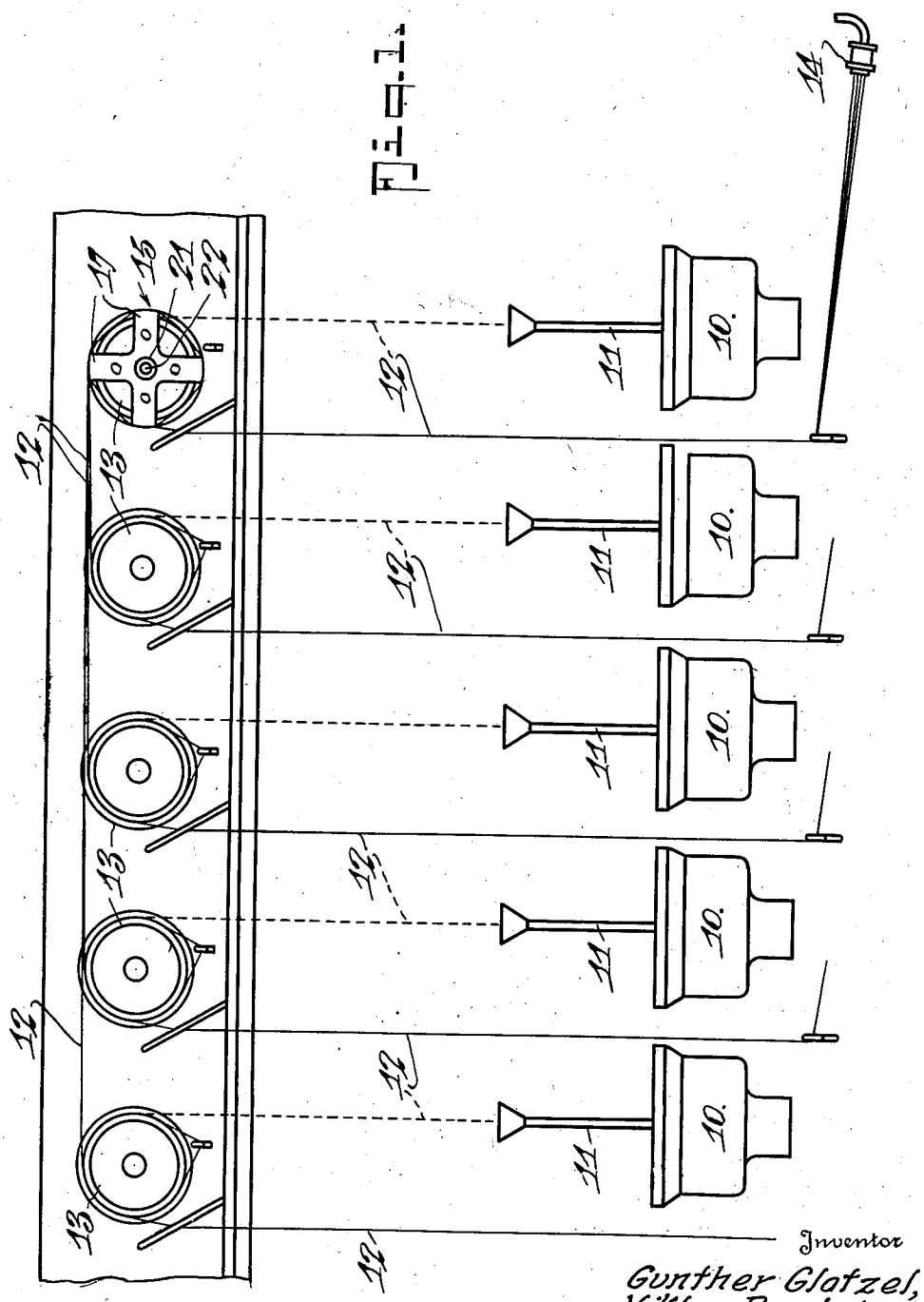
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POT SPINNING MECHANISM

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Fig. 2.

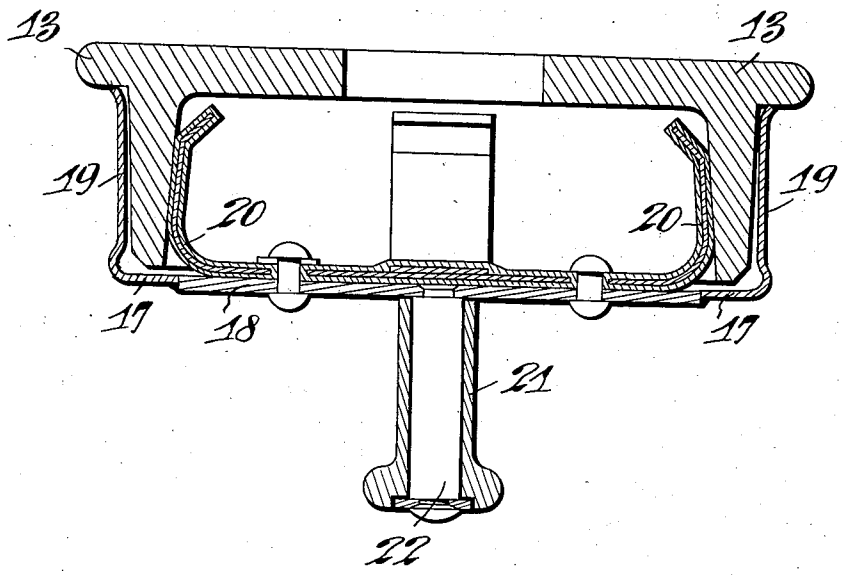
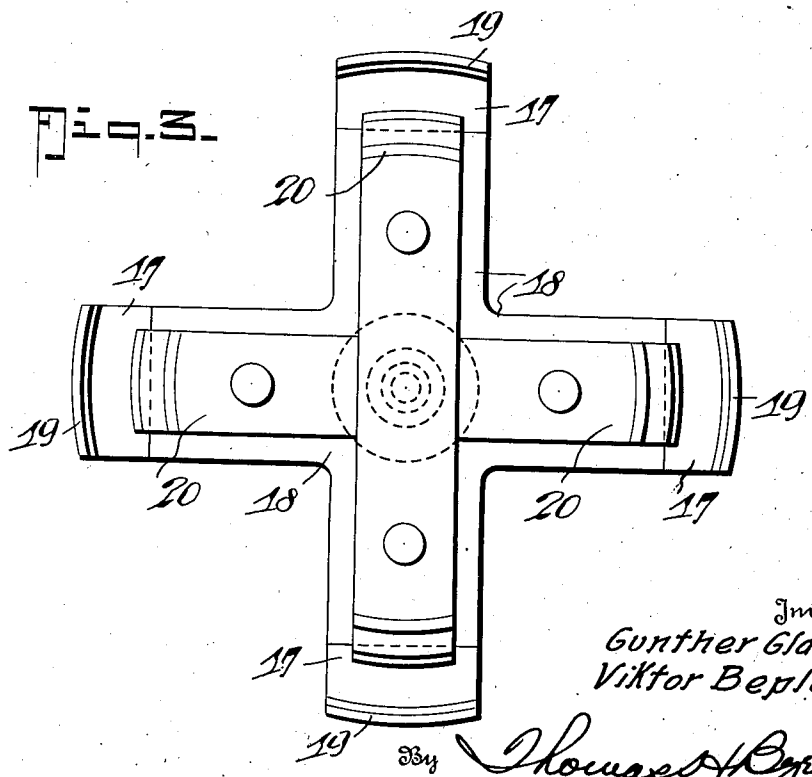


Fig. 3.



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POT SPINNING MECHANISM

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8 Claims. (Cl. 18—8)

Our present invention relates to improvements in spinning machines and more particularly to a method of and apparatus for collecting threads and filaments during the period in which the filled collecting receivers are being replaced by empty receivers.

In the usual spinning machines such as, for example, a pot spinning machine, the said machines comprise generally, a plurality of spinnerettes through which the threads are extruded. Each spinerette is provided with a "godet" wheel or guide roller over which the spun thread is passed, a spinning pot and a thread guide tube which is reciprocated to build up the desired thread "cake" in the spinning pot. When each spinning pot becomes filled, it must be removed and replaced by an empty pot. During the period in which the spinning pots are changed some provision must be made to collect the spun thread since in practice it is impossible to stop the spinning thereof during that period. Such period is designated in the textile arts as the doffing period.

One object of our present invention is to provide a suitable process for collecting the thread either during the doffing period of one spinning pot or the plurality of spinning pots constituting the pot spinning mechanisms. This process consists generally in leading each thread over its respective godet wheel or guide and collecting all the threads on a take-up means which is removably connected to the last one in a row of godet wheels and which is removed from the machine after the "doffing" thereof has been performed.

Another object of our present invention is to provide an improved form of take-up means which by its construction may be readily and quickly attached to or removed from a godet wheel or guide roller.

These and other objects will become more apparent from a study of the following description and by reference to the attached drawings, in which:

Figure 1 is a partial side diagrammatic elevational view of a pot spinning mechanism demonstrating our novel process, and showing our improved take-up means in position on a godet wheel or guide roller;

Figure 2 is a sectional detail view of our improved take-up device; and

Figure 3 is a top plan view thereof.

In the several drawings in which like numerals indicate like parts, we have shown a spinning pot machine comprising a plurality of spinning pots 10, each provided with a thread guide tube 11 which serves to guide the thread 12 passing over a godet wheel or guide roller 13 from the spinnerette 14 (but one of which is shown). The thread take-up device 15 is secured to the end one of the series of godet wheels and each thread is passed over its respective godet wheel and is wound on the take-up device during the doffing period. When the necessary replacement of the filled with empty spinning pots has been accomplished, each thread is cut and is led over its respective godet wheel and through its respective guide tube into the spinning pots. When it is again necessary to doff the machine, each thread is cut and again led to the take-up device which has again been placed in position on the godet wheel.

In Figures 2 and 3, we have shown the specific construction of our new take-up device. This device consists of a base plate 18 provided with four outwardly extending arms 17 so that the device is essentially in the form of a cross. Located at the extremity of each arm is an upstanding resilient shoulder or member 19. The radial distance of these shoulders or members from the axis of the take-up device is greater than the radius of the godet wheel or guide roller 13 upon which the said device is positioned. By this construction the outside surface of the godet wheel is prevented from injury through contact with the shoulders 19. Each arm is also provided with a spring clamp 20, which being bent inwardly at its outer end permits the ready placing of the device on the godet wheel. Because of the resilient nature of the clamps, the take-up device is held firmly in position on the godet wheel or guide roller. As shown, the clamps consist of a pair of strips so arranged crosswise to each other and are riveted or otherwise secured to the arms 17. The aforesaid clamps are formed on the outer ends of each strip and resiliently engage the inner surface of the godet wheel.

To afford easy handling of the take-up device, a handle 21 is rotatably secured to a bolt 22.

It will thus be appreciated that we have provided a new method of and device for the handling of the threads in a pot spinning mechanism during the "doffing" period. The take-up device itself may be so constructed as to permit the reduction of its diameter so as to permit the ready removal of the threads wound thereon. Moreover the shoulders upon which the threads are wound do not contact with the guide surfaces of the godet wheels thereby preventing mutilation thereto. In fact the clamping members

alone come in contact with the godet wheel on the inner surface thereof. The provision of a handle renders the device susceptible of being quickly and easily attached to and removed from a godet wheel thereby resulting in a minimum loss in the time required to make ready the machine for doffing.

Having now fully described our invention what we desire to claim as new is:

1. In a method of the class described for doffing spinning machines, each including a plurality of spinning stations, the step of securing a receiver to one of the thread guide rollers of a pot spinning machine and leading the thread from all spinning stations during the doffing period to said receiver.

2. A take-up device adapted to be secured to a thread guide roller of a pot spinning machine, comprising a base plate provided with upstanding members adapted to fit over the outer surface of the thread guide roller, and means adapted to contact with the inner surface of the thread guide roller to hold the take-up device in position on said roller.

3. A take-up device adapted to be secured to a thread guide roller of a pot spinning machine, comprising a base plate provided with upstanding members adapted to fit over the outer surface of the thread guide roller, and a plurality of spring clamps adapted to contact with the inner surface of the thread guide roller to hold the take-up device in position on said roller.

4. A take-up device adapted to be secured to a thread guide roller of an artificial silk spinning machine comprising a base plate provided with upstanding thread receiving means, the radial distance of said thread receiving means from the axis of the device being greater than the radius of the thread guide roller upon which the device is adapted to be secured whereby said thread receiving means will be out of contact with the outer surface of said thread guide roller, and means secured to said base plate adapted resiliently to engage the inner surface of said thread guide roller to removably hold said take-up device in position.

5. In a machine for use in the production of artificial filaments, in combination, a plurality of extrusion devices, a plurality of take-up or collection means, and a plurality of guides comprising rotating wheel-like elements situated between the said extrusion devices and take-up means, one of said guides having associated therewith a take-up device comprising a base with an extending flange adapted to cover the outer surface of said guide, gripping means for holding said device in operative position on said guide, and a rotatable handle whereby the device may be applied to or removed from the guide without halting the rotation of the guide.

6. In the manufacture of artificial yarn, filaments, and the like by the centrifugal spinning method, the steps of extruding the yarn from a group of spinnerets and collecting it in a plurality of centrifugal pots, and of simultaneously passing all of the yarn extruded by the spinneret group over a single take-up roller while the pots for this group are being doffed.

7. In the doffing of a plurality of centrifugal pots, the step of simultaneously leading the yarn from the various spinnerets feeding the pots over a single take-up roller during the doffing.

8. In a method for simplifying the doffing of a plurality of spinning pots, the step of providing a receiver, and, while doffing the said pots, simultaneously leading the yarn from the various spinnerets serving these pots to said receiver.

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