(Model.) 2 Sheets—Sheet 1.

K. VOGEL.

MACHINE FOR FOLDING SHOE VAMPS.

No. 248,071. Patented Oct. 11, 1881.

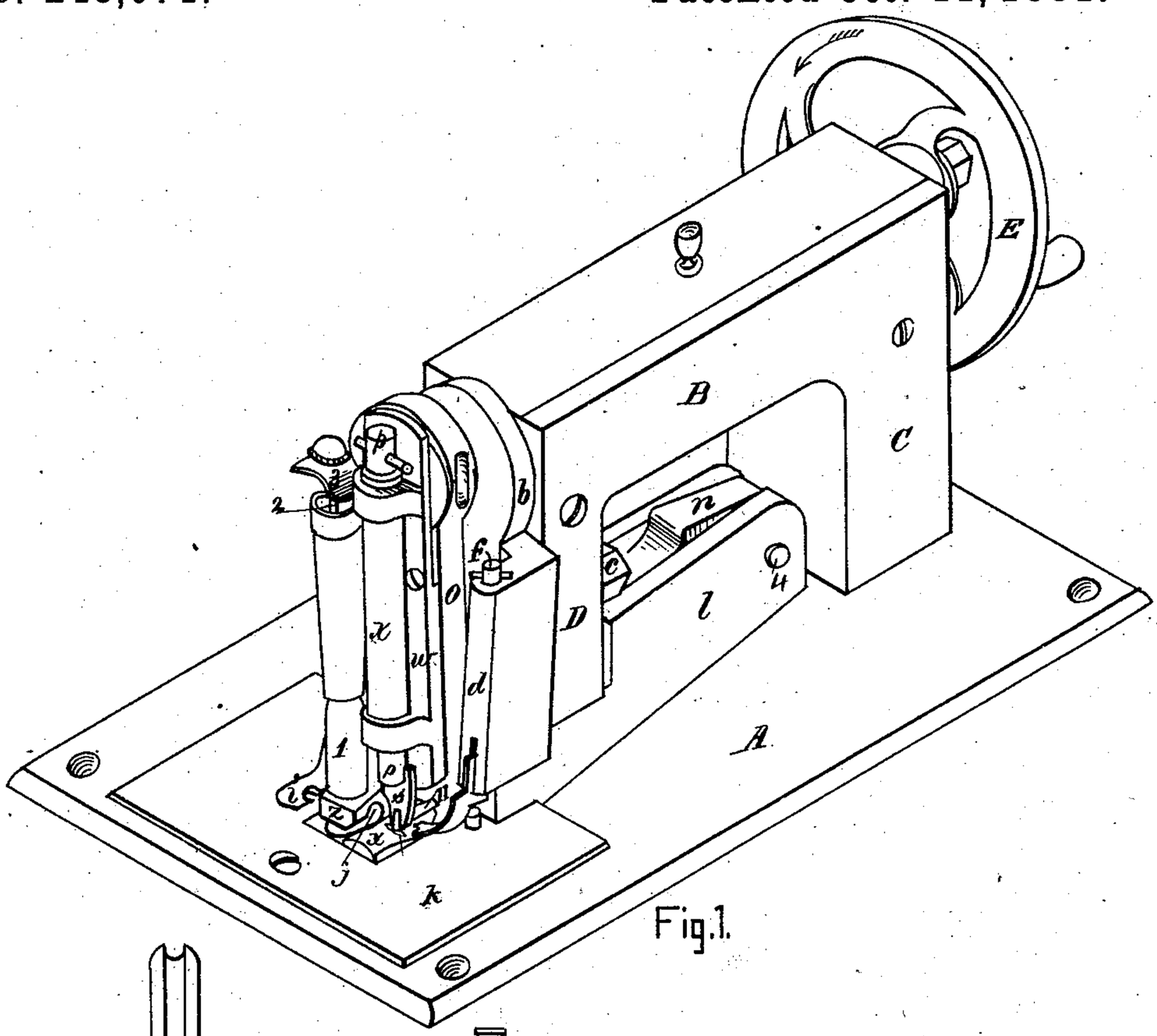

Fig. 1.

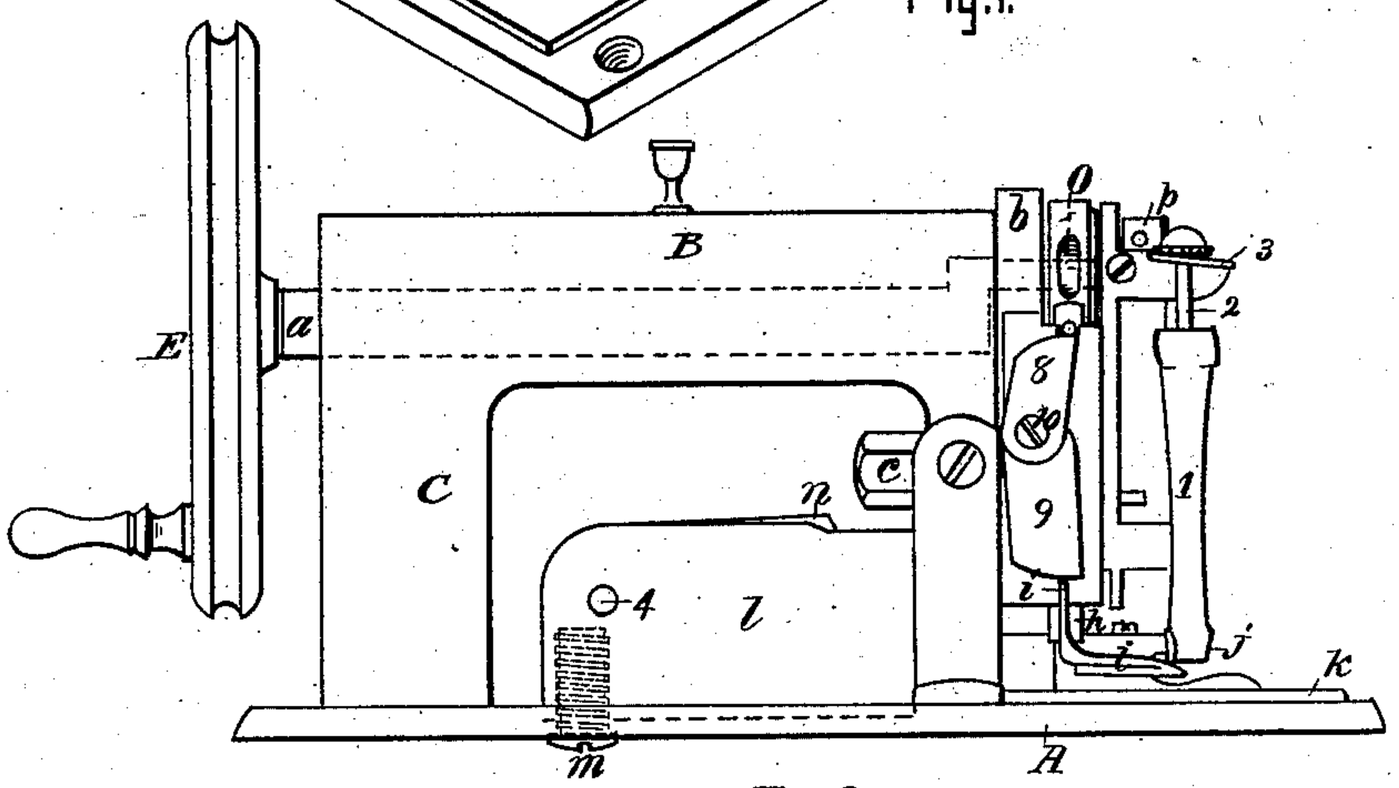

Fig. 2.

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(Model.) 2 Sheets—Sheet 2.

K. VOGEL.

MACHINE FOR FOLDING SHOE VAMPS.

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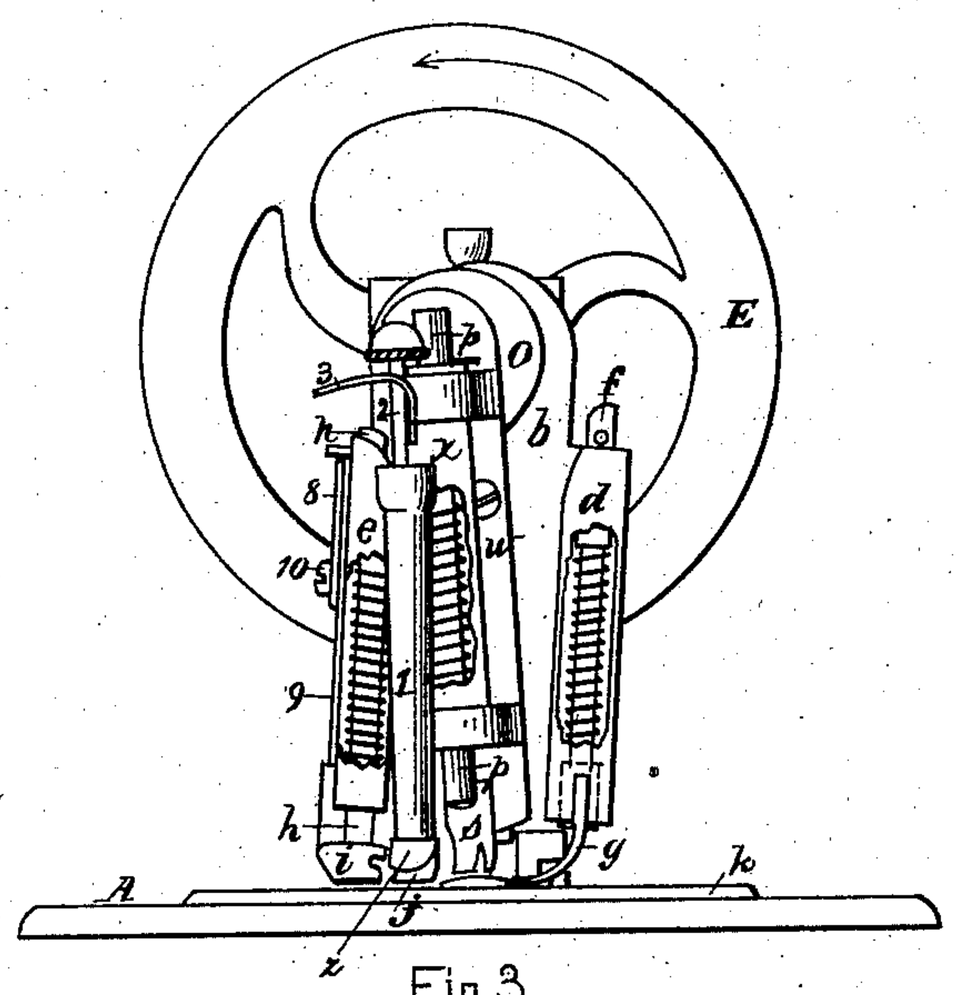

Fig. 3.

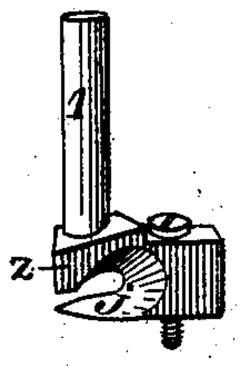

Fig. 5.

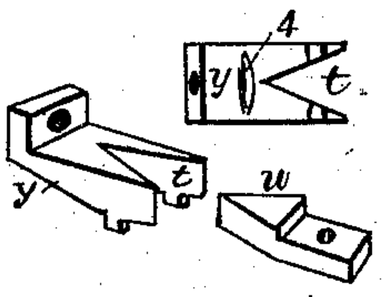

Fig. 6.

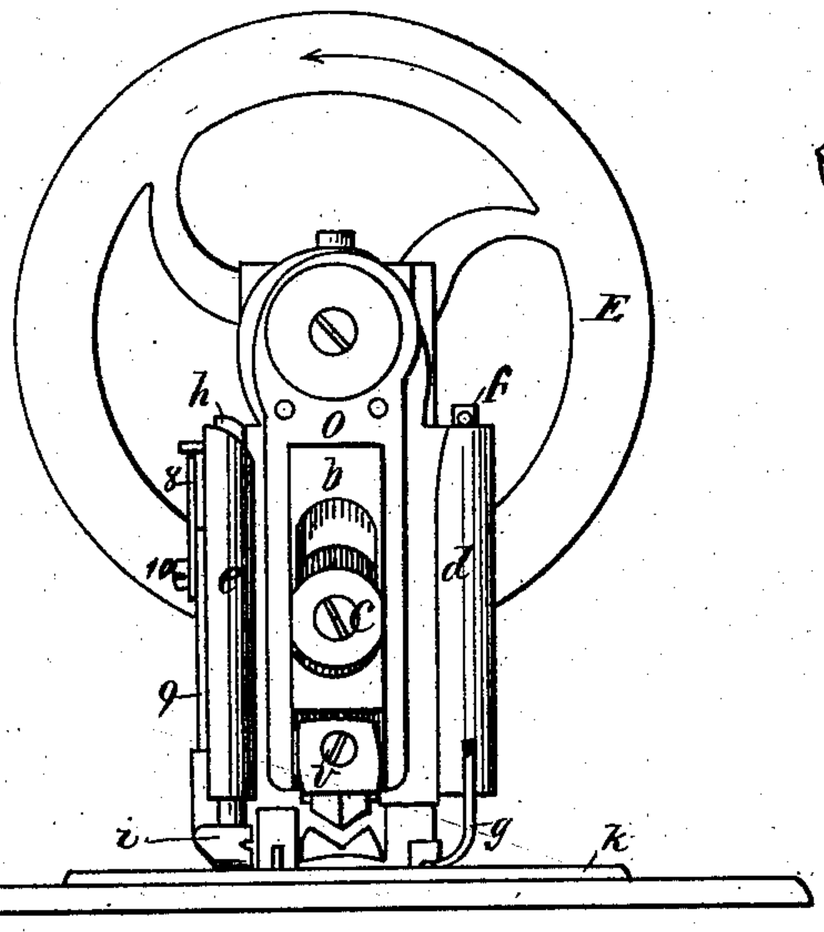

Fig. 4.

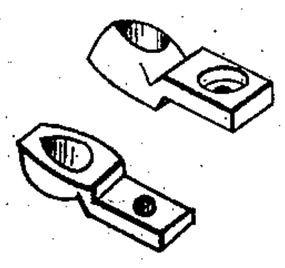

Fig. 7.

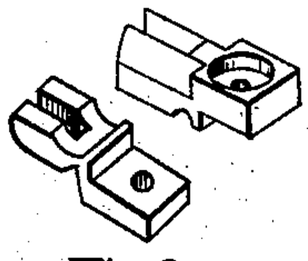

Fig. 8.

Fig. 9.

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UNITED STATES PATENT OFFICE.

KASIMIR VOGEL, OF CHELSEA, MASSACHUSETTS.

MACHINE FOR FOLDING SHOE-VAMPS.

SPECIFICATION forming part of Letters Patent No. 248,071, dated October 11, 1881.

Application filed September 23, 1880. (Model.)

To all whom it may concern:

Be it known that I, KASIMIR VOGEL, of the city of Chelsea, State of Massachusetts, have invented an Improved Machine for Folding Shoe-Vamps and for other Purposes, of which the following is a specification.

This invention relates to improvements in machines for folding the edges of shoe-vamps and for other purposes; and the invention will, in connection with the annexed drawings, be hereinafter fully described, and specifically defined in the appended claims.

Figure 1 is an isometrical perspective view of the machine complete. Fig. 2 is an elevation taken on the side opposite that shown in Fig. 1. Fig. 3 is a front-end elevation as viewed from the left in Fig. 1 and right in Fig. 2. Fig. 4 is an elevation similar to Fig. 3, but showing certain parts removed, the better to exhibit the other and interior parts. Fig. 5 is a detached perspective view of the folder-foot. Fig. 6 is a perspective view of the cutting-dies, and Figs. 7 and 8 are perspective views of modified removable cutters which I employ in my machine for special purposes.

In said views, A represents the bed.

B is the goose-neck, supported by standard C, which is secured to bed A, and D is the head, which depends from the goose-neck.

E is a balance or hand wheel mounted on shaft *a*, which latter extends through and is journaled in the goose-neck, and by rotating said wheel in the direction indicated by the arrow thereon, the shaft and its attachments are actuated, as will be described.

A pitman, *b*, is connected at its upper end with an eccentric on shaft *a*, and at its slotted lineal center it receives the bolt *c*, which is secured in vertical head D, whereby as shaft *a* is rotated said pitman receives a rising-and-falling motion, and is vibrated on said bolt *c*. An outer pitman, *o*, is also mounted upon an eccentric on shaft *a*, which is arranged with its throw opposite to that of pitman *b*, so that when one pitman rises the other descends, as is shown by their position in Fig. 1, and said pitman *o* is also connected by a central slot with bolt *c*, in the same manner as is pitman *b*, and as shown in Fig. 4.

Upon pitman *b* two vertical tubes, *d e*, are formed, as shown. A stud, *f*, provided with a curved feed-foot, *g*, at its lower end, is mounted in tube *d*, and is secured therein by a pin passing through it near its upper end, as shown, and which insures the rising of the foot with the pitman *b*, while a coiled spring arranged upon said shank, as shown by breaking away the tube, serves, as the same is compressed by the descent of the pitman, to impart an elastic pressure of said foot upon the leather or other article that is being operated upon, as will be described.

Shank *h* is arranged in tube *e* in the same manner as is shank *f* in tube *d*, as just described, it being provided with a coiled spring, as shown, whereby as pitman *b* descends and compresses said spring the force of the spring is exerted through shank *h* upon the presser-foot *i* and the leather upon which said foot acts.

Upon the pitman *o* is mounted, for convenience of construction, a supplemental plate, *w*, provided with a tube, *x*, in which is mounted shank *p*, in the manner of *f* and *h*, as already described. Said shank is provided with a coiled spring, as shown, to act thereon when pitman *o* descends, in the same manner as do the springs on *f* and *h*. Upon the lower end of shank *p* is mounted the flat creaser *s*, which acts upon the leather as it rests upon the creaser-plate *y*, which is formed upon the female die *t*.

A folder, *z*, having a converging irregular scroll-like passage, *j*, is arranged at the left of creaser *s* and to move laterally therewith, in the manner to be described. Extending above said foot is the tube 1, the passage in which communicates with passage *j*, while a small rod, 2, is inserted in said tube, and near its head passes through a slot in bracket 3, which is secured in plate *w*, whereby, as pitman *o* is actuated as described, said rod is both lifted and vibrated in tube 1, thereby allowing the paste therein to escape in small quantities from tube 1 and to fall upon the surface of the leather just in advance of its being folded together in passage *j*. A block, *l*, is pivoted by screw *m* to bed A, so that its front end may be laterally vibrated. A block, *n*, is inserted in a central slot in block *l*, and is at its rear end pivoted on pin 4, so that said block *n*, at its front end, may have a rising-and-falling motion, as well as to vibrate laterally with block *l*. To effect such lateral vibration of block *l n* the lower end of pitman *o* is connected with block *n*, so that as the pitman rises and falls it imparts the same motion to the front end of the block, and also vibrates the same by its own described vibratory motion on bolt *c*, and the vi-

bratory movement of block *n* is thereby imparted to block *l*; and the female die *t*, which also serves as the creaser-plate under creaser *s*, and the folder *z*, being all attached to the front end of block *l*, they move laterally therewith as the same is vibrated in the manner described, while the male die *u*, which is either formed upon or attached to block *n*, by rising and falling therewith and traveling laterally with die *t*, acts in conjunction with the same, and by their cutting action produce a serrated edge, as is shown at 5 in Fig. 9, pitman *b* being arranged, as described, to rise when pitman *o* descends, and vice versa. Therefore, when creaser *s* rises and releases the leather, feet *g* and *i* will bear thereon, and by the vibratory action of their pitman will feed the leather forward, while foot *s* will bear upon the leather when feet *g i* are so raised from off the same.

In operation the leather or other material is fed from right to left of the machine, as viewed in Figs. 3, 4, passing first under the feed-foot *g*, thence under the creaser-foot *s*, which, in conjunction with crease 4 in plate *y*, imparts a crease thereto; thence it is fed through passage *j* in foot *z*, which turns the edge outside the crease over upon the main part, the paste in tube 1, when used, being deposited upon the folding surfaces before such folding takes place. After leaving the folder the leather passes under the presser-foot *i*, which compacts the folded parts together. As the leather passes the creaser the dies *t u*, by the vertical reciprocation of the leather, will serrate the edge, as shown in Fig. 9 at the section marked 5, thereby facilitating the folding, especially when operating on concave lines.

By forming cutting-die *u* removable from block *n*, any desired form of dies may be employed, to act either with a corresponding female die or to cut upon an anvil-block, one of such latter cutters being shown at 5 in Fig. 7, the cutting-edge downward, and the sample of an ornamental edge or border cut thereby is shown at 6 in said Fig. 9, while by forming such cutter bifurcated, as shown in Fig. 8, a convex edge may be serrated, as shown at 7 in said Fig. 9, the first of such edges merely cutting a slit, while the second edge, by cutting oblique to the first, by change of position of the leather, will remove a tapering piece next the said slit. When an ornamental edge is being cut, the creasing, folding, pasting, and pressing may be dispensed with.

In Fig. 2 two cams are shown as pivoted on screw 10, secured in pitman *b*, for graduating the force exerted by foot *i* upon the leather, cam 8 engaging, as shown, under the transverse pin in shank *h*, so that when the cam is properly adjusted it shall, when pitman *b* rises, take the said shank and its foot *i* along with it at the right point of its ascent, while in its descent cam 9, which acts against the projecting foot *i*, will at the right point impart thereto a positive movement.

In Fig. 1 a keeper, 11, is shown projecting from creaser-foot *s*. This keeper holds the leather firmly upon die *t* when cutter *u* rises, and it assists in so holding the leather in place when pitman *b* is being depressed and pitman *o* rises, the movements of said pitmen being so adjusted that the keeper will release the leather as soon as feet *g i* bear upon it sufficiently to feed it forward, as described.

I am aware that devices have been heretofore patented having for their object the creasing, cutting, folding, and pressing of the edge of shoe-vamps, and I do not, in the abstract, claim the same, my invention relating to my machine as arranged, constructed, and combined.

I claim as my invention—

1. In a vamp-edge-finishing machine, the combination of blocks *l* and *n*, the former having lateral and the latter both vertical and lateral vibratory action, and formed or provided with their respective cutting-dies, with suitable devices to actuate said blocks, and feeding, folding, and pressing devices to coact therewith, all substantially as specified.

2. In a vamp-folding machine, the combination of crank-shaft *a*, pitmen *b o*, pivot-bolt *c*, and blocks *l* and *m*, respectively connected with and arranged to be actuated through and by said pitmen, substantially as specified.

3. The combination of crank-shaft *a* and pivot-bolt *c*, pitman *b*, provided with feed-foot *g* and presser-foot *i*, pitman *o*, provided with creaser-foot *s*, and the folder *z*, all substantially as specified.

4. The combination of vibrating blocks *l n*, with their respective cutting-dies, vibrating pitmen *b o*, and the folder *z*, secured to and arranged to move with block *l*, substantially as specified.

5. In combination with presser *i*, the cams 8 9, pivoted on pitman *b*, and arranged to be adjusted to graduate the vertical movement and force exerted by said presser, substantially as specified.

6. In a vamp-folding machine, the combination of the vertically-reciprocating and laterally-vibrating pitman *b*, the feed-foot *g*, and presser-foot *i*, with their respective contact-springs secured to and arranged at the opposite edges of said pitman, whereby said feet are coincidently actuated, but make and break contact out of time with the material passing beneath them, substantially as specified.

7. In a vamp-folding machine, and in combination with automatic feeding devices for feeding the material to be cut, a bifurcated cutter attached to and actuated by a vertically-reciprocating carrier, such cutter having its cutting-edges parallel, or nearly so, to each other, whereby the material to be cut, when moving in a right line, will be only slit at right angles to its edge by said cutter, but when said material is moved in a curved path said cutter will serrate the edge thereof, substantially as specified.

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T. W. PORTER,
H. H. LETTENEY.