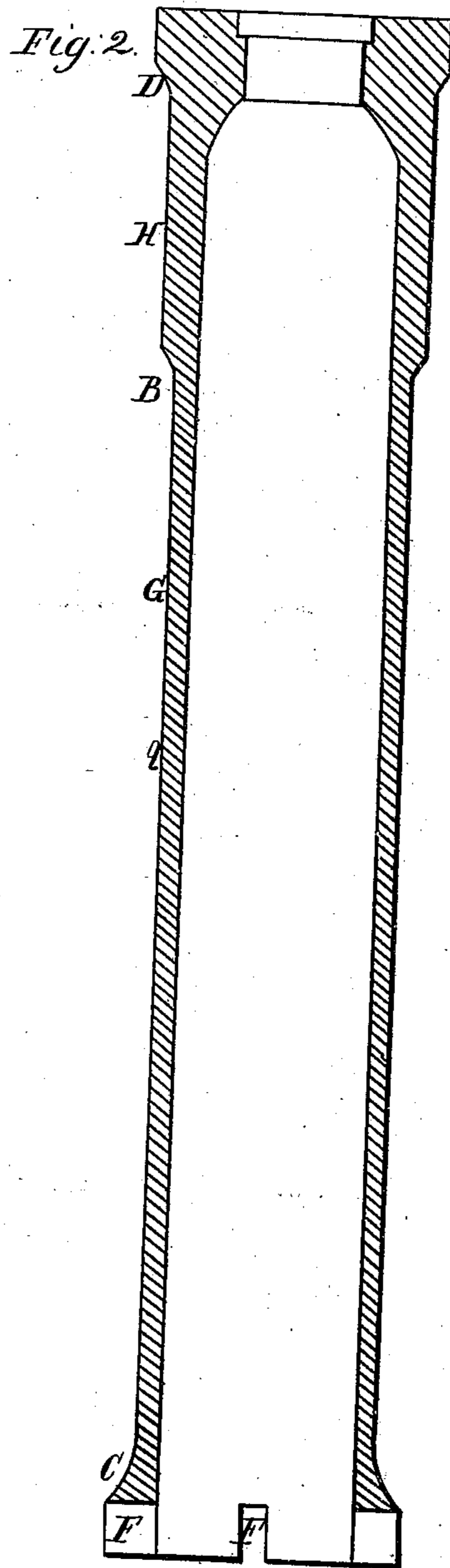
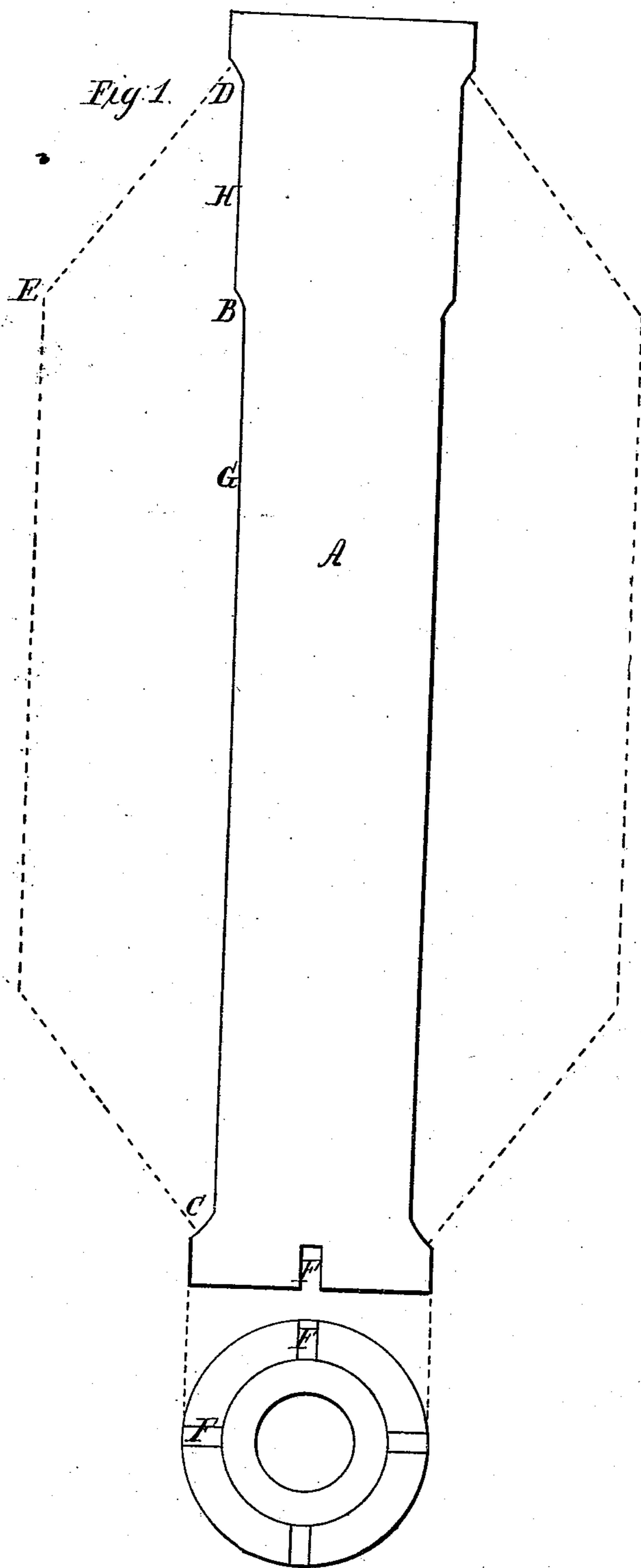


I. Hayden.
Bobbin.

N^o 17,929.

Patented Aug. 4, 1857.



UNITED STATES PATENT OFFICE.

ISAAC HAYDEN, OF LAWRENCE, MASSACHUSETTS.

BOBBIN FOR ROVING AND SLUBBING.

Specification of Letters Patent No. 17,929, dated August 4, 1857.

To all whom it may concern:

Be it known that I, ISAAC HAYDEN, of Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Bobbins for Roving and Slubbing Frames; and I do hereby declare that the same are described and represented in the following specification and drawings.

To enable others skilled in the art to make and use my improvements I will proceed to describe their construction and use, referring to the drawings in which the same letters indicate like parts in each of the figures.

Figure 1 is an elevation of a bobbin with my improvements. Fig. 2 is a section through the center of Fig. 1.

The nature of my invention and improvement in bobbins for roving and slubbing frames consists in making that portion of the barrel of the bobbin which receives and takes up the second layer of roving larger than that portion of the barrel which receives and takes up the first layer of roving, to compensate for the thickness of said first layer and thereby maintain a uniform draft or strain on the roving between the delivering rollers and the bobbin.

In the accompanying drawings A is a bobbin with my improvements adapted to roving and slubbing frames which have a differential traverse motion, for filling the bobbin with roving or slubbing, and diminishing the length of each successive layer of roving after the second, so as to give the ends of the whole series of layers of roving a conical form at each end, to prevent the outer layers from slipping off over those beneath them and getting tangled or injured in handling.

The form of the roving on the bobbin A, is represented by dotted lines in Fig. 1. The machine which makes the roving begins to wind it upon the bobbin at B, and continues down to C, and then up to D, and from thence down and up alternately, making each successive layer shorter than the previous one, until the proper quantity of roving is collected on the bobbin, and the last or outer layer is wound up to the point or angle E, in the dotted lines representing the roving, when the machine is stopped, and the attendant raises the bobbin from the pin (which projects into one of the scores F, F, in the end of the bobbin to turn it) and

turns the bobbin back to unwind one or more coils of roving and separates it from that on the bobbin, which is now removed from the spindle, and its place supplied by an empty bobbin, to which the end of the roving separated from the full one removed is applied and wound around the bobbin on the small part G, close to its junction with the large part H, when the machine after having its several parts properly adjusted is set in motion and the roving is wound down to C, covering the small part G with the first layer. Then the traverse is reversed and the second layer is wound up, covering the first layer and the large part H, of the bobbin, which large part should be made as much larger in diameter than the small part as twice the thickness of the first layer of roving, so that the draft or strain on the roving will be the same or uniform in winding the second layer when it passes from or off of the first layer onto the large part H, of the bobbin, so as to prevent the roving from running slack so as to kink and become tangled and break when the winding of the second layer passes off of the first onto the bobbin, as it would do if the bobbin was made of a uniform size from end to end, as they always had been made prior to the date of my invention.

Manufacturers have always experienced a great deal of difficulty and inconvenience in using bobbins of a uniform size from end to end, with a differential traverse motion for shortening the layers of roving successively and making the ends conical, as the roving and slubbing machines have been made so as to begin the first layer of roving on the bobbin at a greater or less distance from one end in proportion as the ends of the layers of roving are formed more or less conical. In most of the machines for making twisted roving or slubbing the relative speed of the delivering rollers, bobbins or fliers is changed at the beginning of each new layer to compensate for the increase in size or diameter of the roving wound on the bobbin occasioned by the last layer of roving, so as to wind each layer with the same strain, draft or uniform tension. Now as the roving is begun to be wound upon the bobbin at some distance from one end and wound to the other end when the relative speed of some of the parts is changed to compensate for the increased size upon which the second layer is wound upon the first; when the

second layer has covered the first and passes onto the empty space which lacks the increased diameter of the thickness of the first layer the draft on the roving as it
5 leaves the delivering rollers is reduced, so that the roving runs so slack that it kinks, becomes tangled and broken and the machine has to be stopped to piece it up or
10 mend the break, so that it is with great difficulty the machine is made to wind the second layer on the empty space on the bobbin not covered by the first layer, so that much waste and tangled roving is made,
15 the machine is delayed, and less work got off, besides the loss of time and labor of the attendant, increasing the cost of producing the work, rendering the roving inferior where the joinings are made, rendering it
20 more difficult to spin, and producing yarn of an inferior quality. By making that portion of the bobbin larger which is not covered by the first layer of roving according to my invention and improvement the
25 difficulty heretofore experienced and complained of is completely overcome and obvi-

ated and the evils resulting therefrom avoided, so as to make perfect roving or slubbing, enable the machine to make a greater quantity in a given time, at less cost of labor and material which will produce
30 more perfect yarn when spun.

I believe I have described and represented my invention or improvement in bobbins for roving and slubbing so as to enable any person skilled in the art to make
35 and use them. I will now state what I desire to secure by Letters Patent, to wit:

I claim—

Making that portion of the barrel of the bobbin which receives and takes up the second layer of roving, larger than that part
40 of the barrel which receives and takes up the first layer, substantially as described, to compensate for the thickness of the said first layer and make the draft on the roving
45 or slubbing uniform.

ISAAC HAYDEN.

Witnesses:

N. G. WHITE,
ROBERT CROSS.