



12 **EUROPEAN PATENT SPECIFICATION**

45 Date of publication of patent specification :  
**09.06.93 Bulletin 93/23**

51 Int. Cl.<sup>5</sup> : **D21F 1/00**

21 Application number : **90902035.6**

22 Date of filing : **17.01.90**

86 International application number :  
**PCT/US90/00213**

87 International publication number :  
**WO 90/09481 23.08.90 Gazette 90/20**

54 **A FORMING APPARATUS FOR FORMING A WEB FROM STOCK.**

30 Priority : **16.02.89 GB 8903517**

43 Date of publication of application :  
**04.12.91 Bulletin 91/49**

45 Publication of the grant of the patent :  
**09.06.93 Bulletin 93/23**

84 Designated Contracting States :  
**DE FR GB IT SE**

56 References cited :  
**EP-A- 0 289 445**  
**US-A- 4 416 730**

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**EP 0 458 799 B1**

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## Description

### BACKGROUND OF THE INVENTION

#### FIELD OF THE INVENTION

This invention relates to a forming apparatus for forming a web from stock. More particularly, the present invention relates to a forming apparatus for forming a web from stock ejected through a slice lip of a headbox into a forming section defined between a first and a second wire.

#### INFORMATION DISCLOSURE STATEMENT

In some of the earlier paper-forming machines, a headbox was disposed at the upstream end of a moving fourdrinier wire and stock was ejected from the slice lip of the headbox onto the forming wire such that water drained through the wire leaving a formed web on the top surface of the wire.

Subsequent proposals included the provision of a top wire disposed downstream relative to the headbox such that water was drained from the stock not only downwardly through the fourdrinier wire but also upwardly through the top wire thereby improving the two-sidedness of the resultant web.

With the aforementioned twin-wire formers, certain problems existed in that the web was already partially formed prior to extending through the twin-wire formation section. Furthermore, the top surface of the stock supported on the fourdrinier wire was subjected to vibration which caused nonuniform characteristics to the upper surface of the resultant web.

More recently, proposals have been made particularly in US Patent no. 4,830,709 in which the headbox is disposed immediately adjacent to the upstream end of the forming section defined between cooperating twin wires. Such true gap formers have improved the two-sidedness of the resultant web because the slice lip ejects stock almost immediately between the gap formed between the cooperating forming wires.

However, although the aforementioned gap formers have proved very successful in the formation of lightweight grades such as newsprint, problems have been experienced using such forming apparatus for forming heavier grades.

In the formation of heavier grades, the speed of the former is considerably less than the speed of the former when forming lightweight grades because more time is required in draining the water from the larger quantity of stock used in the production of heavier grade webs.

Because of the lower wire speed and the correspondingly slower rate of ejection of stock through the slice lip, it is essential that the slice lip be disposed as close as possible to the upstream end of the

forming section. If the headbox is disposed at a relatively considerable distance from the upstream end of the forming section, there exists a tendency for the trajectory of the jet of stock to be excessively curved and the angle of impingement of the stock relative to the lower wire to be increased to an unacceptable angle.

Ideally, the impingement angle relative to the lower wire should be as small as possible so that as the jet impinges on the wire, minimum disturbance to the stock occurs and the stock impinges on the lower wire at a speed which is the same as that of the lower wire.

The present invention attains the aforementioned objective by substituting turning bars for the breast rolls disclosed in the aforementioned proposal as taught in US Patent No. 4,830,709.

Therefore, it is a primary object of the present invention to provide a high capacity forming apparatus which overcomes the aforementioned inadequacies of the prior art proposals and which provides a significant contribution to the art of forming a web from stock.

Another object of the present invention is the provision of a twin-wire forming apparatus including a first and a second turning bar which permit the headbox slice lip to be disposed in close proximity to the first or upstream end of the forming section defined by the wires.

Another object of the present invention is the provision of a forming apparatus which includes at least two auto slices with means for adjusting the vacuum slots of the auto slices relative to the second wire for varying the amount of water removed from the second wire.

Another object of the present invention is the provision of a forming apparatus in which the forming section is disposed substantially horizontally.

Another object of the present invention is the provision of a forming apparatus in which the forming section follows a generally sinusoidal path from the first to the second end thereof.

Another object of the present invention is the provision of a vacuum box disposed between the first and the second vacuum slots and on the opposite side of the wires relative to the vacuum slots, the vacuum box having a curved surface which permits removal of water downwardly through the first wire and upward removal of water centrifugally through the second wire.

Another object of the present invention is the provision of a forming apparatus which includes at least one further vacuum slot disposed between the first and the second vacuum slot for upward removal of water through the second wire.

Other objects and advantages of the present invention will be apparent from a consideration of the detailed description of various embodiments of the in-

vention as described hereinafter and as shown in the annexed drawings.

### SUMMARY OF THE INVENTION

The present invention relates to a forming apparatus and method for forming a web from stock. More particularly, the present invention relates to a forming apparatus and method for forming a web from stock ejected through a slice lip of a headbox. The apparatus includes a first wire which extends in an endless loop past the slice lip such that the stock is ejected through the slice lip onto the first wire. A second wire extends in a further endless loop with the second wire cooperating with the first wire for defining therebetween a forming section having a first and a second end such that the web is formed during passage of the stock through the forming section. A first turning bar is disposed within the endless loop and adjacent to the first end of the forming section such that the first wire is sandwiched between the stock and the first turning bar. A second turning bar is disposed within the further endless loop and adjacent to the first end of the forming section such that the stock is disposed between the wires, the wires being disposed between the turning bars permitting the slice lip to be disposed in close proximity to the first end of the forming section. A curved drainage means is disposed within the endless loop immediately downstream relative to the first turning bar for removing a first portion of water from the stock through the first wire and for removing a second portion of water centrifugally through the second wire during passage of the stock through the forming section and past the curved draining means. A first vacuum slot is disposed within the further endless loop and extends in a cross-machine direction immediately downstream relative to the curved drainage means for removing a third portion of water from the stock through the second wire. A vacuum box is disposed within the endless loop immediately downstream relative to the vacuum slot with the vacuum box defining a curved surface for removing a fourth portion of water from the stock through the first wire. A second vacuum slot is disposed within the further endless loop and extends in a cross-machine direction downstream relative to the vacuum box for removing further water from the stock through the second wire. Additionally, a further curved drainage means is disposed within the further endless loop and immediately downstream relative to the second vacuum slot for removing water from the stock through the second wire. The curvature of the curved drainage means and the vacuum box is opposite to the curvature of the further curved drainage means such that the stock is progressively drained through both wires during passage through the forming section from the first towards the second end thereof.

More specifically, the first wire is disposed relative to the slice lip such that the stock impinges on the first wire before contacting the second wire.

In a preferred embodiment of the present invention, the forming section is disposed substantially horizontally and the forming section follows a generally sinusoidal path.

In one embodiment of the present invention, the turning bars are of ceramic material and the curved drainage means also includes a plurality of drainage slots which are connected to a source of partial vacuum.

The curved drainage means defines a face having a radius of curvature which is greater than the radius of curvature of the curved surface of the vacuum box.

In the preferred embodiment of the present invention, the first vacuum slot is a first auto slice which includes adjusting means for adjusting the vertical and/or the angular position of the first vacuum slot relative to the second wire. The adjusting means also permits movement of the first vacuum slot between the curved drainage means and the vacuum box.

In one embodiment of the present invention, the curved surface of the vacuum box permits centrifugal removal of a fifth portion of water from the stock through the second wire.

In another embodiment of the present invention, the forming apparatus includes an adjustable foil which is disposed within the endless loop between the vacuum box and the second vacuum slot for assisting removal of further water through the second vacuum slot.

In an alternative embodiment to the present invention, the forming apparatus also includes a further vacuum slot which is disposed within the further endless loop and disposed between the first and second vacuum slots for removing water from the stock through the second wire.

In another embodiment of the present invention, the second vacuum slot is a second auto slice which includes further adjusting means for adjusting the second vacuum slot relative to the second wire for skimming the further water removed from the stock through the second wire.

In the preferred embodiment of the present invention, the further curved drainage means also includes a plurality of cross-machine direction shoes defining therebetween a plurality of openings connected to a source of partial vacuum for removing water from the stock through the second wire.

The present invention also includes a method of forming a web from stock ejected through a slice lip of a headbox. The method comprises the steps of moving a first wire, which extends in an endless loop, past the slice lip and then ejecting the stock through the slice lip onto the first wire. The arrangement is such that the stock contacts the first wire at a minimal

angle of impingement due to the first wire extending around a first turning bar disposed adjacent to the point of impingement of the stock onto the first wire.

Additionally, the method includes the step of moving a second wire, which extends in a further endless loop, around a second turning bar such that the second turning bar is disposed adjacent to the first turning bar so that the slice lip is disposed in close proximity to a first end of the forming section defined between the wires.

Also, the method includes the step of forming the web from the stock during passage of the stock through the forming section by progressively removing water from the stock through both wires.

More specifically, the step of forming the web from stock during passage of the stock through the forming section includes removing a portion of water from the stock through a curved vacuum box disposed downstream and on the opposite side of the wires relative to a vacuum slot.

Although specific embodiments of the present invention are described hereinafter in the detailed description and are shown in the annexed drawings, it will be apparent to those skilled in the art that many variations and modifications of the present invention may be made without departing from the spirit and scope of the present invention as defined by the appended claims.

Included among such modifications and variants would be the provision of a gap former having a forming section disposed substantially vertically.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a side-elevational view of a forming apparatus according to the present invention; Figure 2 is an enlarged fragmentary view of the drainage means;

Figure 3 is an enlarged fragmentary view of the curved inverted vacuum box; and

Figure 4 is a side-elevational view of an alternative embodiment of the present invention showing a further vacuum slot disposed between the first and the second vacuum slots.

Similar reference characters refer to similar parts throughout the various embodiments of the present invention.

#### DETAILED DESCRIPTION OF THE DRAWINGS

Figure 1 is a side-elevational view of a forming apparatus generally designated 10 according to a preferred embodiment of the present invention.

The forming apparatus 10 forms a web W from stock S ejected through a slice lip 12 of a headbox generally designated 14.

The apparatus 10 includes a first wire 16 which extends in an endless loop generally designated 18

past the slice lip 12 such that the stock S is ejected through the slice lip 12 onto the first wire 16.

A second wire 20 extends in a further endless loop generally designated 22. The second wire 20 cooperates with the first wire 16 for defining therebetween a forming section generally designated 24 having a first and a second end 26 and 28, respectively, such that the web W is formed during passage of the stock S through the forming section 24.

A first turning bar 30 is disposed within the endless loop 18 and adjacent to the first end 26 of the forming section 24 such that the first wire 16 is sandwiched between the stock S and the first turning bar 30.

A second turning bar 32 is disposed within the further endless loop 22 and adjacent to the first end 26 of the forming section 24 such that the stock S is disposed between the wires 16 and 20. The wires 16 and 20 respectively are disposed between the turning bars 30 and 32 respectively thereby permitting the slice lip 12 to be disposed in close proximity to the first end 26 of the forming section 24.

A curved drainage means generally designated 34 is disposed within the endless loop 18 immediately downstream relative to the first turning bar 30. The drainage means 34 removes a first portion of water from the stock S through the first wire 16 and removes a second portion of water centrifugally through the second wire 20 during passage of the stock S through the forming section 24 and past the curved drainage means 34.

A first vacuum slot generally designated 36 is disposed within the further endless loop 22 and extends in a cross-machine direction immediately downstream relative to the curved drainage means 34 for removing a third portion of water from the stock S through the second wire 20.

A vacuum box 38 is disposed within the endless loop 18 immediately downstream relative to the vacuum slot 36. The vacuum box 38 defines a curved surface 40 for removing a fourth portion of water from the stock S through the first wire 16 and removes another portion of water centrifugally through the second wire 20 during passage of the stock S through the forming section.

A second vacuum slot generally designated 42 is disposed within the further endless loop 22 and extends in a cross-machine direction downstream relative to the vacuum box 38 for removing further water from the stock S through the second wire 20.

A further curved drainage means generally designated 44 is disposed within the further endless loop and immediately downstream relative to the second vacuum slot 42 for removing water from the stock S through the second wire 20. The curvature of the curved drainage means 34 and the vacuum box 38 are opposite to the curvature of the further curved drainage means 44 such that the stock S is progres-

sively drained through both wires 16 and 20 respectively during passage through the forming section 24 from the first end 26 towards the second end 28 thereof.

More specifically, as shown in figure 1, the forming apparatus 10 is arranged such that the first wire 16 is disposed relative to the slice lip 12 so that the stock S impinges on the first wire 16 before contacting the second wire 22.

As shown in figure 1, the forming section 10 is disposed substantially horizontally and the forming section 24 follows a generally sinusoidal path.

In one embodiment of the present invention, the turning bars 30 and 32 are of ceramic material. Figure 2 is an enlarged fragmentary view of the drainage means 34 in which the curved drainage means 34 further includes a plurality of support foils 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62 and 63 which define therebetween a plurality of drainage slots 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80 and 81.

The plurality of drainage slots 64 to 81 are connected to a source of partial vacuum 82.

The curved drainage means 34 defines a face 84 having a radius of curvature which is greater than the radius of curvature of the curved surface 40 of the vacuum box 38.

As shown in figure 2, the first vacuum slot 36 is a first auto slice 86 which includes adjusting means 88 for adjusting the angular and vertical position of the first vacuum slot 36 relative to the second wire 20.

Additionally, the adjusting means 88 permits movement of the first vacuum slot 36 between the curved drainage means 34 and the vacuum box 38.

The curved surface 40 of the vacuum box 38 also permits centrifugal removal of a fifth portion of water from the stock S through the second wire 20.

Figure 3 is an enlarged fragmentary view showing the further curved drainage means or curved inverted vacuum boxes 44. As shown in figure 3, the forming apparatus 10 also includes an adjustable vacuum foil 90 which is disposed within the endless loop 18 between the vacuum box 38 and the second vacuum slot 42 for assisting removal of the further water through the second vacuum slot 42.

Figure 3 also shows the second vacuum slot 42 as a second auto slice 92 with the second auto slice 92 further including further adjusting means 94 for adjusting the second vacuum slot 42 relative to the second wire 20 for skimming the further water removed from the stock S through the second wire 20.

Figure 3 shows the further curved drainage means 44 as including a plurality of cross-machine direction shoes 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113 and 114 which define therebetween a plurality of openings 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131 and 132 connected to a

source of partial vacuum (not shown) for removing water from the stock through the second wire 20.

In an alternative embodiment to the present invention as shown in figure 4, a forming apparatus generally designated 10A further includes a further vacuum slot 134 which is disposed within a further endless loop 18A and disposed between the first and the second vacuum slots 36A and 42A respectively for removing water from the stock through the second wire 20A.

In operation of the apparatus according to the preferred embodiment of the present invention, high consistency stock S is ejected from the headbox 14 through the slice lip 12 such that the angle of impingement of the jet of stock relative to the first wire 16 is very small. Furthermore, the slice lip 12 is able to be disposed in very close proximity to the first end 26 of the forming section 24 due to the provision of the turning bars 30 and 32 respectively. Therefore, according to the present invention, when ejecting high consistency stock at relatively low machine speeds, the stock is deposited on the lower wire 16 with minimal disturbance of the stock.

Subsequently, a first portion of water is removed downwardly through the curved drainage means 34 and a second portion of water is removed upwardly through the second wire 20 due to the centrifugal force applied to the stock during passage of the stock through the forming section 24 around the curved drainage means 34.

Thereafter, a third portion of water is removed by means of the first vacuum slot 36, and a fourth portion of water is removed downwardly through the vacuum box 38.

The vacuum box 38 having a curved surface 40 results in a fifth portion of water being removed upwardly through the second wire 20. The first wire 16 then passes over the foil 90 which assists the removal of a further portion of water through the second vacuum slot 42.

The wires then proceed to extend around at least one curved inverted vacuum box or further curved drainage means 44 for removing water through the second wire 20.

The curved drainage means 34 and vacuum box 38 have a radius of curvature which is opposite to the radius of curvature of the further curved drainage means 44 so that the forming section 24 follows a generally sinusoidal configuration from the first end 26 to the second end 28 of the forming section 24.

The operation of the apparatus shown in figure 4 is similar to the operation of the apparatus shown in figures 1-3 except in that a further auto slice 134 is used for assisting withdrawal of water upwardly through the wire 20A.

The aforementioned arrangement not only permits progressive drainage through both wires during passage through the forming section but also permits

the high consistency stock to be ejected into the forming section with a minimum trajectory thereby improving formation and the two-sidedness of the resultant web.

## Claims

1. A forming apparatus (10) for forming a web (W) from stock (S) ejected through a slice lip (12) of a headbox (14), said apparatus comprising:

a first wire (16) extending in an endless loop (18) past the slice lip (12) such that the stock (S) is ejected through the slice lip (12) onto said first wire (16);

a second wire (20) extending in a further endless loop (22), said second wire (20) cooperating with said first wire (16) for defining therebetween a forming section (24) having a first and a second end (26,28) such that the web (W) is formed during passage of the stock (S) through said forming section (24);

a first turning bar (30) disposed within said endless loop (18) and adjacent to said first end (26) of said forming section (24) such that said first wire (16) is sandwiched between the stock (S) and said first turning bar (30);

a second turning bar (32) disposed within said further endless loop (22) and adjacent to said first end (26) of said forming section (24) such that the stock (S) is disposed between said wires (16,20), said wires (16,20) being disposed between said turning bars (30,32) permitting the slice lip (12) to be disposed in close proximity to said first end (26) of said forming section (24);

a curved drainage means (34) disposed within said endless loop (18) immediately downstream relative to said first turning bar (30) for removing a first portion of water from the stock (S) through said first wire (16) and for removing a second portion of water centrifugally through said second wire (20) during passage of the stock (S) through said forming section (24) and past said curved drainage means (34);

a first slot (36) disposed within said further endless loop (22) and extending in a cross-machine direction immediately downstream relative to said curved drainage means (34) for removing a third portion of water from the stock (S) through said second wire (20);

a box (38) disposed within said endless loop (18) immediately downstream relative to said slot (36), said box (38) defining a curved surface (40) for removing a fourth portion of water from the stock (S) through said first wire (16);

a second slot (42) disposed within said further endless loop (22) and extending in a cross-machine direction downstream relative to said

box (38) for removing further water from the stock (S) through said second wire (20); and

a further curved drainage means (44) disposed within said further endless loop (22) and immediately downstream relative to said second slot (42), for removing water from the stock (S) through said second wire (20), said curvature of said curved drainage means (34) and said box (38) being opposite to the curvature of said further curved drainage means (44) such that the stock (S) is progressively drained through both wires (16,20) during passage through said forming section (24) from said first (26) towards said second end (28) thereof.

2. A forming apparatus (10) as set forth in claim 1 wherein said first wire (16) is disposed relative to the slice lip (12) such that the stock (S) impinges on said first wire (16) before contacting said second wire (20).

3. A forming apparatus (10) as set forth in claim 1 wherein said forming section (24) is disposed substantially horizontally.

4. A forming apparatus (10) as set forth in claim 1 wherein said forming section (24) follows a generally sinusoidal path.

5. A forming apparatus (10) as set forth in claim 1 wherein said turning bars (30,32) are of ceramic material.

6. A forming apparatus (10) as set forth in claim 1 wherein said curved drainage means (34) further includes:

a plurality of support foils (46-63) defining therebetween a plurality of drainage slots (64-81).

7. A forming apparatus (10) as set forth in claim 6 wherein said plurality of drainage slots (64-81) are connected to a source of partial vacuum (82).

8. A forming apparatus (10) as set forth in claim 1 wherein said curved drainage means (34) defines a face (84) having a radius of curvature greater than the radius of curvature of said curved surface (40) of said box (38).

9. A forming apparatus (10) as set forth in claim 1 wherein said first slot (36) is a first auto slice (86) including:

adjusting means (88) for adjusting the angular or vertical position of said first slot (36) relative to said second wire (20).

10. A forming apparatus (10) as set forth in claim 9

wherein said adjusting means (88) permits movement of said first slot (36) between said curved drainage means (34) and said box (38).

11. A forming apparatus (10) as set forth in claim 1  
 wherein said curved surface (40) of said box (38)  
 permits centrifugal removal of a fifth portion of  
 water from the stock (S) through said second wire  
 (20), said box (38) being connected to a source  
 of partial pressure. 5
12. A forming apparatus (10) as set forth in claim 1  
 further including:  
 an adjustable vacuum foil (90) disposed  
 within said endless loop (18) between said box  
 (38) and said second slot (42) for assisting re-  
 moval of said further water through said second  
 slot (42). 10
13. A forming apparatus (10A) as set forth in claim 1  
 further including:  
 a further slot (134) disposed within said  
 further endless loop (18A) and disposed between  
 said first and second slots (36A,42A) for remov-  
 ing water from the stock through said second wire  
 (20A). 15
14. A forming apparatus (10) as set forth in claim 1  
 wherein said second slot (42) is a second auto  
 slice (92), said second auto slice (92) further in-  
 cluding:  
 further adjusting means (94) for adjusting  
 said second slot (42) relative to said second wire  
 (20) for skimming said further water removed  
 from the stock (S) through said second wire (20). 20
15. A forming apparatus (10) as set forth in claim 1  
 wherein said further curved drainage means (44)  
 further includes:  
 a plurality of cross-machine direction  
 shoes (96-114) defining therebetween a plurality  
 of openings (115-132) connected to a source of  
 partial vacuum (not shown) for removing water  
 from the stock (S) through said second wire (20). 25
16. A forming apparatus (10) for forming a web (W)  
 from stock (S) ejected through a slice lip (12) of  
 a headbox (14), said apparatus comprising:  
 a first wire (16) extending in an endless  
 loop (18) past the slice lip (12) such that the stock  
 (S) is ejected through the slice lip (12) onto said  
 first wire (16);  
 a second wire (20) extending in a further  
 endless loop (22), said second wire (20) cooper-  
 ating with said first wire (16) for defining there-  
 between a forming section (24) having a first and  
 a second end (26,28) such that the web (W) is  
 formed during passage of the stock (S) through 30

said forming section (24);

a first turning bar (30) disposed within said  
 endless loop (18) and adjacent to said first end  
 (26) of said forming section (24) such that said  
 first wire (16) is sandwiched between the stock  
 (S) and said first turning bar (30);

a second turning bar (32) disposed within  
 said further endless loop (22) and adjacent to  
 said first end (26) of said forming section (24)  
 such that the stock (S) is disposed between said  
 wires (16,20), said wires (16,20) being disposed  
 between said turning bars (30,32) permitting the  
 slice lip (12) to be disposed in close proximity to  
 said first end (26) of said forming section (24);

a curved drainage means (34) disposed  
 within said endless loop (18) immediately down-  
 stream relative to said first turning bar (30) for re-  
 moving a first portion of water from the stock (S)  
 through said first wire (16) and for removing a  
 second portion of water centrifugally through  
 said second wire (20) during passage of the stock  
 (S) through said forming section (24) and past  
 said curved drainage means (34);

a first vacuum slot (36) disposed within  
 said further endless loop (22) and extending in a  
 cross-machine direction immediately down-  
 stream relative to said curved drainage means  
 (34) for removing a third portion of water from  
 the stock (S) through said second wire (20);

a vacuum box (38) disposed within said  
 endless loop (18) immediately downstream rela-  
 tive to said vacuum slot (36), said vacuum box  
 (38) defining a curved surface (40) for removing  
 a fourth portion of water from the stock (S)  
 through said first wire (16);

a second vacuum slot (42) disposed within  
 said further endless loop (22) and extending in a  
 cross-machine direction downstream relative to  
 said vacuum box (38) for removing further water  
 from the stock (S) through said second wire (20);  
 and

a further curved drainage means (44) dis-  
 posed within said further endless loop (22) and  
 immediately downstream relative to said second  
 vacuum slot (42), for removing water from the  
 stock (S) through said second wire (20), said cur-  
 vature of said curved drainage means (34) and  
 said vacuum box (38) being opposite to the cur-  
 vature of said further curved drainage means  
 (44) such that the stock (S) is progressively  
 drained through both wires (16,20) during pas-  
 sage through said forming section (24) from said  
 first (26) towards said second end (28) thereof.

17. A method of forming a web (W) from high consis-  
 tency stock (S) ejected through a slice lip (12) of  
 a headbox (14), said method comprising the  
 steps of:

moving a first wire (16) extending in an endless loop (18) past the slice lip (12);

ejecting the stock (S) through the slice lip (12) onto the first wire (16) such that the stock (S) contacts the first wire (16) at a minimal angle of impingement due to the first wire (16) extending around a turning bar (30) disposed adjacent to the impingement of the stock (S) onto the first wire (16);

moving a second wire (20) extending in a further endless loop (22) around a second turning bar (32) such that the second turning bar (32) is disposed adjacent to the first turning bar (30) so that the slice lip (12) is disposed in close proximity to a first end (26) of a forming section (24) defined between the wires (16,20); and

forming the web (W) from the stock (S) during passage of the stock (S) through the forming section (24) by progressively removing water from the stock (S) through both wires (16,20).

18. A method of forming a web (W) as set forth in claim 17 wherein the step of forming the web (W) from the stock (S) during passage of the stock (S) through the forming section (24) includes:

removing a portion of water from the stock (S) through a curved vacuum box (38) disposed downstream and on the opposite side of the wires (16,20) relative to a first vacuum slot (36).

## Patentansprüche

1. Formungsvorrichtung (10) zum Formen einer Bahn (W) aus Stoff (S), der über eine Austrittsspaltlippe (12) eines Stoffauflaufs (14) ausgestoßen wird, mit:

einem ersten Sieb (16), das sich in einer endlosen Schleife (18) vorbei an der Austrittsspaltlippe (12) erstreckt, so daß der Stoff (S) über die Austrittsspaltlippe (12) auf das erste Sieb (16) ausgestoßen wird;

einem zweiten Sieb (20), das sich in einer weiteren endlosen Schleife (22) erstreckt, wobei das zweite Sieb (20) mit dem ersten Sieb (16) zusammenwirkt, um zwischen ihnen einen Formungsabschnitt (24) zu bilden, der ein erstes und ein zweites Ende (26, 28) hat, so daß die Bahn (W) während der Passage des Stoffs (S) durch den Formungsabschnitt (24) geformt wird;

einer ersten Umlenkstange (30), die in der endlosen Schleife (18) und an dem ersten Ende (26) des Formungsabschnitts (24) angeordnet ist, so daß das erste Sieb (16) zwischen dem Stoff (S) und der ersten Umlenkstange (30) angeordnet ist;

einer zweiten Umlenkstange (32), die in der weiteren endlosen Schleife (22) und an dem ersten

Ende (26) des Formungsabschnitts (24) angeordnet ist, so daß der Stoff (S) zwischen den Sieben (16, 20) angeordnet ist, wobei die Siebe (16, 20) zwischen den Umlenkstangen (30, 32) angeordnet sind, was gestattet, die Austrittsspaltlippe (12) in enger Nähe zu dem ersten Ende (26) des Formungsabschnitts (24) anzuordnen;

einer gekrümmten Entwässerungseinrichtung (34), die innerhalb der endlosen Schleife (18) unmittelbar stromabwärts relativ zu der ersten Umlenkstange (30) angeordnet ist, um einen ersten Teil Wasser aus dem Stoff (S) durch das erste Sieb (16) und einen zweiten Teil Wasser zentrifugal durch das zweite Sieb (20) während der Passage des Stoffs (S) durch den Formungsabschnitt (24) und vorbei an der gekrümmten Entwässerungseinrichtung (34) zu entfernen;

einem ersten Schlitz (36), der in der ersten endlosen Schleife (22) angeordnet ist und sich in Richtung quer zur Maschine unmittelbar stromabwärts relativ zu dem gekrümmten Entwässerungsabschnitt (34) erstreckt, um einen dritten Teil Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen;

einem Kasten (38), der in der endlosen Schleife (18) unmittelbar stromabwärts relativ zu dem Schlitz (36) angeordnet ist, wobei der Kasten (38) eine gekrümmte Oberfläche (40) aufweist, um einen vierten Teil Wasser aus dem Stoff (S) über das erste Sieb (16) zu entfernen;

einem zweiten Schlitz (42), der in der weiteren endlosen Schleife (22) angeordnet ist und sich in Richtung quer zur Maschine stromabwärts relativ zu dem Kasten (38) erstreckt, um weiteres Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen; und

einer weiteren gekrümmten Entwässerungseinrichtung (44), die in der weiteren endlosen Schleife (22) und unmittelbar stromabwärts relativ zu dem zweiten Schlitz (42) angeordnet ist, um Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen, wobei die Krümmung der gekrümmten Entwässerungseinrichtung (34) und des Kastens (38) entgegengesetzt zu der Krümmung der weiteren gekrümmten Entwässerungseinrichtung (44) ist, so daß der Stoff (S) durch beide Siebe (16, 20) während der Passage durch den Formungsabschnitt (24) von dem ersten (26) zu dem zweiten Ende (28) desselben fortschreitend entwässert wird.

2. Formungsvorrichtung (10) nach Anspruch 1, wobei das erste Sieb (16) relativ zu der Austrittsspaltlippe (12) so angeordnet ist, daß der Stoff (S) auf das erste Sieb (16) auftrifft, bevor er mit dem zweiten Sieb (20) in Berührung kommt.

3. Formungsvorrichtung (10) nach Anspruch 1, wo-

- bei der Formungsabschnitt (24) im wesentlichen horizontal angeordnet ist.
4. Formungsvorrichtung (10) nach Anspruch 1, wobei der Formungsabschnitt (24) einer insgesamt sinusförmigen Bahn folgt. 5
5. Formungsvorrichtung (10) nach Anspruch 1, wobei die Umlenkstangen (30, 32) aus keramischem Material bestehen. 10
6. Formungsvorrichtung (10) nach Anspruch 1, wobei die gekrümmte Entwässerungseinrichtung (34) weiter aufweist: mehrere Tragentwässerungsleisten (46-63), die zwischen sich mehrere Entwässerungsschlitze (64-81) begrenzen. 15
7. Formungsvorrichtung (10) nach Anspruch 6, wobei die Entwässerungsschlitze (64-81) mit einer Teilvakuumquelle (82) verbunden sind. 20
8. Formungsvorrichtung (10) nach Anspruch 1, wobei die gekrümmte Entwässerungseinrichtung (34) eine Stirnseite (84) aufweist, die einen Krümmungsradius hat, der größer als der Krümmungsradius der gekrümmten Oberfläche (40) des Kastens (38) ist. 25
9. Formungsvorrichtung (10) nach Anspruch 1, wobei der erste Schlitz (36) ein erster automatischer Austrittsspalt (86) ist, mit: einer Einstelleinrichtung (88) zum Einstellen der Winkel- oder Vertikalposition des ersten Schlitzes (36) relativ zu dem zweiten Sieb (20). 30 35
10. Formungsvorrichtung (10) nach Anspruch 9, wobei die Einstelleinrichtung (88) eine Bewegung des ersten Schlitzes (36) zwischen der gekrümmten Entwässerungseinrichtung (34) und dem Kasten (38) gestattet. 40
11. Formungsvorrichtung (10) nach Anspruch 1, wobei die gekrümmte Oberfläche (40) des Kastens (38) das zentrifugale Entfernen eines fünften Teils Wasser aus dem Stoff (S) über das zweite Sieb (20) gestattet, wobei der Kasten (38) mit einer Partialdruckquelle verbunden ist. 45
12. Formungsvorrichtung (10) nach Anspruch 1, weiter mit: einer einstellbaren Vakuumentwässerungsleiste (90), die in der endlosen Schleife (18) zwischen dem Kasten (38) und dem zweiten Schlitz (42) angeordnet ist, um das Entfernen des weiteren Wassers über den zweiten Schlitz (42) zu unterstützen. 50 55
13. Formungsvorrichtung (10A) nach Anspruch 1, weiter mit: einem weiteren Schlitz (134), der in der weiteren endlosen Schleife (18A) und zwischen dem ersten und zweiten Schlitz (36A, 42A) angeordnet ist, um Wasser aus dem Stoff über das zweite Sieb (20A) zu entfernen.
14. Formungsvorrichtung (10) nach Anspruch 1, wobei der zweite Schlitz (42) ein zweiter automatischer Austrittsspalt (92) ist, wobei der zweite automatische Austrittsspalt (92) weiter beinhaltet: eine weitere Einstelleinrichtung (94) zum Einstellen des zweiten Schlitzes (42) relativ zu dem zweiten Sieb (20), um das aus dem Stoff (S) über das zweite Sieb (20) entfernte weitere Wasser abzuschöpfen.
15. Formungsvorrichtung (10) nach Anspruch 1, wobei die weitere gekrümmte Entwässerungseinrichtung (44) weiter aufweist: mehrere Schuhe (96-114) in Richtung quer zur Maschine, die zwischen sich mehrere Öffnungen (115-132) bilden, welche mit einer Teilvakuumquelle (nicht dargestellt) verbunden sind, um Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen.
16. Formungsvorrichtung (10) zum Formen einer Bahn (W) aus Stoff (S), der über eine Austrittsspaltlippe (12) eines Stoffauflaufs (14) ausgestoßen wird, mit: einem ersten Sieb (16), das sich in einer endlosen Schleife (18) vorbei an der Austrittsspaltlippe (12) erstreckt, so daß der Stoff (S) über die Austrittsspaltlippe (12) auf das erste Sieb (16) ausgestoßen wird; einem zweiten Sieb (20), das sich in einer weiteren endlosen Schleife (22) erstreckt, wobei das zweite Sieb (20) mit dem ersten Sieb (16) zusammenwirkt, um zwischen ihnen einen Formungsabschnitt (24) zu bilden, der ein erstes und ein zweites Ende (26, 28) hat, so daß die Bahn (W) während der Passage des Stoffs (S) durch den Formungsabschnitt (24) geformt wird; einer ersten Umlenkstange (30), die in der endlosen Schleife (18) und an dem ersten Ende (26) des Formungsabschnitts (24) angeordnet ist, so daß das erste Sieb (16) zwischen dem Stoff (S) und der ersten Umlenkstange (30) angeordnet ist; einer zweiten Umlenkstange (32), die in der weiteren endlosen Schleife (22) und an dem ersten Ende (26) des Formungsabschnitts (24) angeordnet ist, so daß der Stoff (S) zwischen den Sieben (16, 20) angeordnet ist, wobei die Siebe (16, 20) zwischen den Umlenkstangen (30, 32) angeordnet sind, was gestattet, die Austrittsspaltlippe

(12) in enger Nähe zu dem ersten Ende (26) des Formungsabschnitts (24) anzuordnen; einer gekrümmten Entwässerungseinrichtung (34), die innerhalb der endlosen Schleife (18) unmittelbar stromabwärts relativ zu der ersten Umlenkstange (30) angeordnet ist, um einen ersten Teil Wasser aus dem Stoff (S) durch das erste Sieb (16) und einen zweiten Teil Wasser zentrifugal durch das zweite Sieb (20) während der Passage des Stoffes (S) durch den Formungsabschnitt (24) und vorbei an der gekrümmten Entwässerungseinrichtung (34) zu entfernen; einem ersten Vakuumschlitz (36), der in der weiteren endlosen Schleife (22) angeordnet ist und sich in Richtung quer zur Maschine unmittelbar stromabwärts relativ zu der gekrümmten Entwässerungseinrichtung (34) erstreckt, um einen dritten Teil Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen; einem Vakuumkan (38), der in der endlosen Schleife (18) unmittelbar stromabwärts relativ zu dem Vakuumschlitz (36) angeordnet ist, wobei der Vakuumkan (38) eine gekrümmte Oberfläche (40) bildet, um einen vierten Teil Wasser aus dem Stoff (S) über das erste Sieb (16) zu entfernen; einem zweiten Vakuumschlitz (42), der in der weiteren endlosen Schleife (22) angeordnet ist und sich in Richtung quer zur Maschine stromabwärts relativ zu dem Vakuumkan (38) erstreckt, um weiteres Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen; und einer weiteren gekrümmten Entwässerungseinrichtung (44), die in der weiteren endlosen Schleife (22) und unmittelbar stromabwärts relativ zu dem zweiten Schlitz (42) angeordnet ist, um Wasser aus dem Stoff (S) über das zweite Sieb (20) zu entfernen, wobei die Krümmung der gekrümmten Entwässerungseinrichtung (34) und des Kastens (38) entgegengesetzt zu der Krümmung der weiteren gekrümmten Entwässerungseinrichtung (44) ist, so daß der Stoff (S) durch beide Siebe (16, 20) während der Passage durch den Formungsabschnitt (24) von dem ersten (26) zu dem zweiten Ende (28) desselben fortschreitend entwässert wird.

17. Verfahren zum Formen einer Bahn (W) aus einem Stoff (S) hoher Konsistenz, der über eine Austrittsspaltlippe (12) eines Stoffauflaufs (14) ausgestoßen wird, wobei das Verfahren die Schritte beinhaltet:  
Bewegen eines ersten Siebes (16), das sich in einer endlosen Schleife (18) erstreckt, vorbei an der Austrittsspaltlippe (12);  
Ausstoßen des Stoffes (S) über die Austrittsspaltlippe (12) auf das erste Sieb (16), so daß der Stoff (S) den ersten Draht (16) unter einem mini-

malen Auftreffwinkel berührt, weil sich der erste Draht (16) um eine Umlenkstange (30) erstreckt, die nahe dem Auftreffen des Stoffes (S) auf das erste Sieb (16) angeordnet ist;

Bewegen eines zweiten Siebes (20), das sich in einer weiteren endlosen Schleife (22) erstreckt, um eine zweite Umlenkstange (32), so daß die zweite Umlenkstange (32) nahe der ersten Umlenkstange (30) und die Austrittsspaltlippe (12) in enger Nähe zu einem ersten Ende (26) eines Formungsabschnittes (24) angeordnet ist, der zwischen den Sieben (16, 20) gebildet ist; und Formen der Bahn (W) aus dem Stoff (S) während der Passage des Stoffes (S) durch den Formungsabschnitt (24) durch progressives Entfernen von Wasser aus dem Stoff (S) durch die beiden Siebe (16, 20).

18. Verfahren zum Formen einer Bahn (W) nach Anspruch 17, wobei der Schritt des Formens der Bahn (W) aus dem Stoff (S) während der Passage des Stoffes (S) durch den Formungsabschnitt (24) beinhaltet:

Entfernen eines Teils des Wassers aus dem Stoff (S) durch einen gekrümmten Vakuumkan (38), der stromabwärts und auf der entgegengesetzten Seite der Siebe (16, 20) relativ zu einem ersten Vakuumschlitz (36) angeordnet ist.

## Revendications

1. Appareil de façonnage (10) destiné à façonner une bande (W) à partir d'une pâte (S) éjectée à travers une lèvre (12) faisant office de règle d'une caisse de tête (14), ledit appareil comprenant :
- une première toile (16) s'étendant en une boucle sans fin (18) en passant devant la lèvre (12) faisant office de règle de telle sorte que la pâte (S) s'éjecte à travers la lèvre (12) faisant office de règle, sur ladite toile sans fin (16);
  - une seconde toile (20) s'étendant en formant une boucle sans fin supplémentaire (22), ladite seconde toile sans fin (20) coopérant avec ladite première toile sans fin (16) pour définir entre elles une section de façonnage (24) comprenant des première et seconde extrémités (26, 28), de telle sorte que la bande (W) se forme lors du passage de la pâte (S) à travers ladite section de façonnage (24);
  - une première barre de pivotement (30) disposée au sein de ladite boucle sans fin (18) et en position adjacente à ladite première extrémité (26) de ladite section de façonnage (24) de telle sorte que ladite première toile sans fin (16) soit intercalée entre la pâte (S) et ladite première barre de pivotement (30);
  - une seconde barre de pivotement (32) dis-

posée au sein de ladite boucle sans fin supplémentaire (22) et en position adjacente à ladite première extrémité (26) de ladite section de façonnage (24) de telle sorte que la pâte (S) vienne se disposer entre lesdites toiles sans fin (16, 20), lesdites toiles sans fin (16, 20) étant disposées entre lesdites barres de pivotement (30, 32), ce qui permet à la lèvres (12) faisant office de règle d'être disposée à proximité étroite de ladite première extrémité (26) de ladite section de façonnage (24);

un moyen courbe de drainage (34) disposé au sein de ladite boucle sans fin (18) immédiatement en aval par rapport à ladite première barre de pivotement (30), destiné à éliminer une première portion d'eau de la pâte (S) à travers ladite première toile sans fin (16) et destiné à éliminer une seconde portion d'eau par centrifugation à travers ladite seconde toile sans fin (20), lors du passage de la pâte (S) à travers ladite section de façonnage (24) et devant ledit moyen courbe de drainage (34);

une première fente (36) disposée au sein de ladite boucle sans fin supplémentaire (22) et s'étendant en direction transversale immédiatement en aval par rapport audit moyen courbe de drainage (34), destinée à éliminer une troisième portion d'eau de la pâte (S) à travers ladite seconde toile sans fin (20);

un caisson (38) disposé au sein de ladite boucle sans fin (18) immédiatement en aval par rapport à ladite fente (36), ledit caisson (38) définissant une surface courbe (40), destiné à éliminer une quatrième portion d'eau de la pâte (S) à travers ladite première toile sans fin (16);

une seconde fente (42) disposée au sein de ladite boucle sans fin supplémentaire (22) et s'étendant en direction transversale en aval par rapport audit caisson (38), destinée à éliminer une quantité supplémentaire d'eau de la pâte (S) à travers ladite seconde toile sans fin (20); et

un moyen courbe de drainage supplémentaire (44) disposé au sein de ladite boucle sans fin supplémentaire (22) et immédiatement en aval par rapport à ladite seconde fente (42), destiné à éliminer de l'eau de la pâte (S) à travers ladite seconde toile sans fin (20), ladite courbure dudit moyen de drainage (34) et celle dudit caisson (38) étant opposées à la courbure dudit moyen de drainage supplémentaire (44) de telle sorte que la pâte (S) soit drainée progressivement à travers les deux toiles sans fin (16, 20) lors de son passage à travers ladite section de façonnage (24), depuis ladite première extrémité (26) en direction de ladite seconde extrémité (28) de cette dernière.

2. Appareil de façonnage (10) selon la revendica-

tion 1, dans lequel ladite première toile sans fin (16) est disposée par rapport à la lèvres (12) faisant office de règle de telle sorte que la pâte (S) touche ladite première toile sans fin (16) avant de venir se mettre en contact avec ladite seconde toile sans fin (20).

3. Appareil de façonnage (10) selon la revendication 1, dans lequel ladite section de façonnage (24) est disposée essentiellement horizontalement.

4. Appareil de façonnage (10) selon la revendication 1, dans lequel ladite section de façonnage (24) suit une voie généralement sinusoïdale.

5. Appareil de façonnage (10) selon la revendication 1, dans lequel lesdites barres de pivotement (30, 32) sont en matière céramique.

6. Appareil de façonnage (10) selon la revendication 1, dans lequel ledit moyen courbe de drainage (34) englobe, en outre :  
plusieurs feuilles de support (46-63) définissant entre elles plusieurs fentes de drainage (64-81).

7. Appareil de façonnage (10) selon la revendication 6, dans lequel lesdites plusieurs fentes de drainage (64-81) sont raccordées à une source de vide partiel (82).

8. Appareil de façonnage (10) selon la revendication 1, dans lequel ledit moyen courbe de drainage (34) définit une face (84) et est muni d'un rayon de courbure supérieur au rayon de courbure de ladite surface (40) dudit caisson (38).

9. Appareil de façonnage (10) selon la revendication 1, dans lequel ladite première fente (36) constitue une première règle automatique (86) englobant :

un moyen de réglage (88) destiné à régler la position angulaire ou verticale de ladite première fente (36) par rapport à ladite seconde toile sans fin (20).

10. Appareil de façonnage (10) selon la revendication 9, dans lequel ledit moyen de réglage (88) permet à ladite première fente (36) d'effectuer un mouvement entre ledit moyen courbe de drainage (34) et ledit caisson (38).

11. Appareil de façonnage (10) selon la revendication 1, dans lequel ladite surface courbe (40) dudit caisson (38) permet l'élimination par centrifugation d'une cinquième portion d'eau de la pâte (S) à travers ladite seconde toile sans fin (20), le-

- dit caisson (38) étant raccordé à une source de pression partielle.
- 12.** Appareil de façonnage (10) selon la revendication 1, englobant, en outre :
- une feuille à vide réglable (90) disposée au sein de ladite boucle sans fin (18) entre ledit caisson (38) et ladite seconde fente (42) pour apporter sa collaboration à l'élimination de ladite quantité supplémentaire d'eau à travers ladite seconde fente (42). 5 10
- 13.** Appareil de façonnage (10A) selon la revendication 1, englobant, en outre :
- une fente supplémentaire (134) disposée au sein de ladite boucle sans fin supplémentaire (18A) et disposée entre lesdites première et seconde fentes (36A, 42A), destinée à éliminer de l'eau de la pâte à travers ladite seconde toile sans fin (20A). 15 20
- 14.** Appareil de façonnage (10) selon la revendication 1, dans lequel la seconde fente (42) constitue une seconde règle automatique (92), ladite seconde règle automatique (92) comprenant, en outre :
- un moyen de réglage supplémentaire (94) destiné à régler ladite seconde fente (42) par rapport à ladite seconde toile sans fin (20) dans le but d'écumer ladite quantité supplémentaire d'eau éliminée de la pâte (S) à travers ladite seconde toile sans fin (20). 25 30
- 15.** Appareil de façonnage (10) selon la revendication 1, dans lequel ledit moyen courbe de drainage supplémentaire (44) englobe, en outre :
- plusieurs sabots en direction transversale (96-114) définissant entre eux plusieurs ouvertures (115-132) raccordées à une source de vide partiel (non représentée), destinés à éliminer de l'eau de la pâte (S) à travers ladite seconde toile sans fin (20). 35 40
- 16.** Appareil de façonnage (10) destiné à façonner une bande (W) à partir d'une pâte (S) éjectée à travers une lèvres (12) faisant office de règle d'une caisse de tête (14), ledit appareil comprenant :
- une première toile (16) s'étendant en une boucle sans fin (18) en passant devant la lèvres (12) faisant office de règle de telle sorte que la pâte (S) s'éjecte à travers la lèvres (12) faisant office de règle, sur ladite toile sans fin (16); 45 50
  - une seconde toile (20) s'étendant en formant une boucle sans fin supplémentaire (22), ladite seconde toile sans fin (20) coopérant avec ladite première toile sans fin (16) pour définir entre elles une section de façonnage (24) comprenant des première et seconde extrémités (26, 28) de telle sorte que la bande (W) se forme lors du passage de la pâte (S) à travers ladite section de façonnage (24);
  - une première barre de pivotement (30) disposée au sein de ladite boucle sans fin (18) et en position adjacente à ladite première extrémité (26) de ladite section de façonnage (24) de telle sorte que ladite première toile sans fin (16) soit intercalée entre la pâte (S) et ladite première barre de pivotement (30);
  - une seconde barre de pivotement (32) disposée au sein de ladite boucle sans fin supplémentaire (22) et en position adjacente à ladite première extrémité (26) de ladite section de façonnage (24) de telle sorte que la pâte (S) vienne se disposer entre lesdites toiles sans fin (16, 20), lesdites toiles sans fin (16, 20) étant disposées entre lesdites barres de pivotement (30, 32), ce qui permet à la lèvres (12) faisant office de règle d'être disposée à proximité étroite de ladite première extrémité (26) de ladite section de façonnage (24);
  - un moyen courbe de drainage (34) disposé au sein de ladite boucle sans fin (18) immédiatement en aval par rapport à ladite première barre de pivotement (30), destiné à éliminer une première portion d'eau de la pâte (S) à travers ladite première toile sans fin (16) et destiné à éliminer une seconde portion d'eau par centrifugation à travers ladite seconde toile sans fin (20) lors du passage de la pâte (S) à travers ladite section de façonnage (24) et devant ledit moyen courbe de drainage (34);
  - une première fente à vide (36) disposée au sein de ladite boucle sans fin supplémentaire (22) et s'étendant en direction transversale immédiatement en aval par rapport audit moyen courbe de drainage (34), destinée à éliminer une troisième portion d'eau de la pâte (S) à travers ladite seconde toile sans fin (20);
  - un caisson à vide (38) disposé au sein de ladite boucle sans fin (18) immédiatement en aval par rapport à ladite fente à vide (36), ledit caisson à vide (38) définissant une surface courbe (40), destiné à éliminer une quatrième portion d'eau de la pâte (S) à travers ladite première toile sans fin (16);
  - une seconde fente à vide (42) disposée au sein de ladite boucle sans fin supplémentaire (22) et s'étendant en direction transversale en aval par rapport audit caisson à vide (38), destinée à éliminer une quantité supplémentaire d'eau de la pâte (S) à travers ladite seconde toile sans fin (20); et
  - un moyen courbe de drainage supplémentaire (44) disposé au sein de ladite boucle sans fin supplémentaire (22) et immédiatement en aval par rapport à ladite seconde fente à vide

(42), destiné à éliminer de l'eau de la pâte (S) à travers ladite seconde toile sans fin (20), lesdites courbures dudit moyen de drainage (34) et dudit caisson à vide (38) étant opposées à la courbure dudit moyen de drainage supplémentaire (44) de telle sorte que la pâte (S) soit drainée progressivement à travers les deux toiles sans fin (16, 20) lors de son passage à travers ladite section de façonnage (24), depuis ladite première extrémité (26) en direction de ladite seconde extrémité (28) de cette dernière.

17. Procédé de façonnage d'une bande (W) d'une pâte (S) à consistance élevée en pour cent, éjectée à travers une lèvre (12) faisant office de règle d'une caisse de tête (14), ledit procédé comprenant les étapes consistant à :

faire passer une première toile (16) s'étendant en une boucle sans fin (18), devant la lèvre (12) faisant office de règle;

éjecter la pâte (S) à travers la lèvre (12) faisant office de règle sur la première toile sans fin (16) de telle sorte que la pâte (S) vienne se mettre en contact avec la première toile sans fin (16) en formant un angle d'incidence minimal du fait que la première toile sans fin (16) s'étend autour d'une barre de pivotement (30) disposée en position adjacente à l'incidence de la pâte (S) sur ladite première toile sans fin (16);

faire passer une seconde toile (20) s'étendant en une boucle sans fin supplémentaire (22), autour d'une seconde barre de pivotement (32) de telle sorte que la seconde barre de pivotement (32) soit disposée en position adjacente à la première barre de pivotement (30), si bien que la lèvre (12) faisant office de règle est disposée à proximité étroite d'une première extrémité (26) d'une section de façonnage (24) définie entre les toiles sans fin (16, 20); et

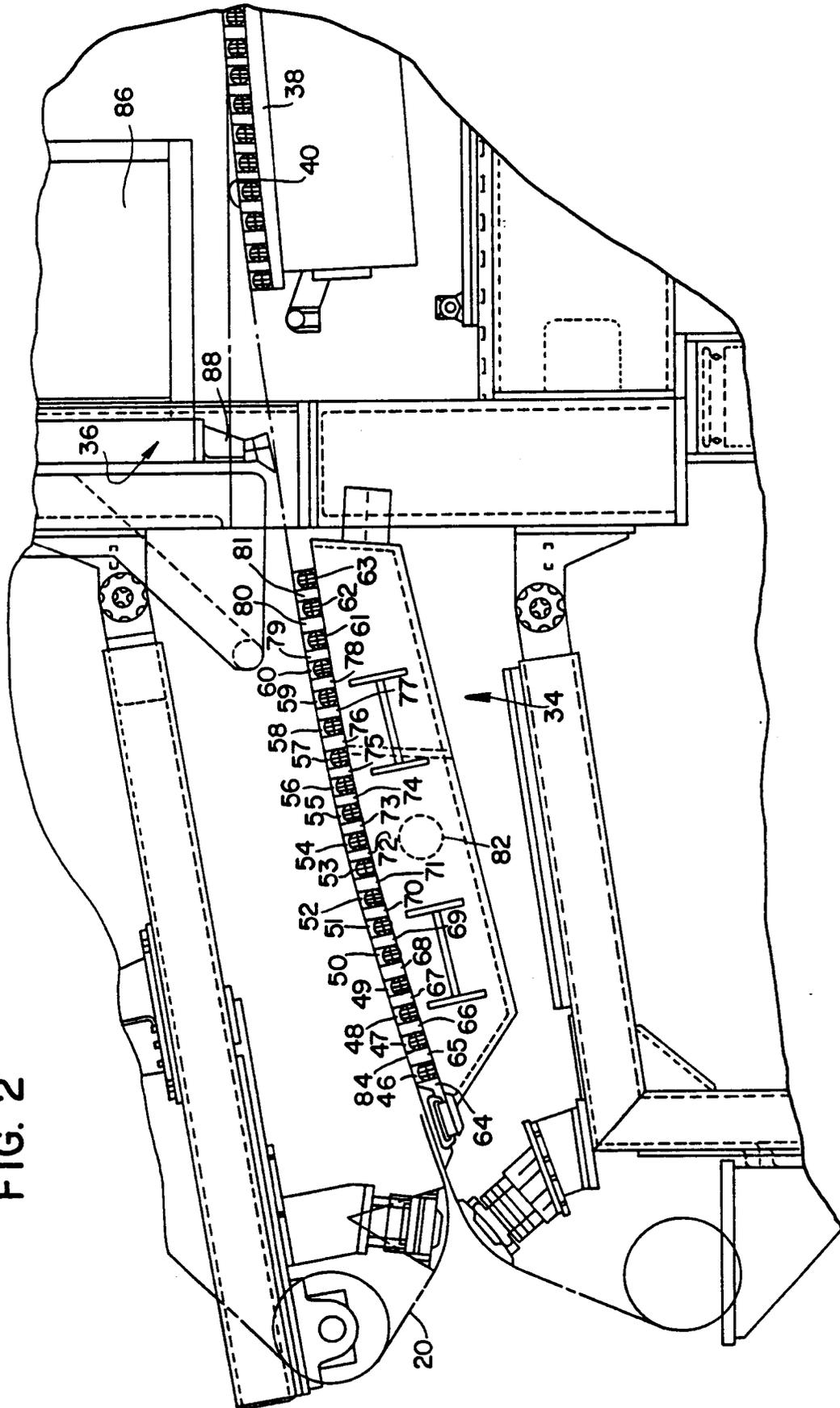
façonner la bande (W) à partir de la pâte (S) au cours du passage de la pâte (S) à travers la section de façonnage (24), en éliminant progressivement l'eau de la pâte (S) à travers les deux toiles sans fin (16, 20).

18. Procédé de façonnage d'une bande (W) selon la revendication 17, dans lequel l'étape de façonnage de la bande (W) à partir de la pâte (S) au cours du passage de la pâte (S) à travers la section de façonnage (24), englobe :

le fait d'éliminer une portion d'eau de la pâte (S) à travers un caisson courbe à vide (38) disposé en aval et du côté opposé à celui des toiles sans fin (16, 20) par rapport à une première fente à vide (36).



FIG. 2



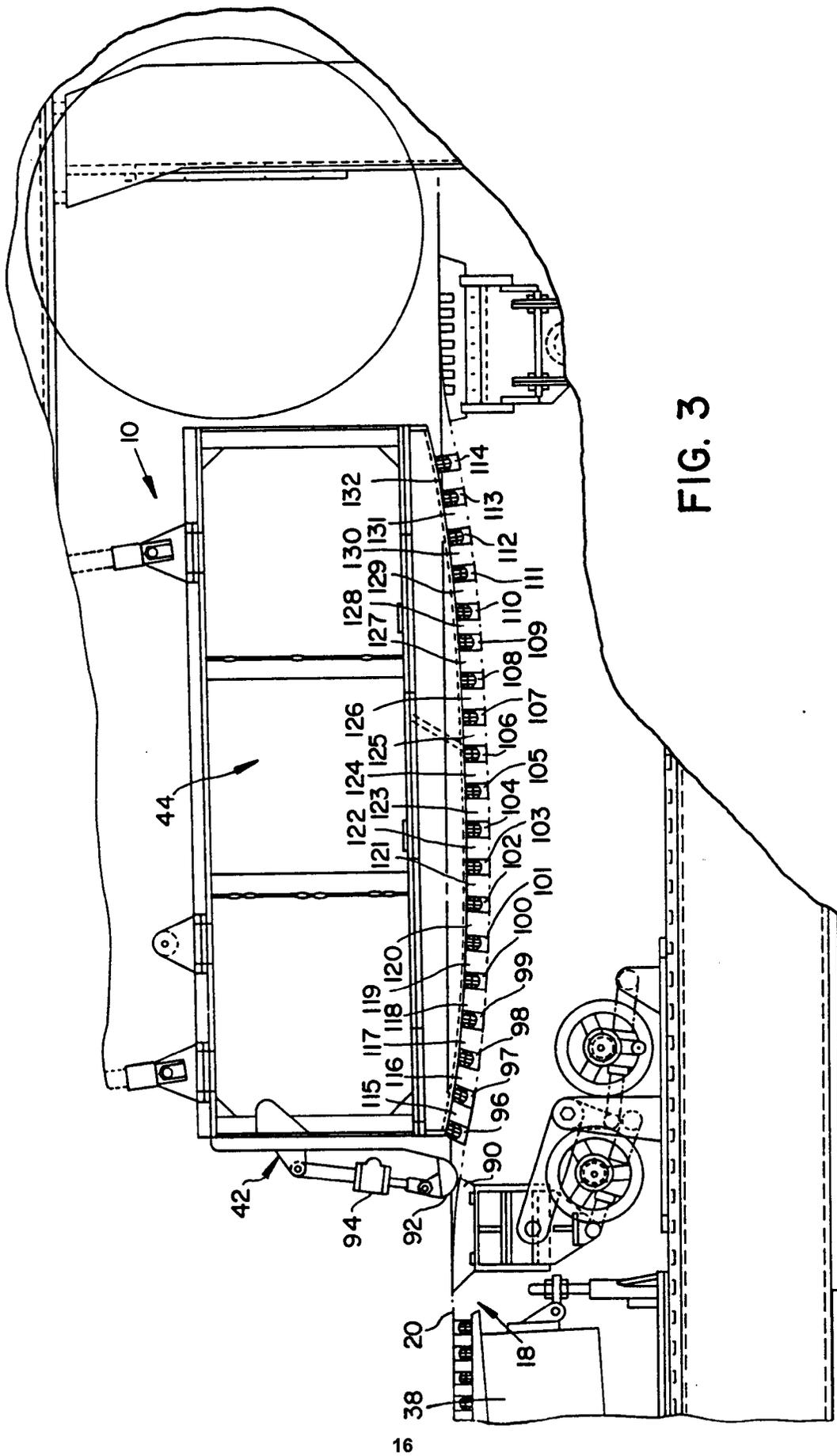


FIG. 3

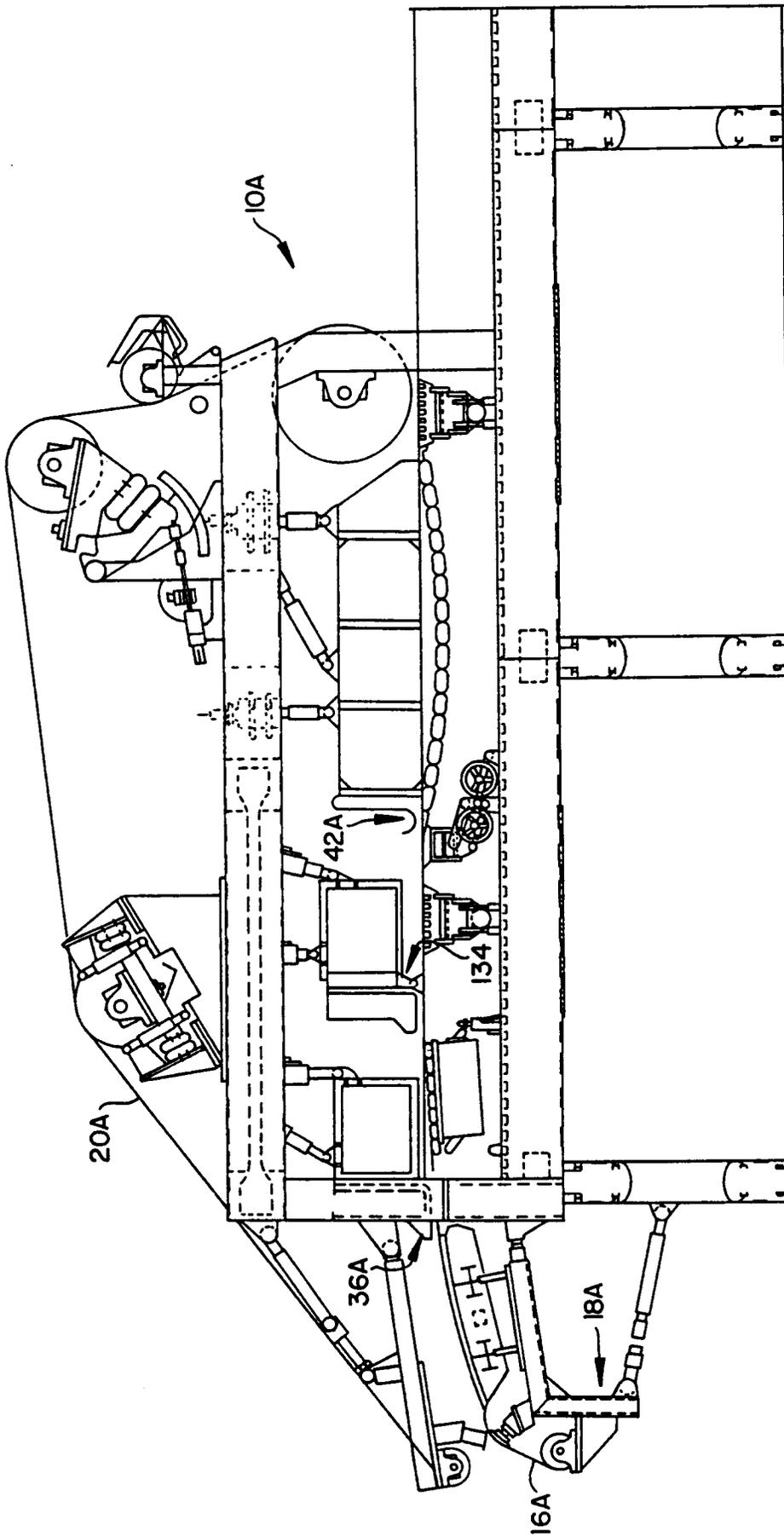


FIG. 4