieces, *d*, moved back in the frame A of the machine and the frame to be caned returned, and the weaving continued as before, and so on until all of the frames placed in the machine to be caned are covered.

In the operation of performing the diagonal weaving, which must be done entirely by hand, the shuttle J is of great service, since the point *k* may be passed between the meshes of the woven strands of cane and the end of the strand to be inserted forced between the woven strands against the upper surface of the shuttle, which will guide the end upward, where it may be easily grasped in the fingers and the strand drawn through.

In caning the seats of completed chairs, or

in recaning chairs, the main frame of the machine will be attached by clamps G, or otherwise, to the seat frame of the chair, as shown in Fig. 4, and the operation of weaving conducted as above described.

By turning the screws D the shaft C may be raised or lowered, according to the distance it may be desired to spread the warp-strands.

For holding the frames V in place in the main frame of the machine, I employ the buttons *n*, pivoted to the upper edges of the side pieces, *b b*, of the main frame A, as shown clearly in Fig. 1; but other convenient means might be used for this purpose, if desired.

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

1. The frame A, cross-piece B, and shaft C, in combination with the guides E, lifters F, placed between the guides, and the double series of eccentrics *g* on the shaft C for raising and lowering the lifters, substantially as and for the purposes set forth.

2. The cross-piece B, carrying the guides E, and the vertically-movable lifters F, and held in the side pieces, *d d*, in combination with the side pieces, *d*, the shaft C, provided with eccentrics *g*, and journaled in the side pieces, *d*, below the cross-piece B, and the frame A on which the side pieces, *d*, are mounted, substantially as and for the purposes set forth.

3. The shuttle formed with cap *j'*, elongated point *k*, and curved and upwardly-projecting side flanges, *l*, for spreading the strands, substantially as and for the purposes set forth.

4. The frame A, formed with legs at one end and provided with clamps G at the other, whereby it may be secured to a chair, in combination with the cross-piece B, shaft C, eccentrics *g*, guides E, and lifters F, the shaft and cross-piece B being connected to the frame A by side pieces, *d*, substantially as described.

5. The frame A, the side pieces, *d*, mounted on the latter, the journal-blocks *e*, disposed in slots in said side pieces, and the shaft C, supported in said blocks, in combination with the adjusting-screws D, cross-piece B, lifters *f*, and eccentrics *g* on the shaft C, whereby by raising or lowering the shaft C the height of the lifters F may be adjusted, substantially as described.

6. The guides E, divided to form the numbers *h*, the lifters F, placed between the guides and formed with side projections, *i*, at their upper ends, the guides and lifters being held by and in the cross-piece B, in combination with said cross-piece B, the shaft C, and double series of eccentrics *g*, placed thereon for raising and lowering the lifters, substantially as described.

JAMES S. HODGSON.

Witnesses:

W. H. AYRES,
ROBERT BISKET.