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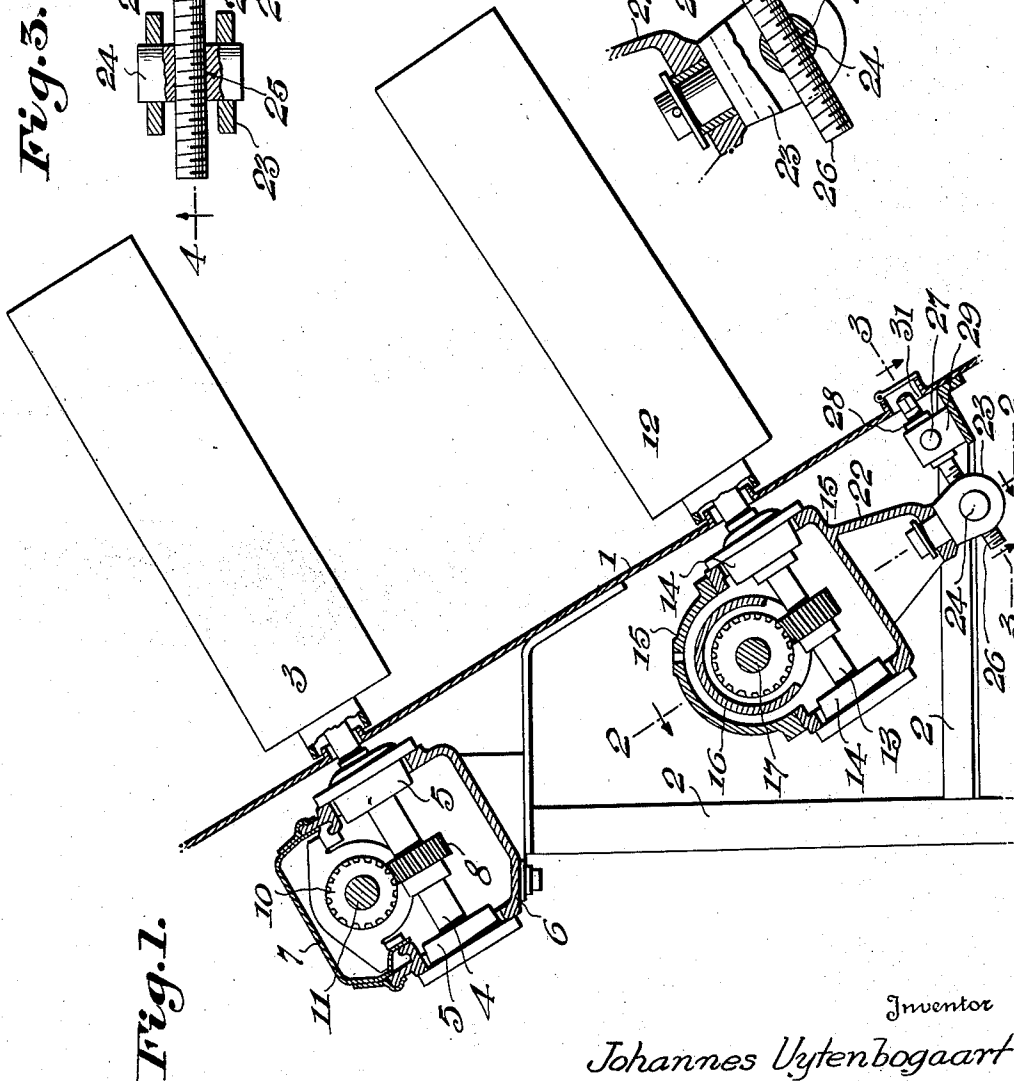
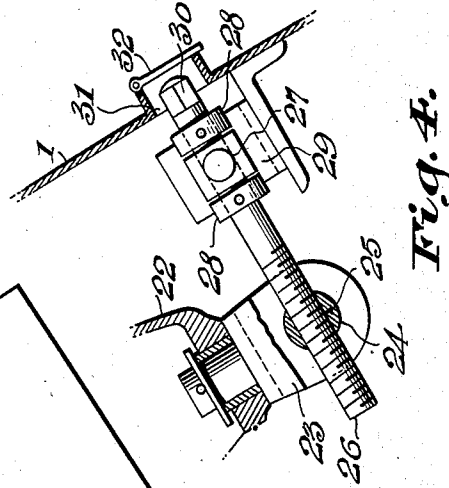
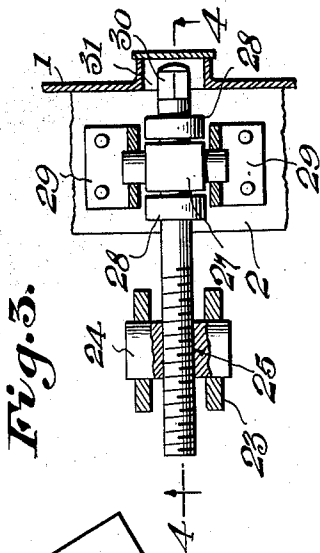
J. UYTENBOGAART

2,129,284

ROLLER FEEDING DEVICE

Filed March 15, 1937

2 Sheets-Sheet 1



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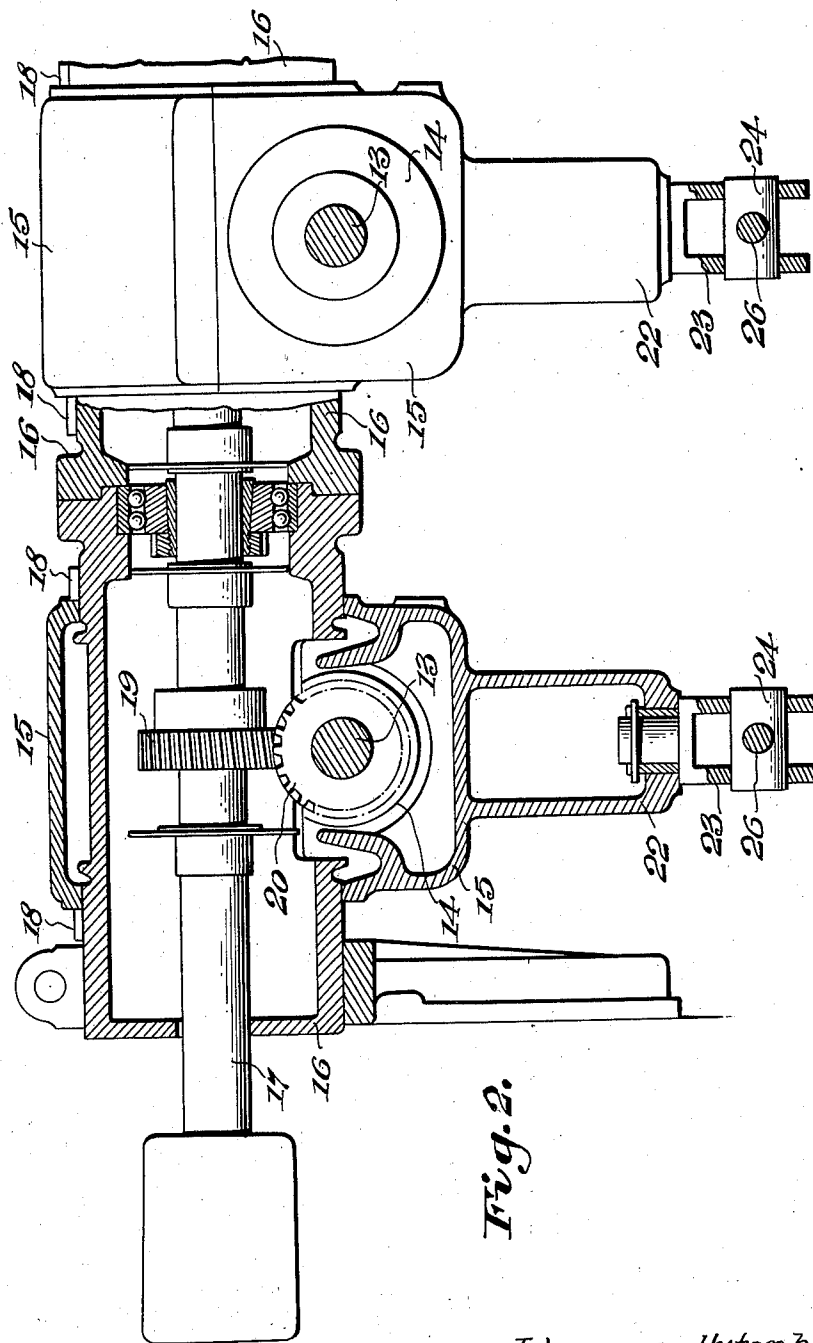
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ROLLER FEEDING DEVICE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,129,284

ROLLER FEEDING DEVICE

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Application March 15, 1937, Serial No. 131,057
In Germany March 23, 1936

5 Claims. (Cl. 18—8)

This arrangement relates to an improved drawing roller arrangement for use on an apparatus for the manufacture of freshly spun artificial silk.

In the manufacture of artificial silk a spinning solution of cellulosic origin is made up and extruded through the orifices of a spinning nozzle into a coagulating medium. The filaments thus formed are drawn therethrough by either the collecting device or by means of intermediate power-driven rollers.

These roller arrangements are sometimes used for stretching the thread or for prolonging the coagulating length. If the purpose is to prolong the path of the filaments between the spool and spinning nozzle, the filaments are passed a plurality of times from one roller to another. These rollers are in spaced relation and at an angle, one to the other, whereby the thread is automatically advanced over the rollers in a helical path. The rollers may be driven and usually are.

It was found, however that the angle at which the rollers were placed with relation to one another was not always the position best suited for all spinning conditions. In order to change this angle to the one required it was necessary to discontinue drawing the thread until the proper angular relation was obtained. This resulted in a number of disadvantages in view of the fact that the spinning solution was still running and that it would be inconvenient to shut it off.

In United States Patent No. 2,034,657 is disclosed a roller drawing device which is of the same general type as the roller arrangement of this application. However, the present invention is considered an improvement of the roller arrangement disclosed in the patent for the reason that the driving mechanism of the rollers is enclosed and the adjusting means also protected from dust, dirt and the spray of treating liquids should these be used on the threads while running over the rollers.

It is therefore one object of the present invention to devise a driven roller arrangement whose angular relationship can be quickly and easily changed without interruption of the drawing of the threads.

Another object of the present invention is to devise a driven roller arrangement which is mounted on a spinning machine in an improved and novel manner whereby a fine and accurate adjustment of the angular relationship of the rollers may be made.

These and other objects of the present invention will in part become obvious and will in part

be pointed out in the following specification and appended claims when taken in conjunction with the attached drawings, in which:

Fig. 1 is a side elevation and part section of the novel roller arrangement comprising the invention,

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1,

Fig. 3 is an enlarged detail sectional view of the adjustment mechanism taken on the line 3—3 of Fig. 3 and

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 3.

In the drawings in which like numerals of reference indicate like parts, 1 refers to the back plate of a spinning machine, 2 the framework of the said machine upon which the roller arrangement is mounted.

The upper roller 3 is mounted on a shaft 4 rotated in bearings 5—5 mounted in a casing 6. The casing 6 has a cover plate 7 detachably secured thereon.

A spiral gear 8 is mounted on the roller shaft 4 and is driven by the gear 10 mounted on the drive shaft 11 whereby the roller 3 is rotated.

The lower roller 12 is mounted on a shaft 13 which rotates in bearings 14—14 mounted in a gear casing 15.

The gear casing 15 comprises a split casing arrangement which is mounted for pivotal movement around a hollow sleeve casing 16 which encircles the drive shaft 17 for the lower roller 12. To prevent endwise movement of the casing 15 on the sleeve 16, projections 18 are integrally formed on the sleeve 16.

The drive shaft 17 is supported by the hollow sleeve casing 16 which in turn pivotally supports the gear casing 15. The drive shaft 17 forms the center of the pivotal movement of the said gear casing 15.

Mounted on the roller drive shaft 17 is a spiral gear 19 which meshes with the spiral gear 20 mounted on the roller shaft 13 for driving the roller 12.

An extension bracket 22 is formed on the lower portion of the casing 15 and has secured therein a forked element 23. A cross-pin 24 is mounted in the fork element 23. The cross-pin 24 has an internally threaded bore 25 through which extends the threaded adjusting screw 26. The screw 26 rotates in a swivelled bearing 27 and is prevented from endwise movement by collars 28—28. The cross-pin 27 is pivotally mounted in brackets 29—29 mounted on a cross beam of the frame 2 which also supports the back plate 1 of

the spinning machine. The adjusting screw element 26 extends through an opening 31 formed in the back plate 1 of the spinning machine and squared at 30 and thereby adapted to receive a socket wrench for the turning of the said screw adjusting element 26 for changing the angular relationship of the roller 12 with the roller 3. The opening 31 has a flat cover 32 for the purpose of preventing dirt or treating liquids from collecting on the adjusting mechanism.

Due to the construction of the thread of the adjusting means it is quite unlikely after the position of the roller has been set that any change will inadvertently take place in the said angular adjustment but if it is desired to make certain that no change in the adjusting screw will take place it is obvious that any suitable locking means may be used to prevent such a contingency and a locking up may be used or any other suitable means.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the complete construction, operation and advantages of the invention will be clear to those skilled in the art to which it relates.

As many apparently widely different embodiments of this invention may be made without departing from the spirit thereof, it is to be understood that it is not intended to limit the invention to the specific form thereof except as indicated in the appended claims.

What is claimed is:

1. A device for drawing threads comprising, in combination, a roller mounted and driven at one end, a second roller, a driven shaft on which said roller is mounted for rotation therewith, a driving shaft for transmitting power to said driven shaft, a gear casing in which said driven shaft is mounted, said gear casing mounted to pivot about said drive shaft, and means to move said gear casing about said driving shaft.

2. A device for drawing threads comprising, in combination, a roller mounted and driven at one end, a second roller, a driven shaft on which said roller is mounted for rotation therewith, a

driving shaft for transmitting power to said driven shaft, a gear casing in which said driven shaft is mounted, said gear casing mounted to pivot about said drive shaft, and means to move said gear casing about said driving shaft, said last mentioned means comprising a threaded element.

3. A device for drawing threads comprising, in combination, a roller mounted and driven at one end, a second roller, a driven shaft on which said roller is mounted for rotation therewith, a driving shaft for transmitting power to said driven shaft, a gear casing in which said driven shaft is mounted, said gear casing mounted to pivot about said drive shaft, and means to move said gear casing about said driving shaft, said last mentioned means comprising an adjusting element pivotally mounted and having a threaded end, and a cross pin pivotally attached to said gear casing, said cross pin having a threaded bore to receive the threaded end of said adjusting element.

4. A device for drawing threads comprising a roller, a driven shaft on which said roller is mounted for rotation therewith, a driving shaft for transmitting power to said driven shaft, a gear casing in which said driven shaft is mounted, said gear casing mounted to pivot about said drive shaft and means to move said gear casing about said driving shaft.

5. A device for drawing threads comprising a roller, a driven shaft on which said roller is mounted for rotation therewith, a driving shaft for transmitting power to said driven shaft, a gear casing in which said driven shaft is mounted, said gear casing mounted to pivot about said driven shaft, and means to move said gear casing about said driven shaft, said last mentioned means comprising an adjusting element pivotally mounted and having a threaded end, and a cross pin pivotally attached to said gear casing, said cross pin having a threaded bore to receive the threaded end of said adjusting element.

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