

Feb. 19, 1929.

L. F. ROSENBAUM ET AL
SEWING AND PRESSING MECHANISM

1,702,271

Filed May 14, 1925

4 Sheets-Sheet 1

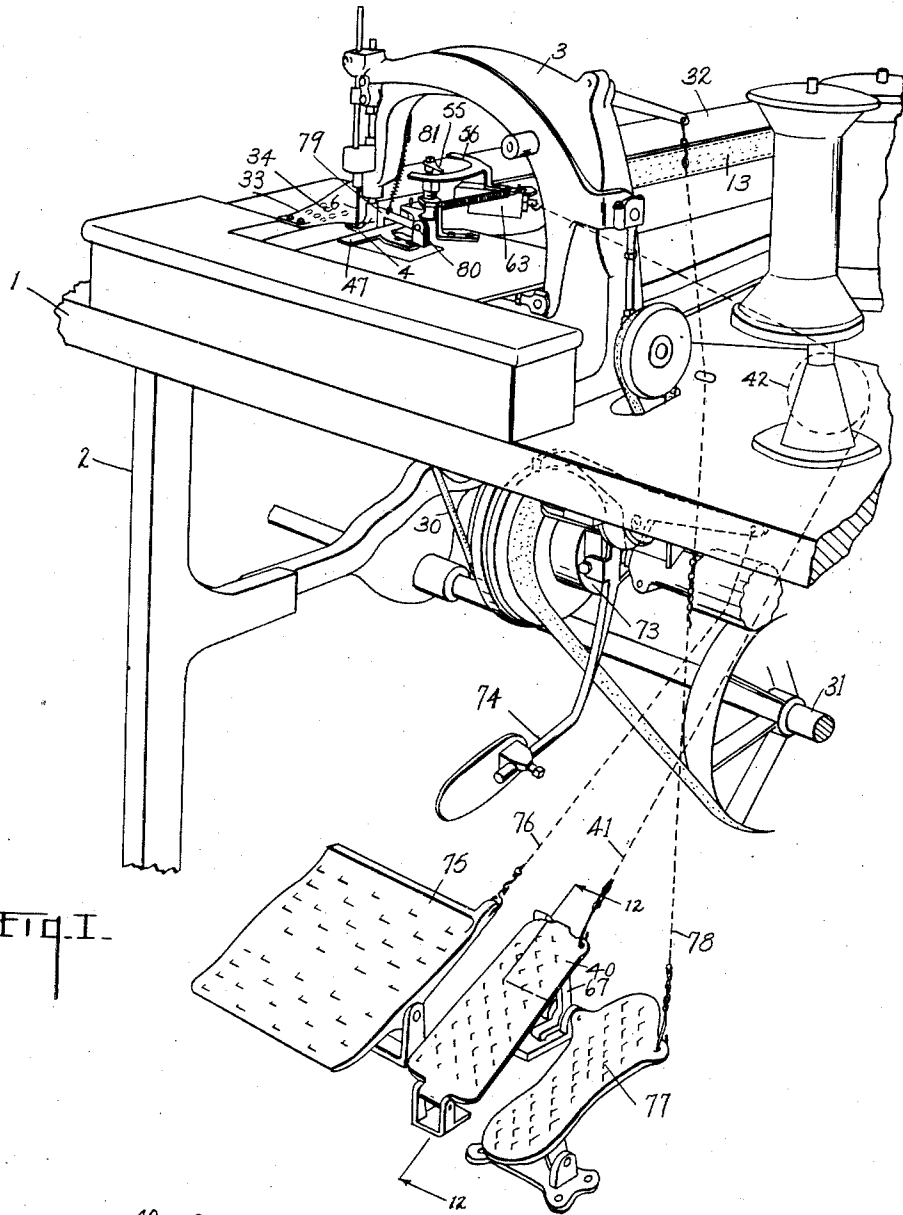


FIG. I.

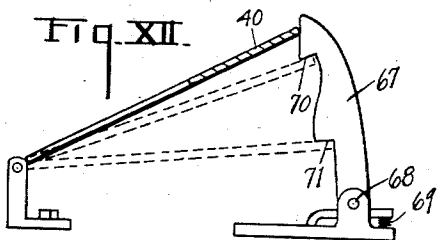


FIG. XII.

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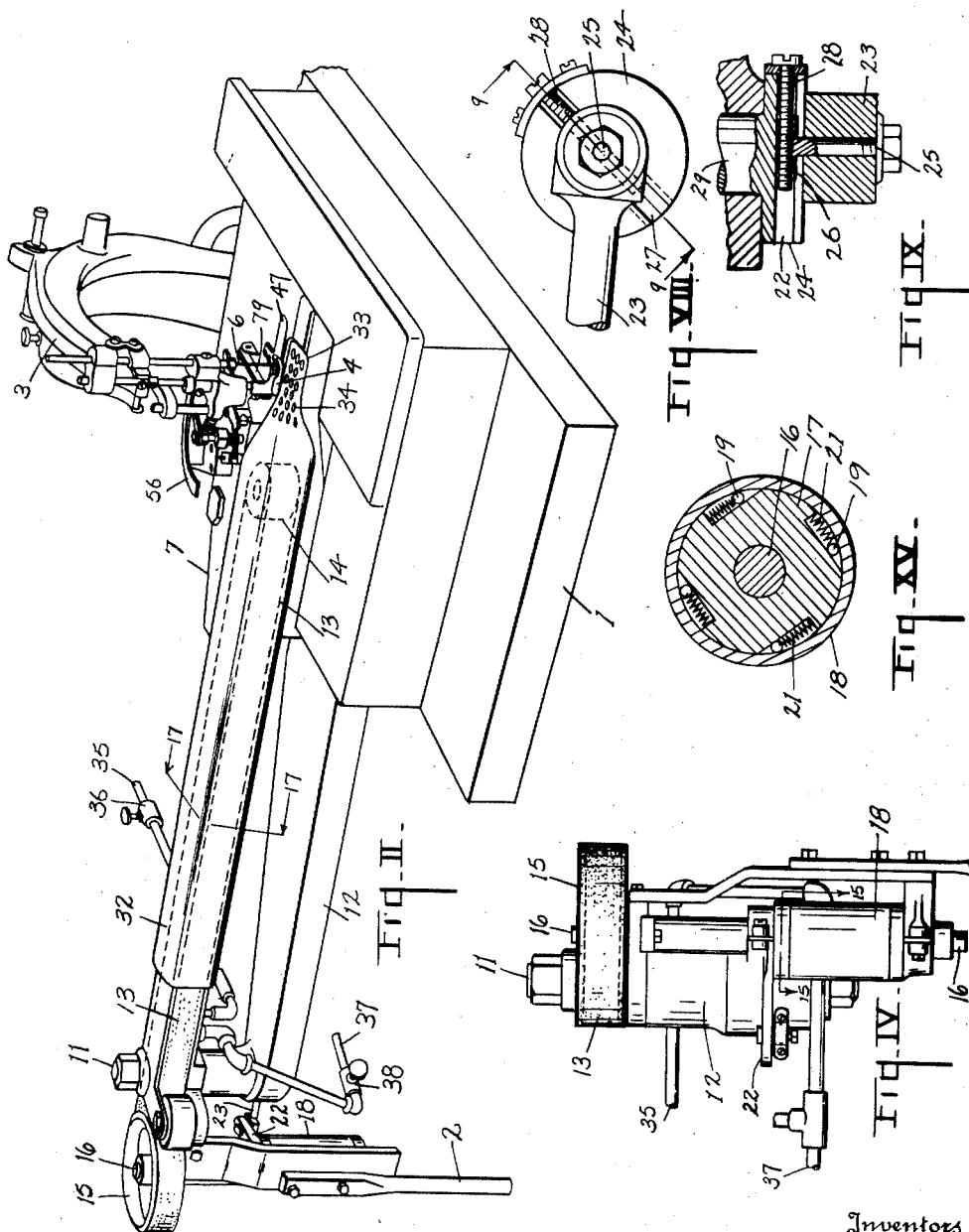
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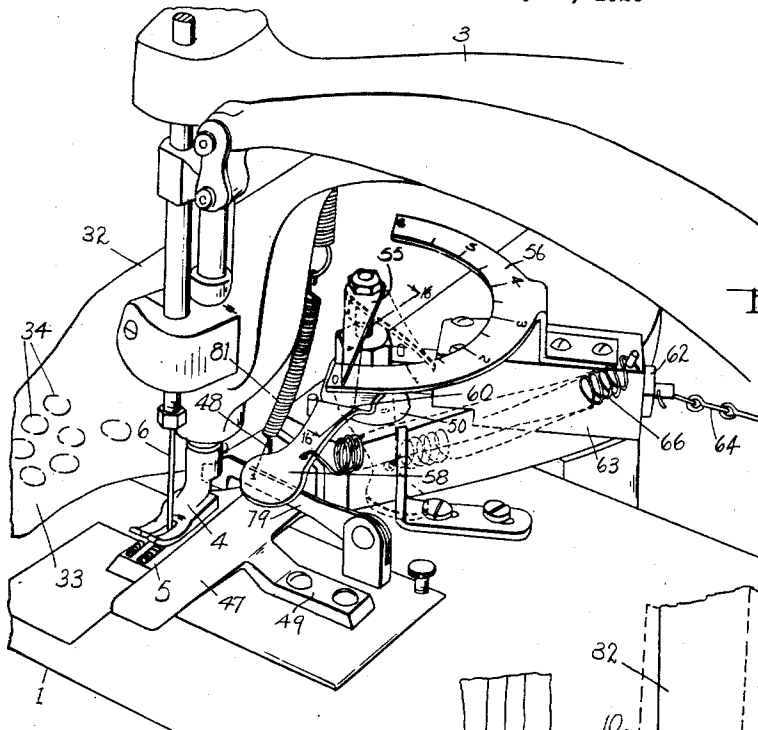


FIG. III.

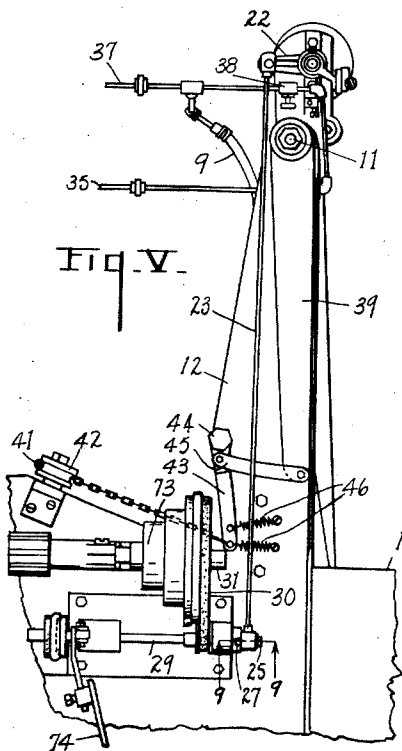


FIG. V.

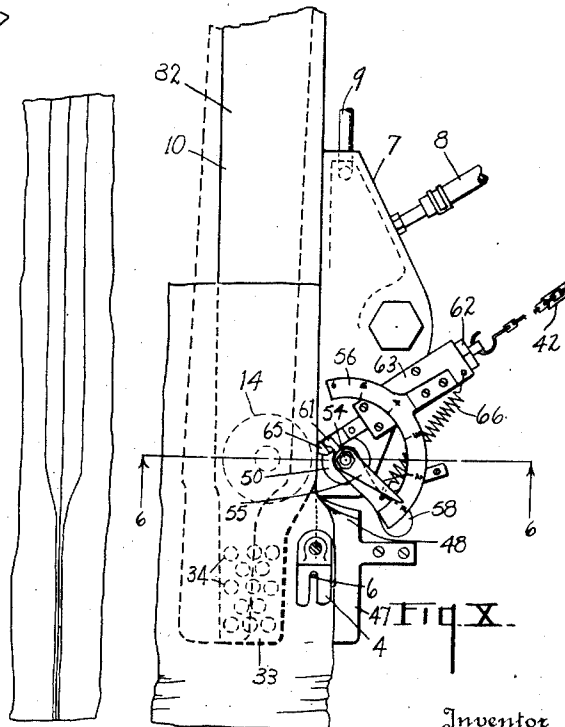


FIG. XI.

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4 Sheets-Sheet 4

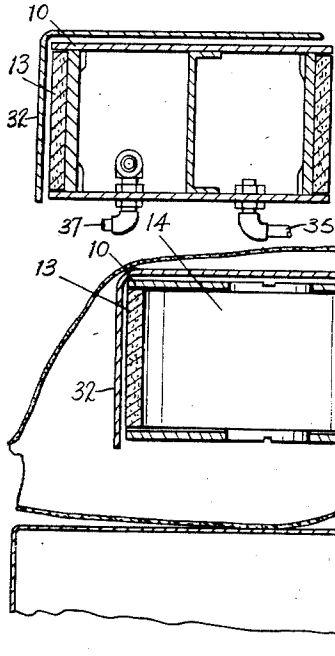


Fig. VI.

Fig. XVII.

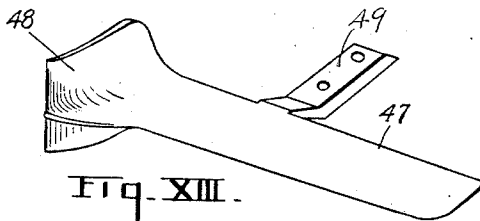
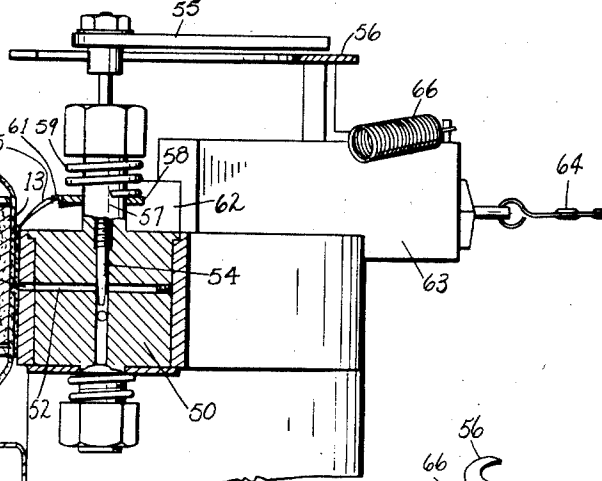


Fig. XIII.

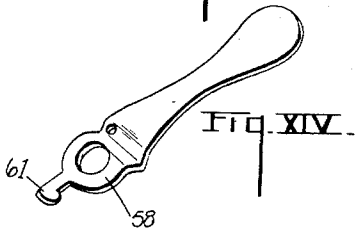


Fig. XIV.

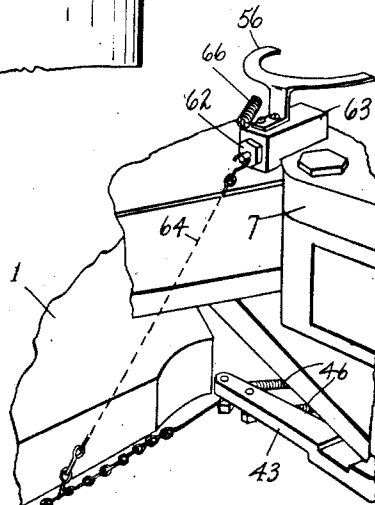


Fig. VII.

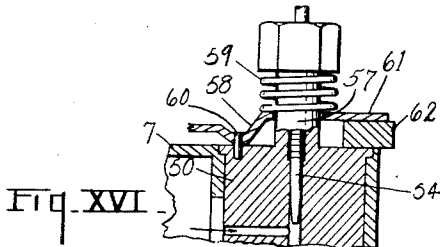


Fig. XVI.

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UNITED STATES PATENT OFFICE.

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SEWING AND PRESSING MECHANISM.

Application filed May 14, 1925. Serial No. 30,277.

This invention relates to improvements in sewing and pressing mechanisms.

The main objects of this invention are:

First, to provide an improved sewing machine mechanism with means for pressing the seam as formed.

Second, to provide an improved seam pressing mechanism having these advantages which is very compact in structure and may be readily applied to or embodied in sewing machines of well-known types.

Third, to provide an improved seam pressing mechanism which is well adapted for the pressing of seams of trouser legs, sleeves and the like, as they are stitched.

Fourth, to provide an improved machine embodying these advantages which is simple and easy to operate and of large capacity.

Objects pertaining to details and economies of construction and operation of my invention will definitely appear from the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure embodying the features of our invention is clearly illustrated in the accompanying drawing forming a part of this application, in which:

Fig. I is a fragmentary front perspective view of a machine embodying the features of our invention.

Fig. II is a fragmentary front perspective view from the left of Fig. I.

Fig. III is an enlarged fragmentary perspective view of parts shown in Fig. I, the perspective being similar to that of Fig. I, the press being closed and the steam discharge being released and returned to its initial position.

Fig. IV is a fragmentary rear elevation.

Fig. V is a fragmentary inverted or bottom view.

Fig. VI is an enlarged detail section on a line corresponding to line 6—6 of Fig. X.

Fig. VII is a detail perspective view showing details of the control means.

Fig. VIII is a detail view of the drive for the presser feed means.

Fig. IX is a detail view mainly in section on a line corresponding to line 9—9 of Figs. V and VIII.

Fig. X is a fragmentary plan view of portions of the seam pressing mechanism.

Fig. XI is a fragmentary view showing a partially pressed seam.

Fig. XII is a detail view partially in section on a line corresponding to line 12—12 of Fig. I showing the details of the steam control means for the presser.

Fig. XIII is a perspective view of the seam opening and guiding member.

Fig. XIV is a perspective view of the control means for the work dampening steam control valve.

Fig. XV is a detail section on a line corresponding to line 15—15 of Fig. IV showing details of the driving means for the work feeding belt.

Fig. XVI is a detail section on a line corresponding to line 16—16 of Fig. III showing details of the steam delivery valve for moistening the work.

Fig. XVII is a detail section on a line corresponding to line 17—17 of Fig. II showing structural details of the pressing member.

In the drawing the sectional views are taken looking in the direction of the little arrows at the ends of the section lines and similar numerals of reference indicate similar parts throughout the several views.

Referring to the drawing, 1 represents the bed or table of the machine and 2 one of the pedestals thereof. 3 represents the sewing machine, only such parts being shown as are deemed necessary to illustrate the operation of our improvements. The machine is provided with the usual presser foot 4 operatively associated with the feed member 5 and the needle 6. We have not illustrated means for driving or actuating the feed member 5 as suitable means are well known in the art.

At the rear of the sewing mechanism we mount a pressing mechanism comprising the bed or buck member 7 having a steam chamber therein connected to a suitable source of steam supply by the steam inlet 8 and a discharge 9. A coacting pressing member 10 is pivotally mounted at 11 upon an arm 12 projecting rearwardly from the table or bed 1. This pressing member is provided with a work feed belt 13 which is carried by the pulley 14 at the front end of the pressing member and by the driving pulley 15 which is mounted at the rear of the pivot 11. The pulley 15 is mounted on the shaft 16 which is driven by a roller clutch as shown in Fig. XV. The driven member 17 of the clutch is

connected to the shaft and the driving member 18 is in the form of a sleeve embracing the driven member. Ratchet balls 19 are arranged in recesses 20 in the member 17 as shown in Fig. XV. These ratchet balls are urged to engaging position by the springs 21.

The driving member 18 is provided with an arm 22 which is connected by the pitman or link 23 to the crank disk 24 by means of an adjustable wrist pin 25. This wrist pin is provided with a head 26 adjustably supported in the radial slot 27 of the crank disk by means of the screw 28. By adjusting the wrist pin the throw of the pitman is controlled and thereby the feed of the presser belt. The crank disk 24 is mounted on the shaft 29 connected by the belt 30 and suitable pulleys to the driving shaft 31.

The pivoted pressing member 10 is provided with a shell-like housing 32 which embraces the top and outer side thereof, exposing the feed belt which constitutes the face of the pressing member and coacts with the buck or bed member 7 in pressing the work. The casing 32 has a forwardly projecting guide finger 33 having a plurality of perforations 34 therein which prevent its becoming unduly heated.

The pressing member is provided with a steam supply connection 35 having a regulating valve 36 therein and a steam discharge connection 37 having a valve 38 therein. These supply and discharge pipes have flexible sections which permit the swinging of the pressing member. The pressing member is also provided with an actuating arm 39 mounted on its pivot 11 and projecting forwardly below the supporting arm 12.

The arm is connected to the foot pedal 40 by means of the cable 41 passing over the guide pulley 42 to the lever 43 which is pivoted to the arm 12 at 44 and connected by the link 45 to the arm 39. Springs 46 connected to the lever 43 and to a portion of the frame normally hold the pressing member in its open or retracted position, the pressing member being actuated and held in pressing position by means of the foot lever 40.

To guide the work to the pressing means and to open the seam as it leaves the sewing machine, we provide a forwardly projecting finger-like member 47 which is arranged at the side of and projects forwardly beyond the presser foot so that the operator can easily start the work with one edge of the seam on each side of this guiding and seam opening member. This member 47 has curved seam turning surfaces 48 at the rear end thereof which spread the seam and guide it to the pressing bed or buck 7. The seam opening member has a supporting arm 49 which is secured to the bed of the machine.

The foot pedal 40 also controls the valve 50 which controls the delivery of steam to the work to moisten the seam for facilitating

pressing. The face of the bed member has a steam delivery port 51 therein while the valve 50 has a passage or port 52 adapted to be brought into registration with the port 51, connecting the same to the steam chamber of the bed member. The passage 52 has a control valve 54 threaded into the valve 50 for adjustment and has a pointer or index member 55 and a coacting indicia segment 56, see Figs. III and X.

On the stem 57 of the valve 50 is mounted a lever 58 for tilting and rotative movement, this lever being held normally downward by the spring 59 and normally in engagement with the pin 60 projecting from the valve 50. This lever has an extension 61 lying in the path of the plunger 62 reciprocating in the guide 63 and connected by the chain or cable 64 to the chain 41 for actuating the pressing member so that when the foot pedal 40 is actuated to actuate the pressing member, the plunger 62 is actuated to open the valve 52, the lever 58, in its normal position, engaging the pin 60. The lever is tiltingly mounted on the stem of the valve so that it may be manually released from the plunger allowing the valve to close while the plunger is held in its retracted position. The valve is returned to its closed position by means of the spring 66. The front end of the plunger is beveled at 65 so that on its return movement it passes under the end 61 of the lever, returning the parts to position for a successive or succeeding operation.

The pedal member 40 is provided with a retaining pawl 67 which is pivoted at 68 and urged to engaging position by the spring 69. This pawl has two spaced engaging shoulders 70 and 71 arranged to retain the pedal member in different adjusted positions, the position shown in Fig. XII being such as to swing the pressing member to engaging position. The continued movement to the position shown in engagement with the shoulder 71 opens the valve and delivers steam to the work.

The driving pulley for the belt 30 is provided with a clutch shown conventionally at 73 operated by the lever 74 which is positioned so that the operator may swing his leg against the same with his foot upon the sewing machine control pedal 75. The operating connections for this pedal to the machine are indicated at 76.

The presser foot control pedal 77 is operatively connected to the machine by means of the connection indicated at 78.

As it is desired to continue the operation of the pressing means after the seam has been completely stitched, we provide a thread cutter 79 which is pivoted at 80 and held normally in retracted position by the spring 81.

The operation of our improved machine is as follows: The work is started into the machine in the usual manner with the edges of

the seam on opposite sides of the guiding and seam spreading member 47. The sewing machine is then started and as soon as the work is advanced to position to be engaged by the pressing mechanism the pedal 40 is actuated to swing the pressing member 10 to work engaging or operative position. The forwardly projecting finger 33 assists in guiding the work upon the pressing member.

When it is desired to deliver steam the pedal 40 is actuated further to engage with the pawl shoulder 71 in which position the valve 50 is actuated to deliver steam. The work is carried through the pressing mechanism by the pressing and feed belt 13 which is driven through the connections described as long as the clutch 73 is held in engagement.

We provide the thread cutter 79 disposed below the lever 58 so as to be actuated by the lever 58 when it is actuated to release the valve from the valve actuating plunger. The steam discharge passage is thus closed at the time the stitching is completed while the pressing continues until the work is fully pressed.

In the event that it is desired to cut off the delivery of steam from the work the valve 50 may be released while the plunger is in retracted position by a downward pressure upon the lever 58 which engages the part 61 from the plunger, allowing the return of the valve under the action of the spring 59.

Our improvements are readily embodied in machines of well-known types with very little change or modification therein. The machines are of large capacity and the work is delivered in finished condition, that is, it is not necessary to press the seams as is the common practice. This results in a great saving of time and labor, the opening and pressing of seams, so far as we are aware, having heretofore required a separate operation.

We have illustrated and described our improvements in an embodiment which we have found very practical. We have not attempted to illustrate or describe various other adaptations or embodiments as we believe the disclosure made will enable those skilled in the art to readily adapt or embody the same as may be desired.

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

1. In a device of the class described, the combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, a coacting pressing member mounted at the side of said bed member, a feed belt mounted on said pressing member to travel across the face of said bed member, means for holding said pressing member normally in retracted position, pedally controlled means for actuating said pressing member, a pedally controlled driving means for said belt, a seam opening and guiding

member for opening a seam and guiding work to the bed member, a control valve for said steam delivery port, said valve having an outwardly projecting stem, a valve lever tiltingly mounted on said stem and connected to said control valve to permit the tilting of the lever, a spring on said stem engaging said valve lever, a valve actuating plunger coacting with said lever, said lever being disengaged from said plunger by a tilting movement of the lever, a return spring for said valve, and operating connections for said valve actuating plunger to said pressing member actuating means.

2. In an apparatus of the class described, the combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, a coacting pressing member mounted at the side of said bed member, a work feed means, means for actuating said pressing member, a control valve for said steam delivery port, said valve having an outwardly projecting stem, a regulating valve for said control valve, a valve lever tiltingly mounted on said stem and connected to said control valve to permit the tilting of the lever, a spring on said stem engaging said valve lever, a valve actuating plunger coacting with said lever, said lever being disengaged from said plunger by a tilting movement of the lever, a return spring for said valve, and operating connections for said valve actuating plunger to said pressing member actuating means.

3. In an apparatus of the class described, the combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, a coacting pressing member mounted at the side of said bed member, a work feed means, means for actuating said pressing member, a control valve for said steam delivery port, said valve having an outwardly projecting stem, a valve lever tiltingly mounted on said stem and connected to said control valve to permit the tilting of the lever, a spring on said stem engaging said valve lever, a valve actuating plunger coacting with said lever, said lever being disengaged from said plunger by a tilting movement of the lever, a return spring for said valve, and operating connections for said valve actuating plunger to said pressing member actuating means.

4. In an apparatus of the class described, the combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, an arm-like coacting pressing member pivotally mounted at its rear end to swing at the side of said bed member, said pressing member being provided with a heating means, a guide pulley at the front end of said pressing member, a driving pulley disposed at the rear of said pressing member, a feed belt mounted on said pulleys and supported by said pressing mem-

ber in opposed relation to said bed member, a housing embracing the top, bottom and rear sides of said pressing member and said pulley at the front end thereof, said housing being provided with a forwardly projecting work guiding finger, pedally controlled means for actuating said pressing member, a pedally controlled driving means for said belt driving pulley, a seam opening and guiding member for opening a seam and guiding the work to the bed member, a control valve for said steam delivery port, a regulating valve for said control valve, and operating connections for said valve actuating plunger to said pressing member actuating means.

5. In a pressing mechanism, the combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, an arm-like coacting pressing member pivotally mounted at its rear end to swing at the side of said bed member, said pressing member being provided with a heating means, a guide pulley at the front end of said pressing member, a driving pulley disposed at the rear of said pressing member, a feed belt mounted on said pulleys and supported by said pressing member in opposed relation to said bed member, pedally controlled means for actuating said pressing member, a pedally controlled driving means for said belt driving pulley, a seam opening and guiding member for opening a seam and guiding the work to the bed member, a control valve for said steam delivery port, a regulating valve for said control valve, and operating connections for said valve actuating plunger to said pressing member actuating means.

6. In a pressing mechanism, the combination of a bed member provided with a heating means, an arm-like coacting pressing member pivotally mounted at its rear end to swing at the side of said bed member, said pressing member being provided with a heating means, a guide pulley at the front end of said pressing member, a driving pulley disposed at the rear of said pressing member, a feed belt mounted on said pulleys and supported by said pressing member in opposed relation to said bed member, a housing embracing the top, bottom and rear sides of said pressing member and said pulley at the front end thereof, said housing being provided with a forwardly projecting work guiding finger, pedally controlled means for actuating said pressing member, a pedally controlled driv-

ing means for said belt driving pulley, and a seam opening and guiding member for opening a seam and guiding work to the bed member.

7. In a pressing mechanism, the combination of a bed member provided with a heating means, an arm-like coacting pressing member pivotally mounted at its rear end to swing at the side of said bed member, said pressing member being provided with a heating means, a guide pulley at the front end of said pressing member, a driving pulley disposed at the rear of said pressing member, a feed belt mounted on said pulleys and supported by said pressing member in opposed relation to said bed member, pedally controlled means for actuating said pressing member, a pedally controlled driving means for said belt driving pulley, and a seam opening and guiding member for opening a seam and guiding the work to the bed member.

8. The combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, a pivotally mounted arm-like coacting pressing member provided with heating means, a feed belt mounted on said pressing member in coacting relation to said bed member, and a pedally actuated means for actuating said pressing member, a control valve for said steam delivery port, and operating connections for said control valve to said pressing member actuating means.

9. The combination of a bed member provided with a steam chamber and having a steam delivery port in the face thereof, a pivotally mounted arm-like coacting pressing member provided with heating means, a feed belt mounted on said pressing member in coacting relation to said bed member, and a pedally actuated means for actuating said pressing member.

10. The combination of a bed member provided with a heating means, a pivotally mounted arm-like coacting pressing member, a feed belt mounted on said pressing member in coacting relation to said bed member, means for actuating said pressing member, and a seam opening and guiding member for opening a seam and guiding the work to said bed member.

In witness whereof we have hereunto set our hands.

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