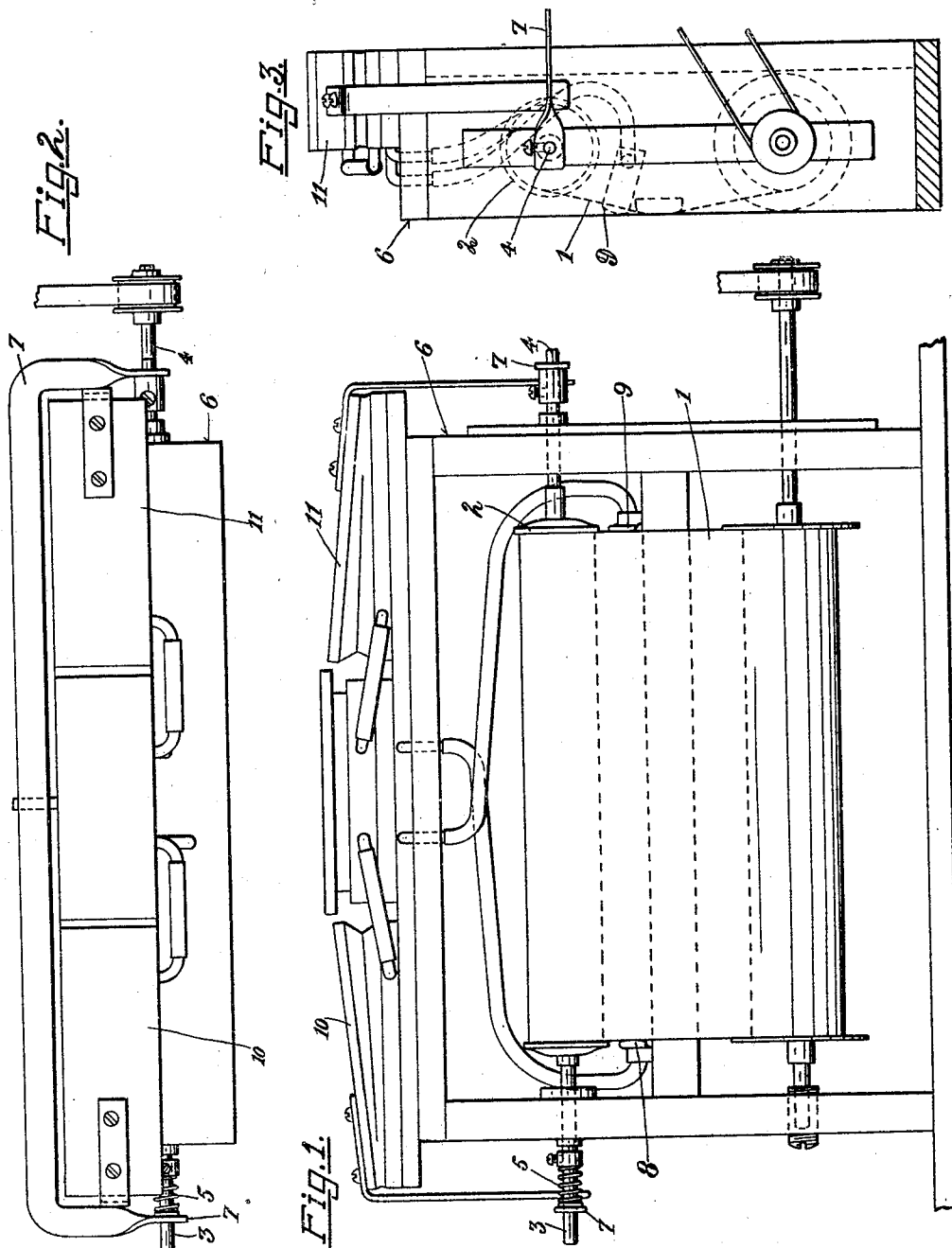


R. A. GALLY,
WEB GUIDING DEVICE.
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1,112,061.



Witnesses:
Jacob A. Hollander
J. W. Macy

Inventor:
R. A. Gally

UNITED STATES PATENT OFFICE.

ROBERT A. GALLY, OF CINCINNATI, OHIO, ASSIGNOR TO THE BALDWIN COMPANY, OF CINCINNATI, OHIO.

WEB-GUIDING DEVICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT A. GALLY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Web-Guiding Devices, of which the following is a specification.

Previous devices in this art have used complicated screw shaft movements for shifting the roll carrying the web to be guided, or have had longitudinal spring pressure against such roll with consequent necessity of cam action against said pressure, and in music self playing structures have employed many parts to accomplish what is now done in a simple form.

In the drawings Figure 1 is a front view of music player roll box with present new automatic guiding device included; Fig. 2 is a plan view of same; and Fig. 3 a view of the right end.

The traveling web, which in this showing is a perforated music-sheet 1, is usually carried on its spool 2 which when in use in the apparatus is inserted between and held in revoluble position by clutch spindles 3 and 4 which are opposed to each other at the two sides of the box, but in one axial line. For easy insertion of such spools as 2, one of the spindles as 3, is usually provided with longitudinal pressure toward the other spindle, as 4, by means of a spring, as 5, which ordinarily acts on such spindle 3 relatively to a fixed part of the apparatus, as the box 6, in which case any longitudinal adjustment of the spindles 3 and 4 to set the particular transverse position of the sheet 1, requires such adjustment to have a steady resistance against the constant pressure of such spring action.

With automatic sheet guides employing pneumatic or equivalent adjusting action to the spindles, some cam or wedge has been required to avoid a constant changing, error or vibration of such longitudinal adjustment of said spindles. This is now avoided by guiding the longitudinal position of the two spindles 3 and 4 by means of a yoke, frame or unitarily moving member or means 7 co-acting with both said spindles at once, and having the spring 5 acting between the spindle 3 and the said yoke or unitarily moving member or means 7 independent of the box 6 or other fixed part of the apparatus, so that said yoke or unitary means 7 can be

moved in the longitudinal direction of the axes of the spindles 3 and 4 with no resistance from or disturbance of the spring 5, or the proper clutching and carrying of the spool 2 by the spindles 3 and 4. With this yoke or unitary means the automatic means for guiding the sheet 1 can be of very small power and easy action, and a minimum of parts employed.

The automatic guiding device may be of any well known form, a conventional showing being here made of detectors 8 and 9 at the edges of the sheet 1, which detectors determine the action of the regulator pneumatics 10 and 11, which operate the yoke or unitary means 7 in longitudinal direction of the common axes of spindles 3 and 4 and spool 2.

It is to be understood that the simplest form of unitary means 7 is a solid one piece yoke bent up out of strip metal as shown, but it is possible to make such unitary means in many other well known ways, as by casting, or to use several members pivoted or bearing against each other so as to act in unitary manner from one spindle to the other and hold them to a certain relation to the spool yet capable of moving as one with said spool in its longitudinal direction, and yet be subject to the claims hereof, which relate to the novel feature of a unitary floating control of the spool. It is also to be understood that any other automatic regulating means than pneumatic may be employed, as electric; and that the control may be made from the surface of or perforations in the sheet instead of from its edges; or may be from one edge or other control instead of from two; or that a hand control may be used instead of automatic control; or both hand and automatic control may be combined means for which latter are set forth in a separate application.

What I claim as my invention, is:

1. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a movable connecting member having its spindle controlling parts engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, a fixed part of the apparatus and bearings fixed thereon, both independent of and

separate from said member, said bearings supporting said spindles.

2. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a bodily movable connecting member having its spindle controlling parts engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, a fixed part of the apparatus and bearings fixed thereon, both independent of and separate from said member, said bearings supporting said spindles.

3. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a bodily movable unitary connecting member having its spindle controlling parts engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, a fixed part of the apparatus and bearings fixed thereon, both independent of and separate from said member, said bearings supporting said spindles.

4. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a bodily movable solid unitary connecting member having its spindle controlling parts engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, a fixed part of the apparatus and bearings fixed thereon, both independent of and separate from said member, said bearings supporting said spindles.

5. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a solid connecting yoke engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, a fixed part of the apparatus and bearings fixed thereon, both independent of and separate from said yoke, said bearings supporting said spindles.

6. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a movable connecting

member engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, and web-shifting means connected with and acting on said movable connecting member in said direction, a fixed part of the apparatus and bearings fixed thereon, both independent of and separate from said member, said bearings supporting said spindles.

7. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a solid connecting yoke engaging and supported by both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, and web-shifting means connected with and acting on said movable connecting yoke in said direction, a fixed part of the apparatus and bearings fixed thereon, both independent of and separate from said yoke, said bearings supporting said spindles.

8. In a web-guiding device: a pair of spindles in one axial line with a support between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a movable connecting member engaging both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, and a spring means carried with said movable member and spindles and adapted to contract the two said spindles toward each other in the direction of said axial line, and web-shifting means connected with and acting on said movable connecting member in said direction.

9. In a web-guiding device: a pair of spindles in one axial line with a space between, the opposed ends of said spindles adapted to engage and support a sheet-spool therebetween, and a bodily movable unitary connecting member engaging both said spindles and adapted to be moved in unison with both spindles in direction of said axial line, and a spring means carried with said bodily movable unitary member and spindles and adapted to contract the two said spindles toward each other in the direction of said axial line, and web-shifting means connected with and acting on said movable connecting member in said direction.

ROBT. A. GALLY.

Witnesses:

S. M. WAMACKS,
J. W. MACY.