GUIDES FOR FOLDING MACHINES

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Appl. No.: 11/700,425
Filed: Jan. 31, 2007

ABSTRACT

An apparatus for automatically folding garments is described. The apparatus has a frame, a garment support, a tucker plate, a guide, and a means for transporting a garment along the tucker plate. The garment support is supported by the frame and has a first surface for supporting the garment and an opposing second surface. The tucker plate is also supported by the frame and is transversely spaced from the opposing second surface of the garment support. The guide is also supported by the frame. The guide is associated with the tucker plate and located adjacent the garment support so as to engage a portion of a folded edge of the garment supported on the first surface of the garment support.
GUIDES FOR FOLDING MACHINES

TECHNICAL FIELD

[0001] The present invention relates generally to an apparatus for folding garments. More specifically, the present invention relates to a guide which engages longitudinal folds in a garment as the garment traverses through an automatic folding operation.

BACKGROUND OF THE INVENTION

[0002] A typical art garment folding apparatus has three (3) zones. In a first zone, a textile is loaded into the machine and a tail of the textile, for example a shirt, is folded under itself. In a second zone, opposing sides of the textile are folded under a main body portion. In a third zone, the main body portion is again folded under itself. It is, of course, recognized there can be many more zones for additional folding. Examples of such folding machines include the K-840 and K-895 automatic folding machines marketed by Amsomatic Corporation and the folding apparatus described in U.S. Pat. Nos. 4,106,260 and 6,913,171 which are hereby incorporated by reference as if fully set forth herein.

[0003] Typically, the textile is carried through the folding apparatus by a plurality of parallel belts. At times, an upper belt is driving the textile, and at times, a lower belt is driving the textile. There are hand-off or transition zones between the first and second zones. In each hand-off zone, one belt system passes the textile downstream to another belt system. As such, the belt systems in each zone are self-contained.

[0004] Longitudinal folding (i.e. sides and sleeves of a shirt are folded inwardly) of the garment occurs in the second zone. Here, the garment is typically driven by an upper belt and supported atop a garment support such as a fold plate, rail, or platform, which may simply be a driven lower belt. As the garment traverses the second zone, it is engaged by a set of tucker plates (also called folding blades). The tucker plates are asymmetrically aligned and vertically offset to sequentially fold the right and left sides of the garment inwardly.

[0005] The tucker plates are typically disposed just below the garment support and are configured to accept the textile hanging over the garment support and fold the textile as it travels along the tucker plates. Each tucker plate is positioned on one side of the garment support. The tucker plates are tapered at the entry portion and actually guide the portion of the garment overhanging the edge of the garment support to a proper folded position.

[0006] The tucker plates are stationary. They are, however, adjustable at set-up so as to fold the textile in a pre-set manner. In short, the size of the ultimate fold can be controlled.

[0007] In the second zone of such folding machines, bowing bars (also called turner bars) are used to collect, capture and tuck fabric hanging down from the fold plate at the entry portion of the set of tucker plates. These bowing bars are used to aid, guide, and ensure the fabric to be folded properly travels into the set of tucker plates. The tucker plates then fold the fabric as it moves downstream in the second zone.

[0008] The bowing bars are typically bent so as to be wide in a collection zone, or beginning of the process, and narrow in the release zone as they approach the tucker plates.

[0009] A drawback of prior art folding apparatuses is the second zone does not include a means for holding the folded opposing sides of the garment in place throughout the folding process in the second zone. Thus, the quality of the folds created in the second zone may deteriorate which results in a visually poorly packaged garment.

[0010] Additionally, as the partially folded garment exits the second zone of the prior art folding apparatuses, the folded sides at the leading edge of the garment unfold. This leads to undesirable tapered or trapezoidal appearance in the final folded garment.

[0011] The present invention is provided to solve the problems discussed above and other problems, and to provide advantages and aspects not provided by prior folding apparatuses of this type. A full discussion of the features and advantages of the present invention is deferred to the following detailed description, which proceeds with reference to the accompanying drawings.

SUMMARY OF THE INVENTION

[0012] One aspect of the present invention is directed to an apparatus for automatically folding garments. The apparatus comprises a frame, a garment support, a first tucker plate, a first guide, and a means for transporting a garment along a length of the of the first tucker plate. The garment support is supported by the frame. The garment support has a first surface upon which a garment is supported and an opposing second surface. The first tucker plate is supported by the frame. The first tucker plate is transversely spaced from the opposing second surface. The first guide is also supported by the frame. The first guide is associated with the first tucker plate and located adjacent the garment support so as to engage a portion of a folded edge of a garment supported on the first surface of the garment support.

[0013] The automatic folding apparatus may further comprise a second tucker plate transversely spaced from the first tucker plate and the second surface of the garment support. The first and second tucker plates may be aligned along opposing first and second edges of the garment support.

[0014] The first guide may be located between the first tucker plate and the garment support.

[0015] The automatic folding apparatus may further comprise a second guide associated with the second tucker plate and located adjacent the garment support and between the second tucker plate and the garment support.

[0016] The first guide may be located adjacent an edge of the garment support, and the second guide may be located adjacent an opposing edge of the garment support.

[0017] The first guide may be attached to the frame and may be adjustable along a plane transverse to a plane of the garment support.

[0018] The first guide may be attached to the frame and may be adjustable along a plane parallel to a plane of the garment support.

[0019] The first guide may comprise a rigid bar having a first end and a second end joined by an intermediate segment. The first end of the first guide may be associated with a receiving end of the garment support and may be angled from a terminal end inwardly relative to the garment support. The intermediate segment of the guide may be substantially linear and parallel to an edge of the garment support. The intermediate segment may terminate at the second end, and the second end may be associated with a transition between the means for transferring the garment along a length of the first tucker plate and a means for further transferring the garment along a length of the folding apparatus.

[0020] Another aspect of the present invention is directed to an apparatus for automatically folding garments. The appa-
ratus comprises a longitudinal folding zone, a garment support, a first tucker plate, and a first guide. In the longitudinal folding zone, opposing side portions of a garment are automatically folded inwardly as the garment traverses from an entry end of the longitudinal folding zone to a delivery end of the longitudinal folding zone. The garment support is located within the longitudinal folding zone. The garment support has a first surface upon which the garment is supportable and an opposing second surface. The first tucker plate is transversely spaced from the second surface of the garment support. The first guide is located at the delivery end of the longitudinal folding zone. The first guide cooperates with the garment support to maintain a longitudinal fold of at least one of the opposing side portions of the garment.

0021 The automatic folding apparatus may further comprise a hand-off point at the delivery end of the longitudinal folding zone. The hand-off point may receive the garment from the delivery end of the longitudinal folding zone and transfer the garment to a further folding apparatus zone. A portion of the guide is located within the hand-off zone.

0022 The automatic folding apparatus may further comprise a second guide located at the delivery end of the folding zone. The first and second guides may be associated with opposing sides of the garment support.

0023 The first guide may comprise an elongated rod having a first end joined to a second end by an intermediate segment. The first end may be located at the receiving end of the longitudinal folding zone and angled inwardly from a terminal end inwardly towards the garment support. The intermediate segment of the first guide may be substantially linear and generally parallel to an edge of the garment support.

0024 The first guide may be located between the first tucker plate and the garment support.

0025 The first guide may be associated with the first tucker plate and may be located adjacent the garment support so as to engage a portion of a folded edge of a garment supported on the first surface of the garment support.

0026 The automatic folding apparatus may further comprise a second tucker plate and a second guide. The second tucker plate may be transversely spaced from the first tucker plate and the second surface of the garment support wherein the first and second tucker plates are aligned along opposing first and second edges of the garment support. The second guide may be located at the delivery end of the longitudinal folding zone, and may cooperate with the garment support to maintain a longitudinal fold of at least one of the opposing side portions of the garment wherein the first guide is associated with the first tucker plate and located adjacent the garment support and between the first tucker plate and the garment support, and the second guide is associated with the second tucker plate and located adjacent the garment support and between the second tucker plate and the garment support.

0027 Another aspect of the present invention is also directed to an apparatus for automatically folding garments. The apparatus comprises a frame, a garment support, a first tucker plate, and a first guide. The garment support is supported by the frame, and has a first surface upon which a garment is supportable and an opposing second surface. The first tucker plate is also supported by the frame, and is transversely spaced from the opposing second surface. The first guide is also supported by the frame. The first guide is adjustable relative to the garment support along first and second transverse planes and locatable adjacent the garment support so as to engage a portion of a folded edge of a garment supported on the first surface of the garment support.

0028 Another aspect of the present invention is also directed to an apparatus for automatically folding garments. The apparatus comprises a loading zone, a means for feeding the folding apparatus, a longitudinal folding zone, a hand-off zone, and a means for further transferring the longitudinally folded garment from the hand-off zone.

0029 The loading zone includes a first garment support upon which a garment is supported.

0030 The means for feeding the folding apparatus is spaced from the first garment support. The means for feeding the folding apparatus comprises a first rotational belt transversely spaced from a second rotational belt to allow a garment to pass therethrough wherein activation of the first and second rotational belts feeds the folding apparatus from the first garment support as the means for feeding the folding apparatus engages the garment.

0031 The longitudinal folding zone is adjacent the loading zone. The longitudinal folding zone comprises an entry end, an exit end, a second garment support, a means for transferring a garment through the longitudinal folding zone, a first tucker plate, second tucker plate, a first tucker bar, and a second tucker bar. The second garment support is located between the entry end and the exit end. The second garment support has a first surface upon which the garment is supported and an opposing second surface. The second garment support is in operative alignment with the means for feeding the folding apparatus such that the garment is fed from the means for feeding the folding apparatus to the first surface of the garment support. The first tucker plate is sufficiently transversely spaced from the second surface of the second garment support to engage a first side portion of the garment overhanging a first edge of the second garment support as the garment traverses along the first surface of the second garment support. The second tucker plate is sufficiently transversely spaced from the second surface of the second garment support to engage an opposing second side portion of the garment overhanging an opposing second edge of the second garment support as the garment traverses along the first surface of the second garment support. The first tucker bar is a rigid member having a first end tapering inwardly to a substantially linear portion. The first end is located adjacent the entry end of the longitudinal folding zone. The substantially linear portion terminates adjacent the exit end of the longitudinal folding zone and is positioned to engage a folded portion of the first side portion of the garment overhanging a first edge of the second garment support as the garment traverses along the first surface of the second garment support. The second tucker bar is located between the second tucker plate and the second garment support. The second tucker bar is a rigid member having a first end tapering inwardly to a substantially linear portion. The first end is located adjacent the entry end of the longitudinal folding zone. The substantially linear portion terminates adjacent the exit end of the longitudinal folding zone and is positioned to engage a folded portion of the opposing side portion of the garment overhanging the opposing second edge of the second garment support as the garment traverses along the first surface of the second garment support.

0032 The hand-off zone is located adjacent the longitudinal folding zone and receives a longitudinally folded garment from the second garment support.
The means for further transferring the longitudinally folded garment from the hand-off zone further transfers the longitudinally folded garment at least partially within the hand-off zone wherein the first and second tucker bars are engageable with the folded portions of the opposing first and second side portions of the garment within the hand-off zone.

Other features and advantages of the invention will be apparent from the following specification taken in conjunction with the following drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

To understand the present invention, it will now be described by way of example, with reference to the accompanying drawings in which:

- FIG. 1 is an illustration of an automatic folding machine of the present invention;
- FIG. 2 is a sectional view of a garment within a longitudinal folding zone of an automatic folding apparatus;
- FIG. 3 is a top view of a longitudinal folding zone of an automatic folding machine;
- FIG. 4 is a magnified view of an exit end of a longitudinal folding zone showing a guide entering a hand-off zone; and
- FIG. 5 is a perspective view of a longitudinal folding zone of an automatic folding machine into a hand-off zone.

**DETAILED DESCRIPTION**

While this invention is susceptible of embodiments in many different forms, there are shown in the drawings and will herein be described in detail preferred embodiments of the invention with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the broad aspect of the invention to the embodiments illustrated.

The term “garment” is shown in the accompanying drawings as a shirt or T-shirt. However, this is to be considered exemplary only. The definition of the term “garment” for purposes of this application includes any article made from a flexible material, such as cloth, paper, some plastics, or the like, which articles are capable of being folded to any degree along a line. Several suitable examples of these articles include shirts, sweaters, sweatshirts, pants, flags, banners, display panels, paper, plastic and cloth sheets, bedding, and the like, each of which could possibly benefit from the advantages of the present invention. Accordingly, the present invention involves methods and apparatus for automatically folding a number of foldable articles.

The present invention is primarily directed to a longitudinal zone folding zone of an automatic folding machine. A preferred embodiment of the invention is depicted in FIGS. 1-5.

Referring to the drawings, reference numeral 10 generally refers to the article folding machine which includes a replaceable article loading zone 20, a longitudinal folding zone 40 for longitudinally folding the article, a hand-off zone 60, and a means for further transferring a longitudinally folded article toward a delivery end of the folding machine 10, or further folding operations.

In use, an operator places a garment on a loading zone article support 22. The garment is placed on the support 22 so that a portion of the garment overhangs a leading edge of the support 22. The support 22 is moveable from a first or loading position to second or feeding position.

In the loading position, the support 22 is spaced from a means for feeding the folding apparatus. The means for feeding the folding machine is generally a pair of oppositely rotating belts 24, 26 which are sufficiently spaced to engage the garment yet allow the garment to pass between the belts 24, 26. As the support 22 is moved forward, or towards the rotating belts 24, 26, a portion of the garment between the leading edge of the support 22 and the belts 24, 26 is frictionally engaged by belts 24, 26, and pulls the remaining portions of the garment between the belts 24, 26 while folding the portion of the garment overhanging the support 22 under the portion of the garment previously resting upon the support 22.

The belts 24, 26 feed the garment into the longitudinal folding zone 40 for longitudinally folding the garment, i.e. folding opposing side portions of the garment inwardly as shown in FIG. 2. The longitudinal folding zone 40 includes an entry end 42 and an exit end 44. A suitable support means 46, on which the garment is supported, is located below belt 26. A pair of tucker plates 48a, 48b are transversely spaced from the support means or garment support 46. These tucker plates 48a, 48b are preferably tapered plates as illustrated in the drawings.

The support means 46 may be a platform, pallet, another belt, a rail, or a single plate or a combination of a plurality of plates, but is preferably a relatively thin, polished, stainless steel plate around which the garment is folded. The support means 46 is supported by a machine frame 14. The garment is pulled over a support surface 46a between belts 24, 26. The support surface 46a is narrower than the garment wherein opposing sides of the garment overhang opposing edge portions of the support means 46. A lower surface 46b is oppositely the support surface 46a and may be a separate plate or simply the bottom surface of the support surface 46a.

The support means may further comprise folder plates 46c, 46d which are located below the upper surface 46a. The folder plates 46c, 46d are a pair of overlapping plates. The overlap can be varied to adjust width of the opposing side folds of the garment. (See FIG. 2). Accordingly, amount of garment overhanging the support means 46 is directly adjustable by varying the overlap of the folder plates 46c, 46d.

The frame 14 provides support to the longitudinal folding zone 40. Electrical controls, wiring, motors, belt rollers, etc. are supported by the frame 14.

The tucker plates 48a, 48b are spaced below the lower surface 46b and the folder plates 46c, 46d of the support means 46. The tucker plates 48a, 48b may be fixedly attached to one another or a unibody construction, but are preferably separable members. The tucker plates 48a, 48b are transversely offset from one another so that a first tucker plate 48a is closer to the support means 46 than a second tucker plate 48b. Each tucker plate 48a, 48b has a tapered end positioned near the entry end of the longitudinal folding zone. However, these tapered ends may be longitudinally offset so that one overhanging side of the traversing garment engages the upper tucker plate 48a just prior to the opposing overhanging side of the traversing garment engages the lower tucker plate 48b. This process allows longitudinal folds formed from the overlapping portions to be overlapped, forming a tightly folded garment.

The hand-off zone 60 is positioned adjacent the exit end 44 of the longitudinal folding zone 40. The hand-off zone 60 is where the longitudinally folded garment is transitioned to a subsequent folding process, a subsequent packaging or labeling process, or delivery from the machine 10. The means
for transferring the longitudinally folded garment is in operative alignment with the support means 46 so that the garment traverses from the support means 46 via the means for transferring the garment.

[0053] The means for transferring comprises a pair of rotational belts 62a, 62b rotating in opposite directions and sufficiently transversely spaced to allow the folded garment to pass between the belts 62a, 62b. The belts 62a, 62b may be longitudinally offset wherein lower belt 62b is slightly overlapping with garment support 46. In this configuration, lower belt 62b has an angled portion wherein the traversing garment is first engaged by the lower belt 62b which transfers the garment to the bite between the upper and lower belts 62a, 62b.

[0054] A guide 80 is located within the longitudinal folding zone 40 and preferably extends into the hand-off zone 60. A primary purpose of the guide 80 is to cooperate with the garment support in maintaining the integrity and the quality of the garment’s longitudinal fold as it traverses the longitudinal folding zone 40 and is transferred through the hand-off zone 60 to the belts 62a, 62b of the means for transferring.

[0055] As illustrated in FIG. 3, the guide 80 is more particularly a pair directing bars generally extending the length of the zone 40, specifically from the entry end 42 of the longitudinal folding zone 40 to the exit end 44 of the zone 40 and into the hand-off zone 60. Accordingly, the guide 80 directs and guides a portion or portions of the garment overlapping the garment support 46. Specifically, the guide 80 holds the garment in place to ensure the fabric is captured by the tucker plates 48a, 48b and hold the fabric in place once the fabric is being folded by the tucker plates 48a, 48b and moving downstream in the machine 10. (See FIG. 2).

[0056] The guide 80 further prevents tazer in the final folded garment. Tazer is often caused when a portion of the leading edge of the traversing garment unfolds in the distance or gap in the hand-off zone 60 to the nip (or pinch-point) between belts 62a, 62b. Thus, the guide 80 of the present invention enters the hand-off zone as illustrated in FIGS. 3, 4, and 8, and terminates beneath a roller 26 of the upper belt 26 as best shown in FIGS. 3 and 4.

[0057] The guide of the present invention holds the fabric between nips or pinch-points to prevent this unfolding. By holding the garment close to the garment support 46 as the garment is passed off from the longitudinal folding zone 40 via the hand-off zone 60 to the means for transferring belts 62a, 62b, the garment does not unfold as in the prior art. This makes for a tighter, folded garment. This slight unfolding is caused by the relaxing of the textile as it is passed off via the hand-off zone 60 to the means for transferring belts 62a, 62b and, for a slight period, is no longer in contact with belts 24, 26, the tucker plates 48a, 48b, and/or the garment support 46.

[0058] The guide 80 is adjustable. Because of this adjustability, the guide 80 can accommodate variously sized garments. Small garments are particularly susceptible to the problems addressed by the present invention. The guide 80 of the present invention can be brought in very close to the garment support 46 and the tucker plates 48a, 48b to ensure capture and guidance. This will be explained in more detail below.

[0059] The guide 80 may be a plate, a belt, a platform, an elongated member or rod, a rail, or a pallet, but preferably comprises a pair of elongated, round, rigid bars 80a, 80b called tucker bars. Each bar 80a, 80b has a first end and a second end joined by an intermediate segment. The first ends of the bars 80a, 80b are associated with a receiving end of the longitudinal folding zone 40 and are angled inwardly from a terminal end towards the garment support 46. The intermediate segments of the bars 80a, 80b are substantially linear and parallel to opposing edges of the garment support 46. The intermediate segments terminate at the second ends of the bars 80a, 80b. Each second end is associated with the transition between the means for transferring the garment along a length of the tucker plates and the means for further transferring the garment along a length of the folding apparatus, within the hand-off zone 60. The second ends are also substantially linear.

[0060] Thus, each bar 80a, 80b comprises two main components, the directing portion at the first end and the linear arms of the intermediate segment and the second end. The directing portions are angled and extend from a terminal end inwardly toward the garment support above the tucker plates 48a, 48b. The linear portions form a throat between the intermediate segments.

[0061] Each bar 80a, 80b has a plurality of arms extending outwardly relative to the garment support 46 towards the frame in parallel relation to one another and are used to support and position the bars 80a, 80b.

[0062] The bars 80a, 80b are rigid and smooth. As a result, they do not bend or deform when in use and textiles can easily ride on them without transferring any residue, grabbing, snagging, and/or pulling the garment.

[0063] Each bar 80a, 80b is associated with a corresponding tucker plate 48a, 48b, and each bar 80a, 80b is located adjacent the garment support 46 so as to engage a portion of the folded edge of the garment supported on the surface 46a of the garment support 46. The bars 80a, 80b are preferably located between the tucker plates 48a, 48b and the garment support 46, adjacent opposing edges of the garment support 46.

[0064] Thus, the bars 80a, 80b are positioned between the tucker plates 48a, 48b and the garment support 46 to collect, guide, and ensure the portions of the garment hanging down from the opposing edges of the folder plates 47a, 47b travel into the tucker plates 48a, 48b properly. The angled portion of the bars 80a, 80b collect the garment and engage the garment’s longitudinal folds as the folded garment traverses through the longitudinal folding zone 40 to the hand-off zone 60 at the exit end 44 of the longitudinal folding zone 40.

[0065] The bars 80a, 80b are attached to the folding machine frame 14. Each bar 80a, 80b is adjustable along transsecting planes, one plane parallel to a plane of the garment support and another plane transverse to a plane of the garment support. Preferably, each bar 80a, 80b is horizontally and vertically adjustable relative to the support surface 46a.

[0066] The bars 80a, 80b are attached to the frame by couplers 82. Each coupler 82 is a three-way adjustable member that attaches the arms of the bars 80a, 80b to vertical support posts 16 on the frame 14. The couplers 82 allow or provide horizontal and vertical adjustability of the bars 80a, 80b, as well as adjustability along the direction of garment traverse.

[0067] Horizontal adjustability is provided as the bar 80a, 80b arms are slideable within horizontal sleeves passing through the couplers 82, lending movement inwardly and outwardly relative to the garment support 46. The arms of the bars 80a, 80b may be fixed or tightened within the sleeves by a screw or other tightening mechanism.

[0068] Vertical adjustability is provided as the couplers 82 to which the bars 80a, 80b are attached are slideable along the
support posts 16. The support posts 16 pass through vertical sleeves in the couplers 82. The couplers 82 may be tightened to the support posts 16 by tightening screws or other tightening means.

[0069] Adjustability along the direction of traverse is provided by an alternate horizontal sleeve parallel to the first horizontal sleeve, positioned along the same vertical plane, but offset in the direction of garment traverse. The arms of the bars 80a, 80b may simply be inserted in these alternate sleeves to slightly adjust the bars 80a, 80b either towards the entry end 40 of the longitudinal folding zone or towards the hand-off zone 60.

[0070] While the specific embodiments have been illustrated and described, numerous modifications come to mind without significantly departing from the spirit of the invention, and the scope of protection is only limited by the scope of the accompanying Claims.

What is claimed is:

1. An apparatus for automatically folding garments, the apparatus comprising:
   a frame;
   a garment support supported by the frame, the garment support having a first surface for supporting a garment and an opposing second surface;
   a first tucker plate supported by the frame, the first tucker plate transversely spaced from said opposing second surface;
   a first guide supported by the frame, the first guide associated with the first tucker plate and located adjacent the garment support so as to engage a portion of a folded edge of a garment supported on the first surface of the garment support; and
   a means for transporting the garment along a length of the first tucker plate.

2. The apparatus of claim 1 further comprising a second tucker plate transversely spaced from the first tucker plate and the second surface of the garment support, the first and second tucker plates aligned along opposing first and second edges of the garment support.

3. The apparatus of claim 2 wherein the first guide is located between the first tucker plate and the garment support.

4. The apparatus of claim 3 further comprising a second guide associated with the second tucker plate and located adjacent the garment support and between the second tucker plate and the garment support.

5. The apparatus of claim 4 wherein the first guide is located adjacent an edge of the garment support, and the second guide is located adjacent an opposing edge of the garment support.

6. The apparatus of claim 1 wherein the first guide is attached to the frame and is adjustable along a plane transverse to a plane of the garment support.

7. The apparatus of claim 1 wherein the first guide is attached to the frame and is adjustable along a plane parallel to a plane of the garment support.

8. The apparatus of claim 1 wherein the first guide comprises a rigid bar having a first end and a second end joined by an intermediate segment.

9. The apparatus of claim 8 wherein the first end of the first guide is associated with a receiving end of the garment support and is angled from a terminal end inwardly relative to the garment support.

10. The apparatus of claim 9 wherein the intermediate segment of the guide is substantially linear and parallel to an edge of the garment support.

11. The apparatus of claim 10 wherein the intermediate segment terminates at the second end, the second end associated with a transition between the means for transferring the garment along a length of the first tucker plate and a means for further transferring the garment along a length of the folding apparatus.

12. An apparatus for automatically folding garments, the apparatus comprising:
   a longitudinal folding zone wherein opposing side portions of a garment are automatically folded inwardly as a garment traverses from an entry end of the longitudinal folding zone to a delivery end of the longitudinal folding zone;
   a garment support within the longitudinal folding zone, the garment support having a first surface for supporting the garment and an opposing second surface;
   a first tucker plate transversely spaced from the second surface of the garment support; and
   a first guide located at the delivery end of the longitudinal folding zone, the first guide cooperating with the garment support to maintain a longitudinal fold of at least one of the opposing side portions of the garment.

13. The apparatus of claim 12 further comprising: a hand-off point at the delivery end of the longitudinal folding zone, the hand-off point receiving the garment from the delivery end of the longitudinal folding zone and transferring the garment to a further folding apparatus, a portion of the guide located within the hand-off zone.

14. The apparatus of claim 12 further comprising a second guide located at the delivery end of the folding zone, the first and second guides associated with opposing sides of the garment support.

15. The apparatus of claim 12 wherein the first guide comprises an elongated rod having a first end joined to a second end by an intermediate segment, the first end located at the receiving end of the longitudinal folding zone and angled inwardly from a terminal end inwardly towards the garment support.

16. The apparatus of claim 15 wherein the intermediate segment of the first guide is substantially linear and generally parallel to an edge of the garment support.

17. The apparatus of claim 12 wherein the first guide is located between the first tucker plate and the garment support.

18. The apparatus of claim 12 wherein the first guide is associated with the first tucker plate and is located adjacent the garment support so as to engage a portion of a folded edge of a garment supported on the first surface of the garment support.

19. The apparatus of claim 12 further comprising:
   a second tucker plate transversely spaced from the first tucker plate and the second surface of the garment support, the first and second tucker plates aligned along opposing first and second edges of the garment support; and
   a second guide located at the delivery end of the longitudinal folding zone, the second guide cooperating with the garment support to maintain a longitudinal fold of at least one of the opposing side portions of the garment wherein the first guide is associated with the first tucker plate and located adjacent the garment support and
between the first tucker plate and the garment support, and the second guide is associated with the second
tucker plate and located adjacent the garment support and between the second tucker plate and the garment support.

20. An apparatus for automatically folding garments, the apparatus comprising:
a frame;
a garment support supported by the frame, the garment support having a first surface for supporting a garment and an opposing second surface;
a first tucker plate supported by the frame, the first tucker plate transversely spaced from said opposing second surface;
a first guide supported by the frame, the first guide adjustable relative to the garment support along first and second transecting planes and locatable adjacent the garment support so as to engage a portion of a folded edge of a garment supported on the first surface of the garment support.