

[54] FOLDING APPARATUS

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[51] Int. Cl. **B65h 45/18, B65h 45/12**

[58] Field of Search **270/62, 68 R, 69, 66, 84**

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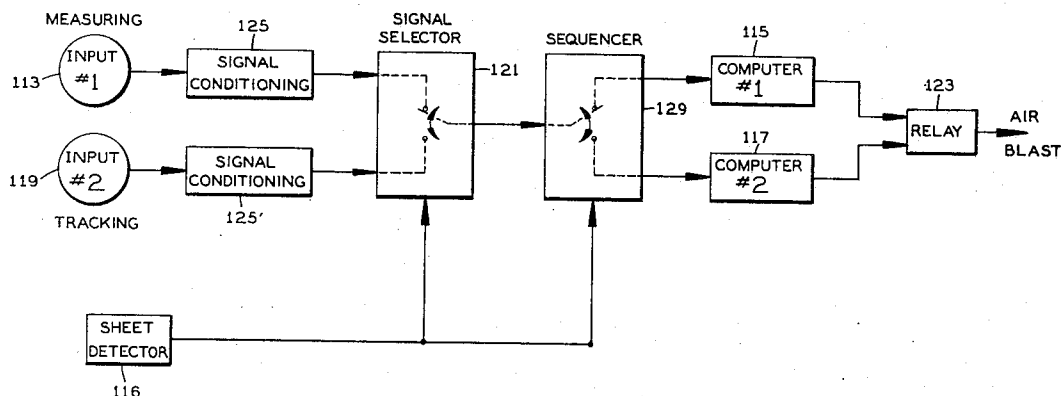
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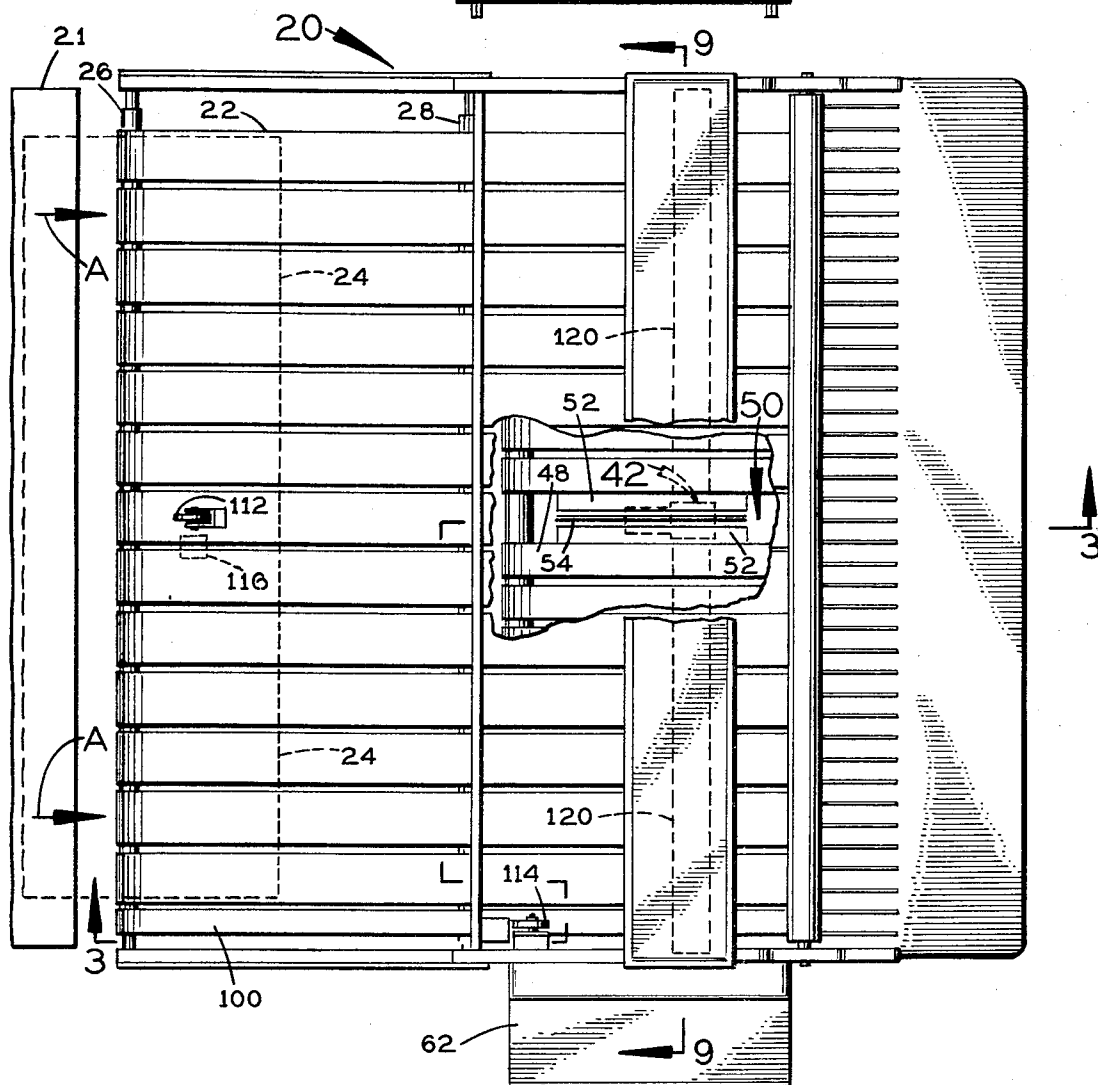
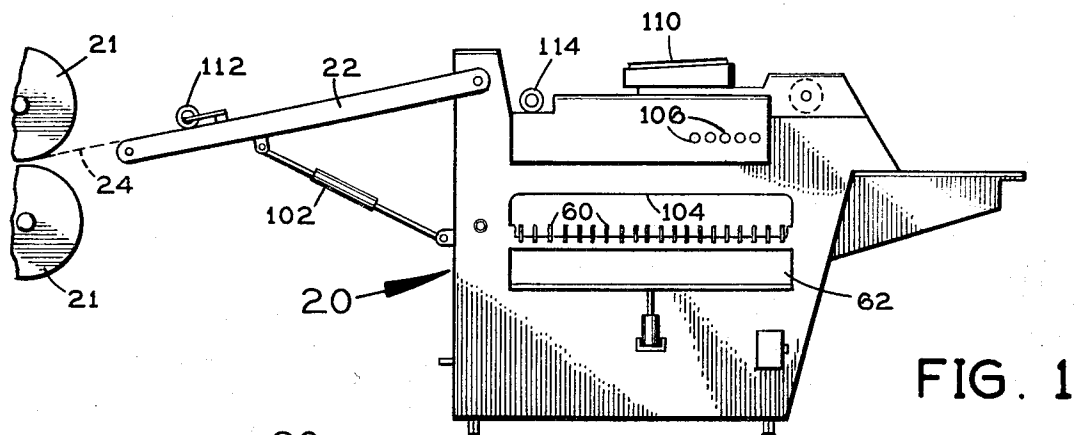
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ABSTRACT

In the folding apparatus, conveyors are arranged in vertically stacked relation and run in different directions to save space. A roll folder mechanism which is actuated by an air jet is located between the first two conveyors which run in the same direction. A third conveyor is located under the second conveyor and runs in the opposite direction. A pick-up-and-drop type of folder mechanism is associated with the second conveyor, and another roll type folder with air jet is associated with the third conveyor. A fourth conveyor receives pieces from the third conveyor and runs transversely relative to the same. Final folds are made on this fourth conveyor by pick-up-and-drop type folding mechanisms. The article is measured by an electric pulsing device as the article is being fed in from an ironer, and the system has the ability to measure an article while it is still being fed from the ironer, even though the folder may be running at a faster speed than the ironer.

7 Claims, 12 Drawing Figures





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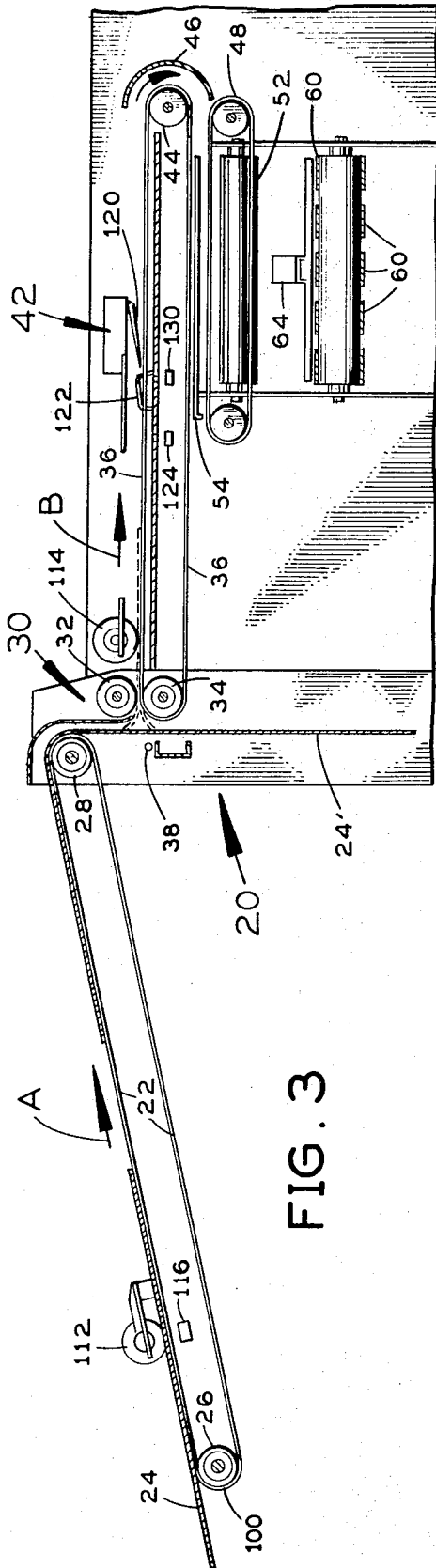


FIG. 3

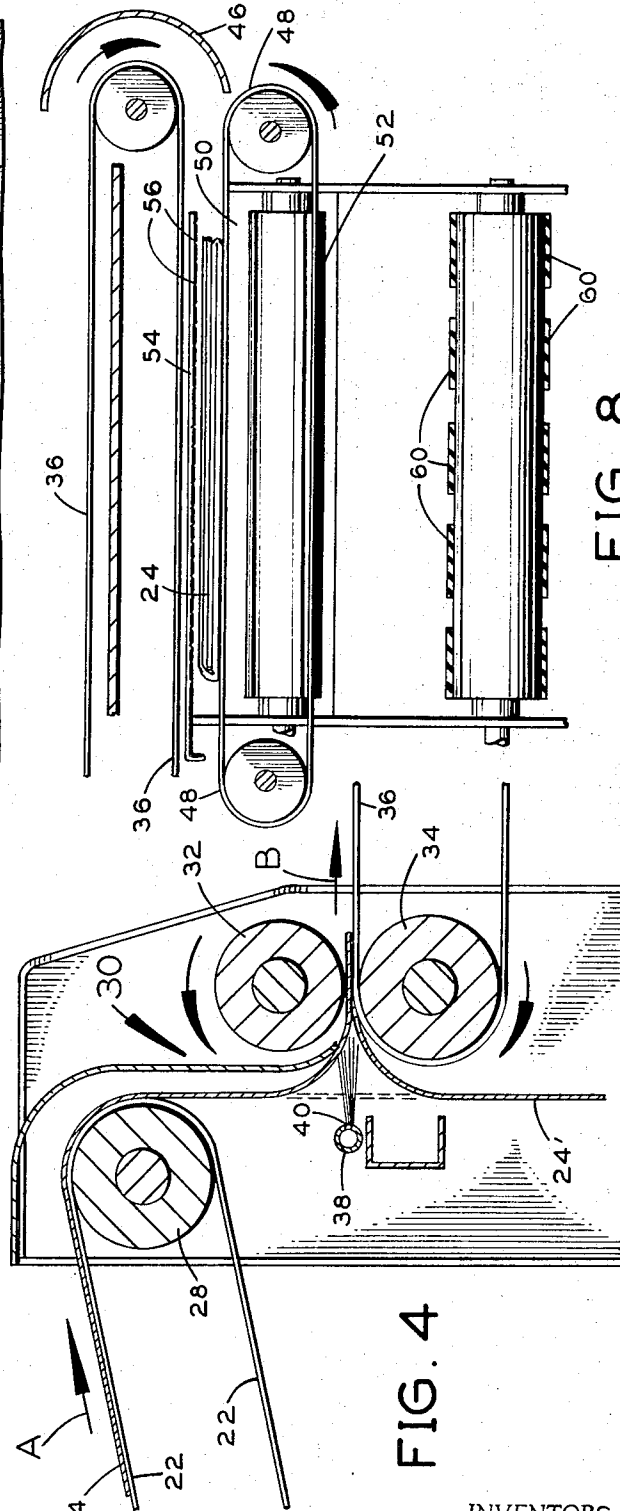


FIG. 4

FIG. 8

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FIG. 5

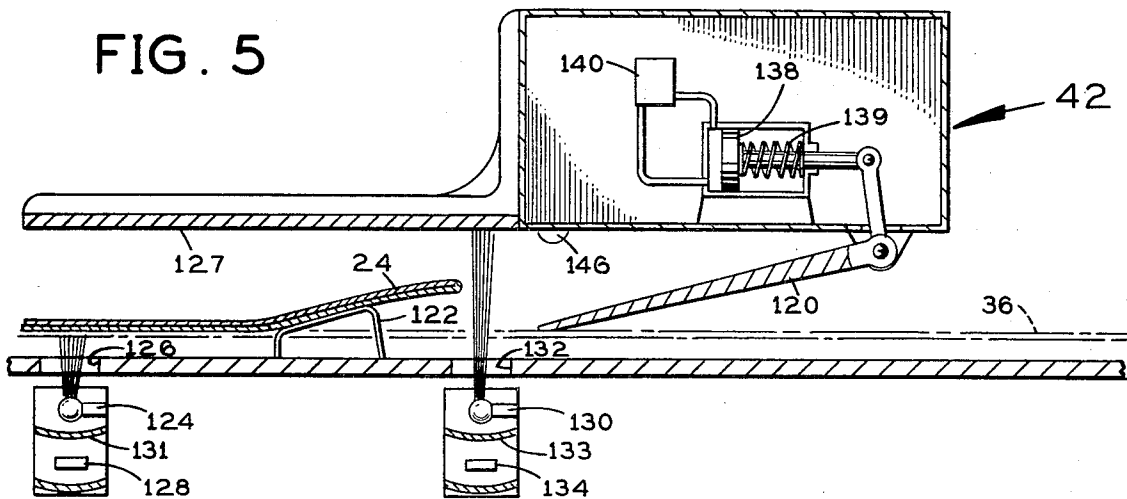


FIG. 6

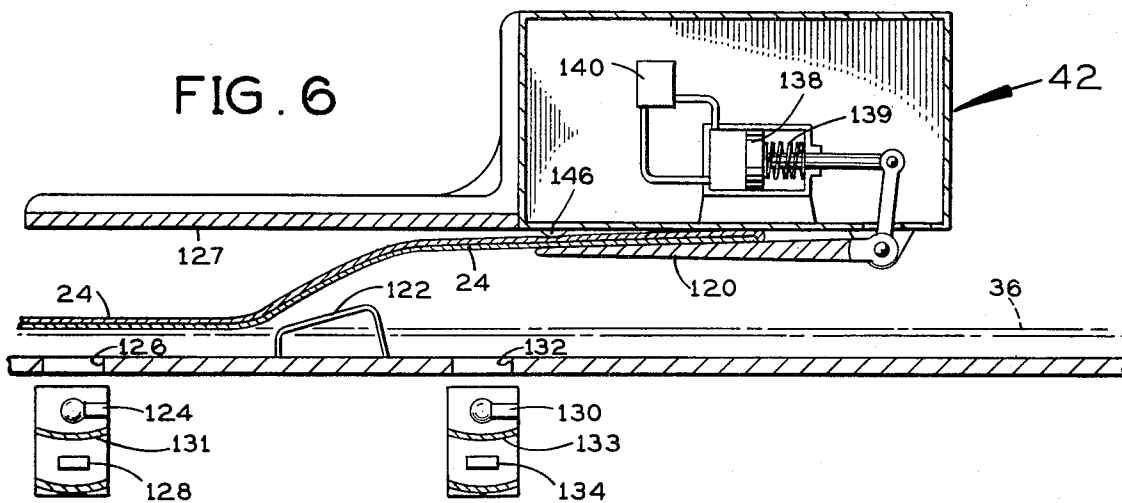
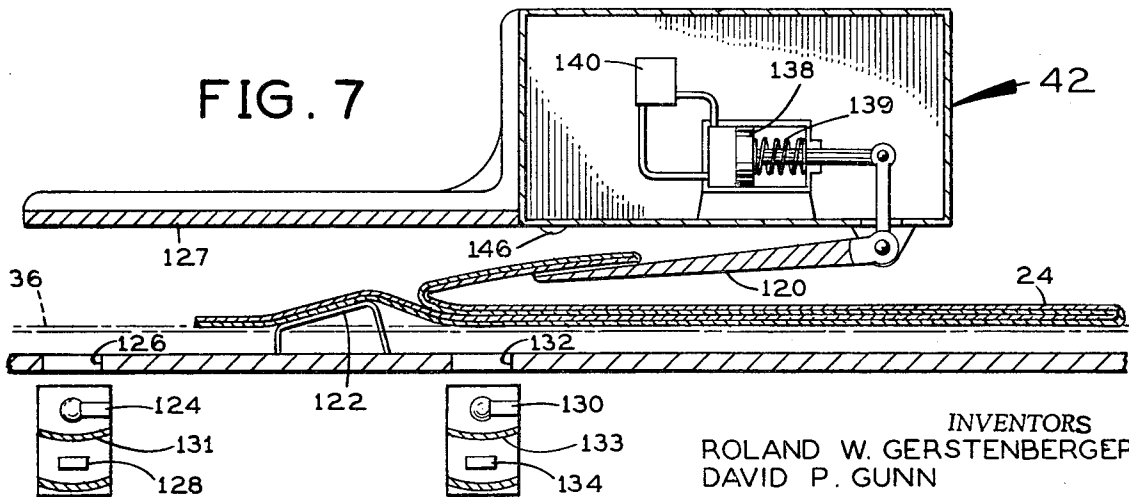


FIG. 7



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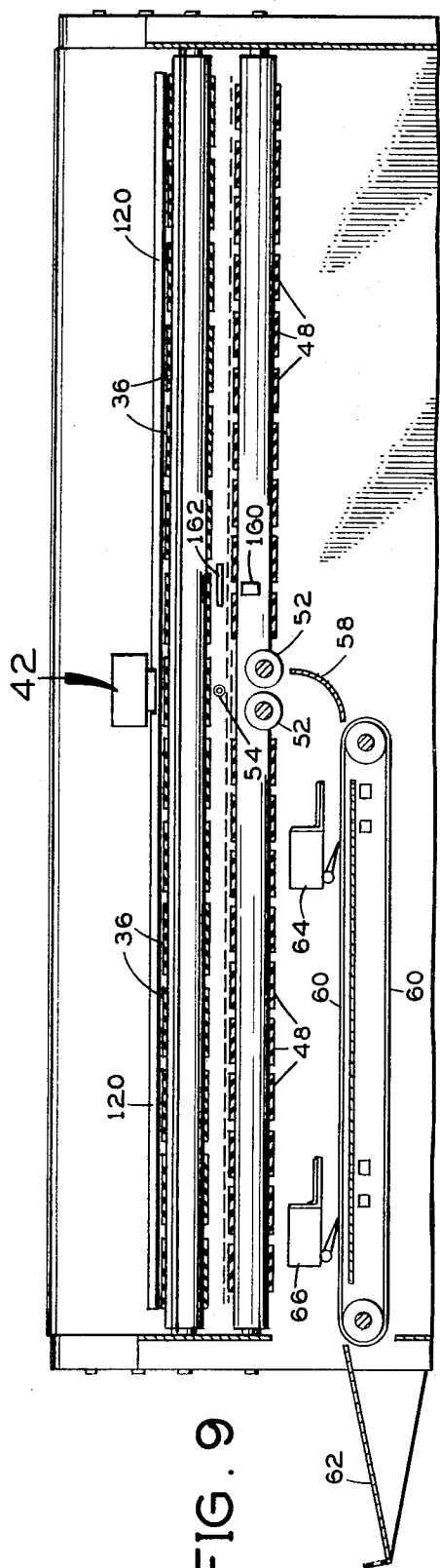


FIG. 9

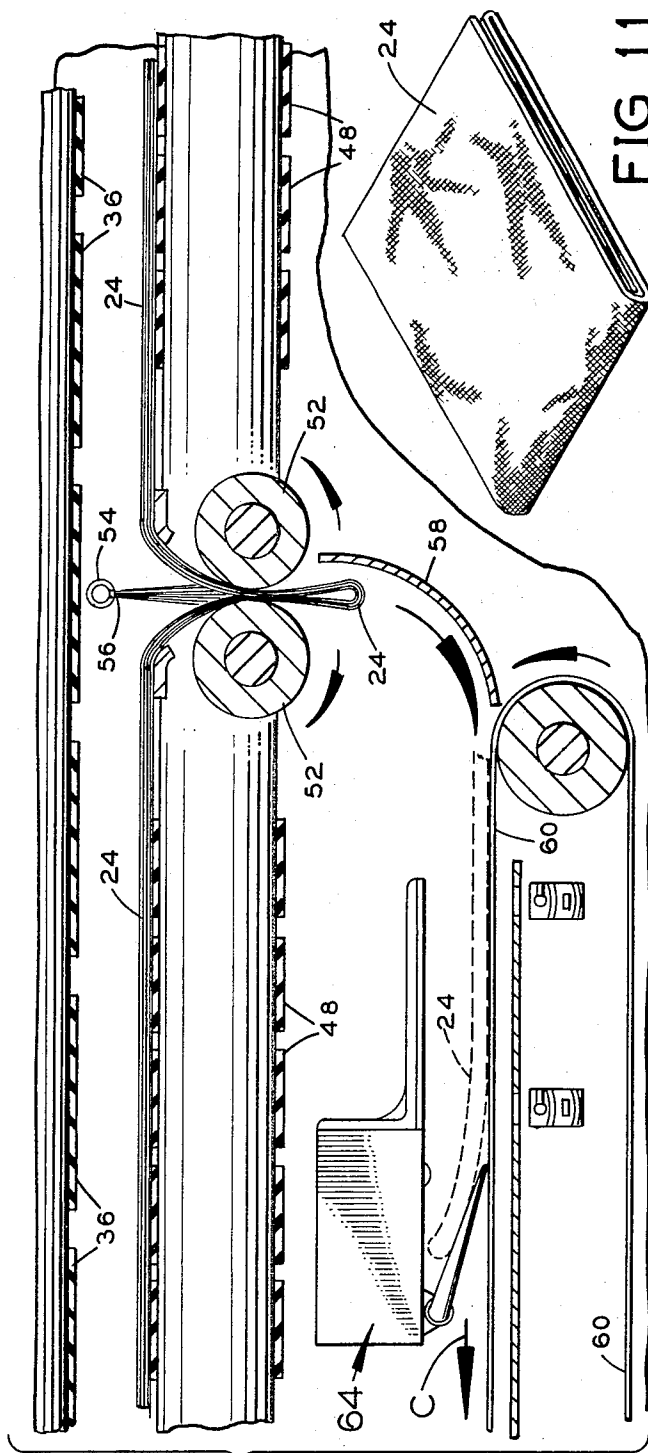
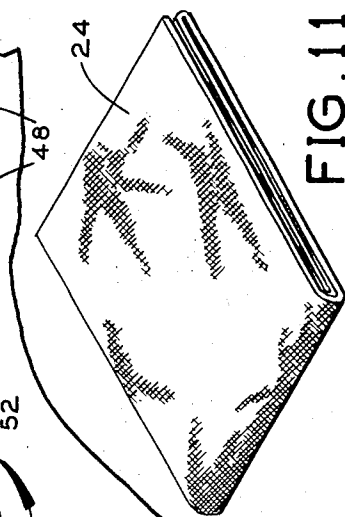


FIG. 10

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FIG. 11



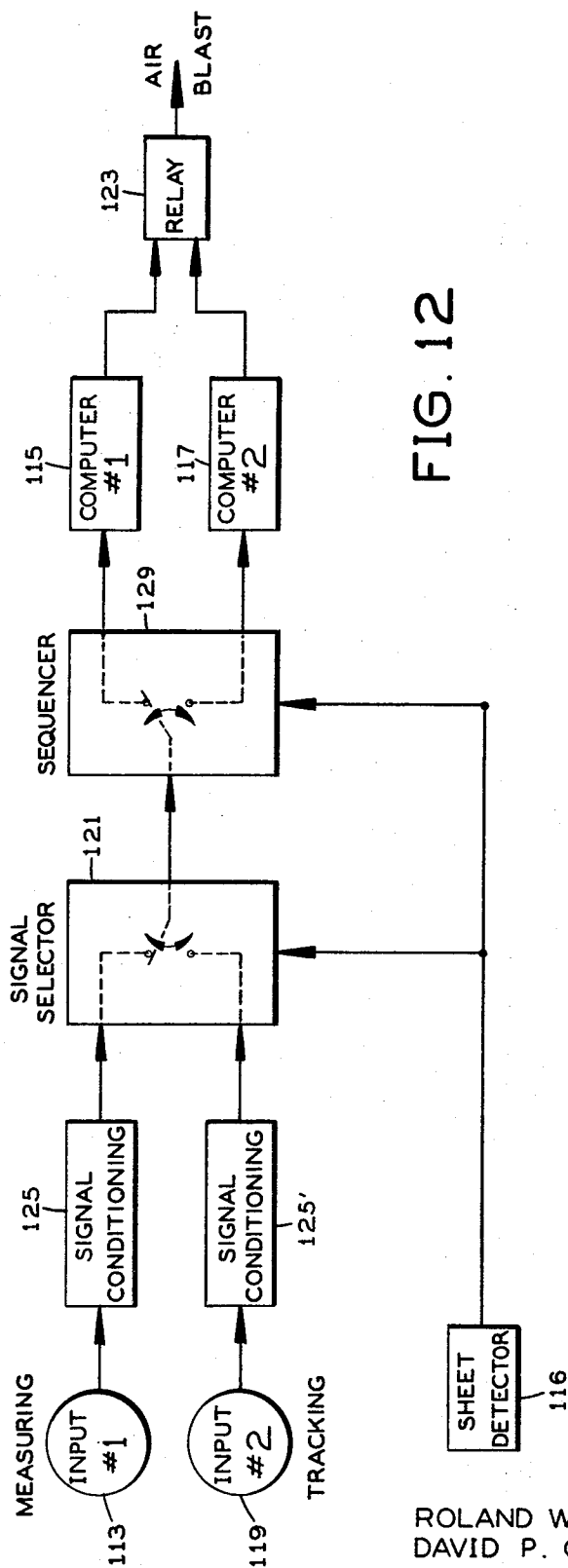


FIG. 12

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FOLDING APPARATUS

BACKGROUND OF THE INVENTION

Automatic laundry folding apparatus is well known and is commercially available at the present time. Sometimes the apparatus includes a first folder for transversely folding a laundry pieces such as a sheet or other article twice, followed by a second folder for longitudinally folding the piece a desired number of times. Such folders sometimes utilize mechanisms of a pick-up-and-drop type to make the folds. Such pick-up-and-drop folding mechanisms are described by way of example in U.S. Pat. No. 3,079,143 issued to E. Jensen on Feb. 26, 1963.

A difficulty with the pick-up-and-drop type of folding mechanism, particularly where the mechanism is utilized to make the first fold in a large article such as a sheet, is that the portion of the article which is picked up and held tends to droop on the remaining portion of the article as it passes underneath. Where relatively coarse materials are involved, the friction between the two portions of the article may be sometimes bad enough to cause fouling of the laundry piece as it passes through the mechanism.

An alternative type of folding mechanism which is not subject to the fouling tendencies of the pick-up-and-drop type is described in U.S. Pat. No. 3,363,897 issued to G. D. Northern et al. on Jan. 16, 1968. This is a roll type of folding mechanism in which an air jet is utilized to blow a portion of an article into rolls at a predetermined time to accomplish the folding.

Although these two types of folding mechanisms are known, folders utilizing them have tended to be relatively bulky and take up considerable floor space in a laundry or other establishment. Even though attempts have been made to make folders more compact, bulky arrangements of conveyors and difficulties with drooping materials persist.

SUMMARY OF THE INVENTION

The present invention provides a folding apparatus having an unusually compact arrangement of conveyors and folding mechanisms and employing both roll type and pick-up-and-drop type folding mechanisms where they are most beneficial. A preferred embodiment of the invention includes a first conveyor for receiving the laundry piece and transporting the same in one direction, and a first roll folding device receiving the laundry pieces from the first conveyor for transversely folding the pieces. A second conveyor follows the first roll folding device and transports the articles further in the same direction. A pick-up-and-drop folding device is provided at the second conveyor for transversely folding a laundry piece a second time. A third conveyor is provided under the second conveyor to receive the twice-folded laundry pieces and transport them opposite to the original direction. There is a second roll folding device associated with the third conveyor for folding laundry pieces through an opening in the third conveyor. Finally, a fourth conveyor extends transversely relative to the original direction of travel of the articles and receives thrice-folded laundry pieces from the second roll folding device. A further pick-up-and-drop folding device is associated with the fourth conveyor for longitudinally folding the laundry pieces.

An important feature of the apparatus is the measuring and control system for the first roll folding device. This system measures an article such as a sheet while it is being fed into the apparatus from an ironer, thus making it possible to utilize even the initial portions of the input conveyor rather than delaying the measuring until after the article has fully entered the machine. Even though the article is measured as it enters the input conveyor of the folding apparatus, the input conveyor preferably runs at a faster speed than the ironer, and the measuring and control system accommodates this speed differential. The measuring and control system also preferably has more than one channel to allow articles to follow each other very closely.

Accordingly, it is an object of the present invention to provide a laundry folding apparatus with a more compact arrangement of conveyors than heretofore known while at the same time utilizing both roll type and pick-up-and-drop type folding mechanisms at those points in the apparatus where they are most beneficial respectively.

Another object of the invention is to provide a stacked arrangement of conveyors and folding mechanisms whereby a laundry piece can be folded both transversely and longitudinally in a single apparatus which occupies less space than two folders arranged in tandem.

Another object of the invention is to provide a folding apparatus in which the first fold of a laundry piece is made by a roll type of folder in which an air jet directs a portion of a laundry piece into folding rolls to accomplish the fold, and wherein a second fold is made by a pick-up-and-drop type of folding mechanism.

A further object of the invention is to provide a measuring and control system for the folding apparatus which measures an article while it is being fed into the apparatus from an ironer, and which allows the folder to run at a faster speed than the ironer to spread out articles as they enter the folder.

Other objects of this invention will appear from the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational view of a folding apparatus in accordance with one embodiment of the invention;

FIG. 2 is a plan view, somewhat enlarged as compared to FIG. 1, of the folding apparatus;

FIG. 3 is a sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is an enlarged fragmentary sectional view representing a portion of FIG. 3;

FIG. 5 is a fragmentary sectional view showing a pick-up-and-drop folding mechanism at the beginning of a folding sequence;

FIG. 6 is a fragmentary sectional view similar to FIG. 5 showing the folding mechanism at a stage where the leading edge of an article has been clamped;

FIG. 7 is a fragmentary sectional view similar to FIGS. 5 and 6 showing the folding mechanism after the leading edge of an article has been released and is being dropped onto the trailing edge of the article;

FIG. 8 is an enlarged fragmentary sectional view representing a portion of FIG. 3;

FIG. 9 is a sectional view taken along line 9—9 of FIG. 2;

FIG. 10 is a fragmentary sectional view representing a portion of FIG. 9;

FIG. 11 is a perspective view of a laundry piece after it has been folded; and

FIG. 12 is a schematic diagram of a measuring and control system.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

AS SHOWN ON THE DRAWINGS:

The laundry folding apparatus 20 shown in the drawings is a combination of different types of folding mechanisms arranged with conveyors running in different directions to provide a compact unit which folds a laundry article both transversely and longitudinally. One end of a first conveyor 22 ordinarily receives laundry articles from an ironer. By way of example, the laundry articles may be bed sheets, and a bed sheet 24 is shown in dashed lines as it is being received from an ironer 21 on the outer end of the conveyor 22 in FIG. 2. It is to be noted that the folding apparatus may be utilized to fold laundry pieces other than bed sheets, but the folding of a bed sheet will be described herein by way of example. The conveyor 22 extends from a shaft 26 to another shaft 28, and the conveyor 22 transports the sheet 24 in the direction of the arrows A.

As shown in FIG. 3, the sheet 24 travels in a flat and unfolded condition over the entire length of the conveyor 22, and as it passes around the shaft 28, a portion of the sheet hangs down in the manner indicated at 24'. When a predetermined fraction of the sheet, preferably one-half of the sheet, reaches a desired position, it is folded by a roll folding mechanism generally designated 30. The roll folding mechanism 30 is shown in an enlarged form in FIG. 4. It may be seen that it includes a roll 32 which cooperates with a shaft 34 of a second conveyor 36. There is also an air jet in the form of a pipe 38 having openings 40 through which air jets are directed on the sheet portion 24'. A jet of air is delivered from the pipe 38 at the instant the half-way point of the sheet reaches the rolls 32 and 34, and the air jets buckle the sheet and force it between the rolls in the manner shown in FIG. 4.

The sheet 24 then travels on conveyor 36 in the direction of the arrow B which is the same as the direction the sheet travels on conveyor 22. A second transverse fold is made in the sheet by a pick-up-and-drop mechanism generally designated 42.

The sheet travels around a shaft 44 at the far end of conveyor 36, and is guided by a ramp 46 onto a third conveyor 48 which is located under conveyor 36 and runs in a direction opposite to the direction of conveyor 36. The third conveyor 48 has an opening or slot 50 in it through which the sheet is pulled to make a first longitudinal fold. The slot 50 extends in the same directions as the directions of conveyors 36 and 48.

Associated with conveyor 48, there is a roll folding mechanism which includes folding rolls 52 located under the slot 50 and an air jet device including a pipe 54 having openings 56 for directing jets of air onto the twice-folded sheet 24 when it reaches a desired position relative to the slot 50. The sheet 24 is shown in this position in FIG. 8. At this time, the air blast or jets delivered from the pipe 54 forces the middle of the sheet 24 down between the rolls 52 in the manner shown in FIG. 10. As the sheet is folded a third time, it passes along a ramp 58 onto a fourth conveyor 60 which is located under the third conveyor 48. The conveyor 60 extends transversely at a right angle relative to the conveyors 36 and 48. Thus, conveyor 60 carries the thrice-folded sheet transversely in the direction of arrow C to a discharge ramp 62 which is located at the outlet portion of the apparatus.

Associated with conveyor 60, there are two pick-up-and-drop folding mechanisms generally designated 64 and 66. These pick-up-and-drop folding mechanisms are of the same type as the pick-up-and-drop folding mechanism 42 which is associated with conveyor 36, and the operation of all of these mechanisms will be described further herein with reference to FIGS. 5, 6 and 7. It may be noted that the pick-up-and-drop folding mechanisms 64 and 66 make two longitudinal folds in the sheet 24 to complete the folding of the sheet into a fully folded form as shown in FIG. 11.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to FIGS. 1, 2 and 3, it may be seen that the entrance of the apparatus is at 100, and the exit is at ramp 62. The conveyor 22 is supported by struts 102 projecting from the main body of the apparatus 20. The conveyor 60 is visible through a mouth 104 in the housing of the apparatus just above the exit ramp 62. Various indicators may be provided such as at 106. The housing 110 contains a control system which will be described further.

Associated with the control system 110 are two wheels 112 and 114 which assist in performing a measuring function. The wheel 112 rides on the article 24 and wheel 114 rides on the conveyor 22. Each wheel has an associated pulse producing device which produces pulses at a rate proportional to the speed of rotation of the associated wheel. Also associated with the wheel 112 is a photo cell 116 visible in FIG. 2.

The measuring and control system including wheels 112 and 114 is shown schematically in FIG. 12. This system electronically measures the length of an article passing through the apparatus and causes the air jet device 38 to be actuated precisely when a desired portion of an article reaches a position opposite the folding rolls 32 and 34. The system includes two computer stages each of which may be in accordance with the description of U.S. Pat. No. 3,363,897 to G.D. Northern et al. which has been referred to previously, and the description of that patent is specifically incorporated herein by reference. In general, the first input pulser 113 produces pulses at a rate proportional to the speed of rotation of wheel 112, and these pulses are counted by a pulse counting stage in one of the computers 115, 117 to measure the length of the sheet 24. A second pulse counting stage in the computer is preset to actuate the air jet device 38 when the count reaches

a predetermined number. This count is proportional to half the distance between the sensing wheel 112 and the air jet device 38. If the sheet or other article 24 is shorter than the maximum length which the machine is capable of handling, the second pulse counter normally counts the pulses representing the length of a sheet or other article, but also counts additional pulses which continue to be supplied from the wheels 112 and 114 until the preset count of the second counter has been reached. At this time, the air jet 38 is actuated. The additional pulses just referred to are supplied from an input pulsing device 119 associated with the second wheel 114.

Computers 115 and 117 operate sequentially under control of the sequencer 129. First pulser 113 and the sheet detector 116 (which may be a switch or photocell) measure the length of a sheet and enter this information into computer 115. Computer 115 divides this length in half and then tracks the half point to the fold point at which time it initiates the folding air blast. Tracking is accomplished by pulses supplied from input 119 associated with wheel 114 which is riding on the conveyor 22.

The signal selector 121 routes the signal from input pulser 113 into the computer when the leading edge of the sheet is detected by the detector 116. The signal selector 121 routes the signal from input pulser 119 into the same computer when the trailing edge of the sheet is detected by the sheet detector 116.

The relay 123 is driven by either computer. The stages 125 and 125' merely condition the input signals.

Once a sheet has been measured, entered into one computer, half point computed, and tracking initiated, the second computer is ready to begin the same sequence for the next sheet coming into the folder. It may be noted tracking is accomplished by wheel 114 at folder speed which is preferably faster than ironer speed in order to spread out articles as they enter the folder. Measuring is accomplished by wheel 112 at ironer speed, and once measuring is completed and tracking initiated, wheel 112 is free to start measuring another article which may be very close behind the previous article. This measuring is switched over to the computer which is not then tracking the previous article.

It is important to be able to measure the article while it is still coming out of the ironer because the input conveyor is thereby shortened considerably and it is not necessary to go through multiple conveyor runs at the input of the folder.

After the sheet 24 is folded once by the roll folding device 30, it travels in direction B along conveyor 36 as previously described. As the sheet travels along conveyor 36, it is folded transversely a second time by the pick-up-and-drop folding device 42. As previously mentioned, the device 42 is substantially identical to devices 64 and 66 which are associated with the fourth conveyor 60. Thus, a description of the operation of device 42 will serve to illustrate not only the operation of that device but also the operation of devices 64 and 66.

As shown in FIGS. 5, 6 and 7, the pick-up-and-drop folding device 42 is of known construction, and a detailed description of the construction and operation of this device is provided in U.S. Pat. No. 3,079,143 is-

sued to E. Jensen. Accordingly, the description of that patent is specifically incorporated herein by reference. In general, the device 42 includes a ramp 120 which may be a single plate or several plates ganged together. The ramp 120 is associated with lifting fingers 122 located just ahead of ramp 120. Located just ahead of the lifting fingers 122, there is a photoelectric cell device including a light source 124 which normally shines through an opening 126 onto a mirror 127 and back to a sensing device 128. There is another photoelectric cell device including light source 130 which normally shines through an opening 132 onto the mirror 127 and back to a sensing device 134. One way mirrors 131 and 133 are provided so that only reflected light can reach the cells 128 and 134.

The lifting fingers 122 may be either movable or stationary, and the ramp 120 is also movable. The ramp 120 may be actuated to raise the front end 121 thereof by actuation of a piston 138 by a solenoid valve 140. The piston 138 is biased to the left by a spring 139.

The operation of the pick-up-and-drop folding device 42 will be described beginning with reference to FIG. 5. It may be seen that the sheet 24 has passed over the opening 126 to block the light from source 124 so that it cannot reach photocell 128. The leading edge of the sheet 24 is passing up the fingers 122, but has not yet reached opening 132. The ramp 120 remains down at this time.

When the leading edge of sheet 24 covers the opening 132 in the manner shown in FIG. 6, the light from source 130 is blocked from reaching sensing device 134. At this time, the solenoid 140 is actuated causing the control valve 142 to admit air under pressure through line 144 to the left side of the piston 138, and thus force the piston to the right to the position shown in FIG. 6. This raises the ramp 120 against a stop 146 and thus holds the leading edge of the sheet 124 between the ramp 120 and the stop 146. The leading edge of the sheet remains in this raised position while the remainder of the sheet is carried under the leading edge by the conveyor 36.

Eventually, the trailing edge of the sheet passes over the light source 124 so that light from this source can again reach the sensing device 128. At this time, associated circuitry actuates the solenoid valve 140 to return the piston 138 to its original position. This lowers the ramp 120 to release the leading edge of the sheet 24. As the sheet continues to travel on the conveyor 36, the leading edge of the sheet is dropped onto the trailing edge thereof to complete a transverse fold of the sheet.

As previously mentioned, the pick-up-and-drop folding devices 64 and 66 are constructed and operate exactly the same as device 42, so the description need not be repeated for devices 64 and 66. However, there are no fingers 122 in devices 64 and 66.

The roll folding device including roll 52 and air jet 54 is associated with conveyor 48. The roll folding device includes a photoelectric cell 160 under the conveyor 48 and a mirror 162 above the conveyor 48. The photoelectric device 160 is located at the far edge of the conveyor 48 relative to its direction of travel so that light from the source 160 is blocked by the sheet after the sheet has fully travelled across the width of the slot 50. When the light from the source 160 is blocked, as-

sociated circuitry stops the motor (not shown) which drives conveyor 48 so that the sheet stops over the slot 50. At the same time, the air jet device 54 is actuated to deliver a blast of air on the sheet 24 at its midpoint to force the sheet between the rolls 52 which then pull the sheet down through the slot 50 to make a fold in the sheet. The thrice-folded sheet then passes down the ramp 58 onto the conveyor 60 in the manner shown in FIG. 10, and the final two folds are made in the sheet by the pick-up-and-fold devices 64 and 66.

Thus, the apparatus of the invention combines several conveyors in a stacked relation with different conveyors running in different directions to most efficiently utilize the space available for folding. Roll type folders and pick-up-and-drop type folders are both used where they are most appropriate in the sequence of folding. For example, the first fold is made by a roll type of folder rather than a pick-up-and-drop folder because the latter device is subject to fouling as a result of portions of the laundry piece dragging on other portions thereof. Also, the laundry piece may not be fed completely evenly into the first folder, and this can also foul a pick-up-and-drop folder whereas it is not likely to foul a roll type folder. The pick-up-and-drop type of folder is perfectly satisfactory for the second fold, but the third fold is preferably made by a roll folder as the article is transferred downwardly to the final conveyor run. Then the last two folds are made by pick-up-and-drop mechanisms. The measuring and control system for the first folder is believed to be unique.

Having thus described our invention, we claim:

1. A folding apparatus for folding laundry pieces delivered from an ironer comprising, first conveyor means for receiving the laundry piece from the ironer and transporting the same in one direction, first roll folding means receiving the laundry pieces from said first conveyor means for transversely folding the laundry pieces, said first roll folding means including roll means and air jet means controlled by control means for blowing a portion of a piece into said roll means to cause folding of the piece, second conveyor means following said first roll folding means to receive laundry pieces therefrom and transport the same further in said one direction, pick-up-and-drop folding means at said second conveyor means for transversely folding a laundry piece transversely a second time, third conveyor means under said second conveyor means to receive the twice folded laundry pieces from said second conveyor means and transport the same opposite to said one direction, second roll folding means associated with said third conveyor means for folding laundry pieces through an opening in said third conveyor means, said second roll folding means including roll means under said opening and air jet means above said opening for blowing a portion of a piece through said opening into said roll means to cause folding of the piece, fourth conveyor means extending transversely relative to said one direction and receiving thrice-folded laundry pieces from said second roll folding means, and further pick-up-and-drop folding means at said fourth conveyor means for longitudinally folding said laundry pieces, said control means for said first roll folding means including first rotary pulse producing means located at the entrance of said first conveyor means for riding on the laundry piece while it emerges

from the ironer and sensing means together producing pulses proportional to the speed of the piece starting while a portion of the piece remains in the ironer for measuring a laundry piece as it enters said first conveyor means, first and second computer means both capable of receiving said pulses and dividing the piece length at a fractional point, second rotary pulse producing means rotating at the speed of the conveyor means for feeding pulses after the piece has completely emerged from the ironer proportional to the speed of said conveyor means to one of said computer means for tracking the fractional point of the piece until it reaches a fold point at said first roll folding means whereupon said one computer means initiates action of said air jet means, and sequencing means to sequence pulses from said first and second pulse producing means between said first and second computer means so that when measuring is completed and tracking is initiated said first pulse producing means is capable of measuring another piece which may follow the preceding piece closely.

2. A folding apparatus for folding laundry pieces delivered from an ironer comprising, first conveyor means for receiving the laundry pieces and transporting the same in one direction, second conveyor means following said first conveyor means to receive laundry pieces from said first conveyor means and transport the same further in said one direction, first roll folding means between said first and second conveyor means for transversely folding a piece in transit between said first and second conveyor means, said roll folding means including roll means and air jet means controlled by control means for blowing a portion of a piece into said roll means to cause folding of the piece, pick-up-and-drop folding means at said second conveyor means following said roll folding means for transversely folding a laundry piece transversely a second time, third conveyor means under said second conveyor means to receive the twice folded laundry pieces from said second conveyor means and transport the same opposite to said one direction, said third conveyor means having a slot extending in said opposite direction, second roll folding means at said slot including roll means under said slot and air jet means above said slot for blowing a portion of a piece through said slot into said roll means to cause folding of the piece, fourth conveyor means running transversely relative to said one direction and receiving thrice folded laundry pieces from said second roll folding means, and further pick-up-and-drop folding means at said fourth conveyor means for longitudinally folding said laundry pieces, said control means for said first roll folding means including first rotary pulse producing means located at the entrance of said first conveyor means for riding on the laundry piece while it emerges from the ironer and sensing means together producing pulses proportional to the speed of the piece beginning while part of the piece remains in the ironer for measuring a laundry piece as it enters said first conveyor means, first and second computer means both capable of receiving said pulses and dividing the piece length at a fractional point, second rotary pulse producing means rotating at the speed of the conveyor means for feeding pulses after the piece has completely left said ironer proportional to the speed of said conveyor means to

one of said computer means for tracking the fractional point of the piece until it reaches a fold point at said first roll folding means whereupon said one computer means initiates action of said air jet means, and sequencing means to sequence pulses from said first and second pulse producing means between said first and second computer means so that when measuring is completed and tracking is initiated said first pulse producing means is capable of measuring another piece which may follow the preceding piece closely.

3. A folding apparatus for folding laundry pieces delivered from an ironer comprising, first conveyor means for receiving the laundry pieces and transporting the same in one direction, second conveyor means following said first conveyor means to receive laundry pieces from said first conveyor means and transport the same further in said one direction, first roll folding means between said first and second conveyor means for transversely folding a piece in transit between said first and second conveyor means, said first roll folding means including rolls means, air jet means and control means, pick-up-and-drop folding means at said second conveyor means following said roll folding means for transversely folding a laundry piece transversely a second time, said pick-up-and-drop folding means including clamping means for picking up and holding the leading edge of a piece while said second conveyor means moves the remainder of the piece after which said clamping means drops the leading edge of the piece of the trailing edge thereof, third conveyor means under said second conveyor means to receive the twice folded laundry piece from said second conveyor means and transport the same opposite to said one direction, said third conveyor means having a slot extending in said opposite directions, second roll folding means at said slot including roll means under said slot and air jet means above said slot for blowing a portion of a piece through said slot into said roll means to cause folding of the piece, fourth conveyor means running transversely relative to said one direction and receiving thrice folded laundry pieces from said second roll folding means, and further pick-up-and-drop folding means at said fourth conveyor means for longitudinally folding said laundry pieces, said control means for said first roll folding means including first rotary pulse producing means located at the entrance of said first conveyor means for riding on the piece while it emerges from the ironer and sensing means together producing pulses proportional to the speed of the piece beginning while part of the piece remains in the ironer for measuring a laundry piece as it enters said first conveyor means, first and second computer means both capable of receiving said pulses and dividing the piece length at a half point, second rotary pulse producing means rotating at the speed of the conveyor for feeding pulses after the piece has completely left the ironer proportional to the speed of said conveyor means to one of said computer means for tracking the half point of the piece until it reaches a fold point at said first roll folding means whereupon said one computer means initiates action of said air jet means, and sequencing means to sequence pulses from said first and second pulse producing means between said first and second computer means so that when measuring is completed and tracking is initiated said first pulse producing means is

capable of measuring another piece which may follow the preceding piece closely.

4. In a folding apparatus for folding laundry pieces as they emerge from an ironer, an input conveyor to follow the ironer, a roll folder at the output of said input conveyor, an air jet device for introducing a laundry piece into said roll folder, first rotary pulse producing means located at the entrance of said input conveyor for riding on the article while it emerges from the ironer and sensing means to produce pulses at a rate proportional to the speed of a laundry piece entering said conveyor from said ironer beginning while part of the article remains in the ironer for measuring a laundry piece as it enters said conveyor from said ironer, first and second computer means for receiving said pulses and dividing the piece length in half, and second rotary pulse producing means rotating at the speed of the conveyor and feeding pulses at a rate proportional to the speed of said conveyor after the article has completely left the ironer to one of said computer means for tracking the half point of the piece until it reaches a fold point at said roll folder whereon said one computer means initiates action of said air jet device, and sequencing means controlled by said sensing means to sequence pulses from said first and second pulse producing means between said first and second computer means so that the measuring pulses are fed to one computer means as the leading edge of a piece actuates said sensing means and the tracking pulses are fed to said one computer means when the trailing edge of a piece actuates said sensing means, whereby said first pulse producing means is then capable of measuring another piece which may follow the preceding piece closely.

5. The folding apparatus as claimed in claim 4 in which said first and second pulse producing means respectively include first and second wheels, said first wheel riding on a laundry piece entering said conveyor from said ironer to cause pulses to be produced proportional to the speed of the laundry piece, and said second wheel rotating at the speed of said conveyor to produce pulses proportional to the speed of said conveyor.

6. The folding apparatus as claimed in claim 4 in which said sensing means comprises a photocell device.

7. In a folding apparatus for folding laundry pieces as they emerge from an ironer, an input conveyor to follow the ironer, a roll folder at the output of said input conveyor, means to force a laundry piece into said roll folder, first rotary pulse producing means located at the entrance of said input conveyor for riding on the article as it emerges from the ironer and sensing means to produce pulses at a rate proportional to the speed of a laundry piece entering said conveyor from said ironer beginning while part of the article remains in the ironer for measuring a laundry piece as it enters said conveyor from said ironer, first and second computer means for receiving said pulses and dividing the piece length in a predetermined fraction thereof, and second rotary pulse producing means rotating at the speed of the conveyor for feeding pulses at a rate proportional to the speed of said conveyor after the article has completely left the ironer to one of said computer means for tracking the predetermined fractional point of the piece until it reaches a fold point at said roll folder

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whereon said one computer means initiates action of said roll folder, and sequencing means controlled by said sensing means to sequence pulses from said first and second pulse producing means between said first and second computer means so that the measuring pulses are fed to one computer means as the leading edge of a piece actuates said sensing means and the tracking

pulses are fed to said one computer means when the trailing edge of a piece actuates said sensing means, whereby said first pulse producing means is then capable of measuring another laundry piece which may follow the preceding piece closely.

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