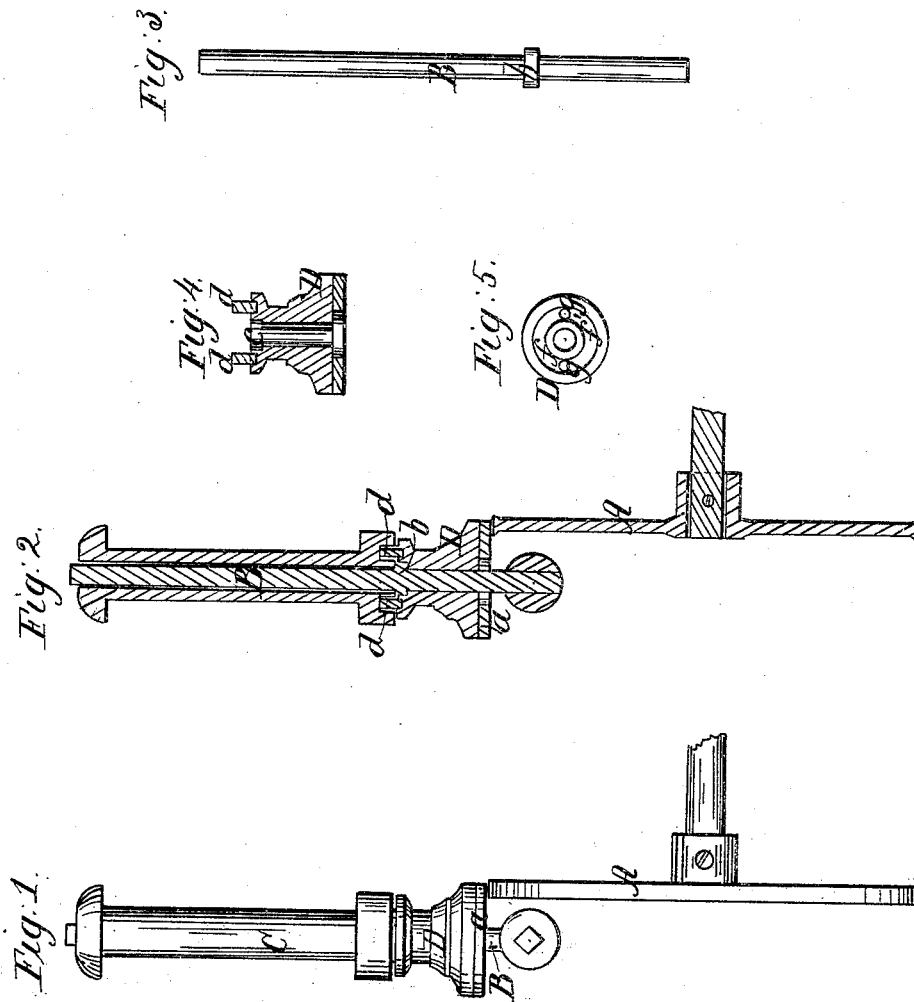


A. M. Eastman.
Bobbin.

N^o 6,344.

Patented Apr 17. 1849.



UNITED STATES PATENT OFFICE.

ARTHUR M. EASTMAN, OF BOSTON, MASSACHUSETTS.

DRIVING-BOBBIN.

Specification of Letters Patent No. 6,344, dated April 17, 1849.

To all whom it may concern:

Be it known that I, ARTHUR M. EASTMAN, of Boston, in the county of Suffolk and State of Massachusetts, a proprietor of the patent granted on the nineteenth day of October, 1844, to Francis McCully, Jr., and for an improvement in the method of operating the bobbins in machinery for spinning fibrous substances, have invented a new and useful Improvement on the Mode of Sustaining and Operating Bobbins, as specified, in the said patent; and I do hereby declare that my said invention is fully described, and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings Figure 1 denotes a side elevation of a bobbin and my improved mechanism or pedestal for supporting and revolving it. Fig. 2 is a cross section of the same. Fig. 3 is an external view of the spindle and its flanch as separated from the bobbin and pedestal. Fig. 4 is a transverse section of the pedestal.

In Figs. 1 and 2 the driving wheel which sustains and revolves the pedestal is shown in position the said wheel corresponding to the propelling wheel A, exhibited and referred to in the specification and drawings of the patent of the said McCully.

When a dead spindle is used and the live head of the bobbin is made to rest directly upon the propelling wheel, it is found that a very irregular jumping or up and down movement of the bobbin is often produced during its rotary motions. This irregularity of motion is occasioned either by bruises in the lower surface of the bobbin head, produced by throwing the bobbin about, or by dust, filaments or threads of fibrous material, or other matters collecting on either the bobbin head, or the periphery of the propelling wheel. The vertical rise and fall of the bobbin or what for the sake of illustration I term the "jumping motion" varies from a trifling or almost imperceptible movement up to a movement of one half an inch more or less in extent, and it is found that such a vibration of the bobbin is attended with serious consequences. First, it produces more or less irregularity of twist, for as the bobbin does not remain all the time in close contact with its propelling wheel, but is constantly thrown up or to a distance above the same, however trifling such distance may be, it follows that

it does not partake of the regular motion of the said wheel, and when this wheel revolves at a great speed so as to revolve the bobbin at from five to ten thousand revolutions per minute the effect of the jumping motion on the twist becomes very serious. Second it produces irregularity in the winding of the yarn on the bobbin, causing the threads to improperly overlap one another and not to be evenly laid on the bobbin or pile thereon. The disadvantage resulting from such unevenness of the winding operation produces a great inconvenience in unwinding the thread when the bobbin or spool is placed in the shuttle of the loom.

In Figs. 1 and 2 of the drawings A represents the propelling wheel, B the dead spindle and C the bobbin, which latter instead of resting directly on the driving wheel A, is supported either on or above a rotating pedestal D. The said pedestal consists of a wheel or pulley made to revolve on the dead spindle B, and to rest on the periphery of the wheel A and to be revolved by said wheel in the same manner as it (the wheel) revolves the bobbin in McCully's mechanism. I usually make this pulley or pedestal of metal, and cover its lower surface or that part of it which runs in contact with the propelling wheel with leather as seen at *a*. The spindle I make with a flanch *b*, extending wholly or partially around it, and made to so project beyond the spindle and over the top of the pedestal as to keep the pedestal down upon the propelling wheel, and prevent it from rising upward, or having the jumping motion, to which I have herein before alluded. In the drawings the flanch *b* is made to extend into a circular recess *c*, made down in the top of the pedestal. The pedestal is provided with one or more pins *d, d*, made to extend about three sixteenths of an inch above it, and to pass into corresponding holes (made in the bobbin head) when the bobbin is placed on the spindle. Instead of constructing the bobbin head with such holes, I usually prefer to make it with a circular recess *f*, as seen in Fig. 5, which denotes a view of the underside of the lower head of the bobbin. This recess is made of a diameter sufficient to receive the pin or pins of the pedestal, and has one or more studs or pins *g, g*, inserted in it, for the pin or pins *d, d* to bear against.

The bobbin head may be made to rest

either directly on the pedestal, or on the top
of the flanch *b*. I give the preference to
resting it on the flanch, the upper surface of
the flanch being made to project a short dis-
5 tance above the top of the pedestal. When
the bobbin is so supported on the flanch it
cannot move downward with the pedestal
should the latter depart in any respect away
from the flanch.

10 What I claim as my invention or improve-
ment in the mode of operating bobbins as
invented by the said Francis McCully, Jr.,
and for which Letters Patent have been
granted to him and through him assigned

to me, and by or through me, in part to 15
others, I still retaining a large proprietor-
ship or interest in the same, is—

The combination of the flanch *b*, the dead
spindle and rotary pedestal substantially in
manner and for the purpose as above speci- 20
fied.

In testimony whereof I have hereto set
my signature this ninth day of December
A. D. 1848.

ARTHUR M. EASTMAN.

Witnesses:

R. H. EDDY,

D. H. TILLSON.