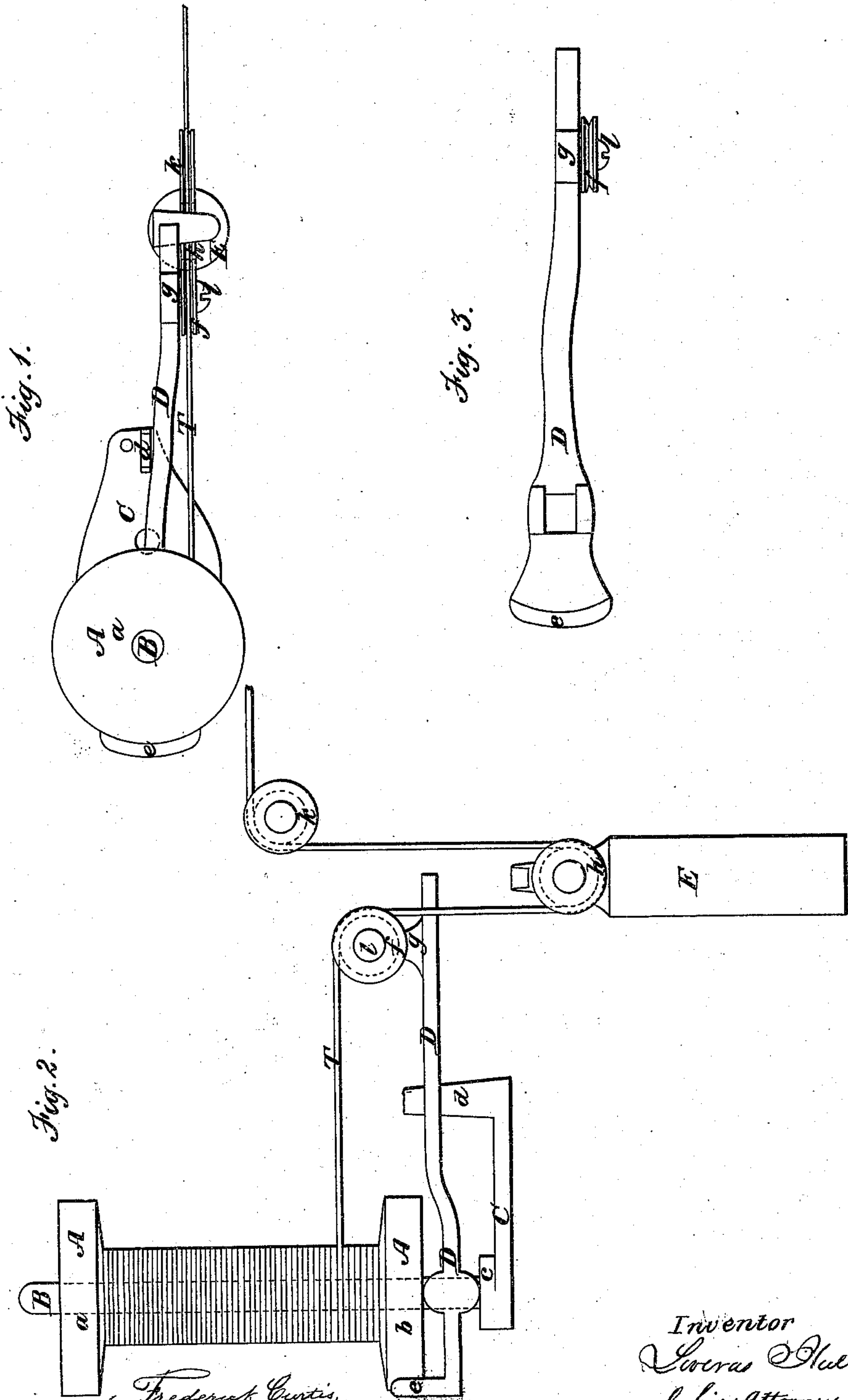


L. Hull.
Braiding Mach.

No 43,115.

Patented Jun. 14, 1864.



Witnesses { *Fredrick Curtis,*
A. D. Hale Jr.

Inventor
Lucas Hull
by his Attorney
R. H. Hobbins

UNITED STATES PATENT OFFICE.

LIVERAS HULL, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN THREAD-TENSION AND THREAD-DELIVERY IN BRAIDING-MACHINES.

Specification forming part of Letters Patent No. 43,115, dated June 14, 1864.

To all whom it may concern:

Be it known that I, LIVERAS HULL, a resident of Charlestown, in the county of Middlesex and State of Massachusetts, have invented an improved thread tension and delivery mechanism for apparatus for either braiding or weaving; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, in which—

Figure 1 is a top view, and Fig. 2 a side elevation, of a bobbin and its stand or racer, as provided with my invention, the nature of which consists in the application of a lever-brake to the bobbin, and so as to be operated by the thread and by a weight, substantially as and for the purpose as hereinafter described. Fig. 3 is a top view of the said lever-brake.

In Figs. 1 and 2 of the said drawings, A denotes a bobbin or spool arranged on the spindle B of a stand or racer, C, such spindle being projected from a shoulder or seat, *c*. On the said spindle and resting on the seat *c* is a lever, D, made as shown in the drawings, and provided with a brake or projection, *e*, to rest against the curved periphery of the lower head, *b*, of the bobbin, the upper head of such bobbin being shown at *a*. The brake-lever D rests against a standard or post, *d*, and supports another post, *g*, which, by means of a

center pin, *l*, carries a grooved pulley or roller, *f*. The thread T from the bobbin is run over and partially around the said roller *f*, and thence under the roller *h* of a tension-weight, E, from whence it passes upward to a guide-roller, *k*, and from thence to the position where it is to be either woven or braided. The draft on the thread during the process of weaving or braiding such thread will raise the weight up to the lever D, and cause the latter to be moved so as to relieve the bobbin-head *b* from the pressure of the brake *e*, and allow the bobbin to revolve and deliver the thread, the delivery of which will be steady without causing such a fall of the weight as would render the momentum of the said weight liable to break the thread, as frequently happens when the bobbin is controlled by a ratchet and pawl.

I claim—

The improved thread-tension and delivery mechanism, constructed substantially as explained, or, in other words, as having a brake or lever and brake applied to the bobbin and its stand, and so as to be operated by the thread and by the tension-weight, substantially as specified.

LIVERAS HULL.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.