

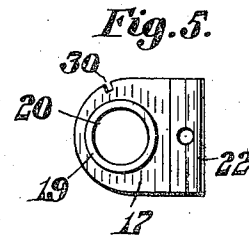
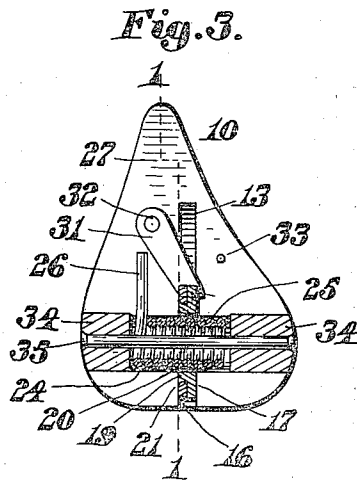
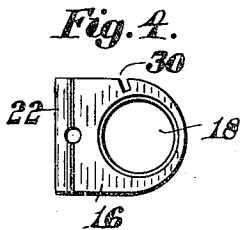
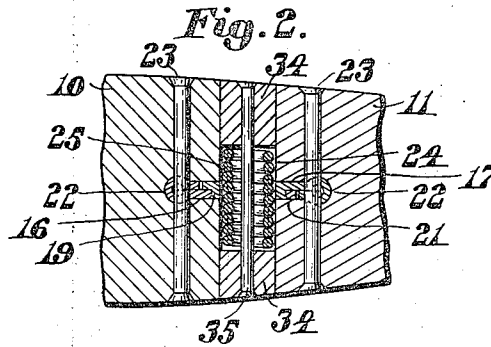
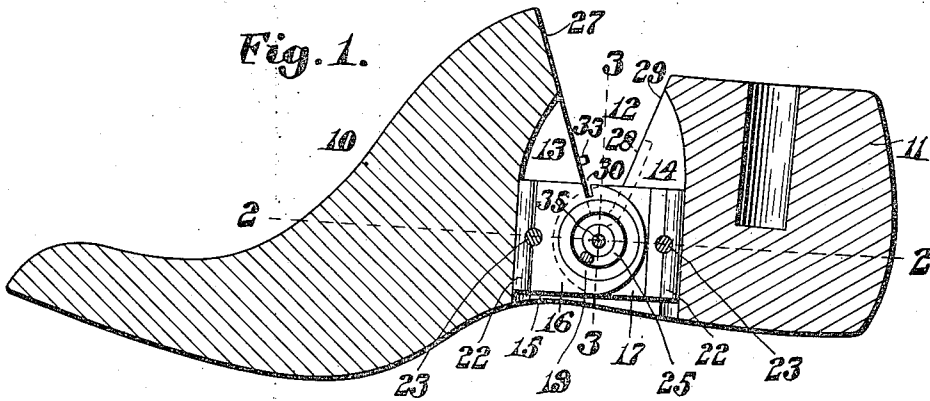
E. W. GERRISH.

LAST.

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1,007,091.

Patented Oct. 31, 1911.



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UNITED STATES PATENT OFFICE.

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LAST.

1,007,091.

Specification of Letters Patent.

Patented Oct. 31, 1911.

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To all whom it may concern:

Be it known that I, EDWARD W. GERRISH, a citizen of the United States of America, and a resident of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Lasts, of which the following is a specification.

This invention relates to lasts and particularly to divided lasts connected together by a hinge.

The particular object of the invention is to provide a simple hinge of great strength, the pivot of which is provided with an opening therethrough, in which is positioned a coiled spring normally adapted to retain the last extended.

Another object of the invention is to provide a suitable device for positively locking the hinge leaves and preventing their movement relative to each other about their connecting pivot.

The invention consists in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents a longitudinal vertical section of a last embodying the features of this invention. Fig. 2 represents a horizontal section of a portion of said last, the cutting plane being on line 2—2 on Fig. 1. Fig. 3 represents a vertical section of the same, the cutting plane being on line 3—3 Fig. 1, and Figs. 4 and 5 represent the two parts of the hinge for connecting the fore part and the heel part of the last.

Similar characters designate like parts throughout the drawings.

In the drawings, 10 and 11 represent respectively, a fore part and a heel part of a last divided on a substantially vertical line and having a transverse V-shaped notch 12 in the upper part thereof.

The parts 10 and 11 have cut therein the grooves 13 and 14 in which is inserted the hinge 15 by which said fore part 10 and heel part 11 are connected together. This hinge 15 is made up of two leaves 16 and 17, each of which is provided with an opening therethrough. The opening 18 in the leaf 16 being adapted to receive the annular transverse extension 19 surrounding

the smaller opening 20 formed in the leaf 17. This extension 19 is punched up from the metal plate from which said leaf is made and after it has been positioned within the opening 18 its end is upset as at 21 to form a flange or shoulder serving to prevent the separation of the two hinge leaves 16 and 17.

It is obvious that a hinge thus constructed is very strong and the extension 19 makes a very effective pivot.

The ends of the leaves 16 and 17 opposite to the pivot are turned over upon themselves forming anchors 22 which are adapted to retain the hinge in position within the grooves 13 and 14 and prevent the separation of the fore part and heel part. The rivets 23 extending through the fore part and heel part and passing through the hinge 15 strengthen the last and prevent any movement of said hinge 15 relative to said parts 10 and 11 in the grooves 13 and 14. The parts 10 and 11 are provided with semi-cylindrical recesses together forming a cylindrical chamber 24 in alinement with the openings 18 and 20. Positioned within the chamber 24 and extending through the opening 20 is a coiled spring 25 one end 26 of which rests within a groove in the inclined face 27 of the fore part 10 while the opposite end 28 rests in a similar groove in the inclined face 29 of the heel part 11. This spring 25 normally retains the fore part and heel part in extended position and it is obvious that by positioning said spring in alinement with the hinge pivot a superior operation thereof is secured. Each of the leaves 16 and 17 of the hinge is provided with a slot 30 in the edge, said slots 30, 30 registering with each other when the fore part 10 and the heel part 11 are extended. When in this position the latch 31, pivoted at 32, is adapted to be moved into said slots 30 and positively lock said hinge leaves to prevent any movement thereof about the connecting pivot.

When it is desired to shorten the last the latch 31 is moved about its pivot 32 against the stop pin 33, the friction on said pivot 32 being sufficient to retain the latch in adjusted position.

Cylindrical plugs 34 are inserted in the ends of the chamber 24 and are prevented from becoming displaced by the connecting pin 35. These plugs may be omitted if de-

sired, their only purpose being to present a neater appearance to the outer face of the last.

It is believed that the operation and many advantages of the invention will be thoroughly understood from the foregoing.

Having thus described my invention, I claim:

1. A last consisting of a fore part and a heel part; vertical plates secured one in each of said parts and overlapping each other, one of said plates being provided with a transverse opening therethrough; an annular hub formed upon the other plate and extending through said opening; and means on said hub for preventing said plates moving laterally relative to each other.

2. A last consisting of a fore part and a heel part having alined vertical slots in their opposed faces; vertical plates secured one in each of said parts and overlapping each other, each of said plates being provided with a bent over portion in the same plane with the body of the other plate and one of said plates being provided with an opening therethrough; and an annular hub formed upon the other plate, and extending through said opening and having its outer end upset to prevent the separation of said plates.

3. A last consisting of a fore part and a heel part having alined vertical slots in their opposed faces; vertical plates secured one in each of said parts and overlapping each other, each of said plates being provided with a bent over portion in the same plane with the body of the other plate and provided with an opening therethrough; an annular lateral extension formed on one of said plates surrounding its opening and extending through the opening in the other plate to form a pivot; and a flange on the outer end of said annular extension to prevent the separation of said plates.

4. A last consisting of a fore part and a heel part having alined vertical slots in their opposed faces; vertical plates secured one in each of said parts and overlapping each other, each of said plates being provided with a bent over portion in the same plane with the body of the other plate and provided with an opening therethrough; an annular lateral extension formed on one of said plates surrounding its opening and extending through the opening in the other plate to form a pivot; and a flange on the outer end of said annular extension the outer face of which is flush with the outer face of the plate within which said extension is positioned, said flange being adapted to prevent the separation of said plates.

5. A last consisting of a fore part and a heel part having alined vertical slots in their opposed faces; folded plates in said slots one fold of each plate extending beyond the other fold thereof and overlapping the

longer fold of the other plate; means for pivoting said plates together having an opening through both plates; and a helical spring extending through said pivot openings and beyond the outer faces of said plates and having ends acting upon the opposed faces of said fore part and heel part.

6. A last consisting of a fore part and a heel part; a vertical hinge secured in said parts and provided with an opening through its pivot; and a helical spring positioned within said opening with its ends extending beyond the side faces of said hinge and having one end bearing on one part of the last and the other end on the other part.

7. A last consisting of a fore part and a heel part and having a cylindrical opening therein in alinement with the pivot between said parts; a vertical hinge secured in said parts and provided with an opening through its pivot; a coiled spring positioned within said opening with one end bearing on one part and the other end on the other part; a wooden plug in said cylindrical opening opposite each end of said coiled spring; and means for preventing the displacement of said plug.

8. A last consisting of a fore part and a heel part and having a cylindrical opening therein in alinement with the pivot between said parts; a vertical hinge secured in said parts and provided with an opening through its pivot; a coiled spring positioned within said opening with one end bearing on one part and the other end on the other part; a wooden plug in said cylindrical opening opposite each end of said coiled spring; and a member extending through the coil of said spring and connecting said plugs.

9. A last consisting of a fore part and a heel part; a vertical hinge secured in said parts and provided with an opening through the pivot and slots in their edges adapted to register when said last is in extended position; a coiled spring positioned within said opening and adapted normally to retain said parts extended; and a pivoted latch adapted to engage said slots and prevent movement of the leaves of said hinges about said pivot.

10. A last consisting of a fore part and a heel part; a vertical hinge secured in said parts and provided with an opening through its pivot and slots in their edges adapted to register when said last is in extended position; a coiled spring positioned within said opening and adapted normally to retain said parts extended; a pivoted latch adapted to engage said slots and prevent movement of the leaves of said hinge about said pivot; and a stop to limit the outward movement of said latch.

11. A last consisting of a fore part and a heel part and having a transverse cylindrical opening at the pivot between said parts; a vertical hinge secured in said parts and

having a transverse pivot provided with an opening therethrough in alinement with said cylindrical openings; and a helical spring in said cylindrical opening and extending through the said pivot opening with one end bearing on the rear face of the fore part and the other end bearing on the front face of the heel part.

12. A last consisting of a fore part and a heel part and having a transverse cylindrical opening at the pivot between said parts and provided each with a groove in their opposing faces; a vertical hinge secured in said parts and having a transverse pivot provided with an opening therethrough in alinement with said cylindrical openings; and a helical spring in said cylindrical opening and extending through the said pivot opening with one end resting in the groove in the rear face of the fore part and the opposite end resting in the groove in the front face of the heel part.

13. A last consisting of a fore part and a heel part and provided with a two-part hinge comprising a vertical plate secured to the heel part of the last and another vertical plate secured to the fore part, one of said plates being provided with an opening therethrough, while the other plate is provided with an annular projection struck therefrom with an opening therethrough and extending through the opening in the other plate to form a pivot, said annular projection being provided at its outer end with an upset flange to prevent the separation of said plates.

14. A last consisting of a fore part and a heel part having a V-notch between said parts and provided with a cylindrical transverse opening therein, the axis of which is coincident with the apex of said V-notch; a two-part hinge comprising vertical plates secured in each of said parts and overlapping each other and connected together by a pivotal connection having an opening therethrough coaxial with said pivotal connection; a helical spring fitting said cylindrical opening and extending through said

pivot opening and provided with ends beyond the outer faces of said hinge bearing upon said heel and fore parts.

15. A last consisting of a fore part and a heel part having a V-notch between said parts, and a two-part vertical hinge comprising two vertical plates secured in slots in said parts and pivotally connected by a pivot formed integral with one plate and extending through an opening in the other, and upset on its outer end to prevent the separation of said plates, said pivotal connection having its axis at the apex of said V-notch.

16. A last consisting of a fore part and a heel part having a V-notch between said parts; a two-part vertical hinge comprising two vertical plates secured in slots in said parts and pivotally connected by an annular projection formed integral with one plate and extending through an opening in the other plate with its end upset to prevent the separation of said plates; and a helical spring extending through said annular projection and beyond the outer faces of said hinge having two ends on opposite sides of said hinge bearing respectively on the opposing faces of said fore and heel parts.

17. A last consisting of a fore part and a heel part having alined vertical slots in their opposed faces and each having a vertical cylindrical bore extending upwardly from the bottom of said last; vertical plates having their inner ends bent to form cylindrical portions fitting said bores and terminating in flat portions each in the same plane with the body of the other and one of said plates being provided with an opening through its outer end; and an annular hub on the other plate extending through said opening and having its outer end upset to prevent the separation of said plates.

Signed by me at 4 Post Office Sq., Boston, Mass., this 10th day of September, 1910.

EDWARD W. GERRISH.

Witnesses:

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