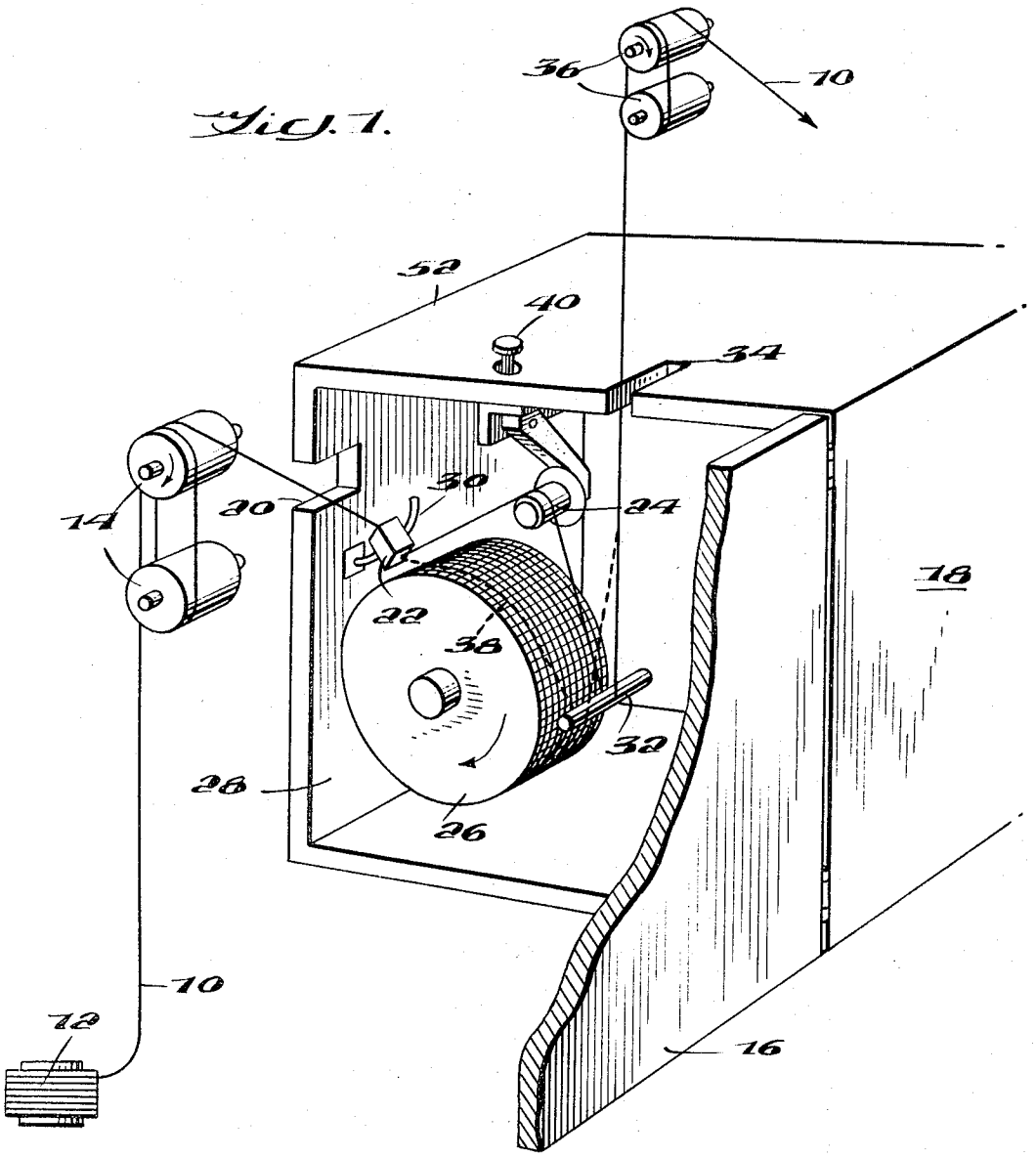
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YARN DIVERTING APPARATUS

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Fig. 1.



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Fig. 2.

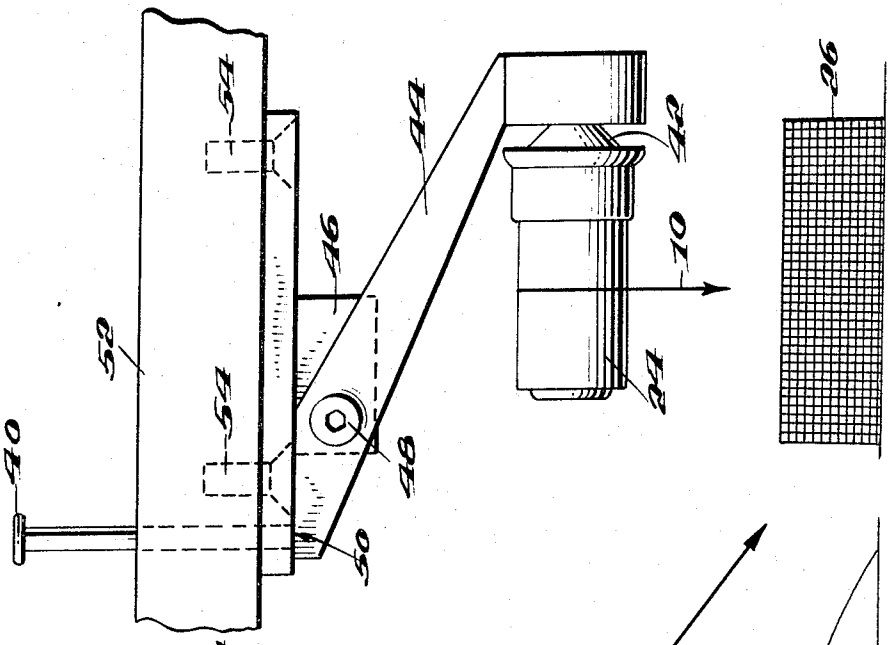
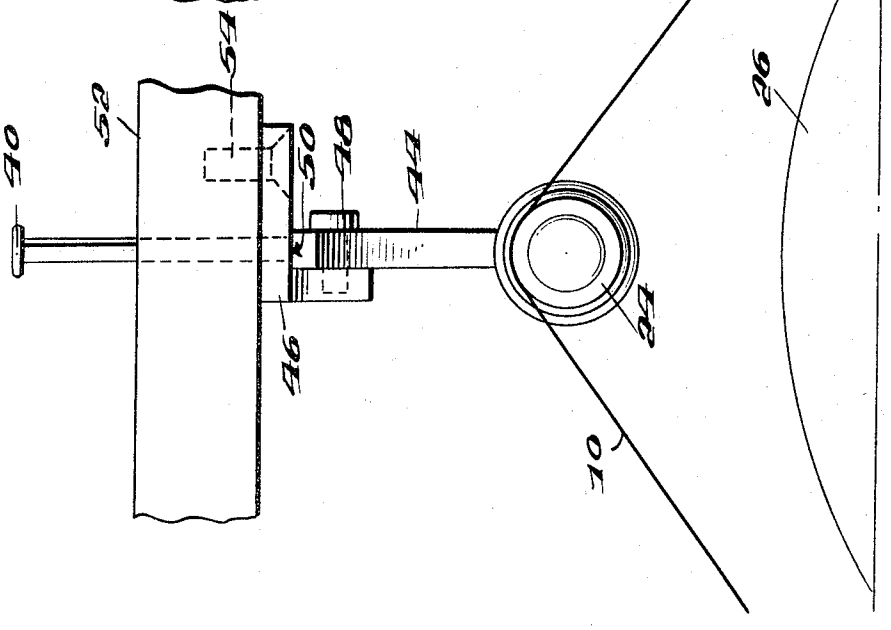


Fig. 3.



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YARN DIVERTING APPARATUS

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5 Claims. (Cl. 28—1)

This invention relates generally to the production of bulked filamentary yarn and more particularly to improvements in a bulking apparatus which includes a jet device through which the yarn advances to a moving foraminous surface.

In the operation of such an apparatus, because of the high noise level associated with the fluid stream passing through the jet orifice, various remedies such as earplugs and acoustical enclosures have been adopted. Even with an acoustical enclosure, earplugs are still required when the enclosure is opened for threadline stringup since the jet must be turned on to assist in overcoming frictional drag on yarn contact surfaces. With the jet turned off, an effective stringup cannot be made through the normal threadline path of advance along the foraminous surface.

The most important object of this invention is to eliminate the need for operation of the fluid jet during stringup of an apparatus used for producing bulked yarns. A more particular objective is to provide a movable guide for diverting a threadline from its normal path of advance through the apparatus enclosure and a remote control for releasing it after the jet has been placed in operation. A further objective is to reduce frictional drag on the yarn during stringup of a yarn bulking position.

These objectives have been achieved with an apparatus located in an acoustical enclosure and including a driven drum having a foraminous surface around which filamentary yarn normally advances from a jet to a stationary guide and an auxiliary guide means for diverting the yarn from that surface during stringup. As components, the auxiliary guide means is comprised of a fixed support, an arm having a freely rotatable roll projecting from one of its ends, a pivot pin mounting the arm on the support for swinging movement of the roll to and from a normal position of spaced parallelism with the drum surface and an actuator pin in contact with the arm adjacent its other end for swinging the roll to a tilted, yarn-releasing position.

Other objectives and advantages will be apparent from the following specification wherein reference is made to the accompanying drawings in which:

FIGURE 1 is a front perspective view of a bulking apparatus into which the improvements of our invention have been incorporated; and

FIGS. 2, 3 are side and front elevations, respectively, of the swingable auxiliary guide shown in FIG. 1.

In the embodiment chosen for purposes of illustration, filamentary yarn **10** from a supply bobbin **12** is passed around a pair of metering rolls **14**. After opening a door **16** on enclosure **18**, yarn **10** is introduced through slot **20** and is passed through jet **22** over a freely rotatable roll **24**, to prevent contact with the foraminous surface of a driven drum **26** during the stringup operation. In FIGS. 1, 2, that surface has been shown as a screen. Jet **22** is mounted on a pedestal which extends from a side wall **28** of enclosure **18** and normally receives air under pressure from a source connected to an inlet conduit **30**.

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While door **16** is open, operator exposure to high n levels is avoided by first turning off the air supply. Fr roll **24**, the yarn is routed around a stationary guide and through slot **34** to a second pair of metering rolls Thus, the high frictional drag encountered by yarn **1** its normal path of advance **38** around the foraminous face of drum **26** is avoided by diverting it to roll These stringup steps are accomplished manually wit sucker gun or other available stringup aids (not show Following stringup, door **16** is closed, jet **22** is turned and yarn **10** is released to drum **26** by depressing a pin which tilts roll **24** downwardly.

Referring to FIGS. 2, 3, roll **24** is freely rotatable o shaft **42** which projects from one end of an arm **44** a cantilever. At a point between its ends, arm **44** is tached to the depending leg of a fixed support **46** means of a pivot pin **48** having its axis substantially p pendicular to that of drum **26**. Adjacent its other e arm **44** has a flat surface **50** adapted for bearing enga ment with the horizontal leg of support **46** which is f tened to top wall **52** of enclosure **18** by screws **54**. At t time, roll **24** is in spaced parallelism with the surface drum **26**. Top wall **52** and support **46** are provided w aligned openings through which actuator pin **40** exten Pin **40** contacts and rests on surface **50**. The tension yarn **10** pulls on roll **24** and thus tends to hold surf **50** in bearing engagement with support **46**. When pin is depressed, arm **44** is pivoted in a counterclockwise rection (FIG. 2) and roll **24** is tilted downwardly, t releasing yarn **10** to its normal path of advance **38** tween jet **22** and stationary guide **32**.

Instead of a freely rotatable roll, the diverting gu could be a pin or stationary extension of arm **44**. Ot changes and modifications of a similar nature will oc to those skilled in the art without departure from spirit of our invention which accordingly is intended to limited only by the scope of the appended claims.

Having thus described the invention, what is clain as new and desired to be secured by Letters Patent is:

1. In an apparatus including a driven drum havin foraminous surface around which yarn normally advan between spaced elements, guide means for diverting yarn from said surface during stringup, said guide me comprising: a fixed support; an arm; means mount said arm, at a point between its ends, on said support swinging movement about an axis substantially perp dicular to that of said drum, one of said ends be adapted for engagement with said support; a cylindri guide projecting from said arm adjacent its other e said guide being in substantial parallelism with the dr axis when the support is engaged by said one end of arm; and an actuator associated with said arm for swi ing said one end away from the support whereby to said guide downwardly out of parallelism with said dr axis and release the yarn to said surface.

2. The apparatus of claim **1** wherein said cylindri guide is a freely rotatable roll.

3. The apparatus of claim **1** wherein said actuator i pin extending through said support with one of its e contacting said one end of the arm.

4. In an apparatus including an enclosure defined walls and a door and, within said enclosure, a driven dr having a formainous surface around which yarn norma advances between a jet and a stationary guide, auxili guide means for diverting the yarn from said surface d

stringup, said auxiliary guide means comprising: a port fixed to one of said walls, within the enclosure; an having a cylindrical guide projecting from one ts ends; means mounting the arm on said support for nging movement of said cylindrical guide to and from normal position in which it is in spaced parallelism h said surface; and an actuator pin extending through l one wall and contacting said arm adjacent its other whereby to swing the cylindrical guide downwardly of parallelism with said surface and release the yarn said surface.

5. The apparatus of claim 4 wherein said cylindrical guide is a freely rotatable roll.

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