

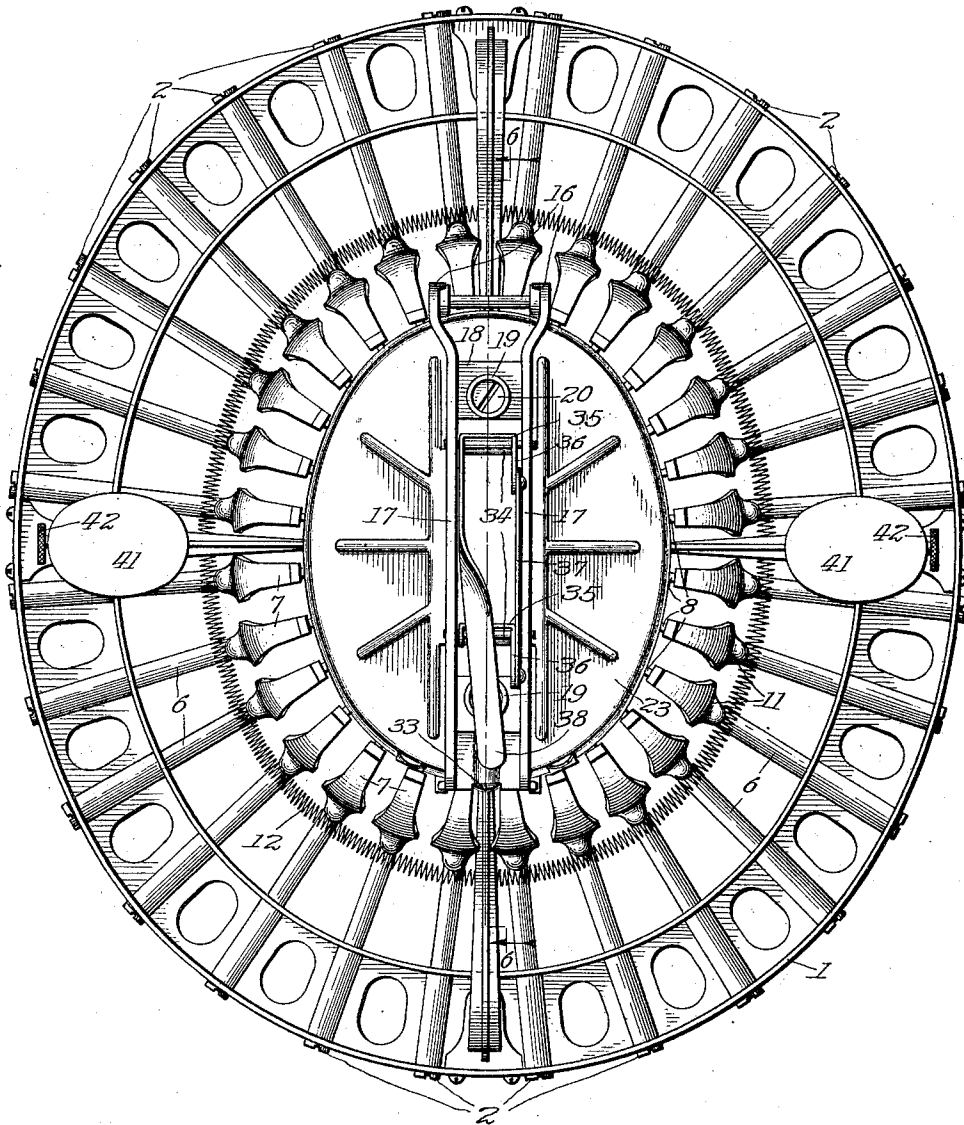
H. M. DARMSTADTER.
HAT CONFORMATOR.
APPLICATION FILED AUG. 17, 1911.

1,030,978.

Patented July 2, 1912.

4 SHEETS-SHEET 1.

Fig. 1.



Witnesses:
Robert N. Weir
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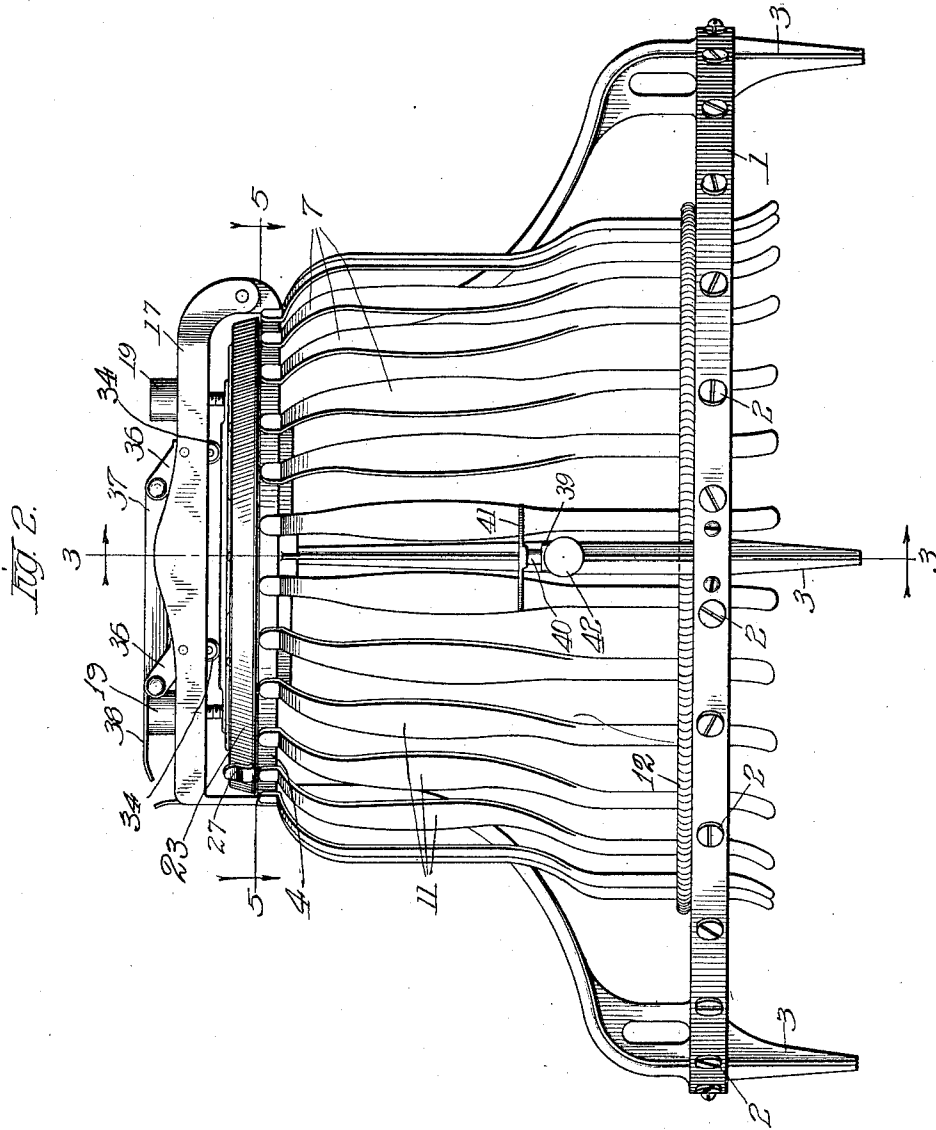
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4 SHEETS—SHEET 2.



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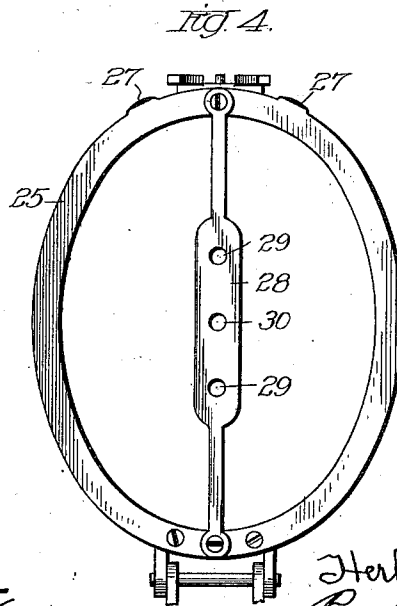
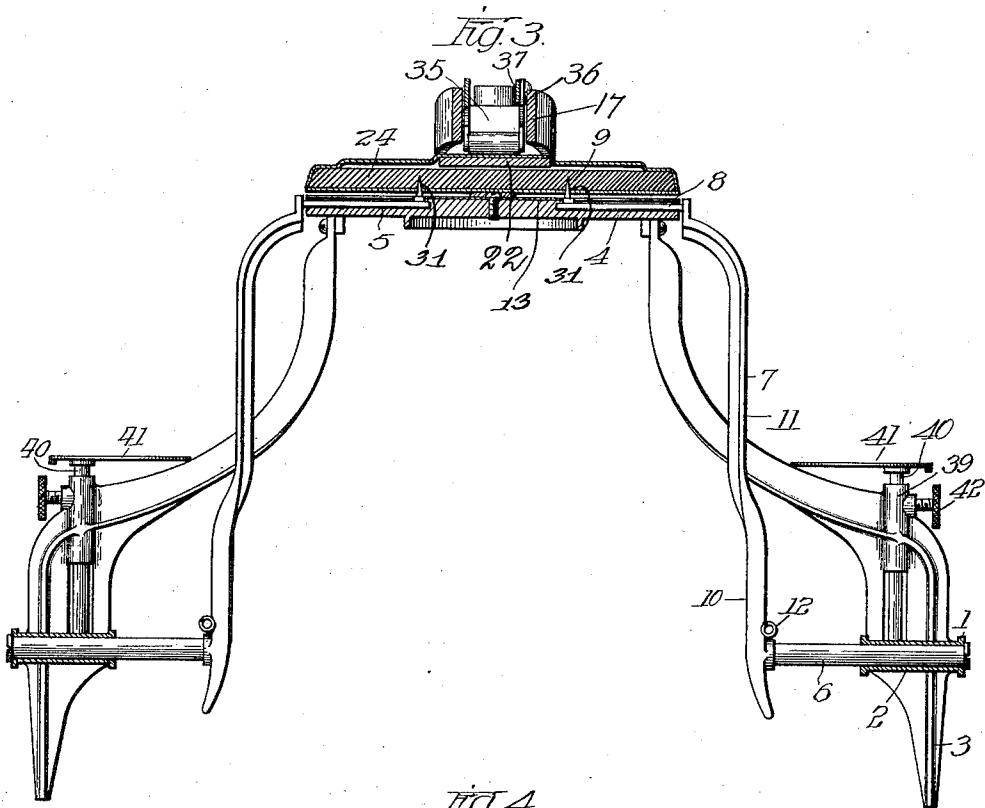
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4 SHEETS—SHEET 3.



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1,030,978.

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4 SHEETS-SHEET 4.

Fig. 5

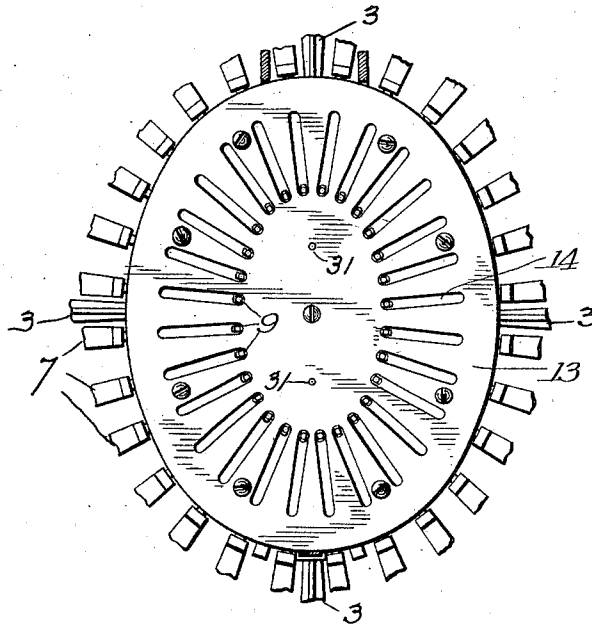
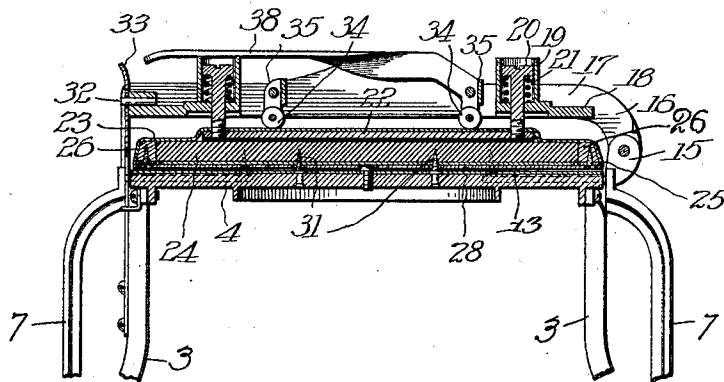


Fig. 6



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UNITED STATES PATENT OFFICE.

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HAT-CONFORMATOR.

1,030,978.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed August 17, 1911. Serial No. 644,561.

To all whom it may concern:

Be it known that I, HERBERT M. DARMSTADTER, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hat-Conformators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in what is known as a hat conformator, the object being to provide a device of this character which can be accurately adjusted to the head and the hat subsequently inserted over the same and shaped to conform to the head of the party to be fitted.

The device consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating a hat conformator embodying my invention: Figure —1— is a top plan view of the same. Fig. —2— is a side elevation of the same. Fig. —3— is a central vertical transverse section of the same on the line 3—3 of Fig. —2—. Fig. —4— is a bottom plan view of the lower face of the top plate of the device. Fig. —5— is a detail plan section of the device on the line 5—5 of Fig. —2—. Fig. —6— is a fragmentary detail central vertical longitudinal section of the upper end portion of the device taken on the line 6—6 of Fig. —1—.

My present invention has for its object to provide a hat conformator which is an improvement over the respective devices shown in Letters Patent No. 527,472, October 16, 1894, and No. 638,023 of November 8, 1899.

The particular object of the present invention is to provide a construction which is more simple and efficient than those shown in the aforesaid patents, the improvements residing more particularly in details of construction whereby deficiencies in the aforesaid patented constructions are overcome.

The device comprises a lower elliptical guide ring 1 which is provided at regular intervals with openings or guide sleeves 2, all of which are substantially radially disposed. The said guide ring 1 is carried by a plurality of standards 3, secured thereto by means of screws the latter being continued above said guide ring 1 and ogee-curved above the same and at their upper

ends support a plate 4, the plane of which is parallel with the plane of the guide ring 1. In the last named plate 4 I provide guide grooves 5 also substantially radially disposed and corresponding in number and relative disposition with the guide sleeves 2 of the guide ring 1 and parallel therewith. Mounted in said guide sleeves 2 are plungers 6 which at their inner ends connect with the lower end portions of bars 7, the latter being connected at their upper ends with plungers 8 disposed in the guide grooves 5 of the plate 4 and each of which is equipped at its inner end with a pin 9 for purposes hereinafter set forth. Each of the said bars 7 is of a relatively irregular shape, the lower end portion thereof having a vertical inner face 10 which is flush with a vertical outer face 11 disposed at a higher elevation between the ends of the bar. The extreme lower ends of said bar 7 are curved to project outwardly and all together form a flaring mouth for the space bordered or inclosed by said bars and in which the head of the person to be fitted is adapted to be received. The upper ends of the bars 7 are curved inwardly the requisite distance to compensate for the difference in diameters of the plate 4 and the plane of the lower end portions of the bars 7. A helical tension spring 12 of relatively fine wire surrounds and engages the lower end portions of all of said bars 7 contiguous to their connections with the plungers 6 to normally maintain said bars at the inner limits of their movement relatively to the ring 1, each of said plungers having a head engaging the outer end of its sleeve 2 to limit its inward movement. Mounted upon the upper face of the plate 4 by means of a plurality of screws, is a plate 13 of sheet metal which is provided with substantially radially disposed slots 14, each of which is adapted to register with one of said guide grooves 5 in said plate 4, said slots being of less width than the said grooves 5 and of less length than the same so that the edge portions of said slots 14 serve to partially cover said guide grooves 5 and retain the plungers therein, the pins 9 being adapted to project through said slots 14. Said plate 4 is provided at one end with a pair of upwardly projecting lugs 15 to which the projections 16 at the ends of a channeled member 17 are pivotally secured. The said channeled member 17 is provided between the ends of its web 18 with a pair of sleeves

19 projecting upwardly from said web, the latter being provided with openings concentric with said sleeves 19 for the passage of the shanks of screws 20, the heads of which snugly fit within said sleeves and between which and the web 18 helical compression springs 21 are confined. The said screws 20 engage in threaded openings in a plate 22 which carries a dished sheet metal member 23 also of elliptical contour in which a thick sheet 24 of rubber or other suitable material is mounted. The said sheet 24 of rubber is cemented in said dished member 23 and is further held therein by means of an elliptical ring 25 Fig. 4 which is secured at one end to the dished member 23 and plate 22 by means of screws engaging in a portion 26 of cast metal suitably secured within said dished member. The said ring 25 is made of an elastic or spring metal and is capable of being sprung back to permit a card to be inserted between the same and said rubber sheet and is engaged with the said dished member 23 to hold said card firmly in position by means of two spring projections 27 disposed at the end of said ring 25 diametrically opposite the point of attachment thereof to said dished member 23, said projections being adapted to be sprung over the periphery of said dished member 23 and acting as a spring latch in a well-known manner. A bar 28 of light sheet metal is secured at its ends to the said ring member 25 at the points of longest diameter thereof, said bar being wider at its middle than at its end portions and provided in said middle portion with perforations 29 and 30 respectively, the former of which are adapted to permit the passage of pins 31 therethrough to engage the inserted card and project into the rubber sheet 24 and the perforation 30 being adapted to permit the passage of the head of the central screw securing the plate 13 to the plate 4. The purpose of the said pins 31 is to permit the card to be subsequently disposed in the same position which it primarily occupied in the device or to be properly positioned upon similar pins on another instrument known as a "formillion" upon which the pressing with a sad-iron is effected to permanently shape a hat. A formillion is shown and described in my copending application Serial No. 666,194 filed the 16th day of December, 1911. The said channeled member is provided at the end opposite that carrying the said projections 16 with a pin 32 Fig. 6 which is adapted to engage in an opening in a spring tongue 33 secured to one of said standards 3 adjacent the upper end thereof and which constitutes a latch for securing said channeled member and the parts carried thereby in their lower positions. The web 18 of said channeled member 17 is cut away between the ends of

said member to provide a longitudinal slot for the passage of lever-actuated rollers 34 by means of which the plate 22 and dished member 23 are forced downwardly upon the pins 9 and 31 respectively, after the device has been mounted upon the head of the person to be fitted against the action of said springs 21. Each of the said rollers 34 is rotatably mounted between the arms of a U-shaped member 35 which is pivotally secured between its ends to the flanges of the channeled member between the latter. Each of said members 35 is provided at its other end with an arm 36, said arms being connected together by means of a link 37. One of said members 35 is further provided with an arm 38 constituting an operating lever for both said members and being angularly disposed so that when turned in the direction to cause said rollers 34 and members 35 to exert a separating pressure upon the channeled member and the dished plate 23 it will, as soon as the rollers 34 have passed the vertical planes of the pivots of the members 35, rest upon one of the said sleeves which serves to limit further movement in said direction and thereby, to hold the said plate 23 and channeled member 18 firmly at the outer limits of their relative movement.

The operation of the device is as follows: The lever 38 being raised and the channeled member 18 disposed in its lower position and engaged by the latch 33, (a card having been previously inserted between the member 25 and the rubber sheet 24) the device is placed upon the head of the person to be fitted and forced down until the vertical faces 10 of the bars 7 attain the elevation on the head of the sweat band of the hat. The lever 38 is then turned to its lower position thus forcing the rubber sheet 24 upon the pins 9 of the plunger 8, said pins passing also through the cards and perforating the same, thus recording thereon on a smaller scale the size and shape of the hat. Said card may be subsequently replaced in the device and by removing the spring 12 the bars 7 may be readjusted to the positions occupied at the time said card was perforated, and by then locking the bars in said position in the usual manner, a new hat may be shaped to duplicate the original. The engagement of the pins 9 in the rubber sheet serves to lock the bars 7 in the respective positions to which they were moved against the action of the spring 12. The device is then removed from the head and placed over a heater of a well known form and a hat of proper size is then forced over the device until the sweat band thereof is disposed upon the surfaces 11 of the bars 7. Under the influence of heat the shape of the hat becomes that of the contour of the horizontal plane bordered by said surfaces

11 thus accurately conforming to the shape of the head of the person to be fitted.

Two of the standards 3 disposed on opposite sides of the device are equipped with 5 vertically disposed sleeves 39 in which the shanks 40 of the hat rests 41 are received, the latter being secured therein by means of set-screws 42. The supporting plates of said rests are elliptical and the shanks 40 attached adjacent one end thereof, said rests 10 being rotatable and vertically adjustable relatively to the standards 3 and are adapted to be adjusted to limit the downward movement of the hat to be shaped upon the 15 bars 7. Said rests are rotated to adjust the position of the hat supporting surfaces laterally relatively to the bars 7 as will be apparent.

The device is simple, efficient and durable, 20 and because of the relative disposition and construction of the guides for the bars 7 insures outward movement of the said bars in planes perpendicular to the axes of the guides without tilting movement of the bars 25 and thereby insures absolute accuracy.

It will be apparent that the rubber sheet 24 must be renewed at intervals.

I claim as my invention:

1. In a hat conformator, the combination 30 with a radially slotted plate, members slidable in the slots thereof and carrying pins projecting above said plate, and means adapted to engage the head of the person to be fitted for adjusting the position of 35 said pins relatively to the periphery of said plate, of a dished member disposed above said plate and carrying a lining of soft material opposing the upper face of the first-named plate, means for engaging a card 40 against the lower face of said lining, said card adapted to be perforated by the pins on said members, means maintaining said last-named plate normally elevated above 45 and parallel with the first-named plate clear of the ends of said pins, means for depressing said last-named plate to cause the said pins of said members to perforate said card and engage in said soft material, means 50 whereby when said last-named plate is depressed to the lower limit of its movement it is there held to lock said members carrying said pins against movement relatively to said plates, and pins rigidly mounted on said first-named plate and adapted to perforate said card, whereby the latter may be 55 replaced after removal in the position occupied thereby at the time of perforation thereof.

2. In a hat conformator, an elliptical 60 frame, a plurality of substantially vertically disposed bars, horizontal projections at the upper ends of said bars and between the

ends thereof respectively engaging in substantially radially disposed guide slots in said frame, a spring normally maintaining 65 said bars at the inner limits of their radial movement, upwardly projecting pins on the inner ends of the upper projections of said bars, upwardly projecting pins on the upper end of said frame, a member pivotally 70 mounted on the frame, a latch for holding the same at the lower limit of its pivotal movement, a plate carrying a soft material and having guide projections, there being 75 guide openings in said member receiving said projections, springs engaging the latter and said member for normally supporting said plate at the inner limit of its movement relatively to said member, a clamping 80 device carried by said plate for engaging a card therewith, a plurality of levers pivotally mounted on said member, rollers mounted upon the ends of said levers disposed at one side of the pivots thereof, and links connecting said levers with each other at their 85 other ends, the distance between the pivots of said levers and the axes of said rollers being greater than the normal distance between said plate and said member, whereby when said levers are turned in one direction, 90 said plate will be forced outwardly and down upon the respective pins to perforate said card.

3. In a conformator, the combination with the radially movable bars and the guiding 95 means therefor, of pins on said guiding means, and pins rigid with the frame, of a member pivotally mounted on said frame, a plate carried thereby movable relatively thereto and having a lining of soft perforable material, means for clamping a card 100 against the exposed face of said lining, a latch for engaging said member against pivotal movement relatively to said frame, a pair of parallel channels on said member, 105 a plurality of levers pivotally secured between their ends to the flanges of said channels and adapted to project at one end through openings in the webs thereof, rollers carried by said levers for engaging said 110 plate at a plurality of points for moving the same away from said member, a single operating lever for all of said levers for moving the same simultaneously, and springs for normally maintaining said plate 115 at the inner limit of its movement relatively to said member.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

HERBERT M. DARMSTADTER.

Witnesses:

RUDOLPH WM. LOTZ,
J. M. WELLER.