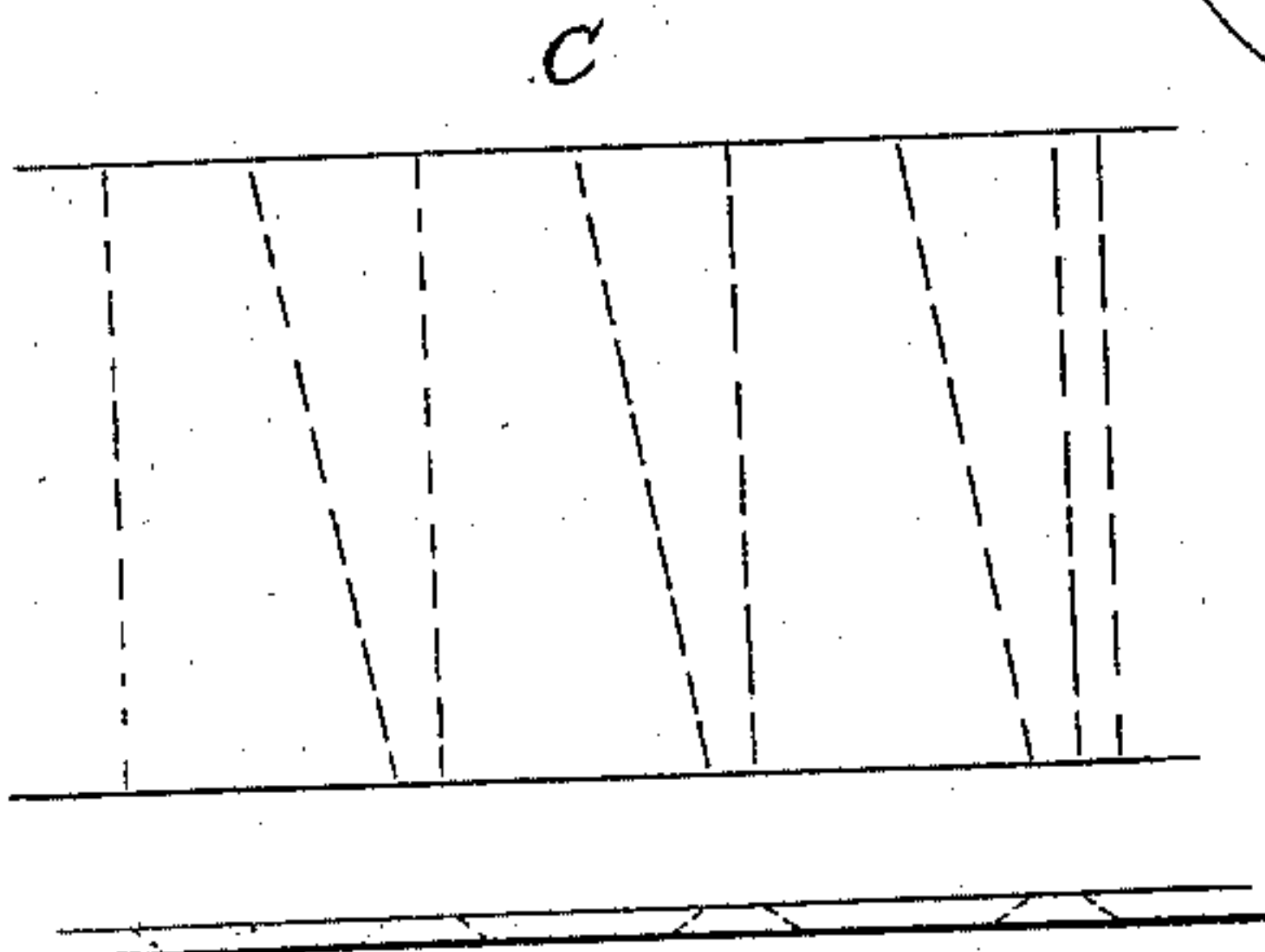
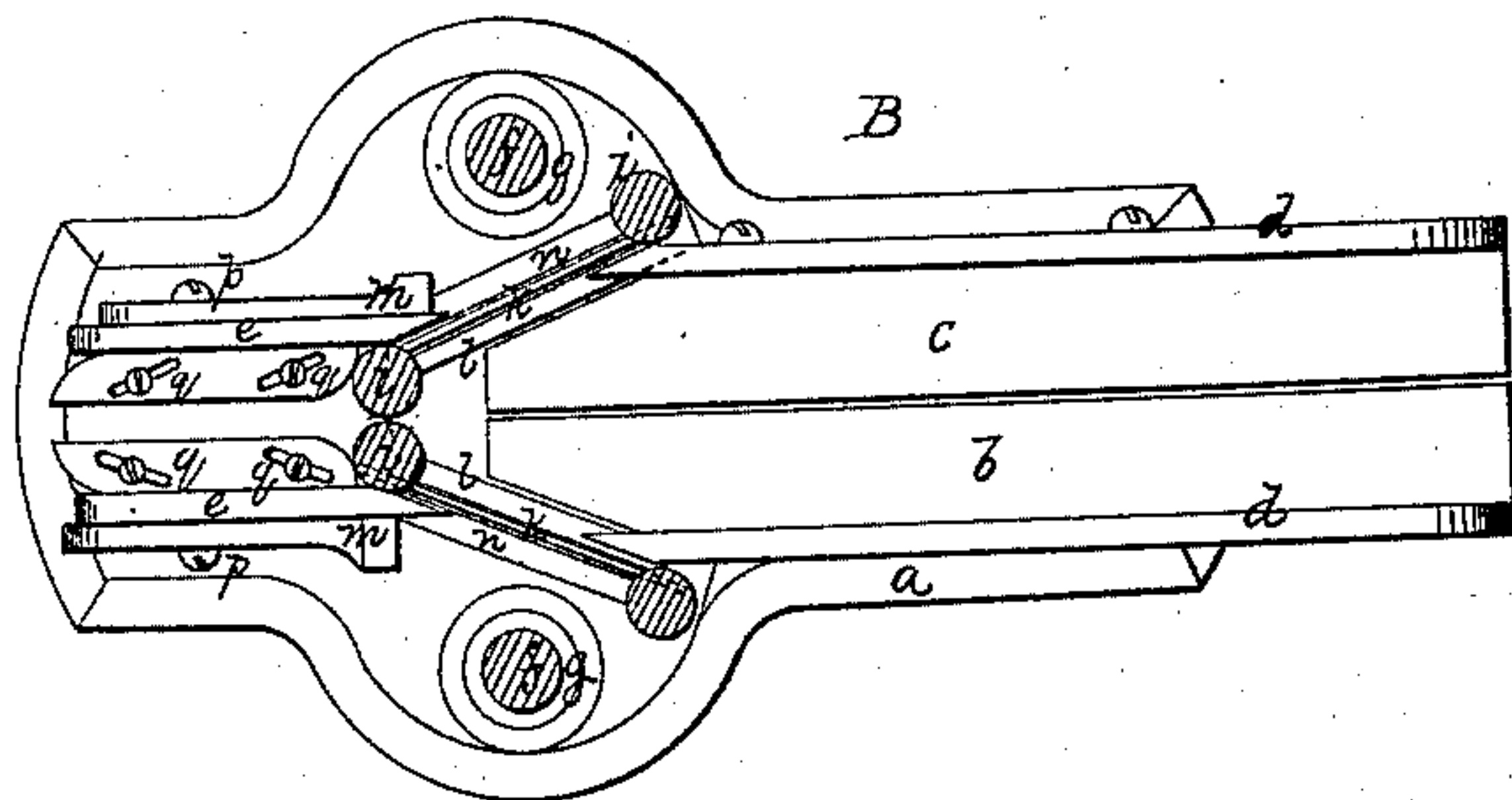
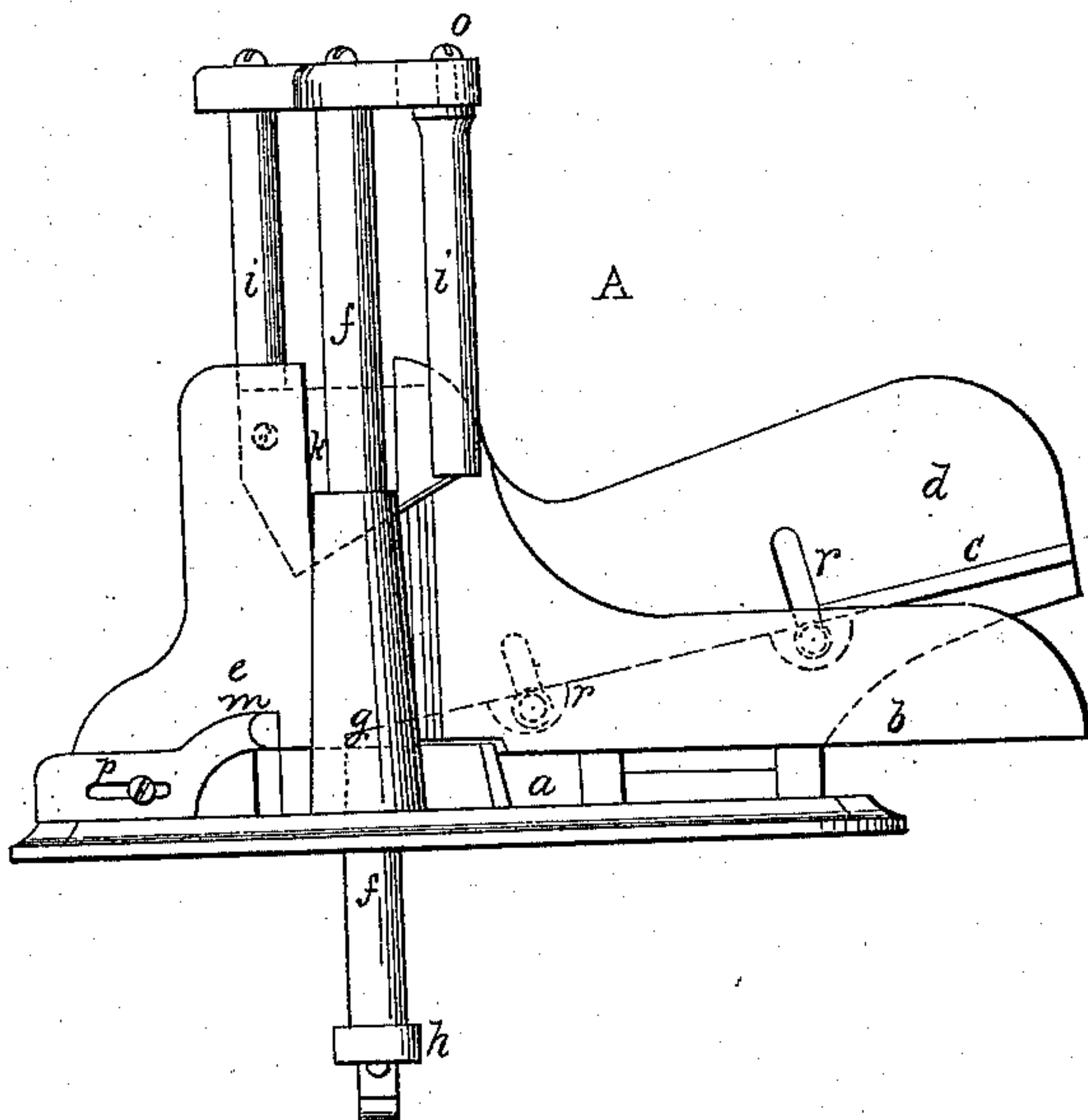


T. H. Reed,

Shoe Sole Machine,

N^o 58,178;

Patented Sept. 18, 1866.



Witnesses.
 M. W. Frothingham
 S. M. Intire

Inventor.
T K Reed
by his Attys
Crosby & Gould

UNITED STATES PATENT OFFICE.

TIMOTHY K. REED, OF EAST BRIDGEWATER, MASSACHUSETTS.

IMPROVED SHOE-SHANKING.

Specification forming part of Letters Patent No. 58,178, dated September 18, 1866.

To all whom it may concern:

Be it known that I, TIMOTHY K. REED, of East Bridgewater, county of Plymouth, State of Massachusetts, have invented an Improvement in the Manufacture of Shoe-Shanking; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates, principally, to the production of what is known to shoe manufacturers as "shoe-shanking," or strips of leather scarfed on the opposite edges, and generally of trapezoidal form, each piece having a wide and narrow end and one long side, the long side being upon opposite edges of the respective pieces for right and left boots or shoes.

As usually made each piece is cut off from a strip of leather or leather-board and subsequently scarfed; and the object of my invention is to so cut the stock that in forming the scarf for one piece the cut forms the adjacent scarf for the next piece, all the material thus entering into the formation of the shanking, and enabling me to produce at least twenty per cent. more from the same material than by the usual process.

The invention consists in so arranging a knife or knives in reference to bed and gage pieces that, by turning the stock after each action of the knife, or by carrying it from one knife to another, the successive cuts shall be in alternately angular directions across the material; also, in so arranging two bed-pieces with reference to a knife working in connection with each that the chamfering or scarfing cuts are alternately made by the two knives at opposite angles to the edge of the stock; also, in the details of arrangement of the mechanism by which the work is performed.

The drawings represent a mechanism embodying my invention, A showing a side elevation, and B a plan of the cutters, gages, beds, &c.

a denotes a table supporting two long bed-pieces, *b c*, the bed *b* being horizontal and the bed *c* inclined, as seen at A. Each bed has a vertical side wall, *d*. At a short distance from the front end of each of these walls is a vertical upright, *e*, placed at a distance laterally as respects the wall *d* equal to the thickness of the

material to be cut up and made laterally adjustable to suit the thickness of different pieces of stock, the stock being run through between these walls or guides for the action of vertically-reciprocating knives.

f f are two shafts sliding vertically through tubes or bearings *g*, they being connected through a cross-piece, *h*, to a treadle or other suitable mechanism, by which they are reciprocated vertically. At their upper ends these shafts are connected by a cross-head, from which depend two pairs of cutter-stocks, *i*, each pair of which carries a knife, *k*, which plays vertically between the wall *d* and upright *e* on the same side of the machine, the knife being set at a horizontal angle with respect to the wall and upright, as seen at B. Each knife is made with a vertically-inclined cutting-edge, so that in its descent it shall operate with a drawing cut, and the edge is preferably ground from the outside of the plate toward the inner surface thereof. Beneath each knife and in line with each bed-piece *b c* is a block, *l*, having a saw kerf or slot, *n*, into which the knife descends, and on the outer side of each upright *e* is a stop or gage, *m*.

The strip of stock is first placed on the horizontal bed *b*, with one long edge on the bed, and one surface held against the wall *d*. It is then thrust through between the wall and upright *e* until the end strikes the stop or gage *m*, the opposite surface being supported against the outer surface of the upright. The knife is then brought down and cuts through the stock at an angle corresponding with the angular position of the knife or the angle desired in the scarf, the cut being at a right angle to the edge supported on the bed. The stock is then carried across to the inclined bed, and the same edge and opposite surface supported by said bed and its wall, with the end thrust through between the wall and upright and against the stop *m*. The knife playing between this wall and upright being then operated, the stock will be cut through at an angle with the edge supported on the bed, and with a chamfer running in an opposite direction to the one cut by the opposite knife. The stock is then shifted to the first knife, and the repetition of these operations cuts the stock into the shanking, as represented at C, which shows a surface view and a section of the piece of

stock cut, the red lines showing the direction of cut.

To vary the amount of inclination of the inclined side with reference to the straight or right-angular side, the bed *c* is made adjustable by set-screws and slots, as seen at *r*, so that it may be set at any required inclination; and to vary the width of scarf on each piece of shanking one stock in each pair of cutter-stocks is made capable of swinging and of being fixed in position by means of screws and slots *o*, so as to alter the angle of presentation of the knife.

To alter the width of the shanking the stops *m* are made movable and adjustable by means of screws and slots *p*, and the uprights *e* are made movable and adjustable for stock of varying thickness by screws and slots, as seen at *q*.

It will be obvious that when the opposite sides or scarfs are to be cut parallel one knife and bed only may be employed, the stock being turned edge for edge after each cut; or two knives and beds may be employed, both beds being horizontal, or both may be inclined in opposite directions, the stock being shifted from one bed to the other without turning to cut the opposite scarfs or chamfers. It will also be obvious that the arrangement of the knives and bed-pieces may be varied without departing from the spirit of my invention, which is in so combining a knife or knives

with guides or bed-pieces for supporting the stock in position that all the material is utilized by entering into the formation of the shanking, substantially as set forth.

The wall and upright upon each side may be placed at such distance apart as to admit of the entrance of two or more strips of stock side by side, to be cut simultaneously, as will be readily understood.

I claim—

1. So combining and arranging a knife or knives and bed and guide pieces that in scarfing one edge of each piece of the shanking the opposite scarf of the next piece is formed thereby, substantially as set forth.

2. Combining with a bed which holds the stock in position to be cut square or at one angle to its supported edge a bed which supports the stock in position to be cut at an angle to the opposite side, substantially as described.

3. Conjointly and specifically the provision for cutting stock of various thicknesses and into various widths, for scarfing the material to a greater or less degree, and for inclining one of the scarfed edges more or less, all substantially as specified.

T. K. REED.

Witnesses:

J. R. PERKINS,

HENRY SOUTHWORTH.