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[54] **LAUNDRY APPARATUS**
5 Claims, 8 Drawing Figs.

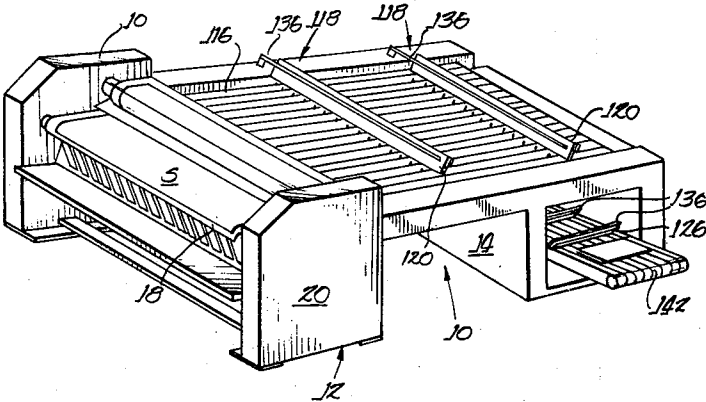
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52, 48, 56; 270/66, 68; 100/102

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ABSTRACT: A finishing apparatus comprising a high-speed ironer cylinder and folder is provided which is adapted to process fabrics comprising polyester-cotton flatwork with a resin finish, polyester-cotton flatwork with no resin finish, as well as plain cotton flatwork. The provided apparatus includes a high-speed ironer cylinder having an extremely large portion of the circumferential surface contacting flatwork to be ironed, and a folder portion arranged in series with said ironer and adapted to impart a plurality of transverse folds and cross-folds in the freshly ironed piece.



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SHEET 1 OF 3

Fig. 1.

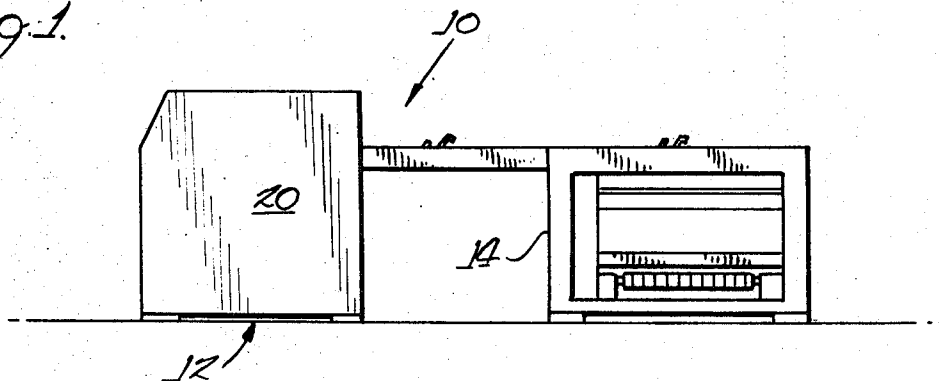
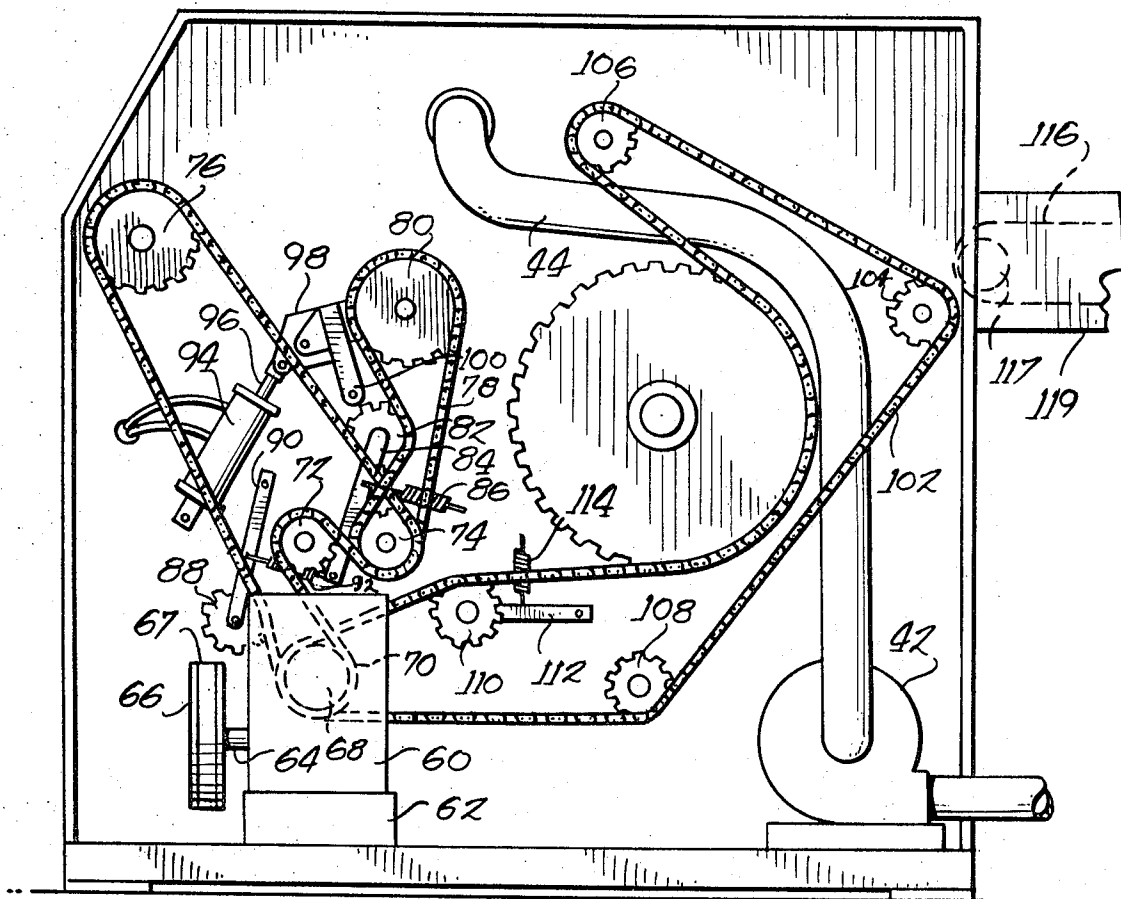


Fig. 2.



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Fig. 3

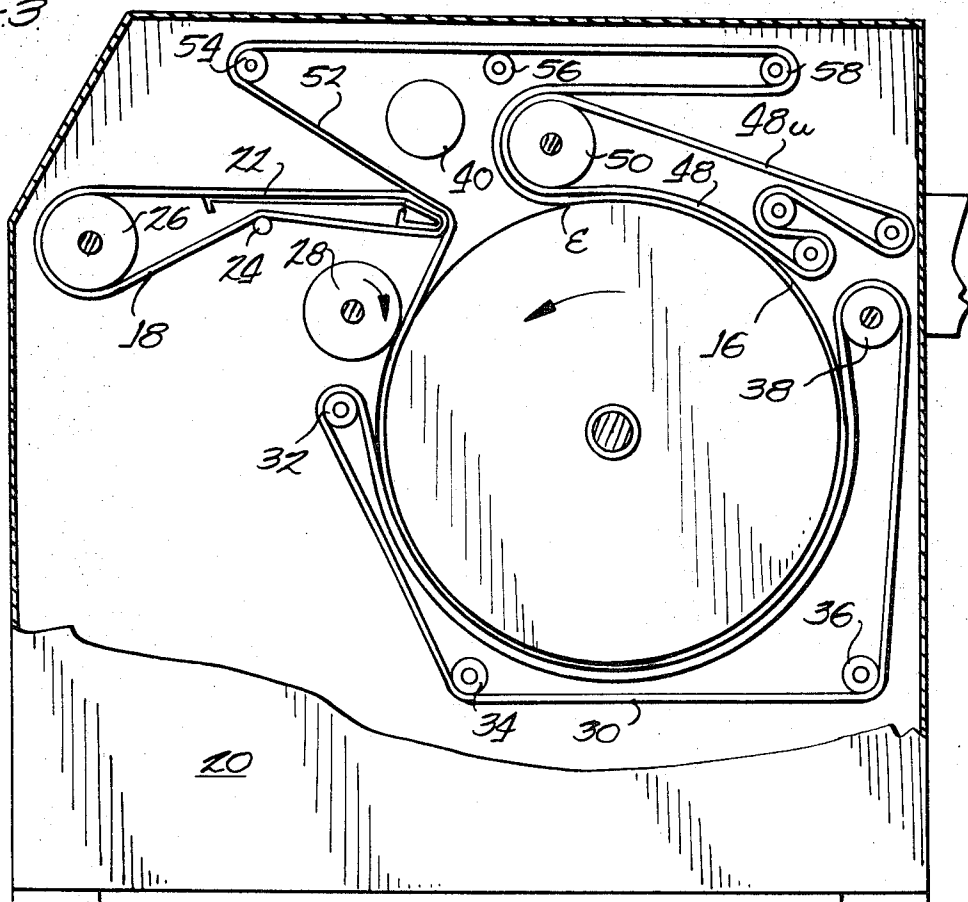
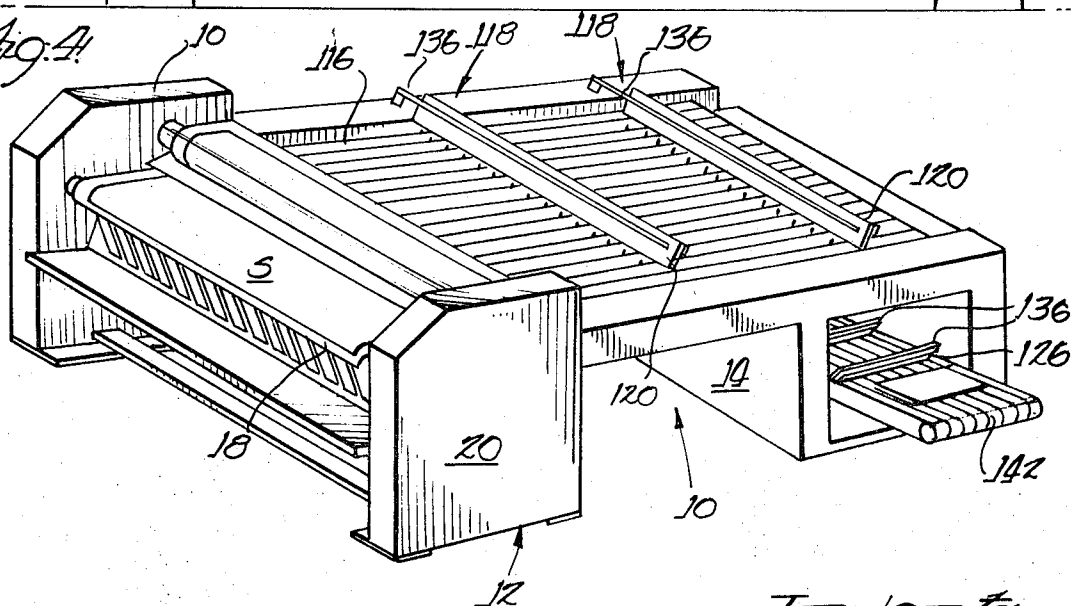
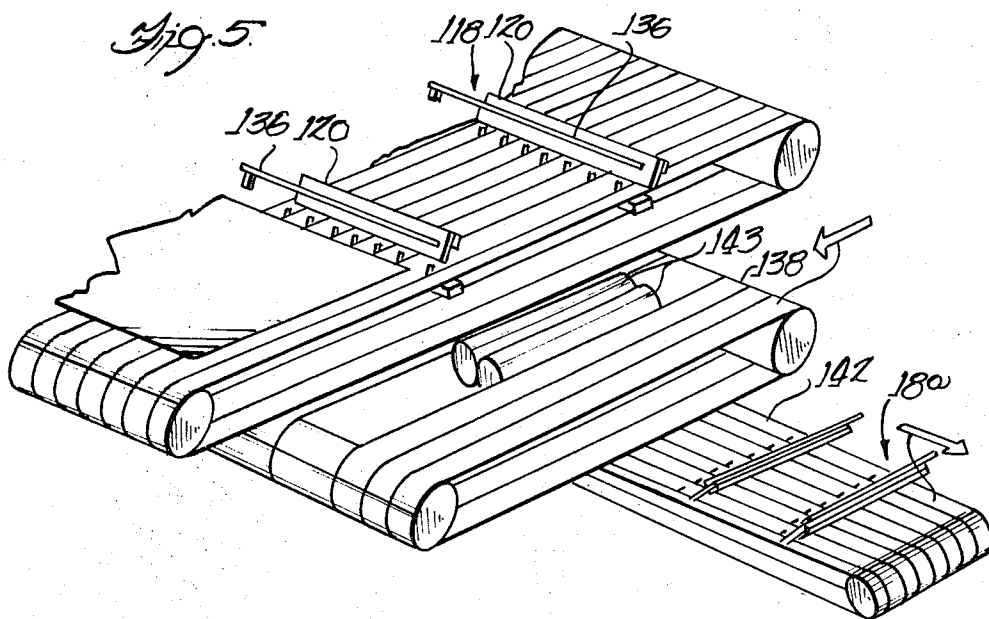
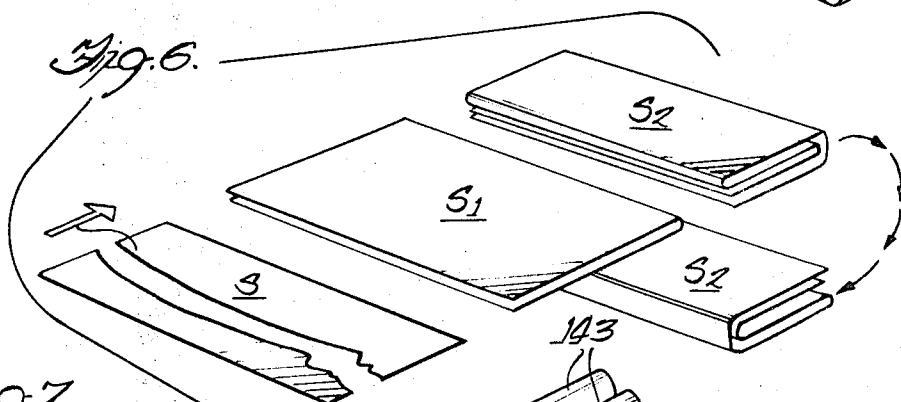
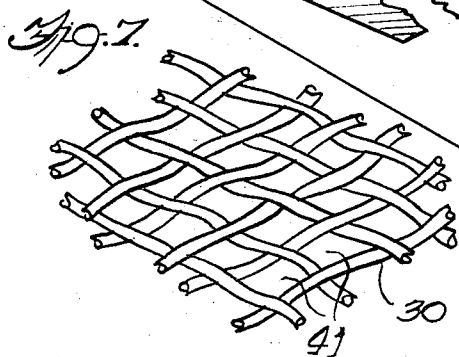
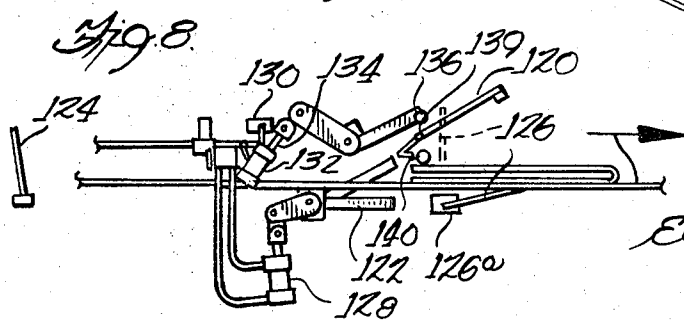


Fig. 4



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LAUNDRY APPARATUS

BACKGROUND OF THE INVENTION

This invention relates to apparatus adapted to efficiently iron and fold synthetic fiber-cotton fiber fabric flatwork, including such fabrics having a resin finish, as well as ordinary cotton flatwork.

Polyester-cotton flatwork is a blended material, usually of equal parts of polyester and cotton. Polyester is a synthetic fiber comprising a condensation product, as of terephthalic acid and glycol. The polyester fiber has advantageous properties such as that of abrasion and wrinkle resistance, and is being used with increasing frequency in combination with other fibers in cloth employed in making flatwork, shirts, suits, etc.

The desirability of fabrics which require minimum care and little or no hand finishing is apparent; flatwork of such fabrics will provide the housewife with attractive articles with little or no attendant hand finishing.

However, extended periods of use of the various materials have disclosed the following undesirable characteristics. The most common type of wrinkle-free material, which is available under a variety of brand names, comprises a 50-50 polyester fabric having a resin finish which is applied at elevated temperatures as high as 500° F. Such fabrics are referred to as having a "no iron" finish. The high-temperature application, however, has the accompanying disadvantage of breakdown of the cotton strength. The resin finish also has the disadvantage of being oil retentive whereby fabrics having such finish are readily stained by hair oil, suntan lotion, cooking oils, etc. Removal of such stains is accomplished only with great difficulty.

Still further it has been found that washing at lower than normal temperatures (not above 140° F.) is necessary if the resin finish is to be preserved in such fabrics. The lower temperatures may create health problems, as in hospitals or convalescent homes where maximum temperatures during laundering are necessary to assure sanitary laundered items for the sick and aged patients and residents.

In addition to the foregoing, it is necessary that the resin-finish fabrics be dried with care at lower temperatures and immediately folded after drying to prevent the formation of deep-set wrinkles. The washing and drying steps should be carried out with no more than 40 percent of the rated washer and dryer capacities utilized to minimize bunching and wrinkle formation.

The resin-finish products therefore have experienced limited success since ironing is still necessary if a neat-appearing flatwork product is desired, particularly with respect to larger pieces.

The improved wear life imparted to ordinary cotton by the addition of a synthetic polyester fiber is well known. The wear life of an ordinary cotton item is increased 100 percent by the incorporation therein of 50 percent of polyester fibers; such item may also have a resin finish.

The relative advantages among the different fabrics are as follows: Cotton and polyester fabrics with or without a resin finish have at least twice the wear life of ordinary cotton. Cotton and polyester fabrics (also called "pure finish" or "clear finish" fabrics) are obviously less expensive than the same fabrics having a resin finish ("no iron" finish). As above noted, durable press fabrics must be washed at a temperature of below 140° F. to preserve the resin finish, whereas cotton and pure finish fabrics may be washed at the more desirable higher temperatures of about 180°.

It is seen from the foregoing fabric characteristics that in an institution employing large quantities of flatwork on a regular basis, the avoidance of wrinkle formation is substantially impossible. Assuming a number of sheets are disposed in a typical institution dryer, at the end of the drying cycle the time necessary to empty the dryer and properly fold the sheets renders it an impossibility to avoid wrinkle formation in the last sheets to be taken from the dryer without employing a prohibitive amount of hand labor.

It has been found, therefore, that it is necessary to finish even the resin finish fabrics if unsightly wrinkles are to be avoided in the flatwork used by large institutions such as hospitals, hotels, etc., where flatwork is continually washed on a large volume basis.

The speed of ironing is dependent upon the moisture which must be removed from a washed and "extracted" item of laundry. Because of the lack of water retention by synthetic fibers, cotton fabrics removed from the extractor following washing retain about 50 percent moisture, pure finish fabrics retain about 25 percent moisture, and resin finish fabrics retain about 18 percent moisture, based on the bone dry weight of the articles. The lesser water content enables the synthetic-containing fabrics to pass through an ironer such as hereinafter disclosed at speeds of 150 feet per minute with ironing cylinder temperatures of about 400° F. The greater water content of cotton fabrics taken from the extractor requires slower speeds of about 50 feet per minute maximum, with a cylinder temperature of about 375° F.

It is an object of this invention to provide a novel finishing apparatus adapted to iron and fold a variety of fabrics at maximum speeds permitted by the individual fabrics.

It is another object of this invention to provide a high-speed finishing and folding apparatus which performs a plurality of processing operations on laundered flatwork in a completely automatic manner with a minimum of hand labor.

It is a further object of this invention to provide a combination finishing-folding apparatus which is adapted to efficiently handle any fabric normally encountered in the laundry.

It is another object of this invention to provide a combination ironer-folder apparatus in which an exceptionally large percentage of the ironing cylinder periphery (over 80 percent) is employed for finishing flatwork rapidly moving therethrough.

It is another object of this invention to provide a novel finishing apparatus employing a folding station which assures positive release of an engaged flatwork edge so as to assure the formation of precise folds.

It is another object of this invention to provide a novel finishing apparatus operable at high rates of speed in which the rapidly generated steam of a damp article being finished is rapidly withdrawn, thereby increasing finishing efficiency.

The above and other objects of this invention will become apparent from the following description of this invention when read in the light of the appended claims.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of one form of finishing apparatus made in accordance with this invention;

FIG. 2 is a fragmentary side elevational view of the ironing portion of the provided finishing apparatus made in accordance with this invention illustrating drive means and a steam exhaust;

FIG. 3 is a side elevational view partly broken away, schematically illustrating the various rolls and belts members employed for conveying flatwork in the ironing portion of the provided finisher;

FIG. 4 is a perspective view of a finishing apparatus made in accordance with this invention;

FIG. 5 is a perspective view of conveyor members and folding elements employed in the folder portion of the finishing apparatus provided by this invention;

FIG. 6 is a schematic representation of the various stages of folding a sheet member processed by the finisher of this invention;

FIG. 7 is a fragmentary view illustrated on a greatly enlarged scale of a fragment of conveying belt employed in the provided finisher; and

FIG. 8 is a side elevational view of a folding station employed in the provided invention.

DESCRIPTION OF THE INVENTION

Referring now more particularly to FIG. 1, an apparatus 10 is therein illustrated comprising an ironing or finishing portion 12, connected to and integrally formed with a contiguous folding portion 14. The latter portion is similar to that disclosed in my copending application, Ser. No. 715,680, filed Mar. 25, 1968, now abandoned. It is the function of the apparatus 10 to finish a washed and moisture-extracted piece of flatwork such as a sheet or the like by ironing such sheet in the ironing portion 12 whereafter the ironed sheet is automatically conveyed and automatically folded in the folder portion 14.

The ironing portion 12 comprises a large polished surface ironing cylinder 16 most clearly seen in FIG. 3, against which a piece of flatwork or the like is fed by means of a feed table and conveying feed belts 18, more clearly seen in FIGS. 3 and 4. In the normal course of use of the illustrated apparatus 10, two feeders will be disposed adjacent opposed side frame portions 20 of the finisher 10, the frames being most clearly seen in FIGS. 1 and 4. A sheet such as sheet S illustrated in FIG. 4, is spread apart by the two feeders and the leading edge placed upon the moving feed belts 18 which move the sheet inwardly toward the ironing cylinder 16. As is most clearly seen from FIG. 3, the feed belts or ribbons 18 move over the surface of a feed table 22 and the ribbons 18 are maintained taut by means of a tensioning roller 24, which cooperates with drive roll 26 in rotatably moving the tapes and slidably forcing the belts over the smooth surface of the feed table 22. The drive roll 26 for the feed belts 18 as well as the opposed ends of the takeup roller 24 are journaled in the opposed side frames 20. Feed table 22 is similarly supported at opposed end portions on the side frames 20.

It will be noted from FIG. 3 that as the sheet S or other article to be ironed is moved to the right in FIG. 1 in the direction of movement of the feed belts 18, the leading edge of the sheet or other article to be ironed or finished drops from the curved end of the feed table 22 against the polished outer peripheral surface of the ironing cylinder 16 with the assistance of guide tapes 52 moving about rollers 54, 56 and 58.

Cylinder 16 may be internally heated by gas or steam, gas heat providing for a greater temperature range, in the ironing or finishing portion 12 of the apparatus 10. It is desired that gas heat is utilized to insure the attainment of ironing temperatures of about 370° F. which are commonly employed in the ironing of cotton as well as blends of cotton and polyester fibers, or pure finish fabrics. By the use of suitable temperature controls well known in the art, the heat input into the cylinder 16 may be closely regulated so that the cylinder surface temperature may be in the desired range for the particular fabric being ironed.

It should be noted at this point that the resin finish fabrics are susceptible to thermal shock, comprising a disadvantage in the laundering of the same. Thus, the wash water employed should not effect rapid temperatures drops in the resin finish articles being laundered.

Accordingly it is a more lengthy and expensive process to wash resin finish fabrics inasmuch as the rinse water must be controlled so as not to effect a temperature drop as great as 15° F. Temperature drops in increments of 15° or greater will deleteriously affect the resin finish on such fabrics, adversely affecting the appearance and the wearing properties of the article.

Upon dropping from the end of the feed table at 22 a sheet or the like will be guided into contact with the outer periphery of the ironing cylinder 16, and follow the contour of the cylinder 16 until it passes between the counterrotating compression cylinder or roll 28 which is rotating clockwise as illustrated in FIG. 3, at a faster surface speed than that of the counterclockwise-rotating ironing cylinder 16. As a result of the difference in surface speed there will be a tendency for the sheet to be pulled and stretched in the course of passing between the contacting peripheries of the compression roll 28 and the ironing cylinder 16. The latter action tends to remove

any wrinkles which may have been present in the dropping leading edge portion of the sheet, whereafter such portion is confined between the outer periphery of the ironing cylinder 16 and an adjacent face portion of a plurality of continuous conveying belts 30 which are movable about idler rolls 32, 34 and 36 as well as drive roll 38, all of which are most clearly seen in FIG. 3 of the drawing.

The opposed ends of these rolls are journaled in the opposed side frames 20. Each of the conveying belts 30 is formed of loosely woven asbestos fibers as most clearly seen in FIG. 7. By providing the conveying belts 30 with the open interstices 40 a moisture-containing piece of flatwork, upon passing against the heated, outer peripheral surface of the ironing cylinder 16, and upon being maintained thereagainst by the continuous conveying ribbons 30, will be allowed to have the moisture content dissipated therefrom by means of the ready passage of the generated steam through the thickness of the belt 30.

It is apparent that if the belts 30 were of a nonporous composition which prevented transmission or passage of water vapor generated by the heated ironing cylinder surface, moisture would be trapped within the sheet and prevented from escaping, thereby rendering drying of the article in the course of ironing a difficult, if not impossible, task.

It has been found to be extremely important, therefore, to employ a conveying belt which readily allows transmission of the generated moisture from the interface between the heated ironing cylinder 16 and the opposed series of conveying belts 30. FIG. 7 illustrates the open weave in a fragment of belt 30. To further assist the elimination of the moisture generated in the course of ironing a piece of flatwork by means of the heated ironing cylinder 16, a transverse apertured vacuum cylinder 40, see FIG. 3, is disposed across the width of the cylinder 16 and connected to a low-pressure creating means such as a blower member 42, most clearly seen in FIG. 2. The moisture from cylinder 40 is exhausted to the atmosphere exteriorly of the building in which the ironer is housed by means of the conduit portion 44 illustrated in FIG. 2 in communication with the blower member 42.

Referring once again to FIG. 3, it will be noted that a sheet in the course of following the rotating cylinder 16 and the moving series of conveying belts 30, will eventually leave contact with the conveying belts 30 and be disposed between the outer periphery of the cylinder 16 and a second series of conveying belts 48 rotatably driven by drive roller 50.

Belts 48 may have the same open weave construction as ribbons 30 to assist in the elimination of moisture in the ironed fabric in contact with the cylinder 16. It will be seen from FIG. 3 that the uppermost portions 48u conveying belts 48 define a downwardly slanted conveying surface which transmits a piece of flatwork, following an ironing operation, onto the feed belts of the adjacent folding portion 14 of the illustrated finishing apparatus 10.

It will be further noted from FIG. 3, that upon emerging from between the conveying belts 48 and the outer periphery of the heated ironing cylinder 16 at point E on the cylinder, means must be provided to enable the sheet to be conveyed to the upper portions 48u of the belts 48 and be downwardly conveyed in the direction of the folding apparatus 14 wherein a plurality of folding operations will be conducted.

In order to effect such conveyance, the guide tapes 52 are provided which are formed of a heat-resistant material such as glass fibers or the like, and move about the major portion of the outer periphery of the ironing cylinder 16, as well as the idler rollers 54, 56 and 58. As above mentioned, the guide tapes 52, in addition slidably engage the edge portion of the feed table 22 in the course of guiding a sheet as it drops from the edge of the feed table 22 toward the underlying cylinder 16.

Thus in the course of passing about the periphery of the ironing cylinder 16 and having the moisture content therein removed, a damp sheet or the like is disposed over guide tapes 52 and the outer periphery of the ironing cylinder 16, and

beneath the overlying conveying belts 30 and 48, in the course of passing to the point on the ironing cylinder periphery E whereat the guide tapes 52 serve to reverse the direction of the ironed sheet guided thereby and force the same to follow the peripheral contour of the drive roller 50 which drives the conveying belts 48. Upon reaching the upper portion of the drive roller 50, the sheet may freely rest upon upper surfaces 48a of the belts 48 and be carried downwardly into contact with the feed belts of the adjacent feed table of the folder portion 14 of the apparatus 10.

Whereas FIG. 3 describes the conveying belts and guide tape arrangement for conveying a piece of flatwork from the feed table 22 onto the upper surface of the ribbons 48 for discharge to an adjacent folder 14, FIG. 2 is illustrative of the drive means employed for rotating various drive rolls above described.

In FIG. 2, a speed reducer 60 is illustrated mounted upon base 62 having an input shaft 64 driven by a split pulley 66 which communicates with the output pulley of a drive motor not illustrated, by means of connecting belts 67. By adjusting the interval between the split portions of the pulley 66 driving the input shaft 64 to the speed reducer 60, and by simultaneously adjusting the interval between the motor driving the pulley portions and the pulley, the speed of the input shaft may be varied.

Speed reducer 60 has a double sprocket 68 mounted on its output shaft. One sprocket portion rotatably drives a sprocket chain 70 which rotatably engages idler sprocket 72 and 74 as well as sprocket 76 which drives drive roll 26 of the feed belts 18, more clearly seen in FIG. 3.

Inasmuch as sprocket 74 is also a double sprocket, a portion thereof engages drive sprocket chain 78 which rotatably drives sprocket 80 comprising the drive means for compression roll 28 illustrated in FIG. 3. A tensioning sprocket 82 which is mounted on the end of a pivotal arm 84 maintains a desired tension in chain 78 as it drives the sprocket 80. Pivot arm 84 and sprocket 82 are urged against the chain 78 by means of the coil spring 86 or other equivalent device. Tension sprocket 88, which is similar to tension sprocket 82, rotatably engages sprocket chain 70 and is mounted on the end of pivot arm 90 which is urged against the moving chain 70 by means of coil spring 92.

In the normal course of use of the ironing cylinder 16, an extremely high temperature may be generated as high as 400° F., depending on the nature of the material being ironed. At the end of a working shift it is desired to remove the compression roll 28 from contact with the heated peripheral surface of the ironing cylinder 16 to prevent heat deterioration of the peripheral portion of the compression roll 28.

To effect the withdrawal of the compression roll 28 from against the ironing cylinder 16, a pneumatic or hydraulic cylinder 94 may be employed which in conjunction with a piston arm moves connecting member 98 pivotally engaging a bearing mount for roll 28 at 100 whereby the sprocket 80 and attached compression roll 28 are driven through a predetermined arc. At one end limit of this arc, the periphery of the compression roll 28 is in contact with the periphery of the heated ironing cylinder 16; when the piston arm 96 is in the retracted position, the sprocket 80 and attached compression roll 28 are retracted from contact with the periphery of the ironing cylinder 16 out of engagement therewith.

Thus at the end of a normal working day or working shift, by appropriate actuation of the pneumatic or hydraulic cylinder 94, the compression roll is withdrawn from engagement from the periphery of the ironing cylinder. Such withdrawal prolongs the life of the asbestos material disposed about the periphery of the compression roller, and at the same time avoids the development of flat points which may be created by prolonged engagement between the periphery of the compression roll and the polished surface of the ironing cylinder 16.

Also driven by a sprocket portion of the double sprocket 68 of the speed reducer 60 is a sprocket chain 102 which serves to drive sprocket 104 of drive roll 38 for the conveying belts

30. Chain 102 also serves to rotatably drive sprocket 106 which rotatably drives the conveying belts 48. In addition to these latter two sprockets members, chain 102 also rotatably engages idler sprocket 108 and tension sprocket 110 mounted on the end of pivot arm 112 which is urged in an upwardly direction by means of coil spring 114, as is seen in FIG. 2. The latter FIG. also illustrated feed belts 116 rotatably engaging a roller 117 mounted between opposed sidearms 119 of the folder portion 14 of the apparatus 10. Feed belts 116 are also seen in FIGS. 4 and 5.

As previously noted, folder portion 14 of the apparatus 10 is similar to that disclosed in my copending application, Ser. No. 715,680, filed Mar. 25, 1968. An ironed piece of flatwork is thus able to pass by means of the belts 116 into two consecutive, serially aligned folding stations such as stations 118 illustrated in FIG. 8 of the drawing. This folding station is similar to that disclosed in my copending application, Ser. No. 715,680, and comprises a fixed anvil table 120 and a plurality or reciprocally movable fingers 122.

The fingers 122 are moved into the raised position by the tripping of a switch actuator arm 124 in advance of the anvil surface 120. In the raised position, the fingers will allow a sheet being conveyed by means of the belts 116 to move onto the inclined surface of the anvil surface 120. After tripping a switch actuator arm 126 which projects through a slot in the surface 120, fingers 122 are forced into the lower position by means of the pneumatic cylinder 128. Switch 126a actuates a solenoid valve 130 which in turn allows air to pass into a pneumatic cylinder 132, resulting in extension of a piston arm 134 and downward pivotal movement of a clamping arm 136. The leading edge of a sheet is therefore clamped in position on the anvil surface 120 until the trailing edge of the sheet loses contact with the switch actuator 124 resulting in upward movement of the clamping arm 136 as piston arm 134 is retracted. Release of the leading edge of the sheet is timed to desirably fall upon the terminal edge of the sheet, effecting a buckle fold. It will be noted from FIGS. 1 and 4 that in the course of being conveyed on the folder conveying belts 116, a sheet S will be buckled twice in the manner most clearly seen in FIG. 6 of the drawing.

An improvement provided by this invention in each folding station 118 comprises a continuous slot 139 formed along the length of each anvil surface 120. An air bar 140 having upwardly directed openings jets air under pressure simultaneously with the upward movement of the clamping bar 136 and may use the exhaust air of cylinder 132. As a result, the sticking of the leading edge of sheet S on the included surface of the anvil plate 120 is prevented.

Sticking has been experienced in the past, particularly when the sheet is in a hot condition and is allowed to retain a minimum percentage of moisture. This sticking problem has been completely solved by the utilization of the air bar 140 which discharges air under pressure through the continuous slot 139, most clearly seen in FIG. 8. The sheet S, after being buckled once into the form S1 of FIG. 6 in the first folding station 118 disposed closer to the feed end of the conveying belts 116, continues on to the second folding station 118, whereat a second buckle fold takes place, resulting in the sheet form S2 illustrated in FIG. 6, whereafter the sheet drops from the terminal end of the upper conveyor belts 116 and drops to underlying conveyor 138 moving in the opposite direction to the direction of movement of the upper conveyor composed of belts 116. In view of the normal conveyor speeds employed, guide fingers may be utilized to guide the moving sheet from the upper conveyor on to the leading edge of the underlying conveyor 138 without fly-off or similar problems.

While moving over conveyor 138, the sheet in the form S2 illustrated in FIG. 6 moves over counterrotating pinch rolls 143, and when disposed thereover a switch is tripped which results in actuation of an air blast or other means for forcing the central portion of the sheet S2 into the bight of the counterrotating rolls 143. The sheet is then forced to move downwardly as a cross fold is effected, resulting in the sheet

form S3 illustrated in FIG. 6. Sheet S3 is then moved onto discharge conveyor 142 on which a plurality of folding stations 118a similar to those illustrated in FIG. 8 may be encountered in the course of being conveyed on the belts of conveyor 142. As a result of the first buckle fold effected on conveyor 142, sheet form S4 is made, and if a second buckle fold is desired, final sheet form S5 illustrated in FIG. 6 will result. The discharge conveyor 142, also illustrated in FIG. 4, may be employed in conjunction with a stacking table or a secondary discharge conveyor which will convey a desired stack or folded items to a collection point for binding and disposal.

It is seen, therefore, that by the utilization of the folder component 14 illustrated in the drawings, an ironed sheet may be rapidly buckle-folded twice in the course of moving upon an upper conveyor composed of belts 116 so as to be in a sheet configuration S2 of FIG. 6. Such sheet may be then cross-folded while moving over lower conveyor 138 by passing between counterrotating rolls 143.

If subsequent buckle folds are desired, the sheet may be passed into engagement with folding stations 118a in the course of moving over discharge conveyor 142. It is intended that the various conveyors employed in the folding apparatus 14 illustrated, be of successively increasing speed so as to effect a tensioning action in the course of passing from conveyor to conveyor. Such tensioning action will tend to eliminate wrinkling and serve to effect a tensioning or straightening action on the moving piece. The utilization of the positive air discharge or blast which facilitates removal of the sheet from its clamped engagement on an anvil surface 120 illustrated in FIG. 8 and incorporated in each buckle folding station 118 and 118a, assures the formation of a smooth and uniform buckle fold. The airstream eliminates any misalignment of the leading and terminal edges of the sheet which had been occasioned in the past by sticking and the subsequent absence of ready release of the leading edge of a sheet following upward movement of the clamping arm 136 in each folding station.

It is seen from the foregoing therefore that an extremely flexible apparatus has been employed for handling a variety of fabrics presently sold and advertised as the new miracle fabrics which require little or no ironing. Such claims are generally true of small items such as shirts or the like which may be readily removed from a dryer and hung so as to remove any wrinkles which may be present in the item. In the course of drying large pieces of flatwork such as sheets, such straightening and wrinkle removal is not practical, particularly where a large volume of sheets is handled on a regular and continuous basis. Thus in hospitals and other large institutions, the available manual labor does not permit sheets to be removed from a dryer in adequate time to prevent formation of deep-set wrinkles. As a result, it is essential that a finishing operation be performed which results in the rapid ironing of new miracle fabrics.

It is apparent from FIG. 3 of the drawing that by virtue of the novel belt arrangement employed, substantially 80 percent of the ironing cylinder 16 may be utilized for purposes of effecting ironing action and transferring heat to the flatwork item being processed. In view of the extremely large area of contact, the overall speed of the ironing operation may be increased and the efficiency of the ironing operation accordingly increased to attain a desired maximum. In addition to the compression roll 28, stretching of a sheet or the like is effected by conveyor belts 30 and 48 which move at speeds greater than the surface speed of compression roll 28; belts 48 travel faster than belts 30. Therefore belts 30 will tend to

stretch and pull a sheet or other flatwork passing from roll 28, and ribbons 48 will pull a sheet or the like from belts 30. The increasing belt speed may be effected by employing a drive sprocket 106 of FIG. 2 which is smaller than drive sprocket 104, or as illustrated in FIG. 3 by employing a drive roll 50 which is larger than drive roll 38 of conveyor belts 30. Thus in addition to use of a large percentage of the ironing cylinder periphery, a flatwork item is stretched at a number of points on the cylinder periphery.

It is apparent from the foregoing description that a single motive means is all that is required for the operation of the various rolls and cylinders employed in the ironing or finishing component 12 of the apparatus 10, and similarly, a single motive means may be employed for purposes of driving the various components of the folder apparatus, as is clearly explained in my copending application Ser. No. 715,680.

I claim:

1. In an apparatus for processing flatwork such as sheets or the like, the combination comprising a heated ironing cylinder having a surface speed of up to about 150 feet per minute, continuous belt means for engaging a sheet or the like to be ironed, guide rolls positioned adjacent said heated cylinder and having axes of rotation substantially parallel with that of said heated cylinder and engaging said continuous belt means whereby said belt means overlie at least about 80 percent of the heated cylinder circumference and are positioned to urge a sheet or the like into contact with said 80 percent said cylinder circumference; an upper reach portion of said continuous belt means having a portion extending from adjacent relationship with said cylinder surface and adapted to convey a sheet or the like leaving contact with said heated cylinder; folder means for a sheet or the like disposed adjacent said ironing cylinder having an input feed conveyor; said continuous belt means portion conveying a sheet or the like leaving contact with said ironing cylinder onto said feed conveyor; said conveyor moving at a faster speed than said continuous belt means portion whereby a slight tensioning effect is imparted to said sheet or the like tending to remove wrinkles therein as said sheet or the like moves onto said conveyor.

2. The apparatus of claim 1 in combination with a retractable compression roll which counterrotatably engages under compression a surface portion of said main ironing cylinder, and means imparting a greater surface speed to said compression roll than said ironing cylinder.

3. The laundry apparatus of claim 1 in combination with exhaust means for withdrawing atmosphere adjacent a surface portion of said ironing cylinder to a location spaced from said apparatus.

4. The apparatus of claim 1 in which said folder means employs feed and a folding station adapted to buckle-fold a moving sheet on said feed transversely to the direction of sheet movement; said folding station having retractable clamp means, a stationary platform against which the leading edge of a sheet or the like is clamped by said retractable clamp means while the remainder of the sheet is conveyed on said feed therebeneath, and compressed air means for forcing the leading edge of said sheet or the like from said platform with said clamp means in the retracted position whereby said leading edge will drop upon the trailing edge of said sheet while moving on said feed belts.

5. The apparatus of claim 1 in which said belt means comprises two sets of spaced conveyor belts moving at different speeds; the belt means including said upper reach portion comprising a portion of the faster set of said first belt means.