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J. TROPP

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RECEIVING RACK FOR IRONING MACHINES

Filed April 9, 1931

FIG. 1

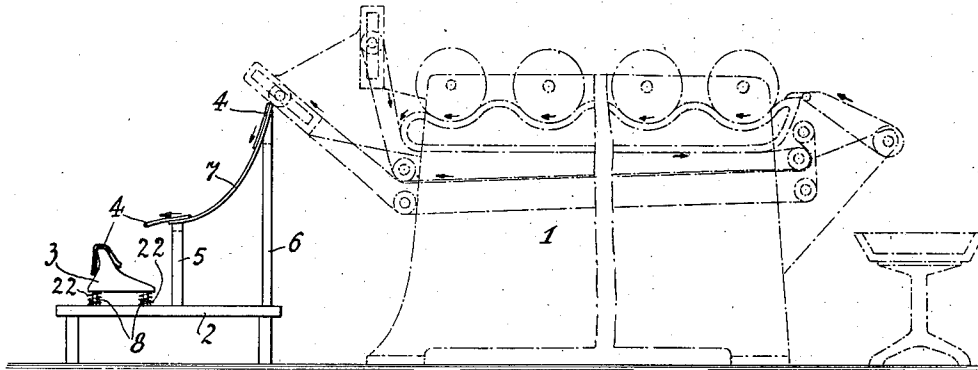


FIG. 2

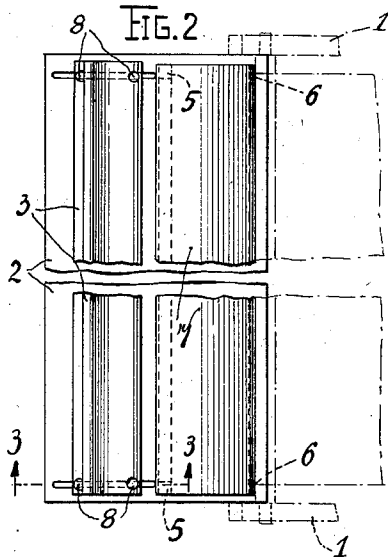


FIG. 3

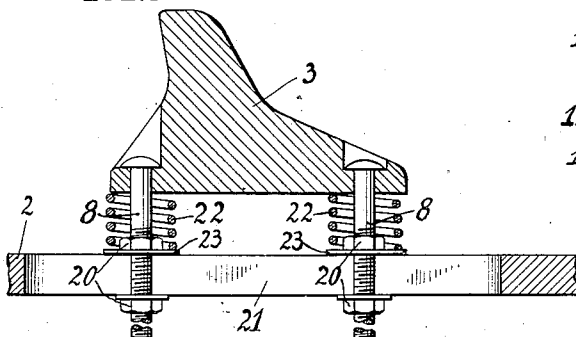


FIG. 4

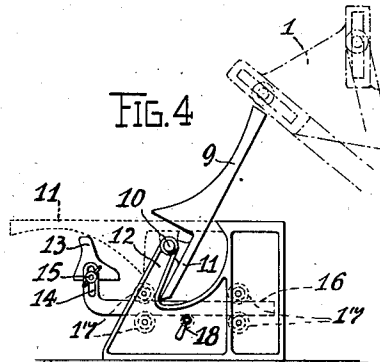
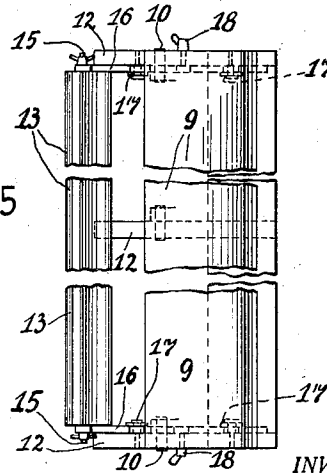


FIG. 5



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RECEIVING RACK FOR IRONING MACHINES

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4 Claims. (Cl. 271-63)

This invention relates to improvements in receiving and piling racks for articles discharged from an ironing or other similar machine.

This method of removing the ironed articles necessitates a number of girls at the discharge end of the ironing machine to prevent the articles musing each other.

The object of the invention is to provide a receiving device for ironing or other like machines in which the articles discharged from the machine will automatically fall and accumulate, one upon the other, into smooth unrumpled piles or stacks.

Another object of the invention is to provide an improved gravity fed piling or receiving rack for independent articles delivered from an ironing or like machine.

A further object of the invention is to provide an improved receiving rack for articles discharged from an ironing machine, so constructed as to receive the articles smoothly super-imposed one upon another.

Another object of the invention is to provide an improved receiving device for articles discharged from an ironing machine so constructed as to receive the articles super-imposed one upon the other and to automatically adjust itself according to the weight of the articles super-imposed on such device.

The invention also has other objects, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawing forming part of this specification,

Figure 1 represents a side elevation in phantom view of an ironing machine with my improvements applied thereto.

Figure 2 represents a top plan view of my improved receiving and piling devices, the end of the ironing machine being shown in dotted lines.

Figure 3 represents a detail vertical section through the receiving or supporting rack illustrating its supporting springs and positive adjusting devices.

Figure 4 represents a detail side elevation of a modified form of my receiving table or rack designed for both small work and large flat work, and

Figure 5 represents a top plan view of the devices shown in Figure 4.

Heretofore it has been the practice in ironing machines to have small piece work such as napkins, discharged from the ironer on to a flat table, one at a time; these napkins or small articles being removed from the table just after they fall thereon so that one article will not drop upon another and crinkle or muss either the previous article or itself.

In the present invention, only one girl is necessary at the discharge end of the ironing machine, as the accumulation of napkins or other ironed articles is taken care of in such manner that all of such articles lie perfectly smooth one upon the other without any rumpling or musing, as the articles at the time they drop upon the receiving table, are still hot.

With the present invention, if the machine is running at full capacity and the girl is not keeping up with the machine in removing the articles from the rack, these articles simply pile up one upon the other, and as the uppermost article must always be approximately in the same position in relation to the discharge apron or shoot, this rack automatically adjusts itself because of the weight of the articles upon it, to occupy this normal receiving position.

This is accomplished by springs arranged under the rack which allow it to give under added weight so that its upper or receiving ridge always occupies approximately the same position in relation to the discharge edge of the apron.

By reference to Fig. 1, it will be seen that this apron 7 is supported by standards 5 and 6 upon a table 2. The apron is preferably constructed of highly polished metal so that when the napkin or other article is discharged from the ironing machine 1, from its endless conveyor, it is projected upon the apron 7 and because of the arrangement of this apron, slides down the same with some velocity.

The lower edge of the apron occupies such a position that the rapidly moving napkin 4, by the force of gravity, is projected horizontally at the forward edge of the apron and falls over the ridge bar of the rack 3 by the force of gravity.

In order that the ridge bar may be easily located to receive the napkins, with approximately half of the napkin on each side of the rack bar, I provide vertical and lateral adjustments for this bar 1, by bolts 8 having adjusting nuts 20, which operate through elongated slots 21, formed in the top of the table 2. By this means, the position of the rack bar 3, after having once been determined, can be easily secured by moving the bar 3 forward or back or up or down.

Coil springs 22 are arranged about the bolts 8 and bear with their upper ends against the

lower sides of the bar 3 and with their lower ends against washers 23 which rest upon the top of the table 2 to each side of the slots 21. By this means as the weight upon the bar 3 increases the springs 22 give and allow the bar to automatically move downward according to the weight it is supporting.

The result of this automatic movement of the bar is to always bring the ridge of the bar as represented by the uppermost napkin into the exact position to catch the next succeeding napkin discharged from the apron.

It will be seen that this structure obviates the chance, when a considerable number of napkins are piled on the bar, of the succeeding napkins simply contacting with the front of the bar without passing over the ridge, and always brings the bar in position to allow the succeeding napkins to pile smoothly over the preceding ones.

The table 2, of course, is provided with suitable legs and is moved to a position where the apron 7 will most readily receive the napkins being discharged from the endless conveyor of the ironer.

The above description of the parts shown in Figs. 1 and 2 provides for the reception and piling of small articles such as napkins, towels and the like.

At times, however, it is desired, because of the considerable expense of ironing machines, to use the same machine for sheets and other large articles.

In order to accommodate the machine to this purpose I provide the modified form of the invention shown in Figs. 4 and 5. In this modified form, a flat table 11 is provided, and this table is pivotally supported on a rod 10. This rod runs entirely across the machine and is supported at intervals by a number of arms 12 forming part of the frame of the machine, which frame rests upon the floor.

In the dotted line position shown in Figure 4, the table is entirely flat upon the top and a large article, such as a sheet, discharging from the endless conveyor of the ironer will pass downward and rest upon this table. When one sheet is passed on to the table, it is, of course, removed so that any succeeding sheets would not crease or muss it by resting upon it.

The peculiar construction of the arms 12 in relation to the pivoted table 11 is such that any number of these arms may support the shaft 10 which is about ten feet long, and thus rigidly hold the table, which not only has its own weight to support, but at intervals, the weight of the operator who will rest her weight upon the table in removing the sheets from the table.

The under side of this table, as at 9, is formed with a curved apron similar to the apron 7 so that when the machine is to be used for receiving and piling napkins or small articles, the table 11 is simply reversed into the full line position shown in Fig. 4. In this position, the napkins, towels, or the like, discharged from the ironer, slide down the apron 9 and are projected in a manner similar to that heretofore described in relation to the construction of Fig. 1, and fall over an adjustable rack or bar 13.

This bar is supported at either end by an angular slide 16 having vertical slots 14 at its upturned forward ends. Thumb nuts 15 securing bolts which pass through the slots 14 and are secured at the end of the bar 13.

The bars 16 are supported by flanged rollers

17 secured to the frame of the receiving rack and are locked in position by eccentrically operated locking devices 18 having suitable operating handles.

By the above means, it will be seen by operating the locking devices 18, the rods 16 are released and can be moved back and forth to bring the ridge of the rack bar into the proper position to receive the article projected from the apron 9.

In this modified form of my invention, it will be seen that ample provision is made for using the single ironing unit for any size articles and that full adjustment for the receiving rack bar is provided laterally or vertically. When napkins, towels or small articles are to be ironed, the table 11 is adjusted into the position shown in full lines in Fig. 4. When sheets are to be ironed, it is adjusted into the position shown in dotted lines in Fig. 4, this last position giving a flat receiving table and the articles being removed as each one falls upon this table.

It will be understood that while I have shown the napkins in the drawing as being projected straight out horizontally to fall over the receiving rack, the parts may be so arranged that the leading edge of the napkin will drop so low as to strike the front of the bar, in which event the napkin or towel will be reversed in the air and drop over the rack with its upper side down.

It will be understood that after one napkin has become positioned on the rack, that the friction of its upper surface will assist in arresting the second napkin and so on.

It will also be understood that while I have shown the modified form of the reversible table with a receiving rack separate, the receiving rack may be attached to or form part of the table itself.

When it is desired to push the receiving leg 13 back out of the way if the operator is working in front of the machine for some reason, the locking device 18 can be operated and the bars 16 pushed back into the machine and locked in position again.

It will further be seen that my improved devices are applicable to different types of ironing machines and the stand or arm carrying the parts may be moved into proximity to the discharge end of the ironer to receive the articles therefrom and my improved rack remain an operating unit in itself without any direct connection with the ironing machine.

It will be further understood that while I have shown my improved devices as applied to an ironing machine, that it might with equal facility be applied to other machines in which individual articles were discharged from one end of the machine to take care of an accumulation of articles automatically, without any chance of their becoming mussed or crumpled by such accumulation.

Such a structure might very well be used in connection with printing presses for either paper or fabrics for taking care of the printed articles and allowing a slight interval for the ink to dry on the upper surface before the falling article is piled or superimposed on it.

The operator attending the machine, of course, removes the pile of articles as one unit and in the case of napkins or towels, they are afterwards folded.

It will be further seen that because of the

peculiar construction of my device, the article is projected through the air so that the atmosphere reaches both sides of the same, whether it be from an ironing machine or a printing press and any dampness, wet ink or the like has a chance to be thoroughly dried by the warm atmosphere reaching the fabric or paper on both sides and without contacting with any surface that may have become damp by the previous passage of articles thereover.

It will be understood that the surface of the receiving rack may be either roughened or surfaced with some material that has a gripping surface, so that the first napkin or article projecting on it or over it, will not slip, but become firmly anchored in position.

It will be further understood that with a machine constructed according to the present invention, it will be possible to lay any flat article, such as an ironed napkin, straight down over a receiving bar with approximately half on each side, without any sliding or side movement which in articles of this kind would wrinkle them. It would not be at all desirable, for instance, to slide articles one over the top of the other from the side. The napkins at the end of the ironing operation are slightly damp and being of a more or less rough texture would not slide one over the top of the other but would stick or wrinkle if such an operation were attempted. Projecting them through space and allowing them to drop over a receiving bar holds them perfectly smooth and provides for their piling up one over the other on the receiving bar without any side sliding movement which would wrinkle or muss them.

Having thus described my invention, what I claim is new and desire to secure by Letter Patent is:

1. The combination in a machine for delivering flat articles, of a movable work receiving table having one portion formed flat for receiving one kind of work and another portion formed with a gravity chute for another kind of work and a bar for receiving and piling the work from the chute when the latter is in operative position.

2. The combination in a machine for delivering flat articles, of a pivoted work receiving table formed flat on one side for receiving one kind of work and with a gravity chute upon the opposite side for receiving another kind of work.

3. The combination with a machine for discharging flat articles, of a receiving device for such articles comprising a pivoted table flat on one side and having a gravity chute construction on the opposite side for projecting the articles through space, a bar for receiving the articles when so projected approximately half on each side of the bar and means for adjusting the bar both laterally and vertically in relation to the chute.

4. In an ironing machine for automatically delivering the finished flat smooth articles superimposed in a pile, the combination with a machine for delivering such flat smooth articles, of a receiving device for the spread articles delivered from the machine comprising a receiving chute having a vertical gravity feed portion and an approximately horizontal end delivery or "projecting" portion, a horizontal receiving bar spaced from the delivery end of the chute to receive the articles in projected flight one upon another and means for adjusting the receiving bar in relation to the "projecting" end of the chute to catch the articles half on each side of the bar at the end of their flight.

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