United States Patent	12390895
Kind Code	B1
Date of Patent	August 19, 2025
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Pipe-assembling machine

Abstract

A pipe-assembling machine configured to assemble two pipes to a reducer. The pipe-assembling machine comprises a table, a rotation device and two assembling devices both mounted at the table. The assembling devices are respectively disposed at two sides of the rotation device, which comprises a base and a rotationally-driving mechanism connected to and driving the base to rotate along an axial direction. Each assembling device has an assembling element being movably parallel to the table. The pipe-assembling machine is configured for allowing the reducer to be mounted on the base with the two pipes preliminarily mounted at two ends of it. The assembling devices are configured for assembling fastener elements to connecting holes of the pipes and the reducer through the assembling element to assemble the pipes to the reducer.

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Appl. No.: **18/797642**

Filed: **August 08, 2024**

Foreign Application Priority Data

TW	113205039	May. 16, 2024

Publication Classification

Int. Cl.: **B23P19/04** (20060101); **B21J15/14** (20060101); **F16B7/04** (20060101)

U.S. Cl.:

CPC **B23P19/04** (20130101); **B21J15/14** (20130101); **F16B7/0406** (20130101);

Field of Classification Search

CPC: B23P (19/04); B23P (19/061); B23P (19/10); B23P (19/12); B23P (21/002); B21J (15/10); B21J (15/12); B21J (15/14); B21J (15/30); Y10T (29/53987); Y10T (29/49956); Y10T (29/49895); Y10T (29/49899); Y10T (29/49902); Y10T (29/29998); Y10T (29/53961); Y10T (29/53978); F16B (7/00); F16B (7/0406); F16L (13/00); F16L (21/00-002); F16L (21/08)

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Background/Summary

BACKGROUND OF THE INVENTION

1. Field of the Invention

(1) The present invention relates to a pipe-assembling machine, especially to a pipe-assembling machine configured to assemble pipes to a reducer.

2. Background

(2) A reducer is a machine used to reduce rotational speed to increase torque outputting. Two ends of the reducer are respectively defined as an input end and an output end. The input end is connected to an inputting element. The output end is connected to an outputting element. The inputting element applies a torsional force with higher rotational speed and lower torque to the input end of the reducer. The reducer reduces the rotational speed, and then outputs a torsional force to the outputting element through the outputting end. Therefore, the outputting element generates a torsional force with lower rotational speed and higher torque.

(3) There are several ways to use the reducer. One of them is to use pipes as the inputting and outputting elements. Two pipes are respectively mounted and fixed at the input end and the output end of the reducer to be use.

(4) To install pipes to a reducer, the method nowadays is as follows. A connecting end of the pipe has multiple connecting holes formed on a surrounding wall of the pipe at spaced intervals and surrounding the whole connecting end. Installation personnel assemble the connecting ends of the two pipes onto the input end and the output end of the reducer respectively, then insert multiple rivets into the connecting holes of the connecting ends so the rivets reach into the input end and the

output end. Then, the personnel use rivet guns to fasten the rivets until each connecting hole of the pipes is securely riveted to the reducer to complete assembling the pipes to the reducer.
(5) However, when assembling the pipes, there might be tolerance between the pipes and the reducer, which leads to the pipes shifting or deviating. Besides, the personnel hold the rivet guns by hands to fasten the rivets at different angles, so an angle of the rivet guns is decided purely by the personnel, and thus, errors are prone to happen, causing a lower accuracy of riveting. Furthermore, due to the multiple connecting holes surrounding the whole pipe, some of the connecting holes are covered. So, all of the connecting holes and the rivets cannot be fastened at the same time. The personnel have to turn the reducer and pipes over to reveal the covered connecting holes to rivet them. This is time-consuming and inefficient.

SUMMARY OF THE INVENTION

(6) The main objective of the present invention is to provide a pipe-assembling machine to resolve drawbacks that a method of assembling pipes to a reducer nowadays is to manually turn the reducer over, which has a lower accuracy of riveting and is time-consuming with low efficiency.
(7) The pipe-assembling machine is configured to assemble two pipes to a reducer along an axial direction, wherein each pipe has a connecting end having multiple connecting holes, which are formed on the connecting end at spaced intervals with the axial direction as an axial center. The connecting ends of the two pipes are respectively mounted at two ends of the reducer. The pipe-assembling machine comprises a table, a rotation device and two assembling devices. The rotation device comprises a base and a rotationally-driving mechanism. The base is pivotably mounted on the table and is pivotable along the axial direction. The base is configured for detachably mounting the reducer. The rotationally-driving mechanism is mounted at the table, is connected to the base, and can drive the base to pivot. The two assembling devices are respectively mounted at the table and are disposed at two sides of the rotation device along the axial direction. Each one of the two assembling devices has an assembling element movably parallel to the table and toward the reducer. The two assembling devices are configured for respectively corresponding to the two pipes. The assembling element of each of the two assembling devices is configured for assembling multiple fastener elements to the multiple connecting holes of the connecting end of the corresponding pipe and the reducer to assemble the corresponding pipe to the reducer.
(8) The pipe-assembling machine is configured to assemble two pipes to a reducer. During assembling, personnel operate the assembling elements of the two assembling devices to move the assembling elements approaching the reducer mounted on the base. The assembling elements are used to assemble the multiple fastener elements, which are near the assembling elements, to the connecting holes of the connecting ends of the two pipes and the reducer. Then, the personnel operate the rotationally-driving mechanism to rotate the base, and the reducer and the two pipes are rotated as well. Therefore, the connecting holes that are not yet assembled with the fastener elements face toward the assembling elements, and the fastener elements can be assembled to the two pipes and the reducer through the assembling elements.
(9) In addition, since the assembling elements of the two assembling devices can only be moved parallel to the table, the assembling elements have fixed height positions and are unable to pivot, therefore ensuring accuracy of assembling the fastener elements. Besides, the two assembling devices can be respectively operated by two installation personnel. So, two connecting holes that are disposed at two sides of a pipe and are symmetrical in position can be assembled with the fastener elements at the same time, therefore the pipe receives forces from two sides in balance, thus increasing the accuracy of assembling. Furthermore, the reducer and the two pipes are rotated by the rotation device without manual interference, thereby saving workhours and manual force, and increasing work efficiency.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

(1) FIG. **1** is a perspective view of an embodiment of a pipe-assembling machine in accordance with the present invention;

(2) FIG. **2** is a top view of the pipe-assembling machine in accordance with the present invention;

(3) FIG. **3** is a sectional view across line **3-3** in FIG. **2**;

(4) FIG. **4** is a partial perspective view of the pipe-assembling machine in accordance with the present invention;

(5) FIG. **5** is a perspective view of the pipe-assembling machine in accordance with the present invention, showing mounting a reducer on a base of a rotation device;

(6) FIG. **6** is a front view of the pipe-assembling machine in accordance with the present invention, showing the reducer mounted on the base of the rotation device;

(7) FIG. **7** is a perspective view of the pipe-assembling machine in accordance with the present invention, showing pipes assembled to the reducer;

(8) FIG. **8** is a perspective view of the pipe-assembling machine in accordance with the present invention, showing limiting the pipes in position through positioning devices and positioning pin assemblies;

(9) FIG. **9** is a perspective view of the pipe-assembling machine in accordance with the present invention, showing assembling fastener elements to the pipes and the reducer through assembling elements;

(10) FIG. **10** is a top view of the pipe-assembling machine in accordance with the present invention, showing rotating the base, the pipes, and the reducer;

(11) FIG. **11** is a sectional view across line **11-11** in FIG. **10**, showing rotating the base, the pipes, and the reducer;

(12) FIG. **12** is a sectional view across line **12-12** in FIG. **10**, showing moving an extendable rod component of the positioning devices from a first position-limited position to a second position-limited position; and

(13) FIG. **13** is a perspective view of the pipe-assembling machine in accordance with the present invention, showing the positioning devices positioning the pipe at the second position-limited position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

(14) FIGS. **1** and **7** show an embodiment of a pipe-assembling machine in accordance with the present invention. The pipe-assembling machine is configured to assemble two pipes **71** to a reducer **70** along an axial direction. Each one of the two pipes **71** has a connecting end having multiple connecting holes formed on a surrounding wall of the pipe **71** and surrounding the connecting end of said pipe **71** at spaced intervals with the axial direction as an axial center. The pipe-assembling machine comprises a table **10**, a rotation device **20** and two assembling devices **30**.

(15) With reference to FIGS. **1** to **4**, the rotation device **20** comprises a base **21** and a rotationally-driving mechanism **22**. The base **21** is pivotably mounted on the table **10** and is pivotable along the axial direction. The rotationally-driving mechanism **22** is mounted at the table **10**, is connected to the base **21**, and can drive the base **21** to pivot. As shown in FIGS. **5** and **7**, the reducer **70** is detachably mounted at the base **21**.

(16) With reference to FIGS. **1** to **3**, the two assembling devices **30** are respectively mounted at the table **10** and disposed at two sides of the rotation device **20** along the axial direction. Each one of the two assembling devices **30** has an assembling element **31** being movable parallel to the table **10** and toward the reducer **70**. As shown in FIGS. **7** and **9**, the connecting ends of the two pipes **71** are respectively mounted at two ends of the reducer **70**. Each one of the two assembling devices **30** respectively corresponds to the two pipes **71** and assembles multiple fastener elements **80** to the multiple connecting holes of the connecting end of the corresponding pipe **71** and the reducer **70**

through the assembling element **31** to assemble the corresponding pipe **71** to the reducer **70**. Furthermore, the assembling elements **31** have fixed height positions and are unable to pivot.

(17) The pipe-assembling machine is configured to assemble two pipes **71** to a reducer **70**. As shown in FIGS. **5** and **6**, firstly, the reducer **70** is mounted on the base **21**. In addition, the base **21** of the rotation device **20** has a connecting portion **211** and a positioning element **213**. The connecting portion **211** has at least one positioning rod **212**. The reducer **70** is detachably mounted at the connecting portion **211** of the base **21**. The at least one positioning rod **212** is mounted through the reducer **70** to limit the reducer **70** in position. The positioning element **213** is detachably mounted at the connecting portion **211** and abuts the reducer **70**.

(18) Additionally, as shown in FIG. **5**, the reducer **70** is placed at the connecting portion **211** of the base **21**. By the at least one positioning rod **212** limiting the reducer **70** in position, the reducer **70**'s position is fast ensured. Then, the positioning element **213** and the connecting portion **211** abut the reducer **70** together, thereby further avoiding the reducer **70**'s deviating, and hence increasing positioning accuracy of the reducer **70**. Preferably, the positioning element **213** is a bolt and is screwed into the connecting portion **211** to abut the reducer **70**. Alternatively, the positioning element **213** abuts the reducer **70** in a hydraulic way.

(19) Furthermore, as shown in FIG. **6**, the pipe-assembling machine comprises a suspension device **40** disposed over the rotation device **20**. The suspension device **40** can move horizontally and perpendicularly to the axial direction, and has a suspension element **41** movable vertically. The suspension element **41** of the suspension device **40** can be used to hook the reducer **70** to lift and move the reducer **70**, thereby saving workhour and manual force. In this embodiment, the suspension device **40** is a crane.

(20) And then, as shown in FIG. **7**, the connecting ends of the two pipes **71** are preliminarily mounted respectively to the two ends of the reducer **70** along the axial direction.

(21) Preferably, as shown in FIGS. **3**, **7** and **8**, the pipe-assembling machine comprises two positioning devices **50** respectively disposed at two ends of the table **10** along the axial direction and corresponding to the two pipes **71**. Each positioning device **50** comprises a positioning rail **51**, an extendable rod component **52** and a rod-component-driving element **53**. The positioning rail **51** is mounted at the table **10** inclinedly. The extendable rod component **52** is movably mounted at the positioning rail **51**. The rod-component-driving element **53** is mounted at the positioning rail **51** and can drive the extendable rod component **52** to move along the positioning rail **51**. The extendable rod component **52** has a rod sleeve **521** and a positioning rod **522**. The positioning rod **522** is disposed in the rod sleeve **521**, and is parallel to the axial direction, and can move linearly relative to the rod sleeve **521**. The positioning rod **522** is moved outwardly from the rod sleeve **521** to reach into the pipe **71** corresponding to said positioning device **50** and is moved backwardly to the rod sleeve **521** to leave the pipe **71**. Additionally, a diameter of the positioning rod **522** is equal to a diameter of the pipe **71**. The rod-component-driving element **53** can move the extendable rod component **52** to a first position-limited position and to a second position-limited position.

(22) As shown in FIGS. **7** and **8**, after the connecting ends of the two pipes **71** are preliminarily mounted to the reducer **70**, the two positioning devices **50** are operated such that the extendable rod component **52** is moved to the first position-limited position and the extendable rod component **52** is concentric with the pipe **71** corresponding to the positioning rod **522**. Then, the positioning rod **522** is moved outwardly from the rod sleeve **521** to reach into said pipe **71**. By the positioning rod **522** fixing an end of said pipe **71** which is away from the reducer **70**, two ends of said pipe **71** are both fixed and limited in position. So, said pipe **71** will not move around or deviate vertically or horizontally, ensuring concentricity of said pipe **71** and the reducer **70**, thereby increasing assembling accuracy for follow-up assembling of the fastener elements **80**.

(23) Besides, as shown in FIGS. **7** and **8**, the pipe-assembling machine comprises two positioning pin assemblies **60** respectively mounted at the two ends of the table **10** along the axial direction and disposed at the two sides of the rotation device **20**. The two positioning pin assemblies **60**

respectively correspond to the two pipes **71** and can be operated to reach into the two pipes **71**. The two positioning pin assemblies **60** can respectively reach into lateral walls of the two pipes **71** to avoid the two pipes **71** deviating vertically or horizontally, and the two pipes **71** will not pivot along the axial direction and will not change angles, thereby increasing assembling accuracy for follow-up assembling.

(24) As shown in FIG. **9**, the assembling elements **31** of the two assembling devices **30** are operated to move the assembling elements **31** to approach the reducer **70** mounted on the base **21**. The assembling elements **31** are used to assemble the multiple fastener elements **80**, which are near the assembling elements **31**, to the connecting holes of the connecting ends of the two pipes **71** and the reducer **70**. Preferably, the assembling elements **31** of the assembling devices **30** are rivet guns, and the multiple fastener elements **80** are rivets.

(25) In addition, as shown in FIGS. **7** and **9**, each assembling device **30** comprises a moving component **32** which is adjacent to the table **10**. The assembling element **31** of said assembling device **30** is mounted on the moving component **32** and is moved with the moving component **32** to move parallel to the table **10** to approach or move away from the connecting end of the corresponding pipe **71** mounted on the reducer **70** on the rotation device **20**.

(26) Furthermore, each moving component **32** comprises two longitudinal rails **321**, a moving board **322**, at least one horizontal rail **323** and a driven plate **324**. The two longitudinal rails **321** are parallel to the axial direction and adjacent to the table **10**. The moving board **322** is parallel to the table **10** and is mounted on the two longitudinal rails **321** to be moved along the two longitudinal rails **321**. The at least one horizontal rail **323** is mounted on the moving board **322** and is perpendicular to the two longitudinal rails **321**. The driven plate **324** is mounted on the at least one horizontal rail **323** to be moved along the at least one horizontal rail **323**. The assembling element **31** of said assembling device **30** is mounted on the driven plate **324**.

(27) In addition, since the assembling element **31** of each assembling device **30** can only be moved parallel to the table **10** through the moving component **32**, the assembling element **31**'s height position is fixed and the assembling element **31** cannot be turned randomly, thereby ensuring accuracy of assembling the fastener elements **80** through the assembling element **31**. Besides, the two assembling devices **30** can be operated separately by two installation personnel. So, two connecting holes that are disposed at left and right sides of a pipe **71** and are symmetrical in position can be assembled with the fastener elements **80** at the same time, therefore the pipe **71** receives forces from two sides in balance, thus increasing the accuracy of assembling.

(28) With reference to FIGS. **10** and **11**, after the left and right sides of the pipe **71** are assembled with the reducer **70** through the fastener elements **80**, each positioning device **50** is respectively operated to move the positioning rod **522** back to the rod sleeve **521** and leaves the corresponding pipe **71**. Then, operating the rotationally-driving mechanism **22** to rotate the base **21**, the reducer **70** and the two pipes **71** will be rotated, so the connecting holes of the pipes **71** that are not yet assembled with the fastener elements **80** are turned toward the assembling elements **31**. Additionally, as shown in FIGS. **3**, **4** and **11**, the base **21** of the rotation device **20** has a gear portion **214** surrounding an outer contour of the base **21** with the axial direction as an axial center. The rotationally-driving mechanism **22** comprises a rotationally-driving element **221** and a driving gear **222**. The rotationally-driving element **221** is mounted at a bottom side of the table **10** and is connected to the driving gear **222**. The driving gear **222** meshes with the gear portion **214** of the base **21**. The rotationally-driving element **221** drives the driving gear **222** to rotate, so that the driving gear **222** drives the base **21** to rotate. The reducer **70** and the two pipes **71** are driven by the rotation device **20** without manual interference, thereby saving workhours and manual force, and increasing work efficiency.

(29) Furthermore, the rotation device **20** comprises multiple guiding components **23** disposed at a bottom side of the table **10** at spaced intervals. Each guiding component **23** has at least one support wheel **231** being rotatable and abutting the base **21**. Since the at least one support wheel **231** of the

multiple guiding components **23** abuts the base **21**, it gives the base **21** support when rotating, thereby increasing rotational stability of the base **21**.
(30) As shown in FIGS. **12** and **13**, after the rotation device **20** rotates the reducer **70** and the two pipes **71** until the connecting holes of the pipes **71** that are not yet assembled with the fastener elements **80** face toward the assembling elements **31**, the personnel operate the two positioning devices **50**. The rod-component-driving element **53** of each positioning device **50** drives the extendable rod component **52** to move to the second position-limited position, then the positioning rod **522** of the extendable rod component **52** is moved outwardly from the rod sleeve **521** to reach into the corresponding pipe **71**, thereby limiting each pipe **71** in position again. And then, the personnel operate the assembling elements **31** to assemble the fastener elements **80** to the pipes **71** and the reducer **70**.
(31) Besides, in this embodiment, the connecting end of the pipe **71** has the connecting holes formed every 45 degrees equi-angularly around it, so the pipe **71** has eight of the connecting holes. When rotating, the base **21** of the rotation device **20** rotates for 90 degrees. Therefore, when assembling the pipes **71** and the reducer **70**, the positioning devices **50** assure that the pipes **71** are limited in position during the first two times of assembling the fastener elements **80**, thereby further increasing the assembling accuracy.
(32) Later, since four connecting holes, which are two pairs facing each other, of either one of the pipes **71** have been assembled with the fastener elements **80**, the pipes **71** and the reducer **70** are substantially stably assembled. The reducer **70** is operated to rotate the two pipes **71** for 45 degrees, then again the two assembling devices **30** are operated to assemble the pipes **71** and the reducer **70** through the fastener elements **80**. Finally, operating the rotation device **20** to rotate the base **21** backward for 90 degrees and finishing assembling the pipes **71** and the reducer **70** through operating the two assembling devices **30**, the reducer **70** and the pipes **71** that are fixedly assembled together can be suspended through the suspension device **40** to be detached from the base **21**.
(33) In this embodiment, by operating the reducer **70** to rotate the two pipes **71**, the base **21** can be designed for only needing to rotate for 90 degrees, thereby reducing mechanical designs of the rotation device **20** to cut down costs. However, in other embodiments, margins of rotational degree of the base **21** are not limited, the base **21** of the rotation device **20** can be designed to have a wider margin of rotational degree as long as the connecting holes of the pipes **71** can align with the assembling elements **31** for assembling the fastener elements **80**. Therefore, operating the reducer **70** to rotate the two pipes **71** is not a necessary step.
(34) To sum up, the pipe-assembling machine is configured to assemble two pipes **71** to a reducer **70**. The two assembling devices **30** can assemble multiple fastener elements **80** to the two pipes **71** and the reducer **70**. Because the assembling elements **31** of the two assembling devices **30** can only be moved parallel to the table **10**, the accuracy of assembling the fastener elements **80** is ensured. The reducer **70** and the two pipes **71** are rotated by the rotation device **20** without manual interference, thereby saving workhours and manual force, and increasing work efficiency. Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and features of the invention, the disclosure is illustrative only. Changes may be made in the details, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

Claims

1. A pipe-assembling machine configured to assemble two pipes to a reducer along an axial direction, wherein each one of the two pipes has a connecting end having multiple connecting holes, which are formed on a surrounding wall of the pipe and surrounding the connecting end at

spaced intervals with the axial direction as an axial center, the connecting ends of the two pipes respectively mounted at two ends of the reducer: the pipe-assembling machine comprising: a table; a rotation device comprising: a base pivotably mounted on the table and being pivotable along the axial direction; the base configured for detachably mounting the reducer; a rotationally-driving mechanism mounted at the table, connected to the base, and being able to drive the base to pivot; and two assembling devices respectively mounted at the table and disposed at two sides of the rotation device along the axial direction; each one of the two assembling devices having an assembling element being movably parallel to the table and toward the reducer; the two assembling devices configured for respectively corresponding to the two pipes; each one of the two assembling devices configured for assembling multiple fastener elements to the multiple connecting holes of the connecting end of the corresponding pipe and the reducer through the assembling element to assemble the corresponding pipe to the reducer.

2. The pipe-assembling machine as claimed in claim 1, wherein the pipe-assembling machine comprises: two positioning devices disposed respectively at two ends of the table along the axial direction and configured for respectively corresponding to the two pipes; each one of the two positioning devices comprising: a positioning rail inclinedly mounted at the table; an extendable rod component movably mounted at the positioning rail and having: a rod sleeve; a positioning rod disposed in the rod sleeve, being parallel to the axial direction, and being moveable linearly relative to the rod sleeve; the positioning rod moved outwardly from the rod sleeve to be configured to reach into the pipe corresponding to said positioning device, and moved backwardly to the rod sleeve to leave said pipe; and a rod-component-driving element mounted at the positioning rail and driving the extendable rod component to move along the positioning rail.

3. The pipe-assembling machine as claimed in claim 2, wherein the pipe-assembling machine comprises: two positioning pin assemblies disposed respectively at the two ends of the table along the axial direction, disposed respectively at the two sides of the rotation device, and configured for respectively corresponding to the two pipes; each one of the two positioning pin assemblies configured for selectively extending into the corresponding pipe.

4. The pipe-assembling machine as claimed in claim 3, wherein the pipe-assembling machine comprises: a suspension device disposed over the rotation device, being movable horizontally and perpendicularly to the axial direction, and having: a suspension element being movable vertically.

5. The pipe-assembling machine as claimed in claim 4, wherein the base of the rotation device has: a connecting portion having: at least one positioning rod; the connecting portion of the base configured for detachably mounting the reducer; the at least one positioning rod configured for mounting through the reducer to limit the reducer in position; and a positioning element detachably mounted at the connecting portion and configured for abutting the reducer.

6. The pipe-assembling machine as claimed in claim 5, wherein the base of the rotation device has a gear portion surrounding an outer contour of the base with the axial direction as an axial center; the rotationally-driving mechanism comprises a rotationally-driving element mounted at a bottom side of the table; and a driving gear meshing with the gear portion of the base; the rotationally-driving element is connected to the driving gear and drives the driving gear to rotate and thereby driving the base to rotate.

7. The pipe-assembling machine as claimed in claim 6, wherein the rotation device comprises multiple guiding components disposed at a bottom side of the table at spaced intervals; each one of the multiple guiding components having at least one support wheel being rotatable and abutting the base.

8. The pipe-assembling machine as claimed in claim 7, wherein: each one of the two assembling devices comprises: a moving component adjacent to the table; the assembling element of said assembling device is mounted on the moving component and is moved with the moving component to move parallel to the table to be configured to approach or move away from the connecting end of the corresponding pipe.

9. The pipe-assembling machine as claimed in claim 8, wherein: each moving component comprises: two longitudinal rails adjacent to the table and parallel to the axial direction; a moving board parallel to the table and mounted on the two longitudinal rails to be moved along the two longitudinal rails; at least one horizontal rail mounted on the moving board and perpendicular to the two longitudinal rails; and a driven plate mounted on the at least one horizontal rail to be moved along the at least one horizontal rail; the assembling element is mounted on the driven plate.
10. The pipe-assembling machine as claimed in claim 3, wherein the base of the rotation device has: a connecting portion having: at least one positioning rod; the connecting portion of the base configured for detachably mounting the reducer; the at least one positioning rod configured for mounting through the reducer to limit the reducer in position; and a positioning element detachably mounted at the connecting portion and configured for abutting the reducer.
11. The pipe-assembling machine as claimed in claim 3, wherein the base of the rotation device has a gear portion surrounding an outer contour of the base with the axial direction as an axial center; the rotationally-driving mechanism comprises a rotationally-driving element mounted at a bottom side of the table; and a driving gear meshing with the gear portion of the base; the rotationally-driving element is connected to the driving gear and drives the driving gear to rotate and thereby driving the base to rotate.
12. The pipe-assembling machine as claimed in claim 3, wherein the rotation device comprises multiple guiding components disposed at a bottom side of the table at spaced intervals; each one of the multiple guiding components having at least one support wheel being rotatable and abutting the base.
13. The pipe-assembling machine as claimed in claim 3, wherein: each one of the two assembling devices comprises: a moving component adjacent to the table; the assembling element of said assembling device is mounted on the moving component and is moved with the moving component to move parallel to the table to be configured to approach or move away from the connecting end of the corresponding pipe.
14. The pipe-assembling machine as claimed in claim 1, wherein the pipe-assembling machine comprises: two positioning pin assemblies disposed respectively at two ends of the table along the axial direction, disposed respectively at the two sides of the rotation device, and configured for respectively corresponding to the two pipes; each one of the two positioning pin assemblies configured for selectively extending into the corresponding pipe.
15. The pipe-assembling machine as claimed in claim 1, wherein the pipe-assembling machine comprises: a suspension device disposed over the rotation device, being movable horizontally and perpendicularly to the axial direction, and having: a suspension element being movable vertically.
16. The pipe-assembling machine as claimed in claim 1, wherein the base of the rotation device has: a connecting portion having: at least one positioning rod; the connecting portion of the base configured for detachably mounting the reducer; the at least one positioning rod configured for mounting through the reducer to limit the reducer in position; and a positioning element detachably mounted at the connecting portion and configured for abutting the reducer.
17. The pipe-assembling machine as claimed in claim 1, wherein the base of the rotation device has a gear portion surrounding an outer contour of the base with the axial direction as an axial center; the rotationally-driving mechanism comprises a rotationally-driving element mounted at a bottom side of the table; and a driving gear meshing with the gear portion of the base; the rotationally-driving element is connected to the driving gear and drives the driving gear to rotate and thereby driving the base to rotate.
18. The pipe-assembling machine as claimed in claim 1, wherein the rotation device comprises multiple guiding components disposed at a bottom side of the table at spaced intervals; each one of the multiple guiding components having at least one support wheel being rotatable and abutting the base.
19. The pipe-assembling machine as claimed in claim 1, wherein each one of the two assembling

devices comprises: a moving component adjacent to the table; the assembling element of said assembling device is mounted on the moving component and is moved with the moving component to move parallel to the table to be configured to approach or move away from the connecting end of the corresponding pipe.

20. The pipe-assembling machine as claimed in claim 19, wherein: each moving component comprises: two longitudinal rails adjacent to the table and parallel to the axial direction; a moving board parallel to the table and mounted on the two longitudinal rails to be moved along the two longitudinal rails; at least one horizontal rail mounted on the moving board and perpendicular to the two longitudinal rails; and a driven plate mounted on the at least one horizontal rail to be moved along the at least one horizontal rail; the assembling element is mounted on the driven plate.