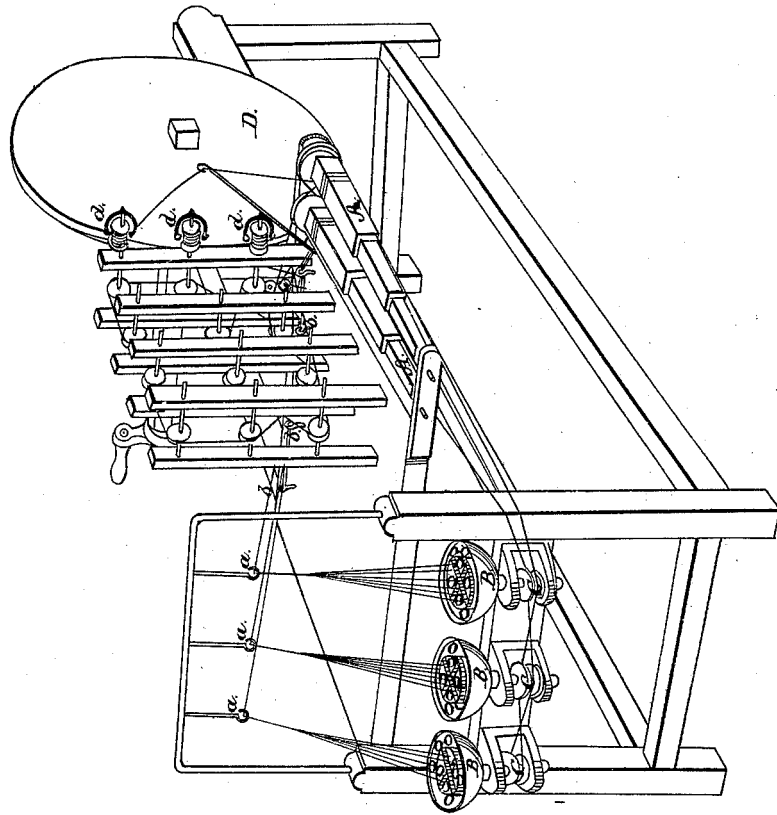


*G. Heritage.*  
*Silk Spinning Mach.*

*N<sup>o</sup>. 1,909.*

*Patented Dec. 17, 1840.*



# UNITED STATES PATENT OFFICE.

GEORGE HERITAGE, OF CHESTERTOWN, MARYLAND.

MACHINERY FOR AND MANNER OF SPINNING SILK, SUCH AS SEWING-SILK, TWIST, &c., FROM THE COCOONS.

Specification of Letters Patent No. 1,909, dated December 17, 1840.

*To all whom it may concern:*

Be it known that I, GEORGE HERITAGE, of Chestertown, in the county of Kent and State of Maryland, have invented a new and useful improvement in machinery for and the manner of spinning silk immediately from cocoons, so as to form the same into sewing silk, twist, or spun silk of other names or kinds; and I do hereby declare that the following is a full and exact description thereof.

In my machinery for spinning sewing-silk &c., immediately from the cocoons, I employ the revolving basins, or vessels, containing them, and the requisite portion of warm water, constructed as described in the specification of my machine for reeling silk, for which I have made application for Letters Patent simultaneously with this for the spinning thereof into sewing silk, &c. By this means I communicate to the separate strands which by their union are to form sewing silk, twist, &c., all that degree of twisting which is requisite to prepare them for being carried to the spindles and fliers, by which the thread is completed, and wound upon spools, in the usual manner.

In the accompanying drawing, B, B, B, are the basins, or vessels, for containing the cocoons from which the silk is to be unwound and spun, these being constructed, and operating, precisely in the manner of those described in the specification of my machine for reeling, above referred to. These serve to twist the separate strands which are subsequently to be combined, and spun into thread by the spinning apparatus making a part of the same machine.

D, is a band-wheel by which the requisite revolving motion may be communicated to the whirls C, C, on the spindles of the basins B.

In the drawing, I have shown the operation of spinning a single thread only, on one spool, by which representation my plan will be fully exemplified.

*a, a, a,* are the wire loops, or eyes, through which the silk which is to constitute a strand, first passes as it is unwound from the cocoons.

*b, b, b,* are wire loops, or eyes, through which the respective strands pass after they

leave the loops *a, a, a,* and by which they are guided to the square revolving shafts A, A', preparatory to their passing to the spindle by which they are to be spun.

The square shafts A, A', by their revolving motion unwind the silk from the cocoons. They may be made to revolve by a band passing around a guide pulley *c,* or in any other convenient way. These shafts are novel in their construction, and offer great convenience in their operation. It will be seen that they are not of a size throughout, but are shown as of three different diameters, but this number may be varied at pleasure; the object of this variation in size is to cause them to unwind the silk with different velocities from the cocoons, and thereby to spin, at the same time, thread of different degrees of fineness. Thus, for example, if one part of the square shafts be of double the diameter of another, they will draw the silk from the cocoons with double the velocity, and be thus adapted to the spinning of a coarser silk, as it will receive but half the twist from spindles moving with equal velocities. The square form given to the shafts A, A', I find to be the best, although a triangle would answer a like purpose. The silk is passed under the first, and over the second, shaft; and it is not necessary to pass the strands of silk more than once around each to prevent said strands from slipping, and the danger of tangling, or catching, is thus obviated.

The spindles, spools and fliers *d, d, d,* may be constructed and driven by bands, in any of the ordinary ways of making these parts, my improvement not embracing any change therein.

Having thus fully described the manner in which I construct and combine the respective parts of my machine for spinning sewing silk, twist &c., directly from the cocoons, what I claim therein as constituting my invention, and desire to secure by Letters Patent, is—

1. The combining of the revolving basins, or vessels, in which the cocoons are contained, with the apparatus for spinning the same into thread; the single strands receiving their twist from the revolution of the basins, and these being doubled and twisted

by the spinning apparatus, the whole being arranged and combined substantially in the manner herein set forth.

2. I also claim the use of the graduated  
5 square, or triangular, shafts, for the purpose of holding the strands, and unwinding the silk from the cocoons with different

velocities, in the manner and with the intention herein described.

GEORGE HERITAGE.

Witnesses:

THOS. P. JONES,  
GEORGE WEST.