

No. 750,502.

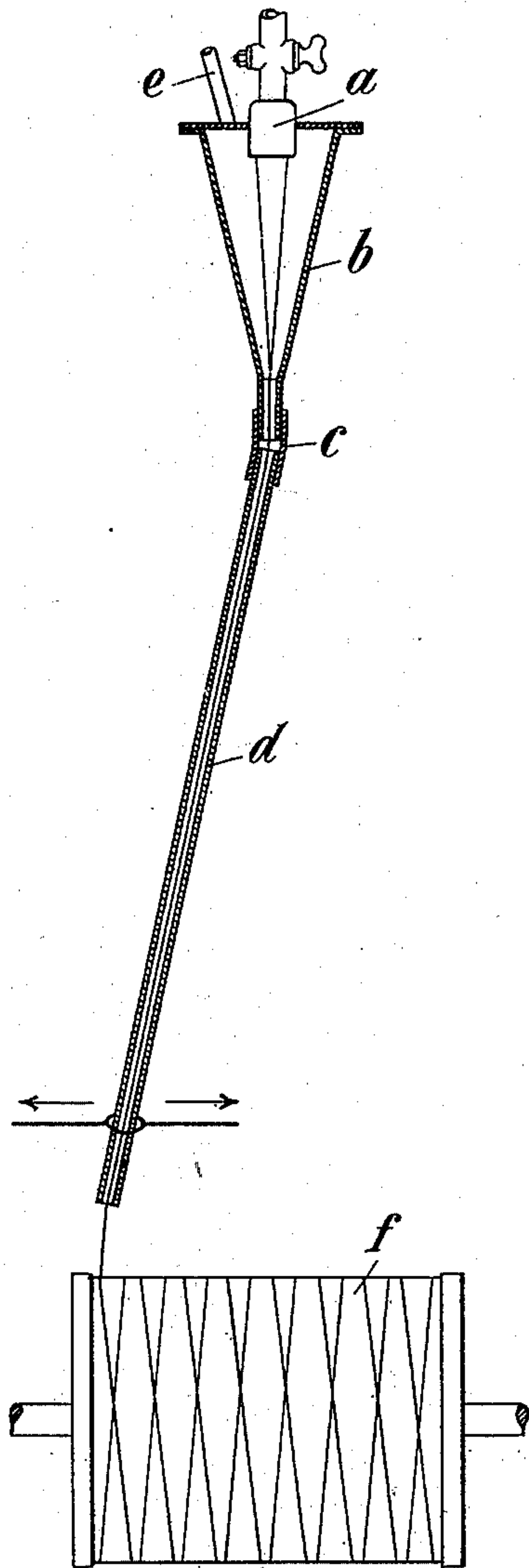
PATENTED JAN. 26, 1904.

E. THIELE.

ART OF MAKING ARTIFICIAL SILK.

APPLICATION FILED JUNE 29, 1903.

NO MODEL.



Witnesses:

Oth. König
J. B. K. Schmidt

Inventor:

Edmund Thiele
by Henri van Ockel
Attorney

UNITED STATES PATENT OFFICE.

EDMUND THIELE, OF BARMEN, GERMANY.

ART OF MAKING ARTIFICIAL SILK.

SPECIFICATION forming part of Letters Patent No. 750,502, dated January 26, 1904.

Application filed June 29, 1903. Serial No. 163,656. (No model.)

To all whom it may concern:

Be it known that I, EDMUND THIELE, chemical expert, of Barmen, in the German Empire, have invented a certain new and useful Improvement in the Art of Making Artificial Silk, of which the following is a full, clear, and exact description, and for which I have applied for Letters Patent in Germany, dated December 24, 1902, and for a design patent in Germany, dated January 15, 1903, and for Letters Patent in Belgium, dated August 8, 1903; in France, dated August 8, 1903; in England, dated July 28, 1903; in Italy, dated August 10, 1903; in Austria, dated August 6, 1903; in Sweden, dated July 30, 1903, and in Switzerland, dated July 30, 1903.

This invention relates to an improvement in the art of making artificial silk; and it consists of an apparatus for effecting the same.

The present apparatus for producing artificial silk is characterized by the formation of the thread being effected in a freely-suspended column of liquid—that is to say, a column of liquid which is supported in a vessel only by the pressure of the air, the said vessel being provided with a narrow opening in the bottom. The effect of this novel arrangement is that the precipitation-bath can be under a low pressure, which can be varied, as desired, accordingly as the column of liquid is higher or lower and according to the speed at which the precipitation-bath flows through, the passage of the thread through the opening being thus greatly facilitated by the low pressure. Moreover, this invention enables the thread which sinks down in the bath to be removed therefrom without the necessity of altering the direction of the thread, as must be done in the ordinary spinning vessels, which are closed at the bottom. This reversal of the direction of the thread, however, as is practiced in the ordinary spinning vessels by means of guide-rollers, elbow-pipes, and the like, constantly involves breaking of the thread and prevents the detached and falling ends of the fibers from being rejoined to the body of the thread. This disadvantage is also obviated by the present invention, as the threads after running through the suspended column of liquid pass immediately outside the bath with-

out any alteration in their direction and can be conveniently further treated—such, for example, as being wound up.

In the drawing annexed to this specification an apparatus for carrying out the process is diagrammatically illustrated by way of example.

The spinning liquid enters through the rose or nozzle *a* in "thread form." The threads formed run through the funnel *b*, which is closed at the top and open at the bottom, and the funnel or delivery-pipe *d*, flexibly attached by the hose-coupling *c*, and are set by means of the precipitating-bath contained therein. In order to renew the precipitation-bath and insure a better production of threads, fresh precipitation liquid is admitted slowly through the supply-pipe *e* and discharged again through the opening at the bottom of the funnel-pipe *d*.

In winding the threads on the rotary drum *f* the funnel-pipe *d*, which is flexibly connected with the spinning-funnel, enables the threads to be slowly moved to and fro over the drum, and thus uniformly distributed thereon.

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

1. An apparatus for the production of artificial silk consisting in a funnel-shape spinning vessel closed on its top and having a narrow opening at its bottom, and a delivery-pipe flexibly connected with the spinning vessel.

2. An apparatus for making artificial silk comprising a spinning vessel, closed on its top and having a narrow opening at its bottom, a nozzle for the spinning liquid in the upper part of said vessel and a supply-pipe for the precipitation-bath delivering into said vessel.

3. An apparatus for the production of artificial silk comprising a funnel-shape spinning vessel, closed on its top and having a narrow opening at its bottom, a nozzle for the spinning liquid in the upper part of said vessel and a supply-pipe for the precipitation-bath delivering into said vessel.

4. An apparatus for the precipitation of artificial silk consisting of a funnel-shape spin-

ning vessel, closed at the top and having a narrow opening at the bottom, a delivery-pipe from said vessel, said pipe being flexibly connected with the spinning vessel and in the
5 upper part of which vessel a spinning-nozzle and a supply-pipe for the precipitation-bath are inserted.

In witness whereof I have hereunto set my hand in presence of two witnesses.

EDMUND THIELE.

Witnesses:

OTTO KÖNIG,
J. A. RITTERSHAUS.