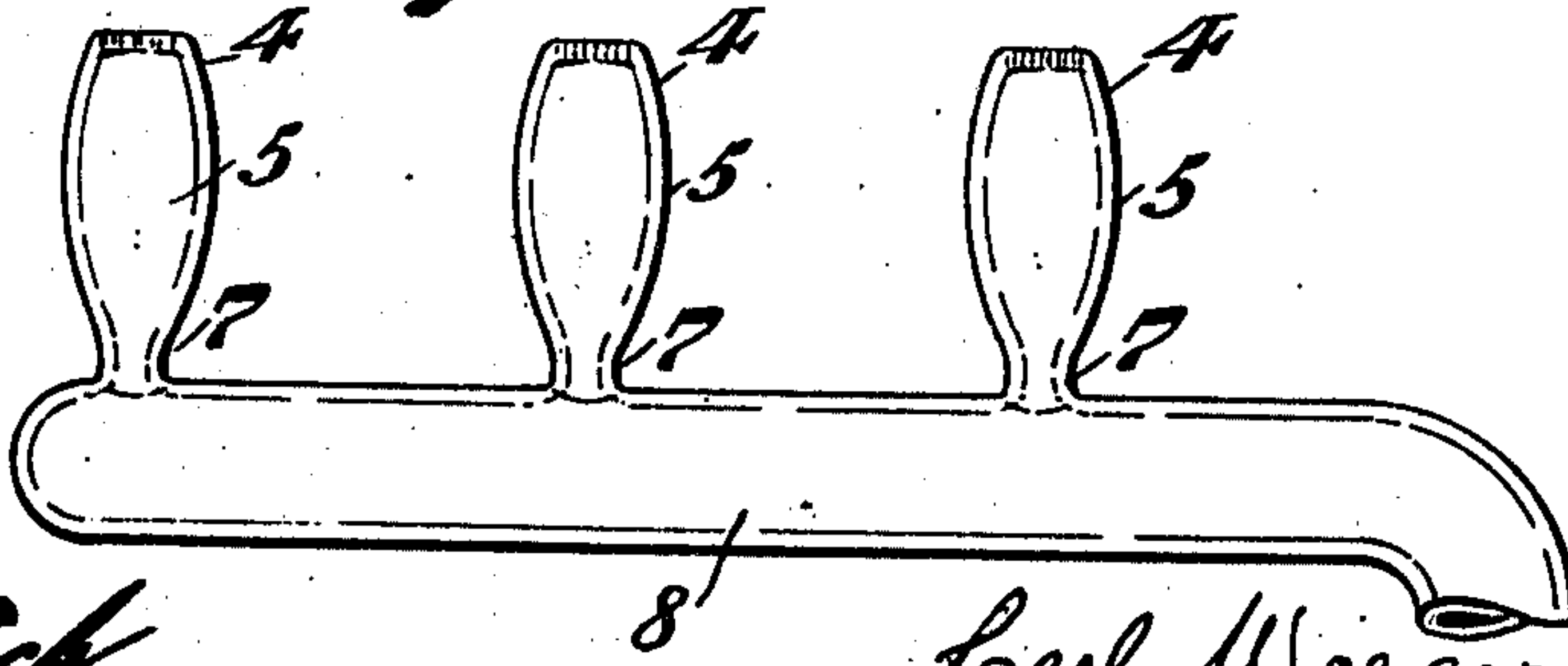
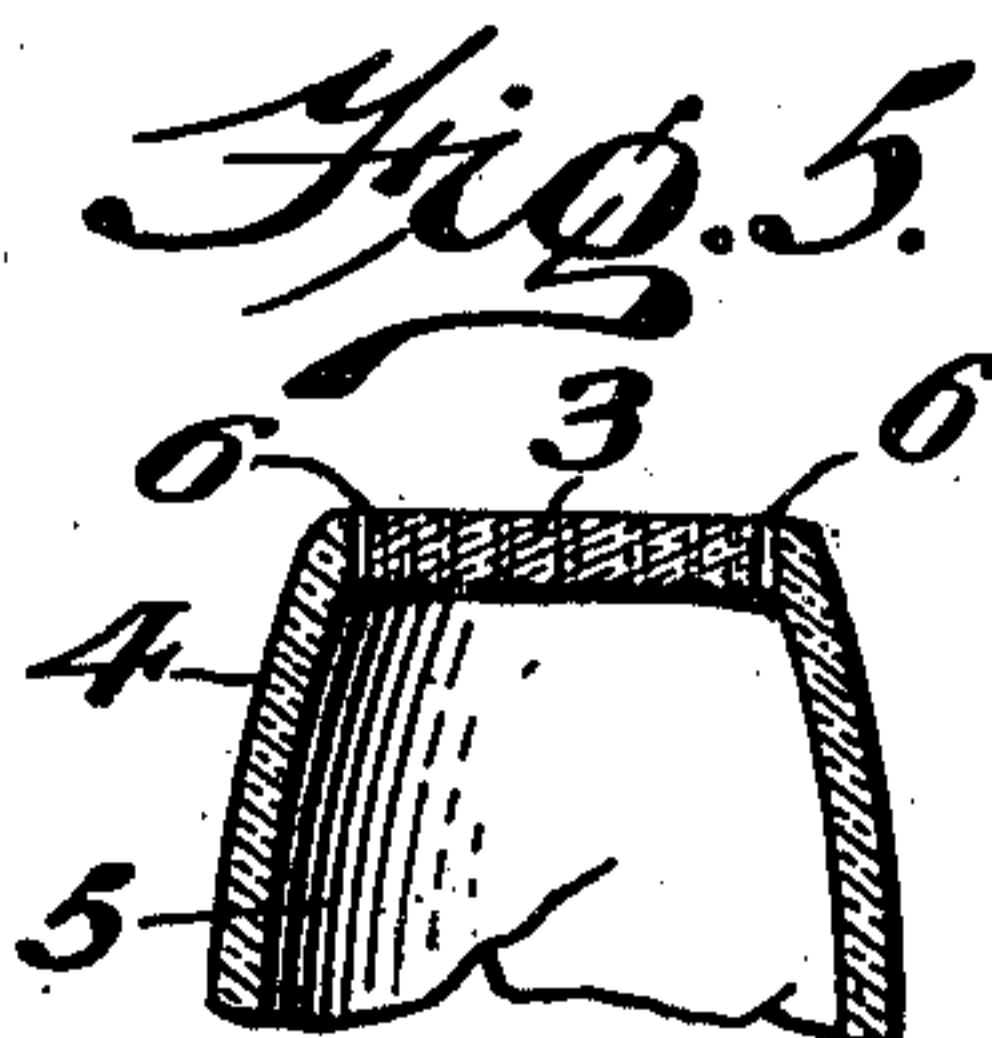
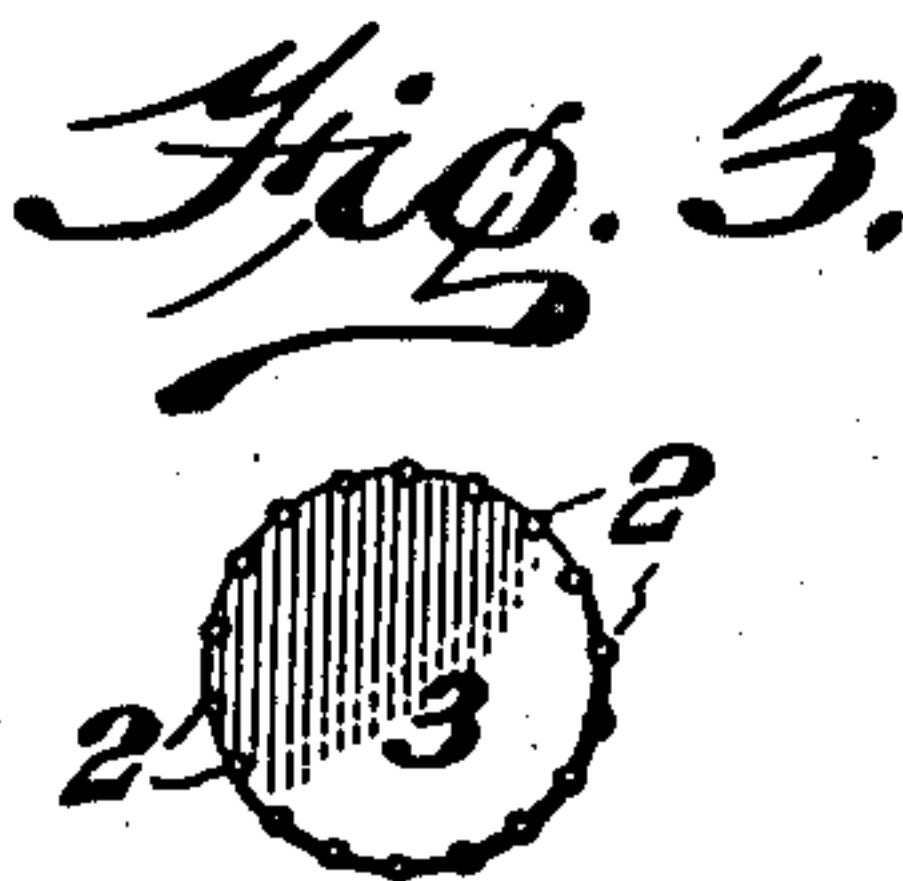


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METHOD OF MAKING SPINNERETS FOR USE IN THE MANUFACTURE OF ARTIFICIAL SILK.
APPLICATION FILED JULY 7, 1910.

988,424.

Patented Apr. 4, 1911.



WITNESSES

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METHOD OF MAKING SPINNERETS FOR USE IN THE MANUFACTURE OF ARTIFICIAL SILK.

988,424.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed July 7, 1910. Serial No. 570,722.

To all whom it may concern:

Be it known that I, CARL WOEGERER, a subject of the Emperor of Austria-Hungary, residing at Norristown, county of Montgomery, State of Pennsylvania, have invented a new and useful Method of Making Spinnerets for Use in the Manufacture of Artificial Silk, of which the following is a specification.

My invention consists of a new and useful method of making spinnerets for use in the manufacture of artificial silk.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

In the manufacture of artificial silk, great difficulty is met with in the manufacture of the nozzles or spinnerets through which the viscous cellulose solution flows or is forced. In the nozzles heretofore in use, each nozzle has had one opening only, and as such nozzles were made from glass tubes drawn to a point, it was impossible to make the outlets of uniform size, so that strands of varying thickness were produced. In addition, platinum plates have been used through which orifices were drilled, but these did not give satisfactory results, as it is impossible to drive holes absolutely alike and also in the cleaning of the orifices they were enlarged unevenly, this destroying their efficiency. It is for the purpose of overcoming these difficulties that I have constructed by my new method a spinneret, in which a number of strands flow from one multiple spinneret, and in which each passage is even throughout its length and in which all of the passages are of equal diameter.

For the purpose of illustrating my invention, I have in the annexed drawings illustrated one form of spinneret and the progressive steps of one way in which my improved method of making the same may be carried out, but it is evident that changes may be made in the instrumentalities and steps illustrated and described without departing from the spirit of the invention hereinafter fully set forth in the claims.

In said annexed drawings Figure 1 represents a perspective view, on an enlarged scale, of a glass rod having a number of metallic filaments embedded in its circumference, illustrating the first steps in making my improved spinneret. Fig. 2 repre-

sents a side view of a plug or disk cut off from said rod to form a part of the spinneret. Fig. 3 represents an end view of such plug or disk. Fig. 4 represents a plan view of the finished spinneret. Fig. 5 represents an axial section of the end of the spinneret. Fig. 6 represents a side elevation of three spinnerets grouped upon one supply duct.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—In carrying out the method of making my improved spinneret, a cylindrical rod or core of glass, 1, is softened by heat, and a number of fine metallic filaments, 2, are partly embedded in the circumference of the rod and parallel to the axis of the same. From this rod and embedded filaments one or more disks or plugs, 3, are cut off by suitable means, transversely to the axis of the core, and this disk or plug is fused into the neck or outlet end, 4, of a chamber 5, into which the cellulose solution is fed after which the discharge end of the spinneret is ground and polished to an even size, measured by a micrometer. The metallic filaments are thereupon corroded or eaten out of the glass by a suitable acid which will attack the metal without affecting the glass, and fine ducts, 6, will thus be formed in the thus produced spinneret or nozzle, all of equal diameter through their entire length and all of the same diameter, so that the fine strands or filaments flowing through such ducts will all be of the same gage or caliber, and that the gage or caliber of the thread spun or twisted from such strands can accurately be defined by the number and gage of ducts employed and consequently of strands spun or twisted together.

A plurality of spinnerets and their chambers may be connected by necks, 7, to one common duct, 8, for the liquid or viscous cellulose solution, so that a number of spinnerets may be supplied from one common duct. In Fig. 6 of the drawings, three spinnerets and their chambers are illustrated.

In the drawings eighteen ducts are illustrated in the spinnerets, but it is evident that a greater or less number of ducts may be used.

While I have described the embedded filaments as metallic it is evident that filaments of other material capable of resisting the

fusion temperature of glass while corrodible or soluble by chemical or similar action may be employed.

It will now be apparent that I have devised a novel and useful method of making spinnerets for use in the manufacture of artificial silk which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The improved method of making spinnerets for spinning artificial silk, which consists in fusing metallic filaments in the circumference of a glass core, fusing such core and filaments in the discharge neck of a glass chamber, and finally corroding the metallic filaments by a suitable acid.

2. The improved method of making spinnerets for spinning artificial silk, which consists in fusing metallic filaments in the circumference of a glass core cutting a disk from such core and filaments, fusing such disk and filaments in the discharge neck of a glass chamber, and finally corroding the metallic filaments by a suitable acid.

3. The improved method of making spinnerets for spinning artificial silk which consists in fusing metallic filaments in the circumference of a glass core, inclosing said core and filaments by fusion in a layer of glass and finally removing the metallic filaments by corrosion.

4. The improved method of making spinnerets for spinning artificial silk, which consists in embedding, by fusion in the circumference of a glass core, a filament of a substance infusible at the fusion temperature of the glass, then inclosing said core and filament by fusion in a layer of glass and finally dissolving away such filaments.

CARL WOEGERER.

Witnesses:

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