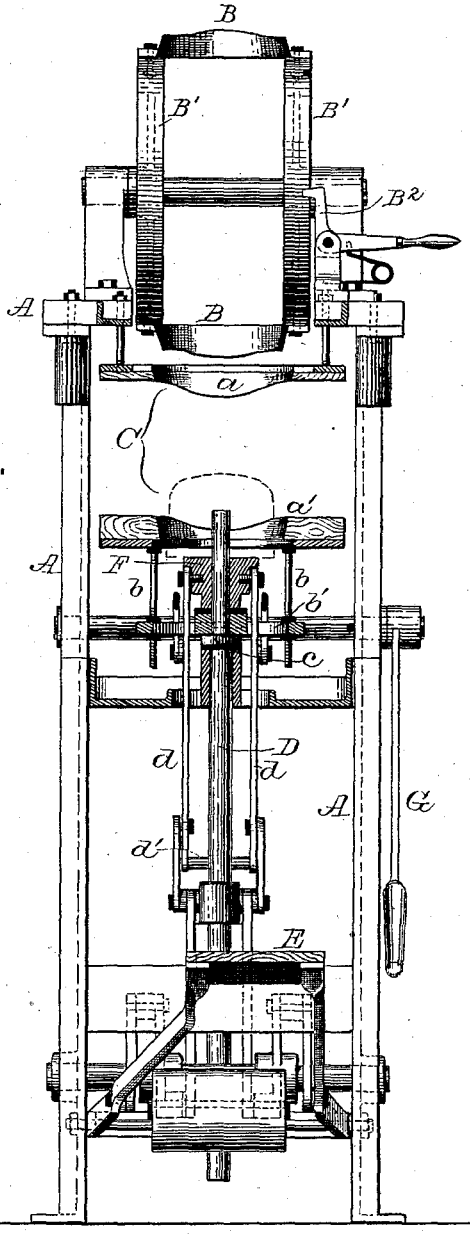
(No Model.) 4 Sheets—Sheet 1.

R. EICKEMEYER.

MACHINE FOR MOUNTING HATS ON FINISHING BLOCKS.

No. 278,001. Patented May 22, 1883.

FIG. 1.



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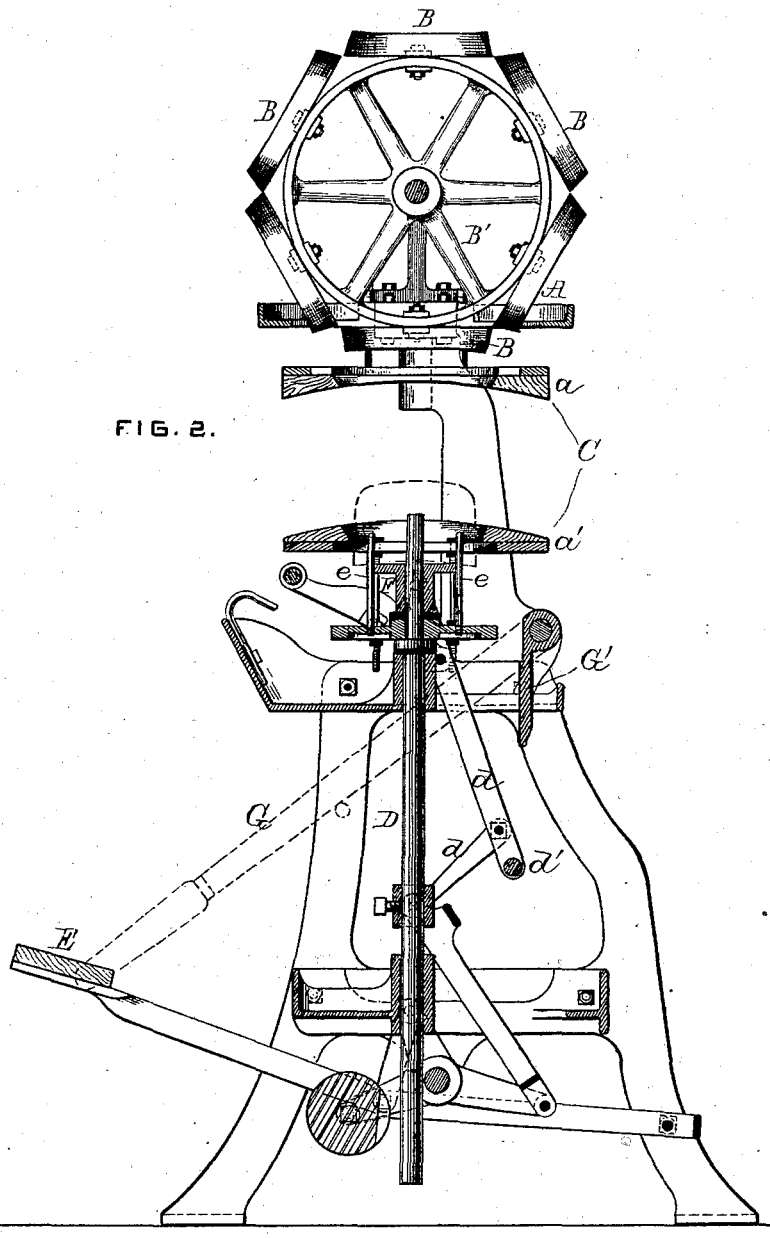
(No Model.) 4 Sheets—Sheet 2.

R. EICKEMEYER.

MACHINE FOR MOUNTING HATS ON FINISHING BLOCKS.

No. 278,001. Patented May 22, 1883.

FIG. 2.



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(No Model.) 4 Sheets—Sheet 3.

R. EICKEMEYER.

MACHINE FOR MOUNTING HATS ON FINISHING BLOCKS.

No. 278,001. Patented May 22, 1883.

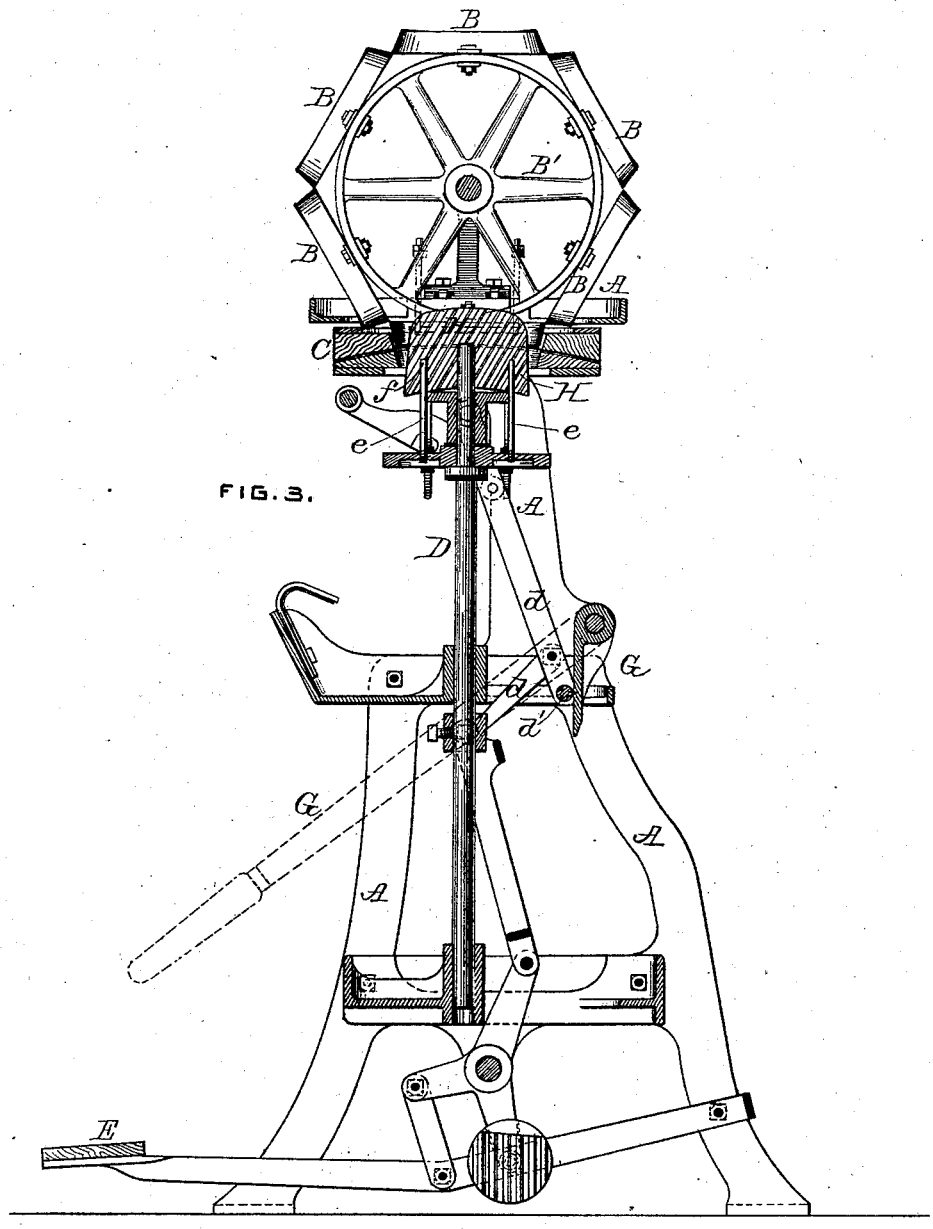

FIG. 3.

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(No Model.) 4 Sheets—Sheet 4.

R. EICKEMEYER.

MACHINE FOR MOUNTING HATS ON FINISHING BLOCKS.

No. 278,001. Patented May 22, 1883.

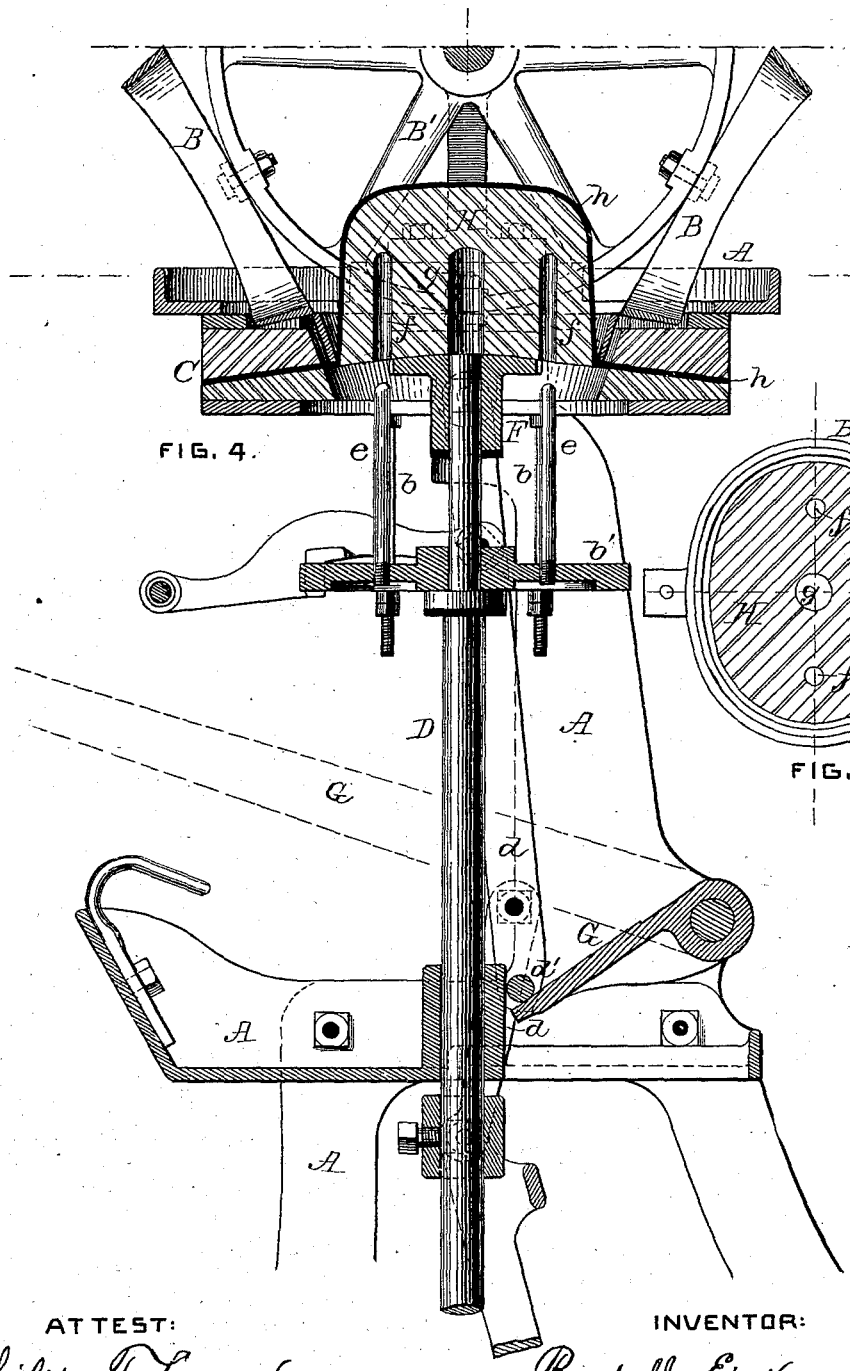

FIG. 4.

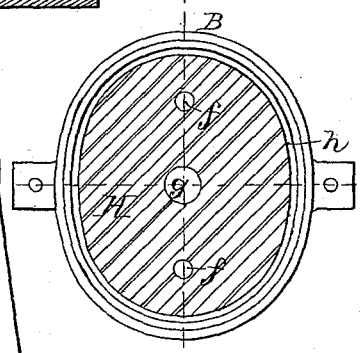

FIG. 5.

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UNITED STATES PATENT OFFICE.

RUDOLF EICKEMEYER, OF YONKERS, NEW YORK.

MACHINE FOR MOUNTING HATS ON FINISHING-BLOCKS.

SPECIFICATION forming part of Letters Patent No. 278,001, dated May 22, 1883.

Application filed December 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF EICKEMEYER, of Yonkers, in the county of Westchester and State of New York, have invented a certain new and useful Machine for Mounting Hats on Finishing-Blocks; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

It is well known that in the manufacture of felt hats the so-called "finishing" operation is performed while each hat is mounted upon a "finishing-block," which is necessarily of the exact size and form as the crown of the finished hat in each case, and that the hat must be fully drawn over or upon the block and secured firmly thereto, in order that when a finishing-block with a hat thereon is mounted on the rapidly-revolving spindle of an oval or other finishing-lathe, and felt or other allurring material is applied by hand, the hat will be prevented from slipping on the block.

The mounting of hats on finishing-blocks has always heretofore been done by hand, the hat in each case being grasped by its brim, on opposite sides, by the two hands of the workman, and then forced heavily downward upon the block, first on one side and then on the other; and it is well known that considerable time and labor are thus expended, and that hats are frequently damaged and sometimes ruined on account of the tearing strains involved, notwithstanding a bow-shaped piece of wood is sometimes used in "pulling down," so as to better distribute the strains than is possible when the hands alone are relied upon for grasping the lower portion of the hat.

The object of my invention is to enable the mounting of hats on finishing-blocks to be done by machinery with greater rapidity, less expenditure of labor, and practically free from that liability of injury to the hats which is incident to hand operations. My machine for this purpose necessarily involves the use of what I will call a "pulling-down ring," a finishing-block, and means for causing the ring and block to occupy co-operative positions, so as to force an interposed hat evenly, smoothly, and tightly upon the finishing-block, which, with the hat thereon, is then removed from the machine. The pulling-down ring is oval in its outline, and it may be constructed solidly or in sections; but I prefer it to be a solid ring, similar to such banding-rings as have been heretofore employed by me in hat blocking and banding machines—such, for instance, as is shown in my prior Letters Patent No. 200,034, but differing from that in being oval instead of circular; and in order that various sizes of pulling-down rings may be always conveniently at hand on the machine and readily interchangeable for use, I mount a series of such rings upon a head capable of being revolved upon a horizontal axis, and in that respect similar to the series of circular banding-rings heretofore employed by me in blocking and banding or shaping machines, as is, for instance, illustrated in my prior Letters Patent No. 72,726, December 31, 1867, but differing therefrom as hereinafter specified. The blocks now used by me are mainly like the usual finishing-blocks now in general use, they being oval and of the exact form and size desired in the finished hats in each case, the pulling-down rings corresponding thereto exactly in form, but sufficiently larger to properly engage with the interposed hat at its band, or, in other words, at the junction of the side, crown and brim. These finishing-blocks are not fastened in position in the machine, but can be readily applied with a hat thereon, and as readily removed, and although the blocks in some of my prior blocking-machines could be readily removed with the hat thereon, such blocks were circular and wholly unsuited for finishing-blocks. Although in certain of my prior blocking and banding machines I employ an oval banding-ring, it is therein used in combination with an expansible block which is incapable of removal from the machine with the hat thereon, and it is also otherwise obviously unsuited for use as a finishing-block.

In some prior felt-hat blocking and stretching machines oval blocks have been employed in combination with radial brim-stretching clamps or fingers and an oval banding-ring; but said machines are operated in connection with hot water or steam, and I know of no machine of that class which could, without important changes, be relied upon for the purposes herein indicated, nor any which have been op-

erated with blocks suitable for finishing purposes.

In machines for blocking straw hats a sectional banding-ring has heretofore been employed in combination with an oval hat-block; but such blocks are wholly unsuited for finishing-blocks for use on felted goods, because said straw-working blocks are necessarily composed of such material and are so constructed as to enable them to be well heated when used for blocking straw hats. The finishing-blocks used by me are provided with the usual axial hole for a lathe-spindle, and, also, as a novel feature, they are provided with one or more additional holes at the one side of the axis of the block, which enables a pin or pins to register with the block and cause it to be always properly located with reference to the oval pulling-down ring when the two are initially brought into their co-operative working positions.

It will be readily understood that in all prior machines wherein a block and a ring are employed those devices co-operate for developing the form of the hat at the band, whereas my present machine is organized solely for placing such previously-formed hats upon finishing-blocks, and these latter co-operate with the ring without changing the form of the hat, and I know of no prior machine which can be practically employed for my present purpose. The means employed for causing the finishing-block to approach the ring or the ring to approach the block may be widely varied; but I prefer mechanism similar to that illustrated in my aforesaid Letters Patent No. 200,034. For obtaining the best results I employ with the pulling-down ring and the finishing-block a brim-clamp, which, prior to actual work by the ring, clamps the brim near its edge evenly and smooth, and said brim-clamp may be variously constructed, arranged, and operated, provided it can clamp the brim evenly and smoothly, and cannot stretch or pull outwardly on the brim, as in blocking and brim-stretching machines; but I prefer it to be similar to that shown in said Letters Patent No. 200,034. This brim-clamp is varied in its form, according to whether the brims of the finished hats are to be curved or flat.

After describing my present machine as preferably organized by me for the purposes stated, the features deemed novel will be specified in the several claims hereunto annexed.

Referring to the drawings, of which there are four sheets, Figure 1, Sheet 1, is a front elevation of my machine, with a portion of the pulling-down rings removed and with the brim-clamp and the central portion of the machine shown in vertical lateral section. Fig. 2, Sheet 2, is a vertical central section of the machine on a line from front to rear, and with the brim-clamp widely opened. Fig. 3, Sheet 3, is a sectional view of the same, with the brim-clamp closed and the finishing-block in its working position with relation to said clamp and to the pulling-down ring. Fig. 4, Sheet 4, is an enlarged sectional view of the rings, clamp, and finishing-block, with a hat upon the finishing-block, and with the parts in their relative positions at the conclusion of the mounting of the hat upon the block. Fig. 5, Sheet 4, is a horizontal section of the finishing-block and the hat, Fig. 4.

It is obvious that the frame A of the machine may be largely varied in form; but that shown is substantially the same as shown in my prior Patent No. 200,034.

The pulling-down rings B are oval in outline, and, as here shown, they are six in number, of different sizes, and they are mounted upon the periphery of a skeletonized revolving head, B′, having its axis in suitable bearings upon the top of the frame. The revolving head has in one edge thereof a series of recesses, and when either of these is occupied by the end of the spring-catch B^2, Fig. 1, the head is firmly locked against rotation, and the lowest ring is accurately located for service. The working-edge of each ring projects more at its ends than at its sides, so as to conform to the curved brim-clamp used therewith.

The curved brim-clamp C is composed of two parts, *a* and *a′*. The part *a* is suspended from the top plate of the frame upon sliding rods, and the part *a′* is fixedly mounted at the tops of adjustable vertical rods *b* upon a cross-head, *b′*, supported on the reciprocating spindle D by means of a collar, *c*, so that when said spindle is raised by the treadle E the lower part of the clamp is lifted into contact with the upper portion, and then both are lifted together until the upper section is held with pressure against the under side of the top of the frame of the machine, thereby enabling a hat-brim to be firmly and smoothly clamped between said sections, substantially as in my said prior Letters Patent No. 200,034.

The block-carrier or base-plate F is loosely mounted on the spindle D, above the cross-head *b′*, and it is moved vertically with and by said spindle, but is also vertically movable independently of said spindle by means of the hand-lever G, acting through a rock-shaft and arm, G′, upon the toggle-lever *d*, connected by a cross-bar, *d′*, as clearly indicated in Figs. 3 and 4, and substantially as in said prior Patent No. 200,034.

As a novel feature I now employ registering-pins *e*, of which there are two, and these are vertically mounted rigidly upon the cross-head *b′*, before described, and they therefore rise and fall with the spindle, and also independently thereof, when the block-carrier is lifted and lowered independently of the spindle. These registering-pins or equivalent registering devices are important for enabling a finishing-block to be always so held on the carrier that it will invariably occupy a precisely-accurate position with relation to the oval pulling-down ring.

The finishing-block H, as before stated, differs from ordinary finishing-blocks, in that it is provided with one or two registering-holes, *f*,

they being parallel with the usual center hole, *g*, which receives the spindle, and therefore any finishing-block may be used in my machine if said registering-holes *f* be bored therein for the reception of the registering-pins *e* when said block is placed upon the spindle. If one registering-hole and one pin *e* be used, the same registering effect will be obtained; but it is obvious in that case that special care and attention would be necessary in properly placing the block in position, whereas with two holes and one pin the block can more readily be made to properly register, and with the two pins the block is maintained more accurately in position than if one were used, especially should the axial hole *g* of the block be considerably larger than the spindle. It is of course immaterial in what manner the finishing-block is so assuredly mounted upon the spindle that its longest diameter will exactly correspond with the longest diameter of the pulling-down ring, and the means employed for registering may be largely varied without departure from certain features of my invention.

The operation of my machine is as follows: The block-carrier being at its lowest position, a finishing-block with a blocked hat, *h*, properly heated by steam, placed thereon is mounted upon the block-carrier, as indicated in dotted lines in Figs. 1 and 2, the brim of the hat resting upon the lower section of the brim-clamp, and with the holes *f* in the block occupied by the registering-pins. The treadle is then depressed, which lifts the block and causes the hat-brim, near its edge, to be firmly clamped between the sections of the clamp, as indicated in Fig. 3. The hand-lever is then lifted, which raises the finishing-block above the spindle and registering-pins and places the ring and block into co-operative positions, as shown in Fig. 4, for "pulling down" the hat and mounting it evenly and tightly upon the finishing-block, whereupon the hand-lever is depressed and the treadle released, enabling the hat and block to be readily removed, and leaving the machine in position for repeating the operation.

In all prior machines having a series of banding-rings mounted in one head the bands and head have been so constructed that the crown of the hat was out of sight and not accessible to the hand of the operator during the occupation of a ring by the hat; but with my skeletonized head and the narrow rings it is obvious that the operator can freely observe the hat and readily place his hands upon the crown thereof, if needed, for smoothing it down upon the block before removing it from the machine.

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

1. The combination, substantially as herein-before described, of an oval pulling-down ring, a block-carrier, an oval finishing-block, devices for accurately registering the block with relation to the ring, and mechanism for bringing the block and ring into co-operative positions for mounting an interposed hat upon the finishing-block, as set forth.

2. The combination, substantially as herein-before described, of an oval pulling-down ring, a brim-clamp which smoothly and evenly clamps a hat-brim without stretching it, a block-carrier, an oval finishing-block, and mechanism for closing the brim-clamp and placing the block and ring into co-operative positions for mounting an interposed hat upon the finishing-block, as set forth.

3. The combination, substantially as herein-before described, of the oval pulling-down ring, a block-carrier provided with means for assuring the accurate mounting of an oval finishing-block thereon and its accurate presentation to the ring, and means for bringing the carrier and ring into co-operative positions for mounting a hat upon a finishing-block placed upon the carrier, as set forth.

4. The block-carrier provided with one or more registering-pins, substantially as described, whereby an oval finishing-block may be accurately mounted thereon, as set forth.

5. The oval finishing-block provided with the usual centering-hole and one or more registering-holes, substantially as described.

6. The combination of the axially-mounted circular skeletonized head and the series of oval pulling-down rings mounted upon the periphery of said head, substantially as described.

R. EICKEMEYER.

Witnesses:
WM. H. DOPP,
GEORGE NARR.