

E. E. NORTON & A. U. LANGENEGGER.
IRONING MACHINE.

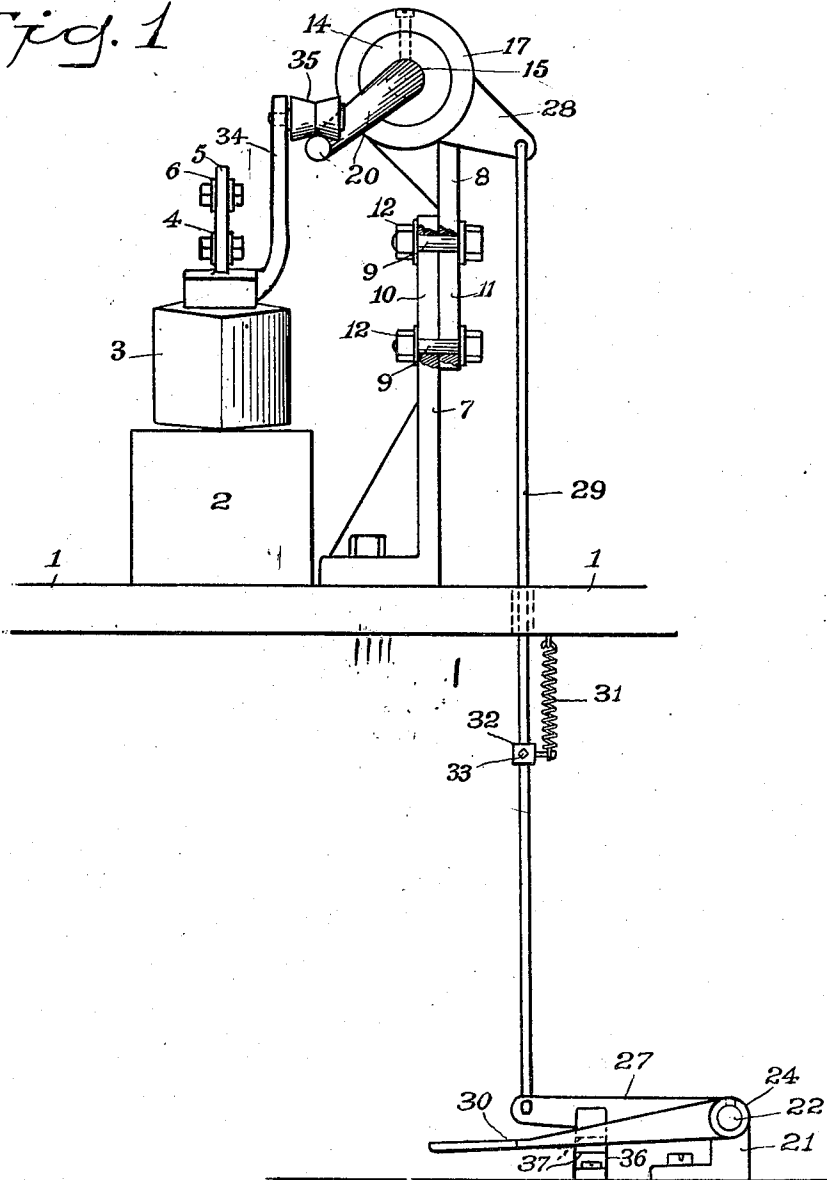
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1,061,109

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3 SHEETS—SHEET 1.

Fig. 1



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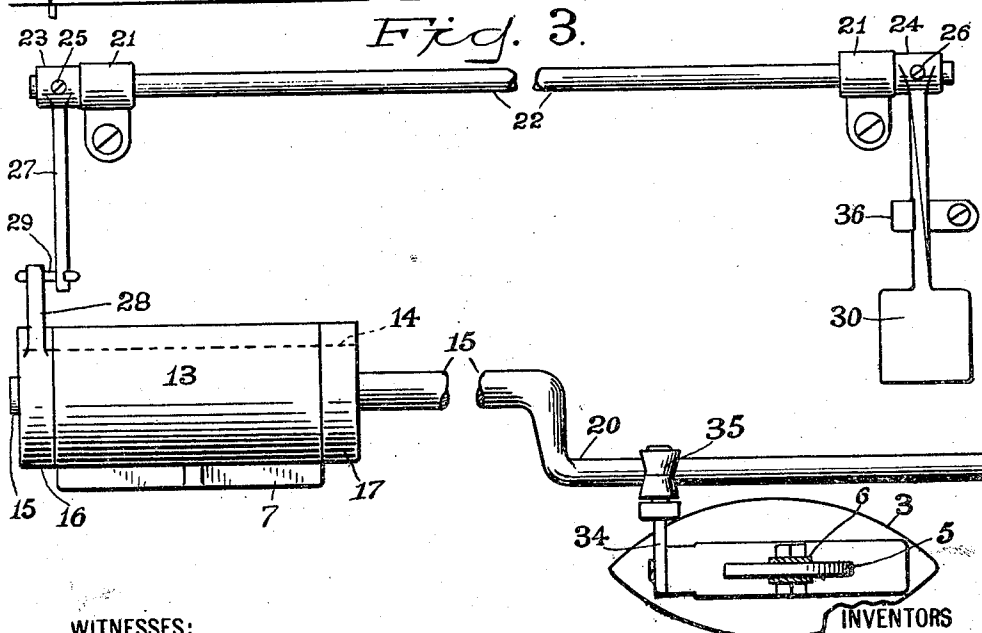
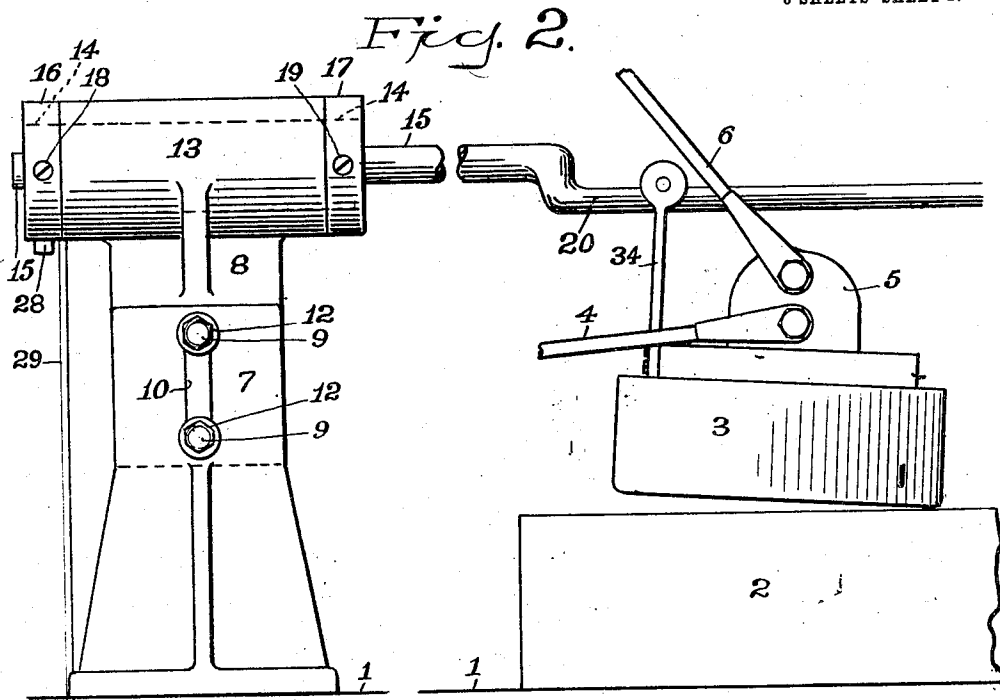
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3 SHEETS-SHEET 2.



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3 SHEETS—SHEET 3.

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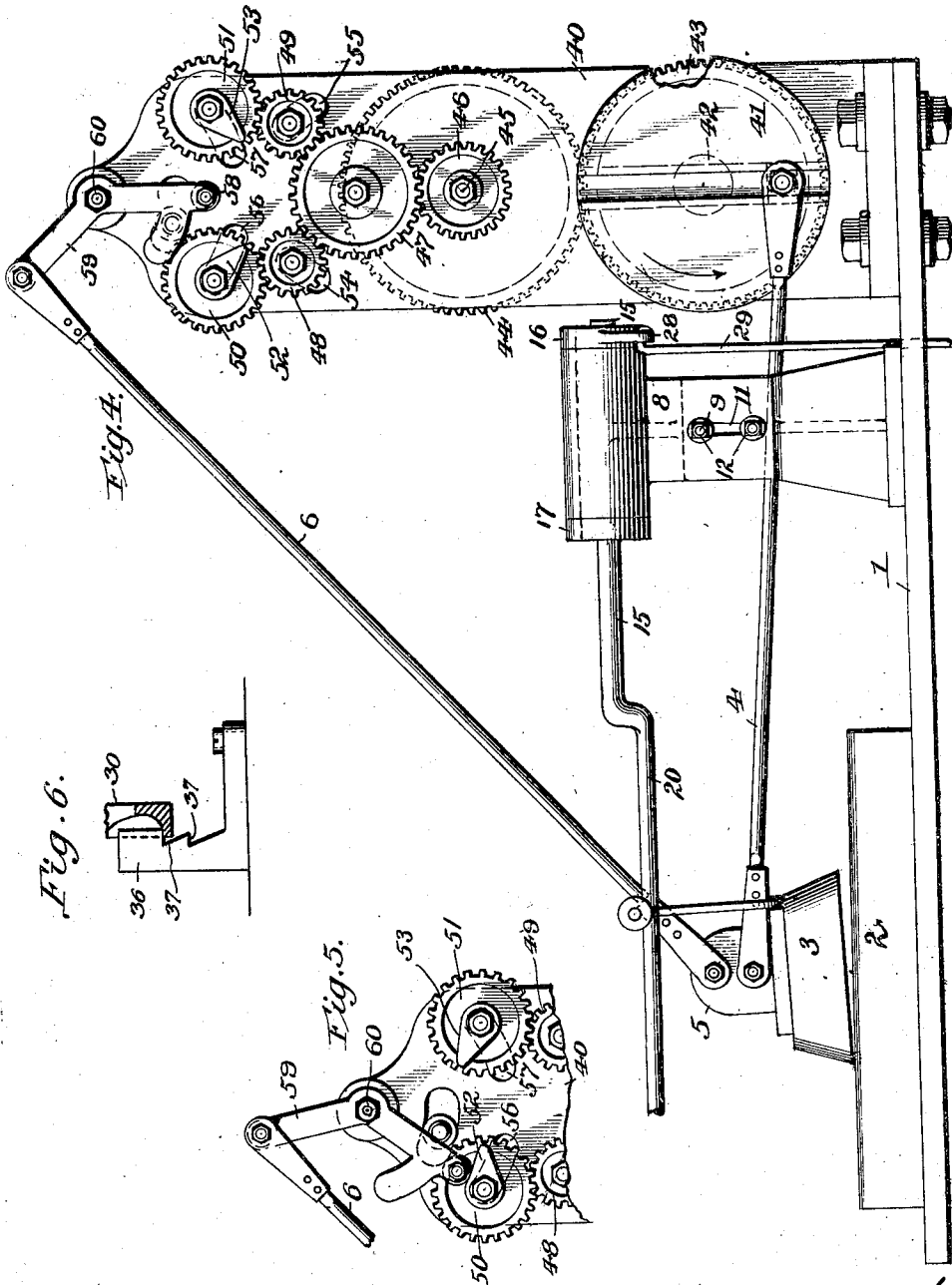
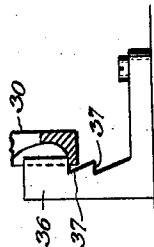


Fig. 6.



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UNITED STATES PATENT OFFICE.

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IRONING-MACHINE.

1,061,109.

Specification of Letters Patent.

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Application filed April 20, 1912. Serial No. 692,002.

To all whom it may concern:

Be it known that we, EUGENE E. NORTON and ALBERT U. LANGENEGGER, both citizens of the United States, residing in the city of Bridgeport, county of Fairfield, State of Connecticut, have invented certain new and useful Improvements in Ironing-Machines; and we do 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.

Our invention relates to certain improvements in ironing machines such as are utilized to smooth corsets or other articles having irregular surfaces, and is in the nature of an improvement on the construction shown and described in our pending application filed December 2, 1911, Serial No. 663,587, and now Patent No. 1,034,139, dated July 30, 1912.

The object of the present invention is to enable the operator to confine the smoothing operation to the particular surface to be ironed, and furthermore to properly support and guide the iron during its operation, and with these ends in view our invention consists in certain details of construction and combination of parts herein-after fully described and then particularly pointed out in the claims which conclude this description.

In the accompanying drawings which form a part of this application Figure 1 is a front elevation, partly in section, of our improved machine, the mechanism for moving the iron forward and backward and elevating the same at the end of the strokes being omitted; Fig. 2 a side elevation of the iron-tilting mechanism; Fig. 3 a plan view thereof; Fig. 4 a side elevation of the machine; Fig. 5 a detail view of the upper portion of the machine, showing the parts in a different position from that disclosed in Fig. 4; and Fig. 6 is a sectional elevation showing the treadle and the notched block which coöperates therewith.

Similar numerals of reference denote like parts in the several figures of the drawing. In the present application we have not deemed it necessary to illustrate or describe in detail the mechanism which operates to move the iron to and fro along the surface to be ironed or the mechanism for elevating

the iron above the ironed surface at the ends of the to and fro movements, since such mechanisms are precisely the same as to construction and operation as is illustrated and described in Reissue Letters Patent No. 13,513, granted January 14, 1913, the application for which was copending herewith. We will therefore confine the present illustration and description primarily to that construction which relates to the elevation of one end of the iron so that the operation of the latter is confined to a limited portion of the area of its face.

The shape of the iron which we utilize is such that the face thereof tapers to a point at each end and gradually increases in width from the ends to the middle.

In smoothing certain articles, such as corsets, it becomes quite essential to confine such smoothing to certain surfaces and not to allow the iron to smooth down other surfaces. For instance, it is quite necessary that the belt portion of a corset should be smoothed without allowing the iron to smooth down the portions of the corset adjacent said belt, because if such adjacent portions were smoothed down it would be necessary to thereafter raise them and to iron them in an entirely different manner. Of course this might be accomplished by utilizing different shapes or styles of irons for the various surfaces to be smoothed but this would entail considerable expense and loss of time, and the main object of our improvement is to utilize a single iron for smoothing all surfaces, the iron being so shaped that when one end is elevated the part of the iron which remains in contact with the goods will have a greater or lesser width according to the degree of such elevation.

Referring to the accompanying drawings, 1 is any suitable bed, 2 the ironing stand on which the articles to be smoothed are placed, 3 the iron, 4 the reciprocatory rod pivoted to the extension 5 secured to the top of the iron whereby the latter is moved to and fro across the surface to be smoothed, and 6 the lifting rod pivoted to said extension 5 whereby the iron is bodily elevated above the ironed surface at the ends of to and fro movements, all constructed and operating precisely in the manner set forth in our pending application aforesaid.

7 is a vertical standard secured to the bed 1, and 8 is a bracket arm adjustably secured to said standard by means of bolts 9 that extend through elongated slots 10, 11, in said standard and bracket, and nuts 12 driven on said bolts so as to clamp firmly against the faces of said standard and bracket.

Integral with the upper extremity of the bracket arm 8 is an elongated tubular bearing 13 and within this bearing is a sleeve 14 which projects at each end beyond said bearing. This sleeve is free to rotate within the bearing, and extending through this sleeve is a rock rod 15, while immediately beyond said bearing are collars 16, 17, that surround the sleeve 14, set screws 18, 19, being driven through said collars and sleeve firmly against said rod whereby said sleeve, collars and rod are capable of rotary movement in harmony. This rod 15 has an offset portion 20 which is elongated so as to afford a support for the iron, in the manner presently to be described.

Supported within bearings 21 secured to the floor beneath the machine is a rock shaft 22 and to the extremities of this shaft are secured collars 23, 24, by means of set screws 25, 26. Extending from the collar 23 is a lever 27 and extending from the collar 24 is a lug 28 and the extremities of said lever and lug are connected by means of a rod 29 whose ends are loosely hooked therethrough. Extending from the collar 24 is a foot treadle 30 so that it will be clear that when said treadle is depressed the shaft 22 will be rocked thereby pulling the lug 28 downwardly and effecting a rocking movement of the rod 15. The treadle and lug are restored to normal or elevated positions by means of any suitable coil spring 31 whose extremities are secured respectively to the bed 1 and to a block 32 that is secured by means of screws 33 to the rod 29.

Secured to one end of the superstructure of the iron 3 is an arm 34 which extends upwardly, and journaled to the extremity of this arm is a suitably shaped roller 35 which normally rests upon the offset portion 20, so that it will be readily understood that when the lug 28 is pulled downwardly in the manner above described, said offset portion will be thrown upwardly thereby elevating one end of the iron.

The degree of elevation of the iron depends upon the downward throw of the treadle since if the latter be depressed to the limit of its downwardly movement the offset portion 20 will be elevated higher than it would be if such treadle were not depressed so far and accordingly the elevation of the iron would be greater.

While the operator may acquire by experience the knack of depressing the treadle

to a degree necessary to bring about the desired result, nevertheless any suitable block 36 may be secured to the floor adjacent the treadle and provided with notches 37 with which latter the edge of the treadle may be engaged so as to hold such treadle in depressed condition.

By adjusting the bracket arm 8 upwardly or downwardly the normal elevation of the offset portion 20 may be changed to suit the demands of the occasion so that if the treadle does not bring about a sufficient throw of this offset portion, a slight upward adjustment of the arm 8 will move this defect, and vice versa, if too great a throw is given to the portion 20 by the movement of the treadle this may be remedied by lowering the normal position of this arm 8.

When it becomes necessary to iron a very narrow surface without allowing the iron to touch or smooth adjacent surfaces, the operator elevates the extremity of the iron until the width of the face of the iron that is in contact with said surface corresponds with the width of the surface itself, and the varying widths of such surfaces require of course different degrees of elevation of the iron.

During the to and fro movements of the iron, effected by the reciprocations of the rod 4, the roller 35 will travel along the offset portion 20 thereby maintaining the correct elevation of the iron and the proper contact of the latter with the surface to be smoothed.

In order that the mechanism which is employed for reciprocating the iron and also bodily elevating the same at the end of each forward and backward movement, may be readily understood and appreciated, reference will now be made to Figs. 4 and 5, which disclose one form of such means, corresponding to the patent aforesaid, and to which reference is made for a full disclosure. Mounted upon the bed 1 is a standard 40. 41 is a crank-disk, carried by a power shaft 42, indicated by dotted lines, said shaft also carrying a gear 43, said gear meshing with a gear 44 carried by a shaft 45 journaled in the standard. A pinion 46, fast to said shaft, meshes with an idler 47, which in turn meshes with pinions 48 and 49. Said pinions mesh with gears 50 and 51, said gears carrying respectively cams 52 and 53. The shafts or axles upon which pinions 48 and 49 are carried are adjustably mounted in arcuate slots 54 and 55, formed in the standard 40, and the gears 50 and 51 are likewise supported with reference to similar slots 56 and 57. This permits adjustment of the gears 50 and 51 toward or from each other, while still maintaining the gears in mesh and consequently permits the cams to be likewise adjusted. Said cams are adapted to strike in alternation, a roller 58 car-

ried by the lower end of an elbow-lever 59, fulcrumed at 60 to the standard, and to rock said lever and to thereby raise the rod 6 which is connected to the upper end of the lever. Rod 4 is connected to the crank disk 41 through an adjustable block, and said rod imparts a forward and backward movement to the iron. By adjusting the block in the slot in the crank-disk the length of stroke of the rod 4 may be determined, and by adjusting the gears 50 and 51 and the pinions 48 and 49, the cams will likewise be caused to coact with the roller 58 at the end of each inward and outward stroke of the iron and to thereby lift the iron.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:—

1. In an ironing machine, the combination of an iron whose smoothing face has varying widths, power driven means for automatically moving said iron forward and backward along the surface to be ironed, and means connected to one end of the iron for holding the iron in a tilted position during its forward and backward movements whereby the smoothing face of the iron has a limited contact with the surface to be ironed.

2. In an ironing machine, the combination of an iron having its smoothing face pointed at the ends and increasing in width toward the center, power driven means pivotally connected to the iron for automatically moving said iron forward and backward along the surface to be smoothed, and means controlled by the operator and connected to one end of said iron for lifting said end and retaining it elevated during said forward and backward movements whereby an ironing contact of a limited degree is afforded.

3. In an ironing machine, the combination of an iron whose smoothing face gradually increases in width from the ends to the middle, power driven means for automatically and continuously moving said iron forward and backward along the surface to be smoothed, and means controlled by the operator for holding one end of said iron elevated to a predetermined degree during said forward and backward movements whereby the other end is limited in its contact with said surface.

4. An ironing machine comprising an iron, means for reciprocating the same, a roller carried by the iron, a rod having an offset portion that is engaged by the roller to guide the iron in its reciprocatory movements, and means for rotating the rod to tilt the iron.

5. An ironing machine comprising an iron, an iron guide, means carried by the iron for engaging the guide, means for operating the iron while engaged with the guide, and means for actuating the guide to retain the iron tilted while being operated.

6. An ironing machine comprising an iron, an arm projecting therefrom, a roller carried by the arm, a standard, a bearing carried thereby, a rod journaled in the bearing and having an offset portion that is engaged by the roller, means for operating the iron while the roller is engaged with the rod, and means for rotating the rod to tilt the iron.

7. An ironing machine comprising a standard, a bracket adjustably connected thereto, a bearing carried by the bracket, a rod journaled in the bearing and provided with an offset portion, an iron, means carried thereby for engaging the offset portion of the rod, and means for rotating the rod to tilt the iron.

8. An ironing machine comprising an elevated bearing, a rod journaled therein, and provided with an offset portion, an iron having means for engaging the offset portion of the rod, a foot treadle, and means connecting the treadle to the rod whereby a movement of the treadle will rotate the rod and tilt the iron.

9. In an ironing machine, the combination of an iron having its working face varying in width from one end toward the other; means for moving the iron back and forth over and in contact with the material to be ironed; means for raising the iron from the material at each end of its stroke; and means for tilting the iron and maintaining it in such tilted position while in contact with the material being ironed, whereby spaces or strips of a predetermined width may be operated upon.

10. In an ironing machine, the combination of an iron whose working face has varying widths; means for passing said iron along the surface to be ironed; and mechanism for tilting said iron to bring an ironing surface of a desired width into action and positively maintaining it in such tilted position while it is being passed along the surface being ironed, whereby spaces of predetermined widths may be ironed.

In testimony whereof we affix our signatures in presence of two witnesses.

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ALBERT U. LANGENEGGER.

Witnesses:

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