

April 5, 1938.

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2,113,147

GEAR PUMP ESPECIALLY FOR ARTIFICIAL SILK SPINNING MACHINES

Filed Jan. 16, 1935

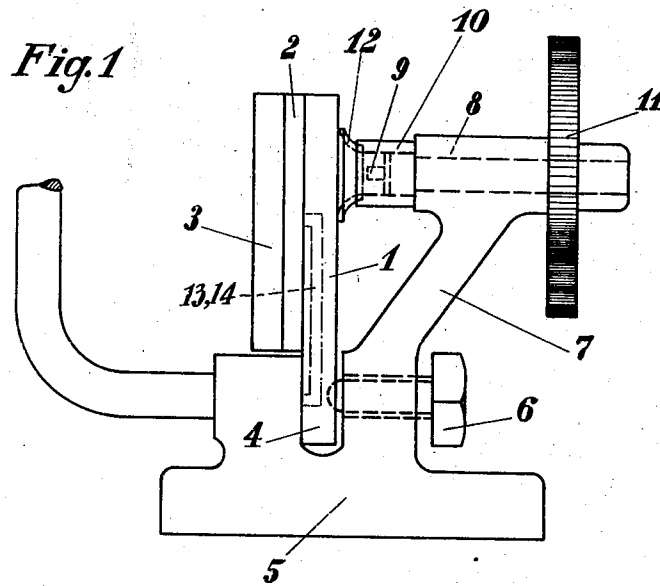
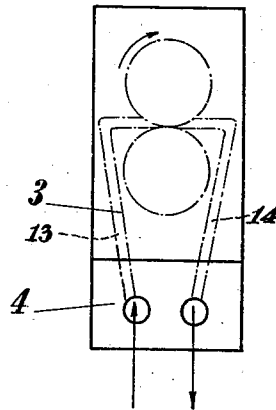


Fig. 2



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UNITED STATES PATENT OFFICE

2,113,147

GEAR PUMP ESPECIALLY FOR ARTIFICIAL
SILK SPINNING MACHINES

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Application January 16, 1935, Serial No. 2,025
In Germany January 18, 1934

1 Claim. (Cl. 103—126)

The known gear pumps for artificial silk spinning machines consist chiefly of the pump block proper, that is the front, middle and rear plates and of a connection piece extending therefrom. This latter serves on the one hand for clamping the pump in the pump bridge and for accommodating the passages for the spinning composition, but on the other hand also as journal for the outwardly projecting driving shaft. These known pumps are open to the objection that the spinning composition can penetrate up to the journal of the driving shaft, where it hardens and causes premature wear of the shaft. A further objection consists in that one-sided pressures on the driving shaft are automatically transmitted to the pump and cause leakages in the pump. It has already been proposed to reduce by packing as far as possible or to prevent the spinning composition from reaching the journal of the driving shaft and to eliminate the transmission of the one-sided pressures to the pump by dividing the driving shaft. All these arrangements are, however, more or less imperfect, so that they do not give full satisfaction, and moreover they require a complicated arrangement and consequently considerably add to the cost of the pump.

These objections are entirely overcome by the invention according to which the pump shaft and the driving shaft are divided, mounted in separate elements, and connected by a clutch. The pump is equipped with a lengthened front plate serving for clamping the pump and having feed and discharge passages for the spinning composition. The driving shaft may be mounted for example in a bearing bracket arranged on the pump bridge. In this arrangement it is evidently advantageous if each pump can be stopped independently of the others. It is likewise also possible to mount the bearing bracket for the driving shaft on the front plate. The invention also presents the advantage that the spinning composition can no longer penetrate to the journal of the driving shaft, because it no longer comes into contact with the shaft. Consequently this shaft has a much longer life. Transmission of the one-sided pressures from the driving shaft to the pump is also impossible so that the pump is protected in every way. A further advantage consists in that the pump, owing to its simple passage arrangement in the front plate and the like, is not inconsiderably simplified which has a favorable effect on the cost of manufacture. In order, with specially separated shaft journals to prevent the spinning composition from dripping

off, a leather packing or the like may be arranged between the front plate of the pump and the clutch.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:—

Fig. 1 shows the complete arrangement of the pump in elevation.

Fig. 2 is a side elevation of the pump proper.

The pump consists of a front plate 1, a middle plate 2 and a rear plate 3, the front plate 1 having an extension 4 by which the pump is clamped in the pump bridge 5 by means of a bolt 6. A suction passage 13 and a delivery passage 14 for the spinning composition are also provided in the front plate. A bearing bracket 7 is likewise mounted on the pump bridge 5 and designed for carrying the driving shaft 8 which is in driving connection with the pump shaft 9 by means of an exposed clutch 10. The driving shaft 8 carries a driving wheel 11. In order to prevent the spinning composition from dripping off, a packing 12 of leather or the like is preferably inserted between the front plate 1 and the clutch 10. Each individual pump is disengaged either by swinging out or by declutching between the driving shaft 8 and pump shaft 9. As stated above, the bearing bracket for the driving shaft may also be separately mounted on the front plate. It is essential that the spinning composition have no direct connection with the bearing bracket of the driving shaft.

I claim:—

In a gear pump for artificial silk spinning machines wherein the pump shaft and driving shaft are axially aligned and mounted in separate members spaced from each other, an exposed clutch connection between the pump shaft and driving shaft and spaced from the members supporting the shafts, a front plate having a lower extension adapted for clamping the pump and having feeding and discharging channels for the spinning composition positioned remotely from the mounting member for the driving shaft whereby the path of flow of the spinning composition is remote from the mounting member for the driving shaft, a pump bridge, a clamping screw carried by the bridge-engaged with the front plate extension for anchoring the same in the bridge and a bearing bracket rising from the bridge laterally of the front plate for mounting the driving shaft.

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