Dec. 21, 1926. 1,611,157

A. H. BRICKER ET AL

MACHINE FOR PRESSING SEAMS

Filed Nov. 6, 1925 2 Sheets-Sheet 1

Fig. 1

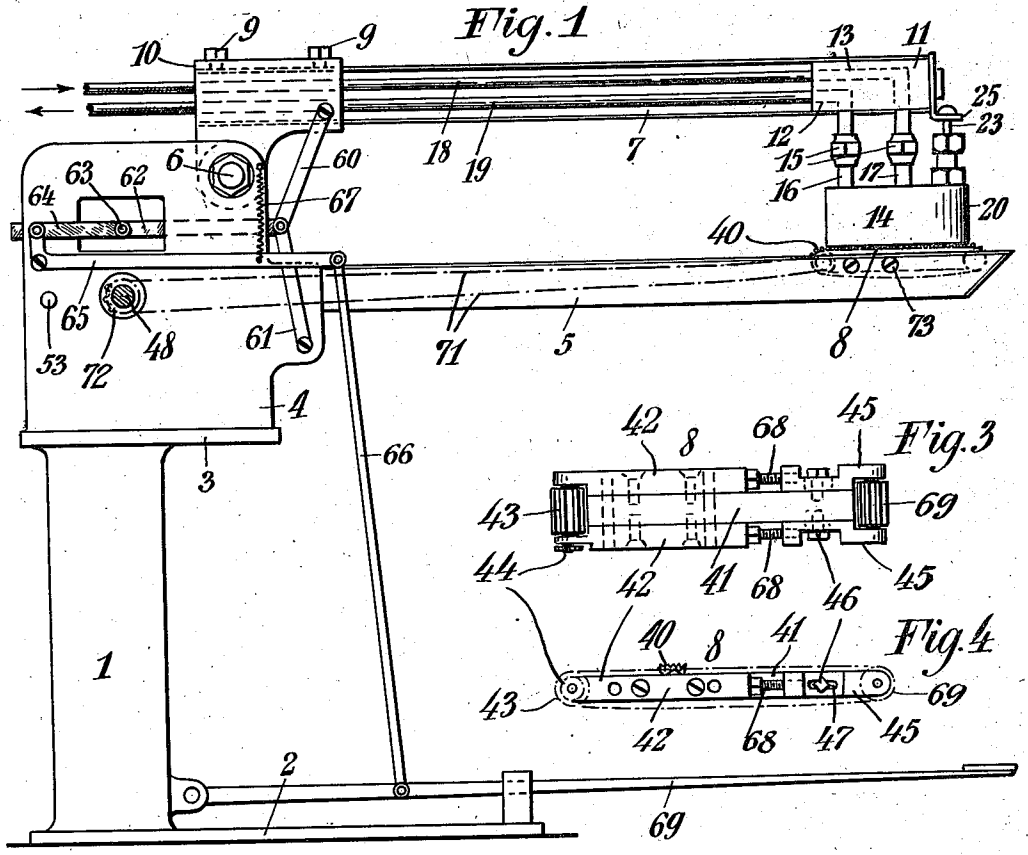


Fig. 3

Fig. 4

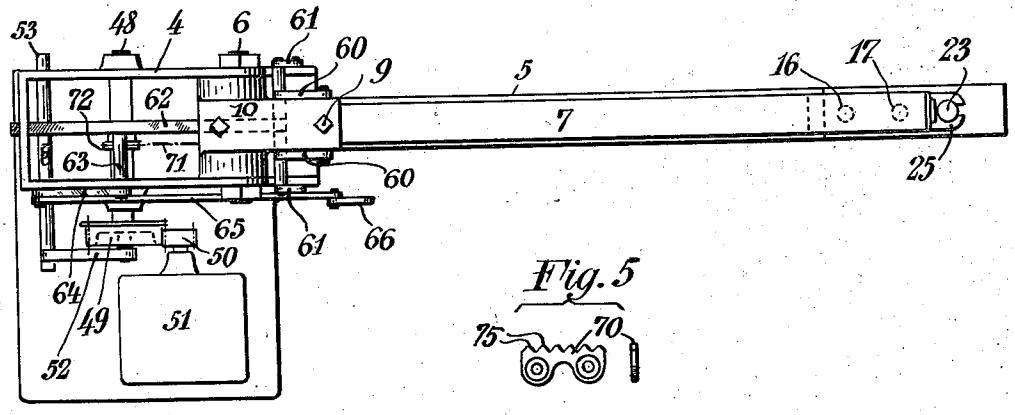


Fig. 2

Fig. 5

Inventors

Abraham H. Bricker & Philip Rashkin

By their Attorney

Ivan E. C. Konigsberg

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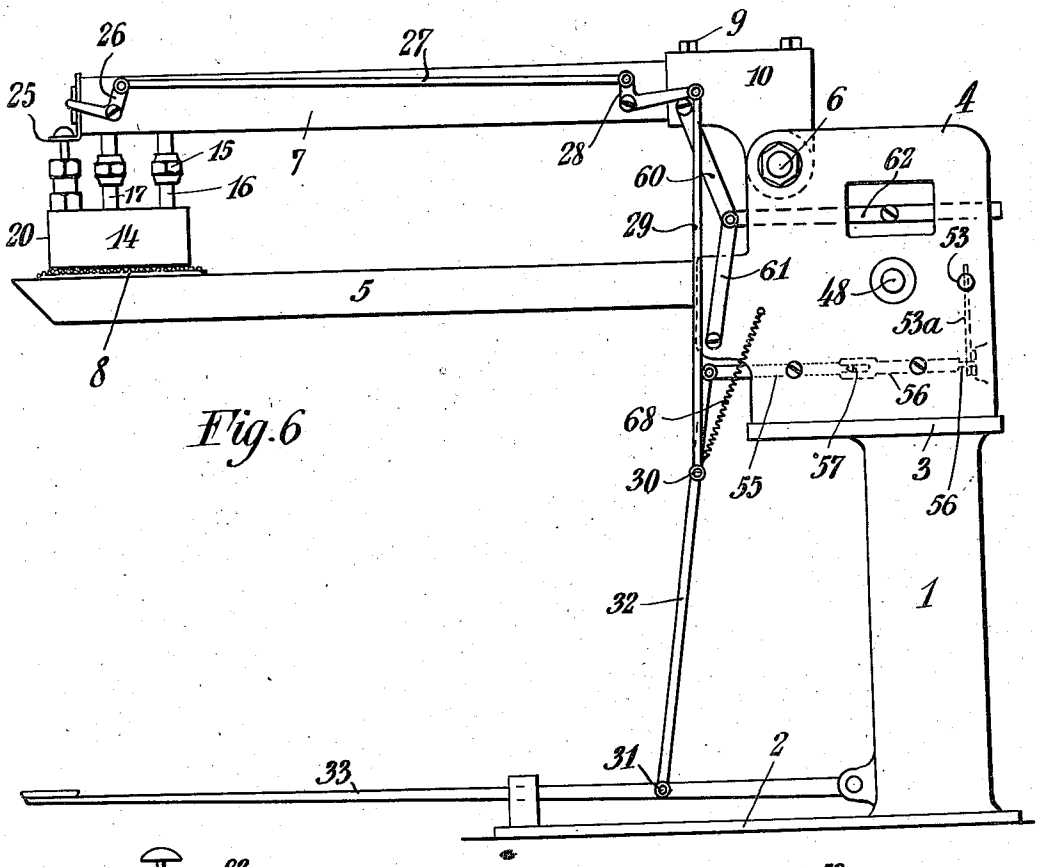


Fig. 6

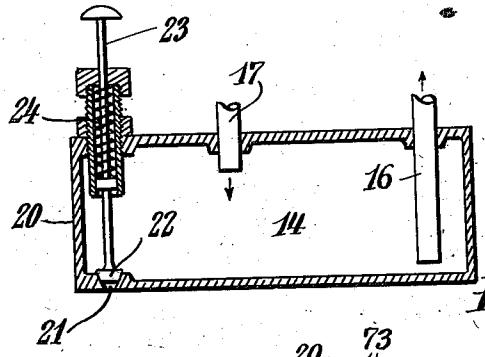


Fig. 7

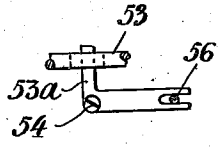


Fig. 8

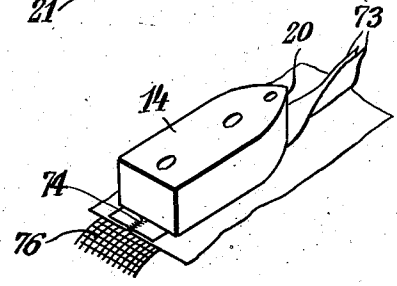


Fig. 9

Inventor

Abraham H. Bricker & Philip Rashkin

By their Attorney

Ivan E. A. Kerrigebery

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UNITED STATES PATENT OFFICE.

ABRAHAM H. BRICKER AND PHILIP RASHKIN, OF BROOKLYN, NEW YORK.

MACHINE FOR PRESSING SEAMS.

Application filed November 6, 1925. Serial No. 67,218.

This invention relates to a machine for pressing seams on garments. The object of the invention is to provide a practical and efficient machine for the purpose containing certain novel features of construction and arrangement whereby the work may be facilitated.

Accordingly this invention is embodied in a machine constructed and arranged as hereinafter set forth and as illustrated in the accompanying drawings in which—

Figure 1 is a side view of a machine embodying the invention with parts broken away.

Figure 2 is a plan view of the invention with parts omitted.

Figures 3 and 4 are detail views of parts of the feeding mechanism.

Figure 5 is a detail view of the chain link used in the feeding mechanism.

Figure 6 is a side view of the machine opposite to that of Figure 1.

Figure 7 is a sectional detail view of the pressing iron.

Figure 8 is a detail view of certain parts of the operating lever mechanism.

Figure 9 is a perspective view illustrating the operation of the machine on a seam.

In the drawing the reference numeral 1 denotes a stand having a base 2 which rests on the floor and the upper part of which forms a table 3 which supports the machine. The reference numeral 4 denotes a suitable casting or housing which is secured to the table 3. To the casting 4 is suitably secured a work support 5 and pivoted on a bolt 6 in the casting 4 is a presser arm 7. The work support 5 is in the form of a relatively long hollow box at the outer end of which is located a suitable feed 8, the details of which will be described later. The presser arm 7 is preferably in the form of a channel secured by set screws 9 in a pivot block 10 which is pivoted on the aforesaid pivot 6.

In the outer end of the channel 7 there is secured a block 11 having two steam channels 12 and 13. A presser iron 14 rests upon the work support 5 and is secured to the block 11 in the presser arm 7 by means of adjustable fittings 15, 15 which communicate with the aforesaid steam channels 12 and 13.

As seen in Figure 5 the presser iron 14 is hollow and carries a pipe 16 which extends to the bottom of the presser iron and another pipe 17 located near the top. The two pipes 16 and 17 communicate with the channels 12 and 13 by means of the fittings 15 aforesaid. Flexible steam pipes 18 and 19 are suitably mounted on the presser arm 7 and extend through the aforesaid block 10, and communicate with a suitable steam supply not shown.

The presser iron 14 is shaped like an ordinary sad iron having a point 20. Near the point the iron has in its bottom a steam outlet opening 21 which is normally closed by a valve 22 on a valve stem 23. A spring 24 serves to close the valve.

The steam supply valve 22 is opened by means of a valve opener 25 slidably mounted on the front end of the presser arm 7. The valve opener 25 is operated by means of a bell crank 26, link 27, another bell crank 28 and another link 29 connected at 30 to treadle rod 32. The latter is pivoted at 31 to the treadle 33. When the treadle is depressed the valve 22 is opened and steam passes from the inside of the presser iron through opening 21 to the garment underneath the iron as will be understood. A spring 68, Fig. 6, tends to restore these parts to normal position as is obvious.

Heretofore it has been proposed to feed the garment under the iron in the same manner in which a sewing machine feed operates, that is by means of an intermittently operated feeding mechanism. In practice, however, it has been found that after having been operated a short while an intermittently operated feed becomes inoperative due to it being clogged with minute particles of the nap of the fabric which is being pressed and these fine particles form a felt by being exposed to the action of the steam from the iron, and it is a matter of practical impossibility to operate a machine successfully and at the same time stop it for frequent cleanings of the feed. Accordingly, we propose in the present instance to provide a continuous feeding mechanism in the form of a chain 40 which is operated in a direction to convey the garment in under the pressing iron.

Referring to Figures 3, 4 and 5, the reference numeral 41 denotes a feed base having secured thereto two side brackets 42, 42 which support a gear 43 on the shaft of which there is secured a sprocket wheel 44. At the other end the feed base carries two other side brackets 45, 45 adjustably held to the base by screws 46, 46 passing through slots 47 in the brackets. These latter also

carry adjustable screws 68, 68 and a gear 69 is mounted in the extreme ends of the brackets 45. The chain 40 is composed of links 70, see Figure 5, and pass over the gears 43 and 69. In practice the chain is made of a suitable width so as to co-operate with the underside of the iron to carry the garment through the machine. The feed chain 40 is operated continuously by means of a driving chain 71 which runs on the aforesaid sprocket 44 and on a driven sprocket wheel 72 secured to the main shaft 48 mounted in the casting 4. The chains 40 and 71 are shown in dotted lines in Figure 1 and are contained within the work support 5 to the sides of which the said base is secured by screws 73. The feed chain 40 projects of course, slightly above the work support 5.

The main shaft 48 carries outside the housing 4 a gear 49 which is driven by means of a pinion 50 on a motor 51. The gear 49 is adapted to be clutched to the shaft 48 by means of a clutch arm 52 carried by a sliding shaft 53. The latter is operated to slide in the housing 4 by means of a bell crank 53ª pivoted at 54. See Figures 2, 6 and 8.

The bell crank 53ª is actuated by means of a pair of levers 55 and 56 which in turn are operated from the treadle rod 32, the levers having a pin and slot connection at 57.

The presser iron 7 is adapted to be lifted on the pivot 8 to permit the garment to be placed under the iron 14 at the start of the operation. The lifting means comprise a toggle joint 60—61 adapted to be operated by a slidable rod 62. To the latter is pivoted at 63 a link 64 which is connected to a bell crank 65 operated from the treadle rod 66. A spring 67 tends to lift the bell crank 65 and treadle rod 66 actuated by a treadle 69.

The operation is as follows: Normally the parts are in the position shown in the drawing with the iron 14 resting by gravity on the feed chain 40.

When it is desired to press the seam of a garment the treadle 69, Figure 1, is depressed, which pulls downward the rod 66 to rock the bell crank 65 downwardly to the right in Figure 1, and through the link 64 and connection 63 the slidable rod 62 is moved to the right so as to straighten the toggle joint 60—61 to raise the arm 7 and the pressing iron 14 off the feed 8.

A garment with a seam to be pressed is now positioned on the work support 5 with the point 20 of the iron separating the edges 73 of the seam such as shown in Figure 9. The operator then lets go of the treadle 69 and the iron then falls down upon the garment and presses thereon with the combined weight of the iron and the presser arm 7. The spring 67 automatically restores the presser arm and iron operating lever mechanism to normal position as in Figure 1.

Next the operator starts the motor 51 and when ready to commence the work, he depresses the treadle 33. The depression of this treadle causes the lever 55, Fig. 6, to be rotated anti-clockwise, while the lever 56 is rotated clockwise to rock the bell crank 53ª by means of the pin on lever 56. The bell crank in turn slides the shaft 53 to one side, upwards on the drawing in Fig. 2 and to the right in Fig. 8, to actuate the clutch arm 52 which clutches the gear 49 to the main shaft 48 to drive the latter from the motor 51. The feed chain 40 is then operated by means of the driving chain 71 running over the sprockets 72 and 44 to feed the garment in under the iron in an obvious manner.

Simultaneously with the clutching of the operating shaft and the gear 49, the valve 22 is opened by means of the elements 25, 26, 27, 28 and 29 connected to the treadle rod 32. The opening of the valve 22 permits the feeding or ejection of steam from the hollow interior of the iron through the steam outlet 21 to the garment. Through the return steam connection 16 the condensed water is led away from the iron.

The operation is very rapid and the garment with the seam is quickly drawn or fed in under the iron, while steam is constantly being admitted to the seam through the steam outlet 21. When the seam is finished the operator lets go of the treadle 32 to unclutch the driving gear from the operating shaft and the spring 24 automatically closes the steam valve 22 and the machine stops. The garment may then be removed by depressing the other treadle 69 to again lift the weight of the presser arm 7 and iron 14 off the garment which may then be withdrawn from the machine, the seam having been pressed absolutely flat against the garment as shown at 74 in Figure 9 while the point 20 on the iron during the operation serves to automatically separate the upstanding edges 73 of the garment as will be understood.

It will further be understood that during the operation of the machine there is a continuous supply of steam passing in through the steam pipe 17 to the iron and back in the steam pipe 16, the source of supply not being shown. The steam pipes are conveniently contained in the channel 7 and may be suitably covered.

Due to the fact that the individual chain links 70 as shown in Figure 5 are provided with a relatively large number of small teeth 75 it will be understood that the surface of the chain indicated at 76 in Figure 9 is sufficiently rough so as to provide the necessary friction to convey the garment under the iron and in contact with the iron and on the other hand is smooth enough so as not to injure the garment. In practice the feed chain operates as a metal friction band to convey the garment through the machine.

While the invention is shown in its preferred form, nevertheless changes and modifications may be made without departing from the principle of the invention and the scope of the appended claims.

We claim:—

1. A seam pressing machine comprising a support, a hollow work supporting member extending horizontally to one side therefrom, a garment feed chain mounted within said member at its extreme free outer end and projecting slightly above the surface thereof, a presser arm pivoted to said support and extending to one side thereof above said hollow work supporting member, a steam supply pipe and a steam return pipe secured to said presser arm, a hollow pressing iron, adjustable steam connections for connecting the interior of said iron to the said steam pipes and for suspending said iron from the presser arm at its outer end above said garment feed chain, a valve in said iron, valve operating connections, driving means for said garment feed chain, a motor, mechanism for clutching the motor to the driving means, a treadle and connections between said treadle and said valve operating connections and the said clutching mechanism whereby, when said treadle is depressed, the motor will be clutched to the garment feed chain driving means and the said valve will be opened to admit steam to the iron.

2. A seam pressing machine comprising a support, a hollow work supporting member extending horizontally to one side therefrom, a garment feed chain detachably and adjustably mounted within said member at its extreme free outer end and projecting slightly above the surface thereof, a presser arm pivoted to said support and extending to one side thereof above said hollow work supporting member, a steam supply pipe and a steam return pipe secured to said presser arm, a hollow pressing iron, adjustable steam connections for connecting the interior of said iron to the said steam pipes and for suspending said iron from the presser arm at its outer end above said garment feed chain, said iron and presser arm being adapted to rest on the feed chain by gravity, a valve in said iron, valve operating connections, driving means for said garment feed chain located within said hollow work supporting member, a motor, mechanism for clutching the motor to the driving means, a treadle, and connections between said treadle and the valve operating connections and the said clutching mechanism for simultaneously starting the said garment feed chain and admitting steam to the iron upon depression of the treadle and means for periodically lifting said iron off the said garment feed.

ABRAHAM H. BRICKER.
PHILIP RASHKIN.