

Feb. 7, 1933.

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1,896,479

CONTINUOUS PRESSING MACHINE

Filed June 15, 1929

2 Sheets-Sheet 1

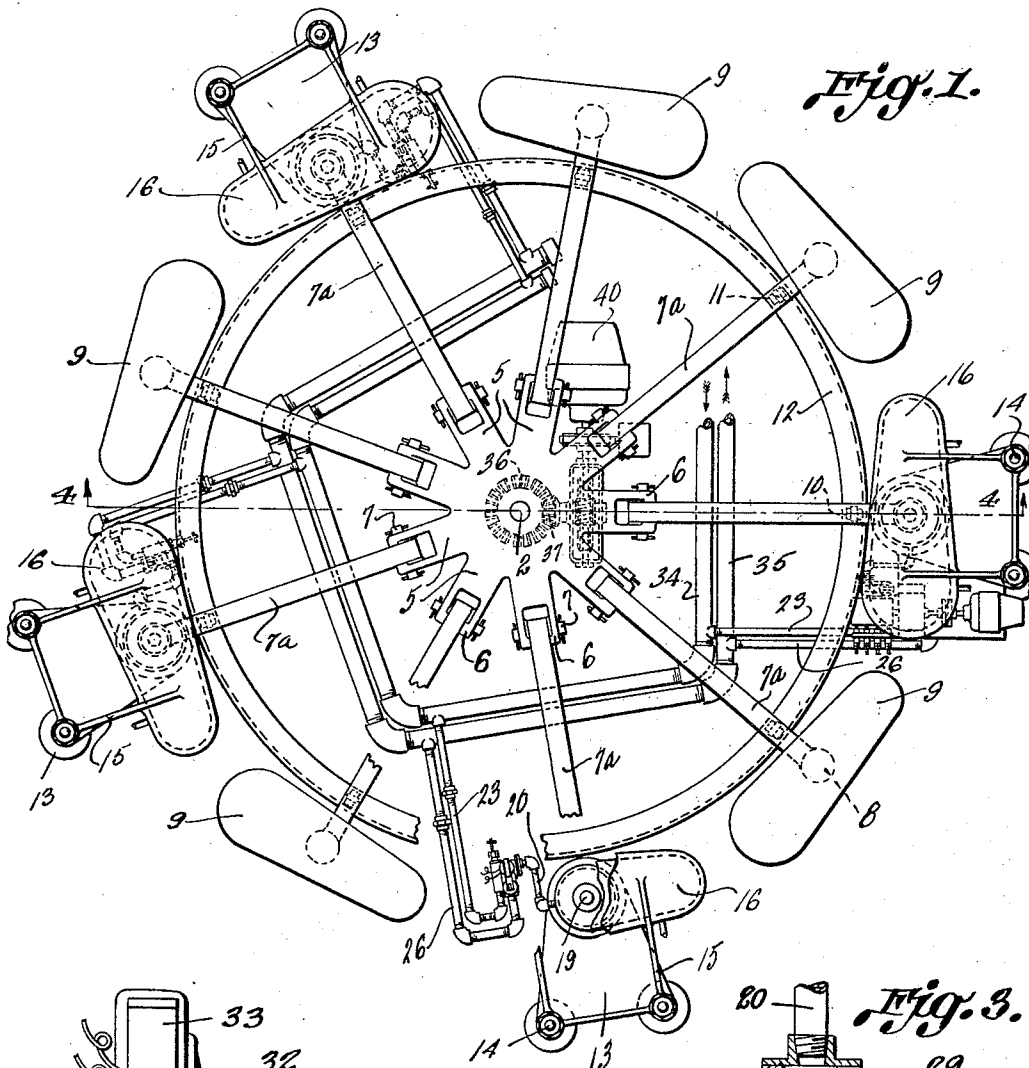


Fig. 1.

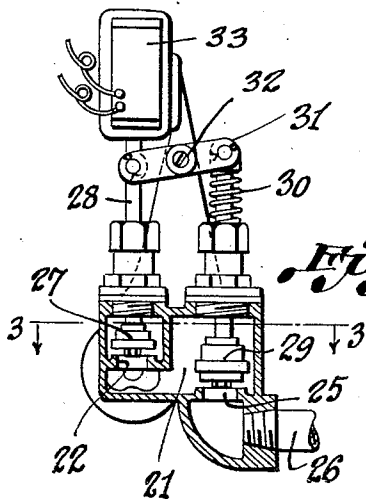


Fig. 2.

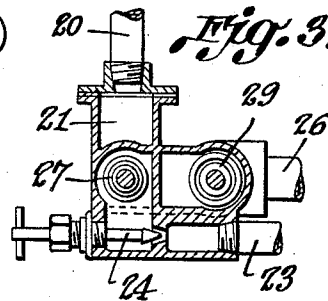


Fig. 3.

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FIG. 4

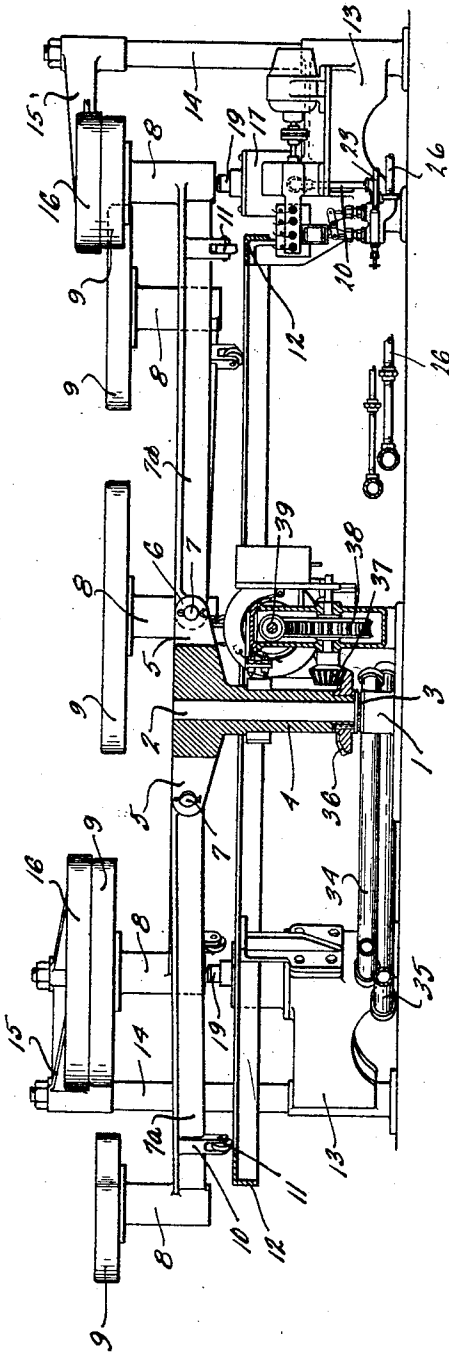


FIG. 5

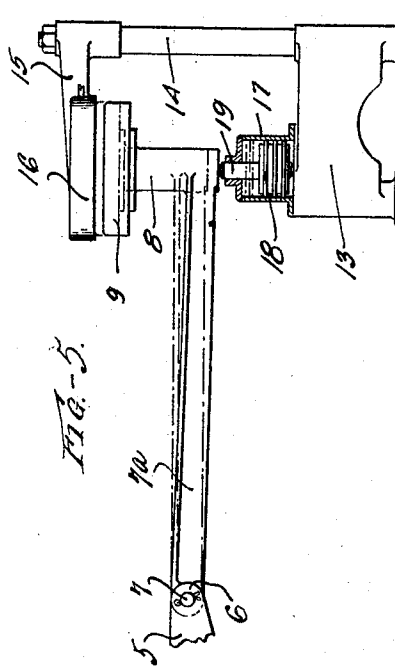
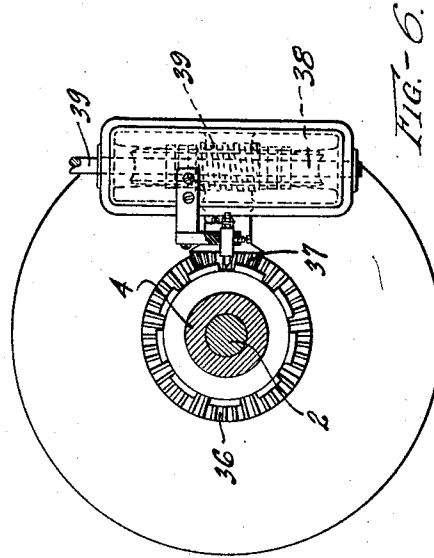


FIG. 6



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CONTINUOUS PRESSING MACHINE

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The invention disclosed in this application relates to pressing machines for laundry and the like and particularly to the continuous type.

the work to and remove it from the beds and change the lays, so that their joint effort produces complete finishing of the work.

Further objects of the invention are in part obvious and in part will appear more in detail hereinafter.

In the drawings, which represent one suitable embodiment of the invention, Fig. 1 is a plan view; Fig. 2 is a detail view, partly broken out and in section, of controlling valve mechanism; Fig. 3 is a cross section on the line 3—3, Fig. 2; Fig. 4 is a side elevation partly in section, of the machine shown in Fig. 1; Fig. 5 is a detail sectional elevation on the line 5—5, Fig. 1; and Fig. 6 is a detail sectional plan view, showing the drive for the bed support or frame.

Referring to the drawings, 1 represents a central support provided with an upstanding shaft 2 having a ball-bearing support 3 for a bed support hub 4 freely rotatable upon the ball bearing structure and the support 1. This hub is provided with a plurality of evenly spaced arms 5, nine being shown in Fig. 1. Each of these arms terminates at its free end in a pair of eyes 6 for a pin 7 upon which a bed arm 7^a is pivotally mounted. Each of these bed arms at its outer end is provided with a bed support 8 carrying a padded bed 9. Each of these bed arms 7^a is further provided with a depending roller bracket 10 receiving an anti-friction roller 11 adapted to ride upon a circular track 12 concentric with the hub 4. By this arrangement it will be seen that the hub 4 and all of the bed members may be moved around in a circuit or path, the rollers 11 riding upon the track 12 and supporting the beds in their lower position. It is also quite obvious that by reason of the pivotal mounting of the arms 7^a the beds may be raised, which movement is for producing the ironing operation as will appear.

Spaced around the beds and their supports, as above described, are a plurality of press head structures each of which comprises a frame or base 13 secured in place and carrying a vertical standard 14 having a head arm 15 extending inward and each provided with a head 16 adapted to register with the

5 In the finishing of laundry articles where pressing is employed there are a plurality of lays of the garment upon the bed necessary for a complete finishing of the article. These
10 several operations or lays are usually accomplished by repeated operations of the same pressing machine. In an installation of this type each operator must become proficient in making all of the lays for each garment which not only renders it difficult to break
15 in operators but prevents the speeding up of the operations for the maximum output. Furthermore, some particular operator may be especially good on some lays and poor on others so that the object of this invention is
20 to provide a pressing machine wherein one operator makes one particular lay of a garment and the several lays are distributed between the operators, so that not only is an operator placed upon a lay to which she is
25 particularly adapted but she becomes highly proficient in the single lay because of its repetition and because she has no others to make at her station, nor is it necessary for her to operate the control for the press operation as this is automatically taken care of.

The object of the present invention is to provide an improved pressing machine of the continuous type, including a plurality of
35 pressing heads spaced apart along a path, together with a plurality of beds, with more than twice as many beds as heads, all beds being connected in a gang, and the gang being provided with means for producing
40 movement of said beds along said path into and out of registry with the heads, and also provided with means for producing relative motion between the heads and beds, when in registration with each other, for the pressing
45 or ironing operation.

A further object of the invention is to provide a machine of the character described and so arranged as to provide, between successive pressing heads, a loading and unloading station, as well as intermediate operating
50 stations where the several operators apply

several beds when they are in the proper position. As shown in the drawings, there are four of these press head structures and they are spaced about the bed structure to provide three equal intervening spaces or stations for completely exposed beds with a greater spacing at one point, in the instance shown, and provide a space or station for a pair of exposed beds, this station being the loading and unloading station, the others being for change in lay purposes.

Any suitable means may be provided for producing relative movement of the heads and beds toward each other when they are in registering relation, as will appear, for causing the pressing or ironing operation. For this purpose, the drawings show each base 13 provided with a fluid cylinder and piston structure including a cylinder 17, a piston 18 and a plunger or piston rod 19 adapted to engage under the bed support 8 of any of the beds when brought into position above the plunger. Each of the cylinders below the piston is connected by means of a pipe 20 with a valve casing chamber 21 communicating by a valve seat 22 with a steam supply 23 regulated by a control valve 24. This chamber 21 also communicates by a valve seat 25 with an exhaust 26. Engaging valve seat 22 is a steam inlet valve 27 connected to a valve stem 28 while the valve seat 25 may be engaged by an exhaust valve 29 provided with a valve stem 30. These two valve stems are connected to operate together by means of a lever 31 pivoted to the frame at 32. The arrangement is such that when one valve is closed the other is opened. Valve stem 28 is adapted to be actuated by any suitable motor means the means here shown being a solenoid or electromagnet structure generally indicated at 33. The supply pipes 23 and exhaust pipes 26 of the valve mechanism of the several press head structures are connected to a suitable supply line 34 and to a suitable exhaust line 35.

Suitable means is also provided for rotating the bed carrying frame in such manner as to move the several beds of the group along their path of movement successively into registering relation with the pressing heads shown. The means provided for the purpose comprises a bevelled driving gear 36 fixed to the hub 4 of the bed frame and actuated by a pinion 37 driven by a worm wheel 38, which in turn is actuated by a worm on shaft 39 driven by any suitable motor means, such as the electric motor 40.

With the arrangement described, it is obvious that by starting and stopping the motor 40 by means of its connection to its source of current, the bed carrying frame may be rotated about the central vertical axis to bring the several beds carried by the frame into and out of registration with the several heads. In this manner each bed can be

brought in turn into registration with a head and at the next movement to a position between two adjacent heads, and in the particular arrangement shown in the drawings, such as at the upper right hand corner in Fig. 1, there are two positions of the beds between adjacent heads, this particular position being the loading and unloading station, as before stated.

Assuming the parts in any definite registering relation between heads and beds, such as shown in Figs. 1 and 2, the pressing or ironing effect may be produced upon work under the heads by elevating the beds which are at those head positions into pressing engagement with the heads, which is accomplished by energization of the solenoids or electromagnets 33 to move the valve devices to a position supplying fluid pressure to the several cylinders 17, thereby elevating the plungers or piston rods 19 and lifting the beds into contact with the heads and producing ironing pressure. During the ironing operation, operators at the loading and unloading station and at the change of lay stations can perform their respective duties, and when the ironing operation is concluded the valve devices are shifted to the exhaust position, allowing the plungers 19 and the active beds to move down, whereupon the bed carrying frame is rotated one more step and the cycle of operations proceeds as before.

Having described my invention, I claim:

1. In a pressing machine, a number of spaced heads arranged in a path, a plurality of uniformly spaced beds in said path, there being more than twice as many beds as there are heads and the heads except at one portion of the path being spaced apart a distance equal to the spacing between a bed and the next bed save one, means for moving the group of beds along said path for effecting registration of successive beds with a head, and means for effecting pressing engagement of the heads and those of the beds which are in registration therewith.

2. In a pressing machine, a number of spaced heads arranged in an endless path, a plurality of uniformly spaced beds in said path, there being more than twice as many beds as there are heads and the heads except at one portion of the path being spaced apart a distance equal to the spacing between alternate beds, means for moving the group of beds along said path for effecting registration of successive beds with a head, and means for effecting pressing engagement of all of the heads and those of the cooperating beds which are in registration with said heads.

3. A pressing machine of the class described in claim 1 wherein the beds are arranged in a circular path on a rotatable support in the form of a circular frame.

4. A pressing machine of the class de-

scribed in claim 1 wherein the beds are arranged in a circular path on a rotatable support in the form of a circular frame, and wherein the heads are so spaced as to provide two exposed beds between two of the heads.

In testimony whereof I hereby affix my signature.

EMIL J. CARROLL.