

# A. H. Sturgis. Sizing Mach.

N<sup>o</sup> 111,153.

Patented Jan. 24, 1871.

Fig. 1.

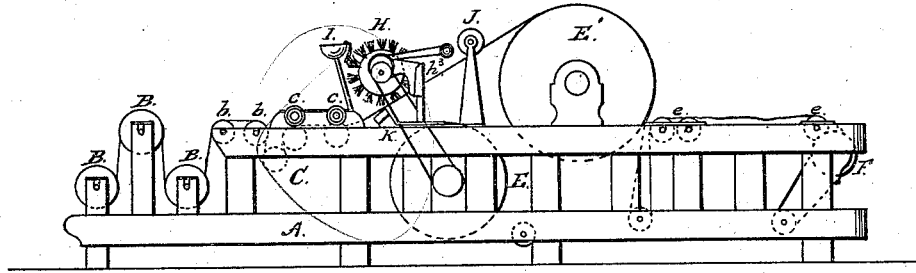


Fig. 3.

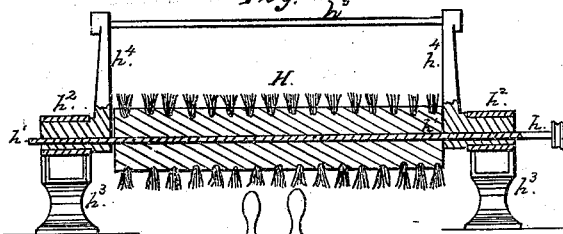


Fig. 4.

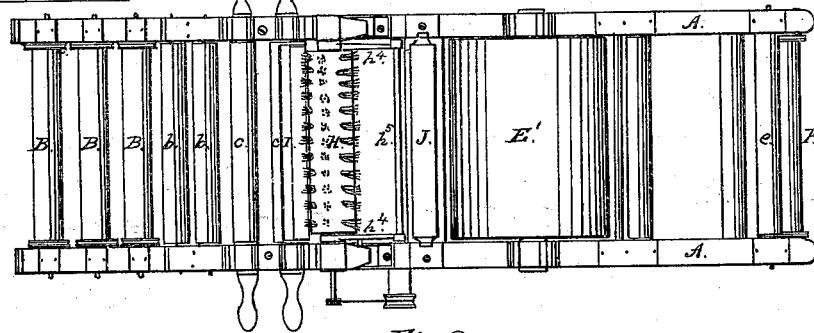
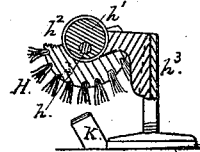


Fig. 2.

Witnesses.

A. H. Pearson  
Newton Crawford

Inventor.

A. H. Sturgis by  
H. W. Beader atty.

# United States Patent Office.

ALBERT H. STURGIS, OF LEWISTON, MAINE, ASSIGNOR TO HIMSELF AND  
JOSEPH A. PIERCE, OF SAME PLACE.

Letters Patent No. 111,153, dated January 24, 1871.

## IMPROVEMENT IN SIZING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, ALBERT H. STURGIS, of Lewiston, in the county of Androscoggin and State of Maine, have invented a new and useful Improvement in Sizing-Machines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention is an improvement on Bullough's sizing-machine, and consists in certain details of construction, which will be fully described hereinafter.

In the drawing—

Figure 1 represents a side elevation of my improved machine;

Figure 2, a plan view;

Figure 3, a partial sectional view of the revolving brush and its bearings; and

Figure 4, a sectional side view of the eccentric-bearing.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents the frame-work of the machine, which may be of any suitable construction.

B B represent spools, held in proper bearings at the rear of the machine, which contain the yarn to be sized.

The yarn upon leaving these spools passes over rollers *b b* and down into the size-box C, and about the rollers contained therein.

*c c* represent rollers held in suitable bearings in the frame, which rest upon the upper rollers in the size-box.

From the size-box the yarn passes beneath the revolving brush and roll, the construction and arrangement of which will be more fully described hereinafter, to drying-cylinders E E', and thence over various rollers *e e* to the beam F, upon which it is wound.

As my invention does not relate particularly to the sizing of the yarn, nor to the arrangement of the rollers for conducting it properly, nor to the arrangement of the drying-cylinders, these parts will not be more particularly described, the arrangement and location of them being immaterial. The parts, however, which I do claim as my invention will now be described in detail.

H represents the brush, which consists of a cylinder having a central shaft resting in suitable bearings at each end, which is provided with longitudinal rows of brushes, separated at suitable intervals, as shown.

The bearings of shaft *h* consist of boxes *h' h'*, in which the shaft is eccentrically located, as shown, which are capable of revolving movement in the journals *h<sup>2</sup>* in standards *h<sup>3</sup>*.

Connecting with the boxes are arms *h<sup>4</sup>*, united by rod *h<sup>5</sup>*, by means of which the former are simultaneously moved when desired.

By means of this construction the brush may be lifted entirely up from the thread by simply raising one of the arms *h<sup>4</sup>* or the rod *h<sup>5</sup>*, the turning movement of the boxes causing the shaft of the brush, which ordinarily rests near the lower side of the journals *h<sup>2</sup>*, to rise near the upper.

I represents a tray or trough resting on suitable standards above, and in rear of the center of the brush, which is filled with water, and provided with a cloth for conveying its contents to the brush for the purpose of dampening and cleansing it.

J represents an independent roll located in front of the brush, for taking up any loose ends and enabling the operator to secure them properly.

K represents a clearer, arranged below and slightly in rear of the center of the brush, which serves to hold the yarn in place while the brush is doing its work.

The special advantage of the construction described is the arrangement of this clearer, or it may be a roll, if desired, in such relation to the brush that the yarn shall be properly held while the brush is doing its work. It should be so placed that the brush will strike the ribbon or sheet of thread forward of the clearer, at or near a point where a line plumb from the center of the brush would intersect the sheet of thread.

Heretofore yarn treated without the arrangement of the clearer has been tape-like and uneven, and, consequently, more or less unfit for use, this result being caused by the separation of the fibers of the yarn by the action of the brush in consequence of its not being properly held when being operated upon.

By means of my improvement, however, this difficulty is entirely obviated, and perfectly-dressed yarn is produced without difficulty.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination of a revolving brush with a clearer or its equivalent, when the clearer is arranged in such relation to the brush that the latter will act upon the sheet of thread forward of the clearer at or near a point in line vertically below the center of the brush, as described.

This specification signed and witnessed this day of \_\_\_\_\_, 1870.

ALBERT H. STURGIS.

Witnesses:

JOHN WARBURTON,  
JAMES CARR.