

(No Model.)

G. MUNRO.

MACHINE FOR LINING STRAW AND OTHER BOARD.

No. 278,448.

Patented May 29, 1883.

Fig. 1.

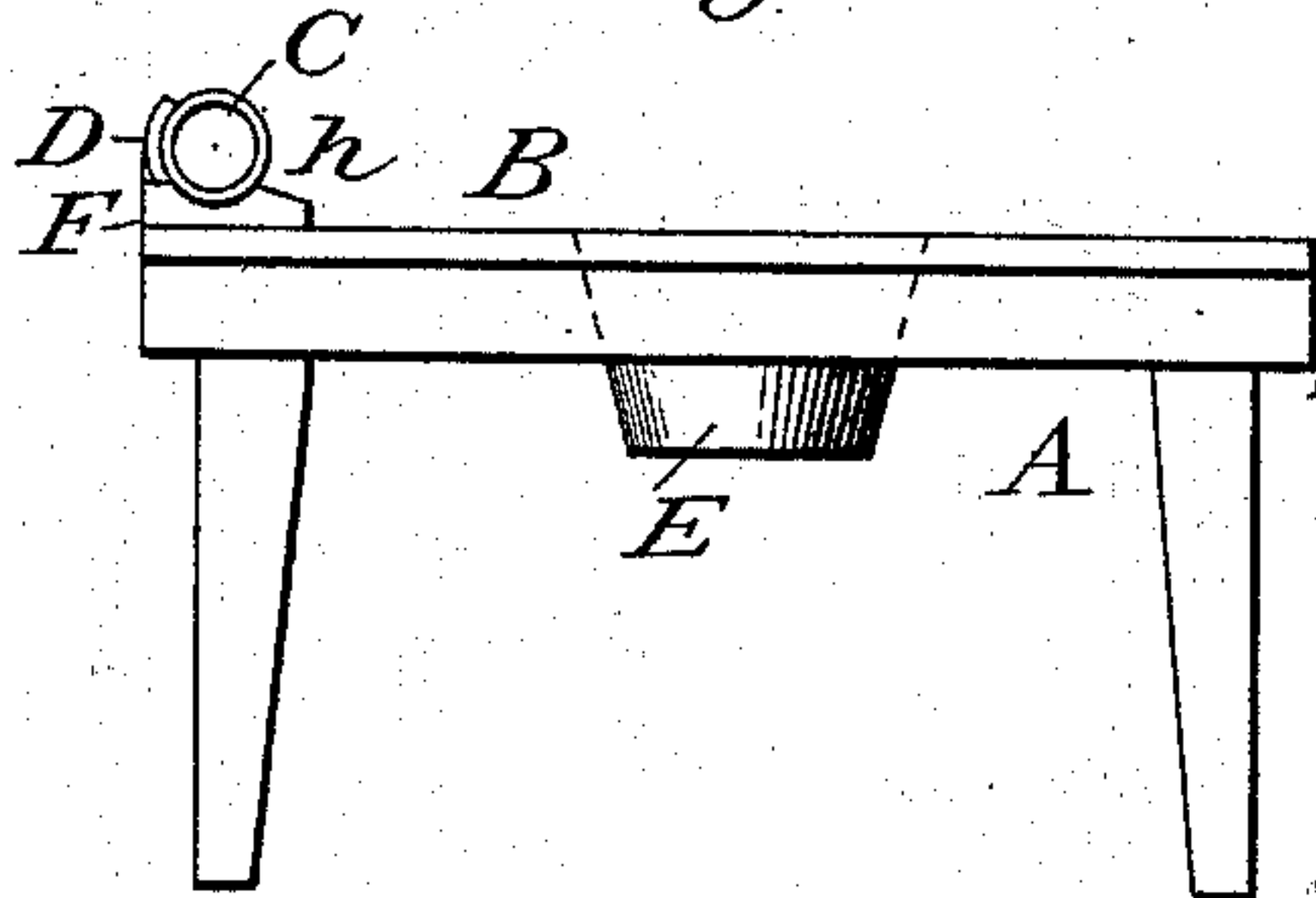


Fig. 2.

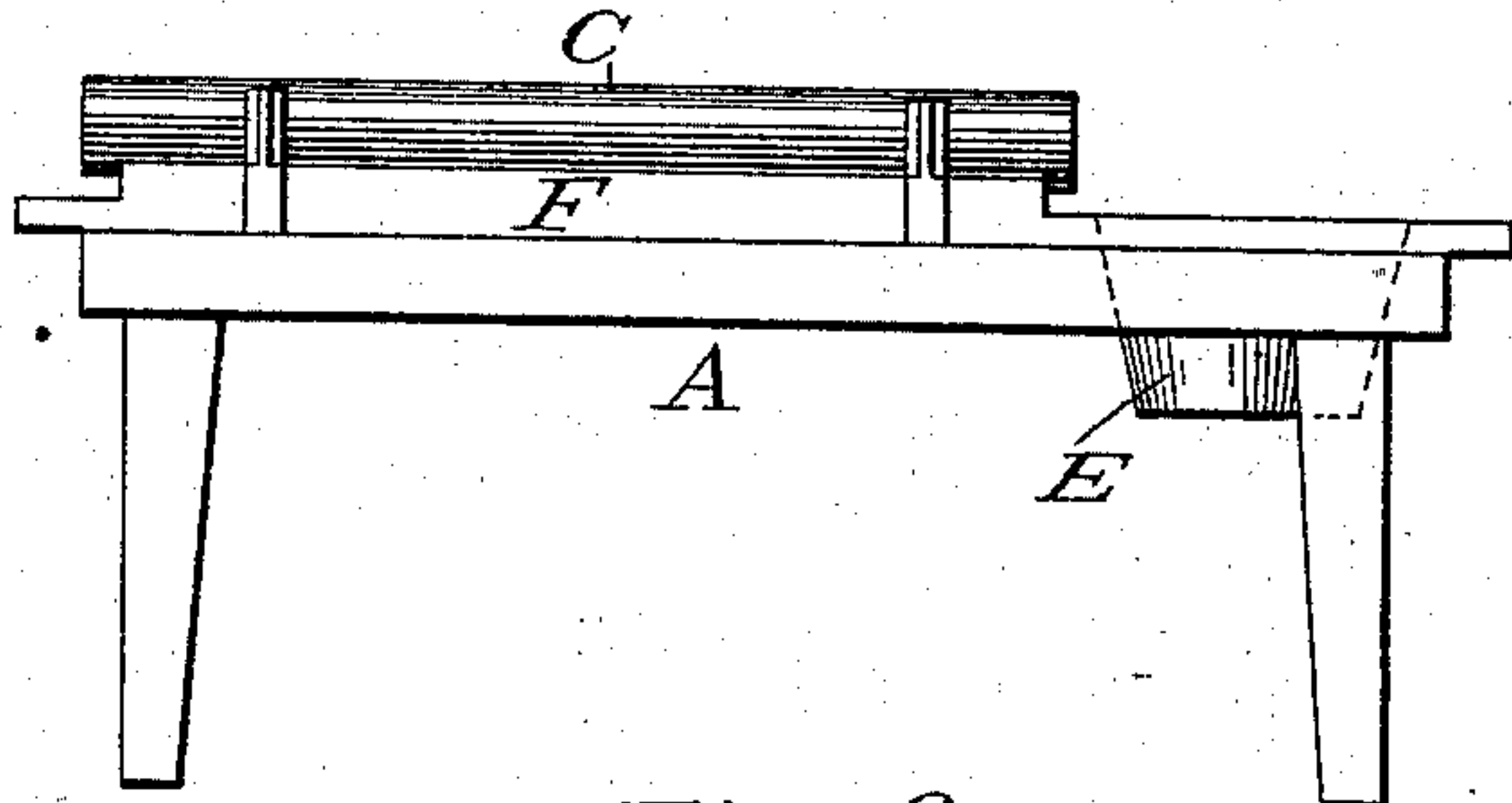


Fig. 3.

Fig. 4.

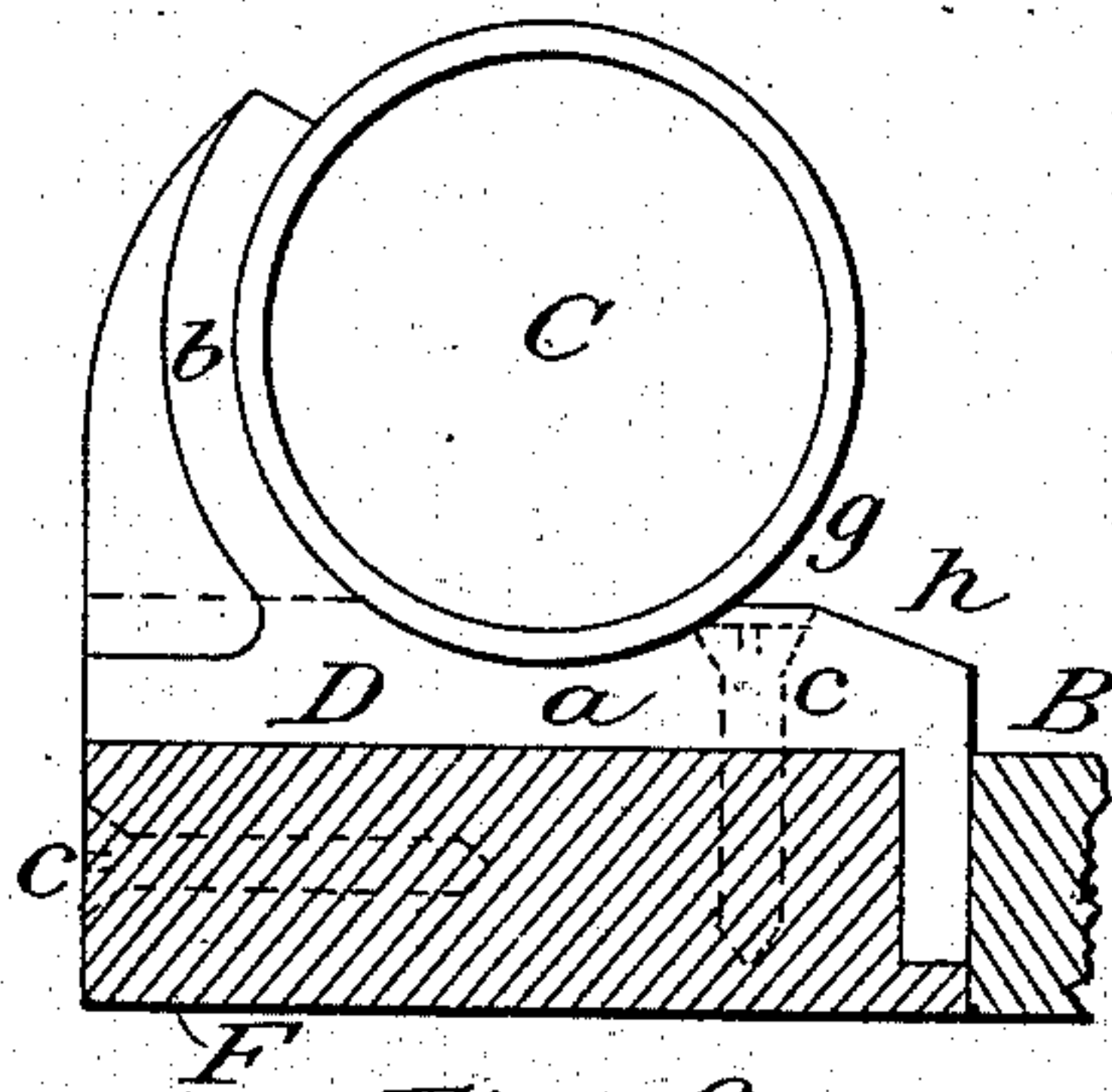


Fig. 5.

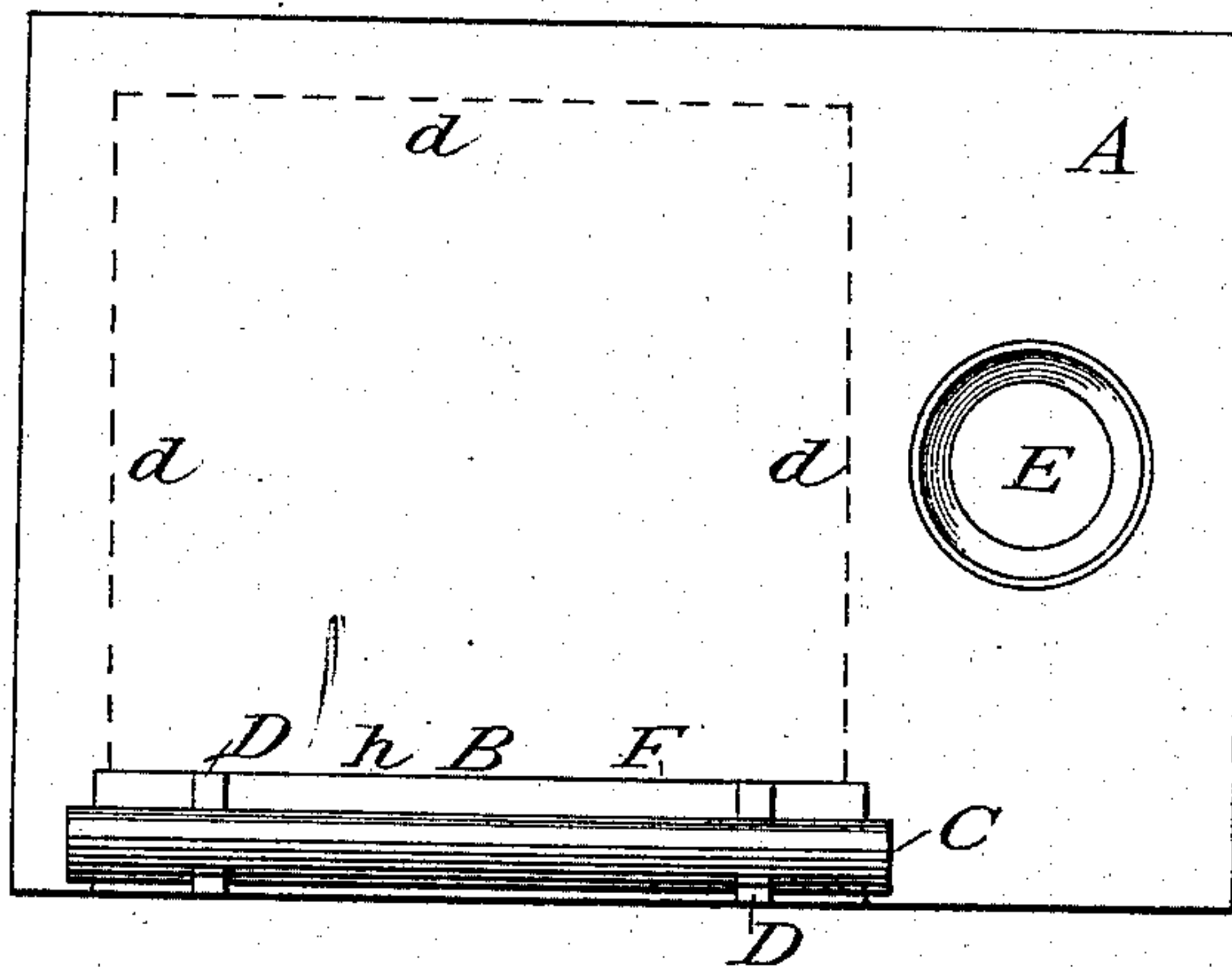


Fig. 6.

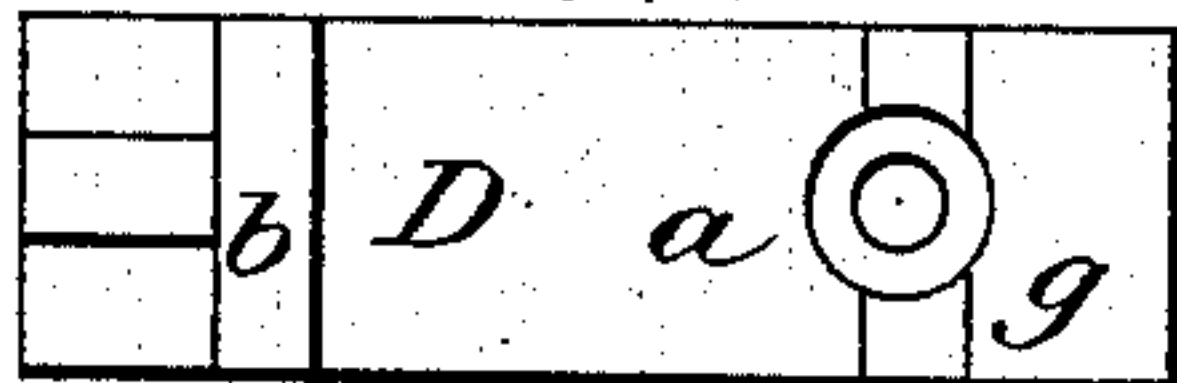


Fig. 8.

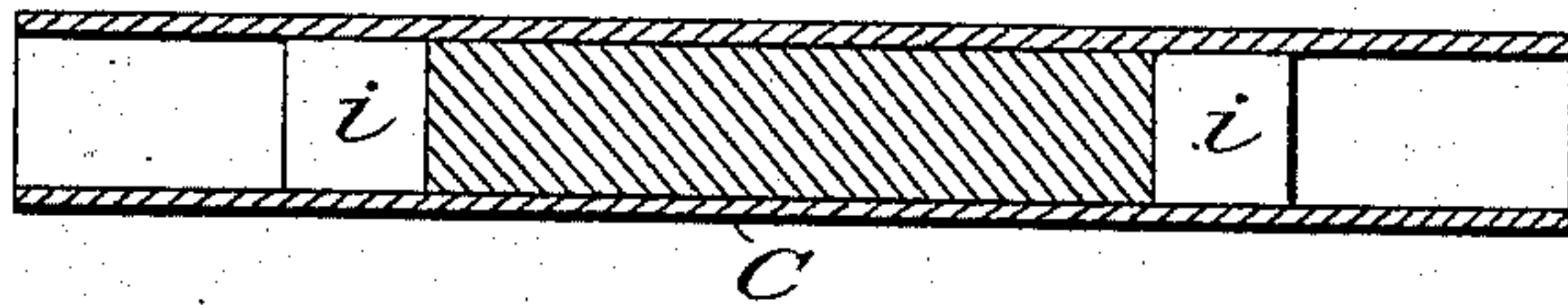


Fig. 7.

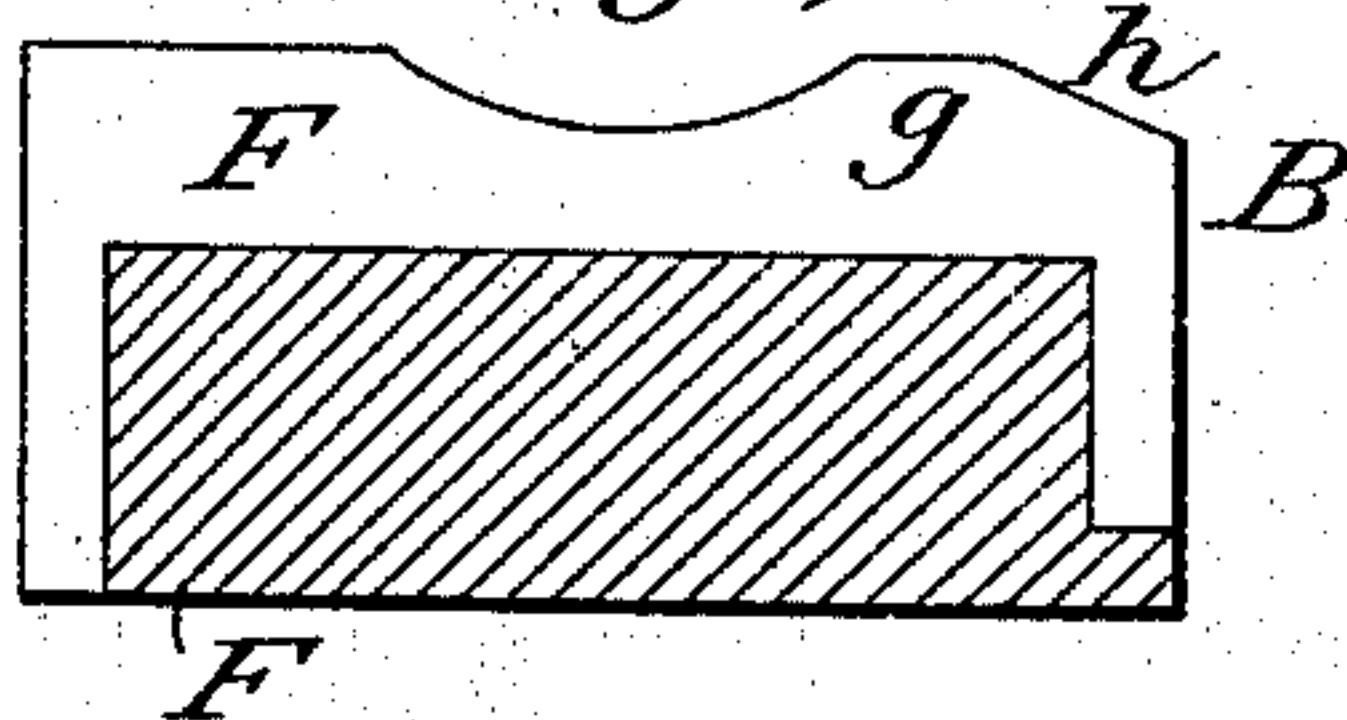
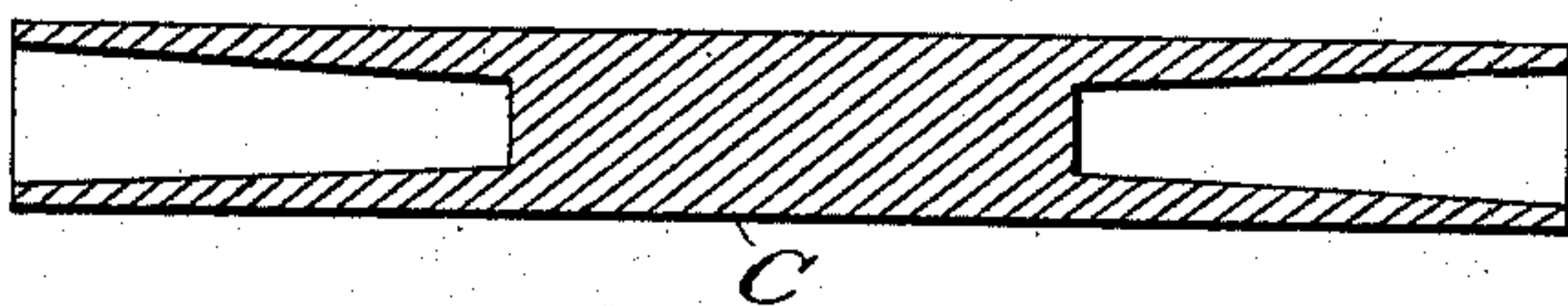


Fig. 9.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR LINING STRAW AND OTHER BOARD.

SPECIFICATION forming part of Letters Patent No. 278,448, dated May 29, 1883.

Application filed August 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, GORDON MUNRO, of Troy, county of Rensselaer, State of New York, have invented new and useful Improvements in Machines for Lining Straw and other Board, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

In the drawings, Figure 1 is an end view of a machine embodying my invention. Fig. 2 is a front view, and Fig. 3 is a plan of the same machine. Fig. 4 is an end view of the improved roller and roller-chair, showing also the chair-plank and a part of the table-top in section, and also the manner of securing the chair to the chair-plank. Fig. 5 is a front view, and Fig. 6 a plan, of the chair. Fig. 7 is a transverse vertical section of chair-plank through the center of the chair-seat. Figs. 8 and 9 are longitudinal vertical sections of my improved presser hand-roller, showing two forms and illustrating two methods of producing the same.

Like letters in the drawings refer to like parts of the invention.

Much of the straw-board used in the manufacture of paper boxes, as well as of other similar board used in the arts, is covered or lined with paper while in the sheet. Hitherto the various appliances and methods employed in lining or covering such board with paper have been comparatively expensive and unsatisfactory because of the time and labor required in the operation.

The object of my invention is to provide improved devices by the employment of which less time and labor will be required in lining sheets of straw or other board.

My invention consists of the combination, with a suitable table provided with a vertically-projecting position-gage, of a roller and roller-chairs; and, further, consists of an improved hand presser-roller, and also of an improved hand presser-roller chair, and of certain details of construction hereinafter described.

A is a suitable table, which may be of wood and about three feet wide, six feet long, and thirty-three inches high, or of any other suitable dimensions and material. The upper surface of the table A, if of wood, may be neatly covered with sheet-zinc, turned down over the edges to protect the wood from moisture. A

in the drawings represents such a wooden table covered with zinc.

B is the vertically-projecting position-gage, which may consist either of a continuous vertical face, as shown in the drawings, parallel with the front of the table, against which the edges of the lining-paper and board may be placed to insure their proper position on the table; or the gage B may consist simply of two or more short vertical faces serving the same purposes.

C is the hand presser-roller, which should be somewhat longer than the board to be lined, and which consists, essentially, of a smooth cylinder, of suitable length, diameter, and weight, to be rolled by hand forth and back over the board to be lined, pressing the said board against the underlying lining-paper.

D is the roller-chair, which consists, essentially, of a seat, *a*, having a suitable depression into which the roller drops and rests when brought back from pressing a sheet of board against the under-placed lining, and of a back, *b*, which stops the roller when so brought back and causes it to drop into the depression in seat *a*.

E is a tub or receptacle for containing a supply of paste or other adhesive fluid, which, when applied, causes the lining-paper to adhere to the board.

F is the chair-plank, which, in the construction shown in the drawings, is a part of the table-top, considerably thicker than the rest of that top in that part of its length over which the roller rests. The upper surface of that part of the chair-plank which is under the roller has the form of the chair seat *a*, and is virtually a continuation of that seat. The upper part of the inner edge of the chair-plank forms, with the inner face of the chair, a continuous position-gage, B. The roller-chair is screwed in its seat in the chair-plank by screws *c*, as shown in the drawings.

The dotted lines *d* in Fig. 3 represent the length and breadth and position of a sheet of straw or other board to be lined.

Sheets of lining-paper of the same length and breadth, in number sufficient to make with one sheet of board a thickness of about three-eighths or one-half an inch, are placed on the table—one exactly above the other—with one edge against the position-gage B and the

other edges over the dotted lines *d*. The operator then dips his brush in the paste-bucket, spreads the paste evenly over the upper surface of the top sheet of lining-paper, next lays
 5 the sheet of straw-board carefully on the pasted surface of the lining-paper, being careful, with the aid of the gage B, to make the edges of the board coincide with the edges of the lining-paper. The roller C is then immediately pushed from the chair D, rolled rapidly out to the extreme edge of the sheet of board, and as rapidly back to the chair. The sheet of board smoothly lined with the adhering paper can then be removed and the operation repeated with a second sheet of board
 10 and the next sheet of lining-paper.

The chair D, as represented in the drawings, is of cast metal, preferably iron, is intended for use in pairs or in sets of more than
 20 two, and when so used constitutes a combined chair and position gage, D B, which may be placed on the edge of any suitable table-top without the employment of a chair-plank, F, thicker than the other portions of said top.

25 The chair-plank F may be used in combination with a stout strip of wood, or with strong nails, or with any device whatever which will stop the roller C and cause it to drop into a depression in the upper surface of the said chair-plank, the said devices thus constituting
 30 an equivalent for the chair-back *a*.

The under side of roller C, when in its seat *a*, should not be less in height than is the top of gage B—say one-half of one inch above the
 35 general surface of the top of table A. The projecting ridge *g* should be sufficiently high to act positively in retaining the roller C in its seat when rolled back from the board. An inclined plane, *h*, should connect the top of
 40 ridge *g* with the top of gage B, to facilitate both the coming back and going forth of the roller C.

For ordinary purposes in a paper-box factory the roller C should weigh about forty-five
 45 pounds; and should be about four feet long and about three inches in diameter. A solid cylinder of iron is too heavy and one of wood is too light. A cylinder of uniform weight throughout its length is unmanageable. To meet these
 50 said requirements and to overcome the said difficulties, I make the roller D hollow at the ends and loaded or solid in the middle or central part of its length, or I make it of light material loaded in the middle. Figs. 8 and 9
 55 in the drawings represent such a construction of roller D. The former represents a boiler-

tube, of suitable length and diameter, into which, at a suitable distance from each end, I drive wooden plugs *i*, the intervening space
 60 between the plugs *i* being filled with iron borings or turnings moistened with a solution of sal-ammoniac and water. Fig. 9 represents a roller of cast-iron hollowed at each end and solid in the middle, turned on the outside in a
 65 lathe, and so proportioned as to give the desired length and diameter and weight. Roller D may consist of a wooden roller with a central hollow filled by a bar of iron or other metal to give the required weight.

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

1. In a machine for lining straw and other board, the combination, with the table A, of the vertically-projecting position-gage B, for
 75 gaging or determining the position of the board and lining on said table, the roller-chairs D, and roller C, substantially as described.

2. In a machine for lining straw and other board, the combination, with the table A, of a
 80 paste tub or receptacle, E, the vertically-projecting position-gage B, presser-roller C, and roller-chairs D, substantially as described.

3. In a machine for lining straw and other board, the combination, with table A, of the
 85 chair-plank F, roller-chairs D, and presser-roller C, arranged and operating substantially as described.

4. In a machine or apparatus for lining straw and other board, the combination, with a table, A, of a combined chair and vertically-projecting position-gage consisting of two or more
 90 cast-metal chairs, D, substantially as set forth.

5. As an article of manufacture, the cast-metal roller-chair D, herein described, and
 95 shown in the drawings, adapted, when used in pairs or in sets of two or more, to constitute a combined roller-chair and position-gage, substantially as herein described.

6. As an article of manufacture, the herein-described presser-roller C, made hollow at the
 100 ends and loaded or solid in the middle, whereby the desired size or diameter of roller is obtained without unnecessary weight of material, substantially as herein described. 105

In testimony whereof I have hereunto set my hand this 4th day of August, A. D. 1882.

GORDON MUNRO.

Witnesses:

J. LEONARD WHITE,
 DAVID R. SMITH.