(No Model.) 2 Sheets—Sheet 1.

A. CONKLING & E. W. BUELL.

NECKBAND CLAMP.

No. 527,408. Patented Oct. 16, 1894.

Fig. 1

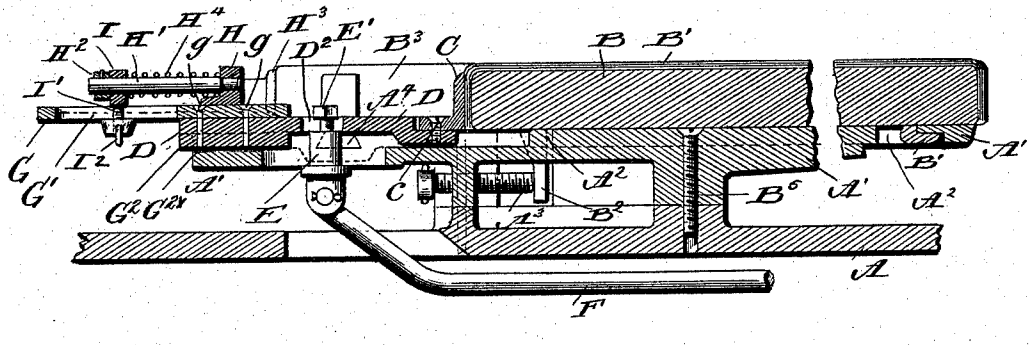


Fig. 2.

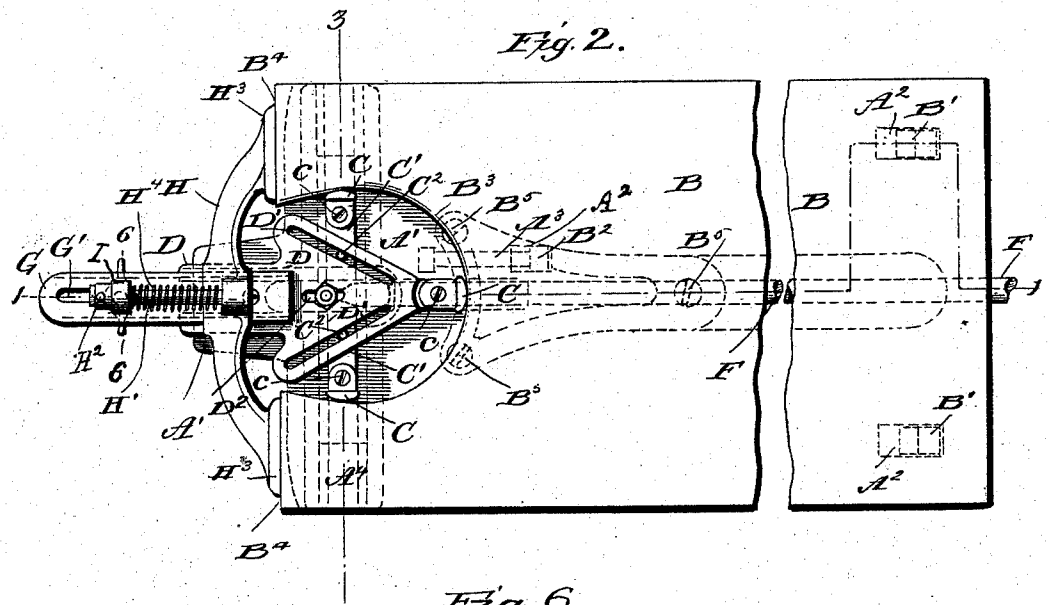
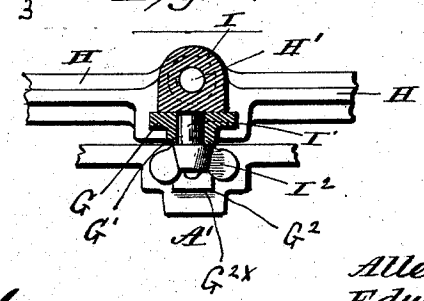


Fig. 6.



Witnesses
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E. A. Bond

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(No Model.) 2 Sheets—Sheet 2.

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NECKBAND CLAMP.

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Fig. 3.

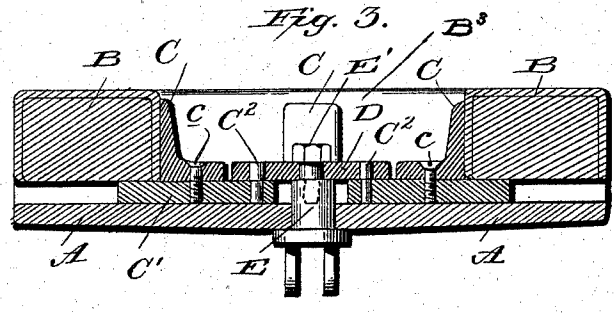

Fig. 4.

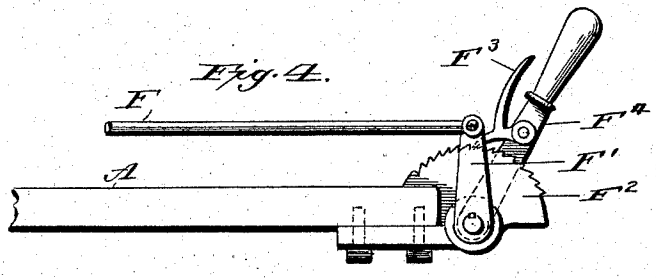

Fig. 5.

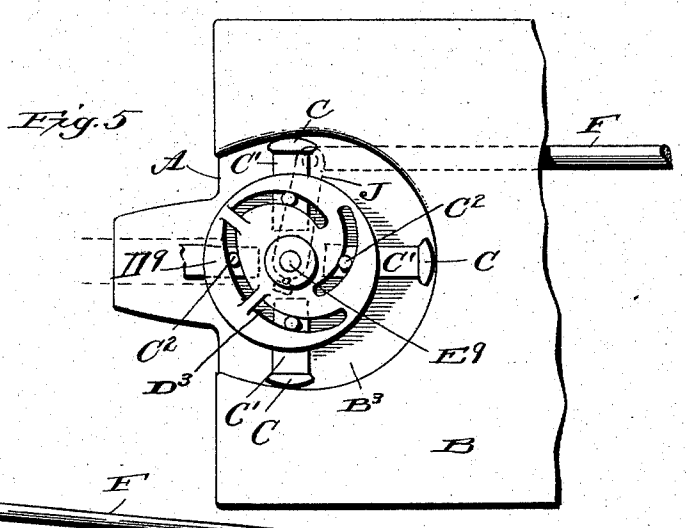

Fig. 5ª.

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UNITED STATES PATENT OFFICE.

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NECKBAND-CLAMP.

SPECIFICATION forming part of Letters Patent No. 527,408, dated October 16, 1894.

Application filed March 3, 1894. Serial No. 502,196. (No model.)

To all whom it may concern:

Be it known that we, ALLEN CONKLING and EDWARD W. BUELL, citizens of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Neckband-Clamps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to neck-band clamps for shirt-ironing machines in which there is employed a bosom-board having a recess or its equivalent for receiving the neck-band and if desired, the shoulder seam portion of a shirt at which parts heretofore there have been located clamping devices for maintaining the neck and bosom of the shirt against displacement during the operation of ironing the bosom.

The principal object of this invention is to provide clamping devices which are adjustable to different sizes of neck-bands. It is the common if not the universal practice to use bosom-boards adapted to shirts of different sizes, that is, a board for each size, because the varying sizes of the neck-band render it impracticable to retain the bosom in a smooth condition for ironing on a bosom-board having a neck-band recess of a different size than the neck-band of the shirt to be ironed thereon. First-class work cannot be performed without a properly proportioned neck-band recess and a continuous surface of bosom-board adjacent to the neck-band recess so that instead of having one bosom-board with means for varying the size of the neck-band recess thereof the settled practice in the art is to provide a board with a proper recess for each size of shirt and the common practice is to provide each board with clamping devices to hold the neck-band within the recess. Economy in cost and maintenance and an increased quantity of work within a given time are accomplished by the provision of clamping devices which can be adapted to bosom-boards of different sizes.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings Figure 1 is a central longitudinal vertical section of the principal elements of a bosom-ironing machine necessary to the understanding of the invention. This section is on the line 1—1 of Fig. 2. Fig. 2 is a plan of the bosom-board and clamp. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is a side elevation of the clamp-operating and locking lever. Fig. 5 is a modification. Fig. 5^a is a detail of a modified form of cam-plate-operating means, and Fig. 6 is a detail section on the line 6—6 of Fig. 2.

Like letters of reference indicate like parts throughout the several views.

A represents the bed of any bosom-ironing machine, and A′ the casting or table on which the bosom-board B which may be provided with any suitable clothing B′ is mounted. In this instance the table A′ is provided with slots A^2 through which hooks B′ and a lug B^2 are inserted or passed so as to take under a portion of the table on the part of the hooks and to come into the path of a screw or bolt A^3, on the part of the lug, so that by the pressure of the bolt upon the lug and by the action of the hooks the bosom-board B is retained on the table. By these features of construction boards of different sizes may be used.

B^3 represents the neck-band recess of the board.

In use the bosom of the shirt is laid upon the board, the yoke portion is drawn over the ends B^4 of the board and the neck-band is bent downwardly into the recess B^3. When these portions of the bosom are clamped in the positions mentioned the bosom is stretched over the board smoothly and held in that position either by hand or by suitable devices and the bed, table and board are moved so as to bring the bosom in contact with suitable ironing devices. Three screws or bolts B^5 secure the table A′ to the bed A.

As a base upon which to construct and operate the clamping devices of this invention the table A′ is extended under the bosom-board and slightly beyond the neck-end thereof. Dovetail or other suitably-formed ways A^4 are formed in the table for the reception of blocks or carriers C′ on which are

mounted neck-band clamps C and from which project pins C^2 and these pins pass through diverging slots D′ in a cam-plate D. The cam-plate itself, in Fig. 2, carries a clamp C. These clamps may or may not as desired be formed as a part of the part which carries them or may be connected therewith pivotally or otherwise by screws *c* or their equivalents. As thus far described it will be seen that a reciprocation of the cam-plate will cause the clamps connected with the slots of the plate to move inwardly and outwardly and will give the same movement to the clamp which is carried by the plate. To give such reciprocative movement to the plate a stud E is adjustably secured to the plate by means of a screw or bolt E′ passing through a slot D^2 in the plate. The lower end of the stud is adapted for the connection of a rod F which extends rearwardly and is connected to a crank F′ suitably assembled with a sector F^2, pawl F^3 and lever F^4 connected with the table of the machine as shown clearly in Fig. 4. The said rod F may be connected in any suitable manner with either hand or foot-operated devices as desired and located at any accessible point on the machine which will permit of its operation.

To adjust the cam to different sizes of neck-band recesses the point of connection of the stud with the plate is changed. The clamp may be spread by moving the plate downwardly to adapt the same to work in a neck-band of a larger dimension and by changing the adjustment so that the plate is moved upwardly or longitudinally outward with relation to the neck-band recess the clamps are contracted so as to adapt them to be used with a neck-band of smaller dimensions, and after any such adjustment of the stud and its temporary fixture in position a reciprocative movement will operate the clamps so as to throw them outwardly and inwardly to secure and release respectively a neck-band in and from the recess.

It will be noted that the invention as thus far described is completely adapted to a use in connection with bosom-boards having neck-band recesses of various dimensions, so that such boards without clamping devices may be employed in the machine and so that neck-bands of varied dimensions may be clamped by one set of devices.

There is added to the invention previously described a yoke-clamp which is under the control and operation of the same instrumentality that controls and operates the neck-band clamps, and it is also capable of adaptation to the varied adjustments of said clamps so as to co-operate therewith in any and all of said adjustments.

The cam-plate D is extended beyond the line of the upper end of the bosom-board and carries an extension G having a slot G′ which, together with a block G^2, are by means of screws *g* secured to the plate D so as to move with it. The block G^2 runs in a way $G^{2\times}$ formed in the extension of the table A′. The yoke-clamp H is constructed to embrace and ride upon the edges of the extension G as clearly shown in Fig. 6 and it carries a fixedly secured rod H′ which passes through an eye I adjustably mounted by means of its threaded extension I′ and thumb nut I^2 in the slot G′ of the extension G. Beyond the eye there is adjustably secured to the rod H′ a collar H^2 and about the rod H′ is a coiled spring H^4 abutting against the yoke H and the eye I. The clamps or feet H^3 of the yoke are extended to bear against the ends of the ironing board on opposite sides of the neck-band recess thereof.

The construction, mounting and appurtenances of the yoke-clamp thus far described permit of its movement independent of the neck-band clamps by simply applying force which compresses the spring H^4. This is convenient in placing a bosom upon the board for the operator can move the yoke-clamp away from the board such a distance as to conveniently arrange the yoke over the ends of the board when the yoke will, by reason of the action of the spring, immediately, when not otherwise affected, clamp the arranged yoke portions of the bosom and hold the same with sufficient tenacity to prevent them from becoming displaced in the act of arranging the neck-band within the neck-band recess of the board. The tension of the spring may be varied by moving the eye I toward the yoke within the slot G′. The eye I also permits of an adjustable connection of the yoke-clamp with the cam-plate so as to render the operation of the yoke-clamp harmonious with the neck-band clamps in their varied adjustments for bands of varied dimensions. In fact, by reason of the connection of the yoke with the extension G by means of the eye I and by reason of the rigid connection of the extension G with the cam-plate D the yoke moves bodily through nearly the same distance as does the clamp C which is attached to the cam-plate D while the movements of the clamps which are connected with the plate in its slots are such only as are caused by the inclination of the slots. In all instances however the movements of the yoke and all the clamps are sufficient to secure and release their appropriate portions of the article upon the board.

If it be desired to employ curved slots in the cam-plate then it would be rigidly connected with the stud E^9, Figs. 5 and 5^a, and the latter would be provided with a crank J adjustably secured to the stud by a set screw or other analogous device J′, and this crank would be connected with the rod F. By loosening the set screw J′ the plate D^9 having the curved slots D^3 can be rotated until the pins of the clamp-carrying blocks project in desired portions of the slots to give the required movements for properly operating the clamps. The crank can then be secured to the stud when by suitably operating

the rod F the functions of the clamps will be properly performed in neck-band recesses of varied dimensions.

Modifications in detail may be resorted to without departing from the spirit of the invention, or sacrificing any of its advantages, and while it has been hereinbefore described in connection with a bed and table of an ironing machine it will be understood that it is applicable to a board, eithed fixed, or portable, designed for hand-ironing.

It is apparent that the clamps C may be increased or decreased in number and in the extent of surface of the neck-band or the neck-band recess which they shall cover and it is also apparent that the cam-plate may be also modified in accordance with the number of clamps employed.

What is claimed as new is—

1. Neck-band clamps radially-disposed and adjustable to neck-bands of varied dimensions, substantially as specified.

2. A series of radially-disposed neck-band clamps and means for adjusting them simultaneously to operate upon neck-bands of varied dimensions.

3. A series of radially-disposed neck-band clamps, in combination with a cam-plate and connections between the clamps and the plate.

4. Radially disposed neck-band clamps, a slotted cam-plate and devices for connecting the clamps with the slots of the plate.

5. Radially disposed neck-band clamps, a slotted plate, means for connecting the clamps and plate, and means for giving motion to the plate.

6. Clamps mounted for radial movement simultaneously, a cam-plate, clamp and plate-connecting devices and means for determining the extent of the movement of the plate.

7. The combination with a cam-plate, of a series of radially-disposed clamps mounted for actuation by said plate, and a yoke-clamp operated by said plate.

8. A series of radially-disposed neck-band clamps, and a yoke-clamp and means for simultaneously operating said clamps.

9. A series of radially-disposed neck-band clamps, means for adjusting the operative position of the same, and means for operating them in an adjusted position.

10. The combination with a yoke-clamp, a slotted cam-plate neck band clamps and means connecting the same for positively moving the yoke-clamp in one direction and yieldingly moving said yoke-clamp in the opposite direction.

11. A neck-band clamping mechanism comprising radially-disposed clamps and a yoke-clamping mechanism, combined with means for adjusting the operative position thereof and for operating the same in said positions.

12. The combination with an ironing-board having a neck-band recess, of neck-band clamping mechanism comprising radially-disposed clamps and yoke-clamping mechanism, and means for operating the neck-band clamping mechanism adjustably connected with the yoke-clamp.

13. The combination with radially-disposed neck-band clamps and a cam-plate operatively connected therewith, of a presser yoke-clamp mounted for movement with said plate positively in one direction and yieldingly in the opposite direction.

14. A neck-band clamp and a yoke-clamp mounted for simultaneous movement, means for permitting independent movement of the yoke-clamp and means for adjusting the said yoke-clamp.

15. The combination with neck-band clamps, and a cam-plate having slots and operative connections between said plate and clamps, of a yoke-clamp mounted for movement with said plate, and also yieldingly-mounted for movement with relation to the said plate.

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

ALLEN CONKLING.
EDWARD W. BUELL.

Witnesses:
GEORGE C. ROBERTS,
H. H. HORR.