

C. H. Fiske.

Bobbin.

N^o 71371

Patented Nov. 26, 1867.

Fig. 1.

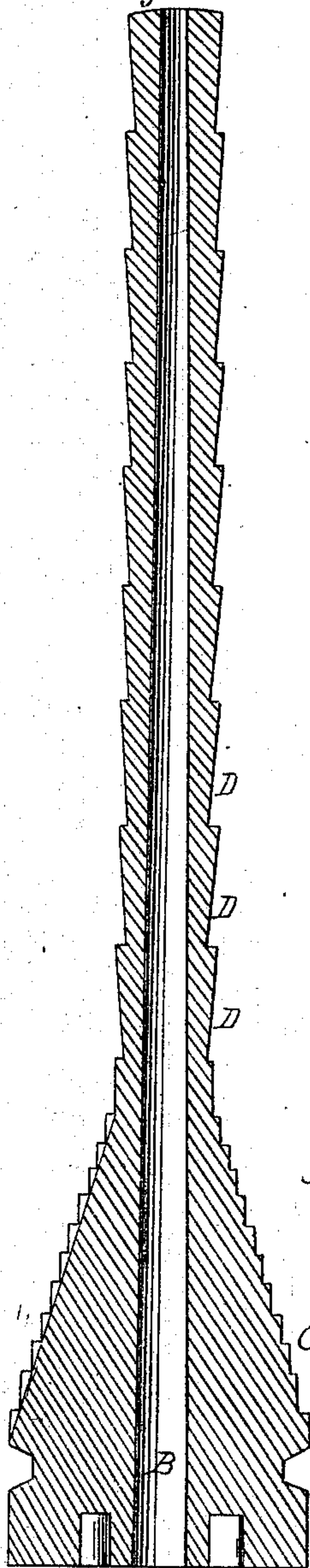


Fig. 2.

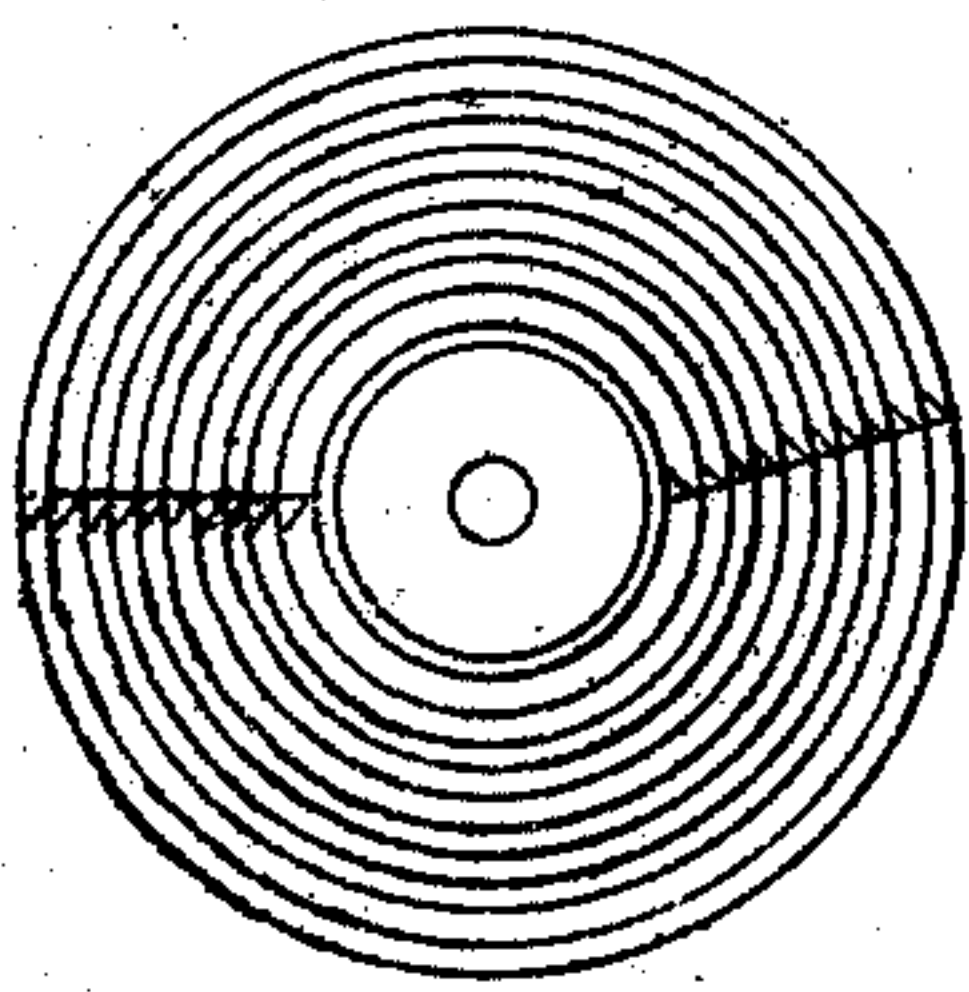
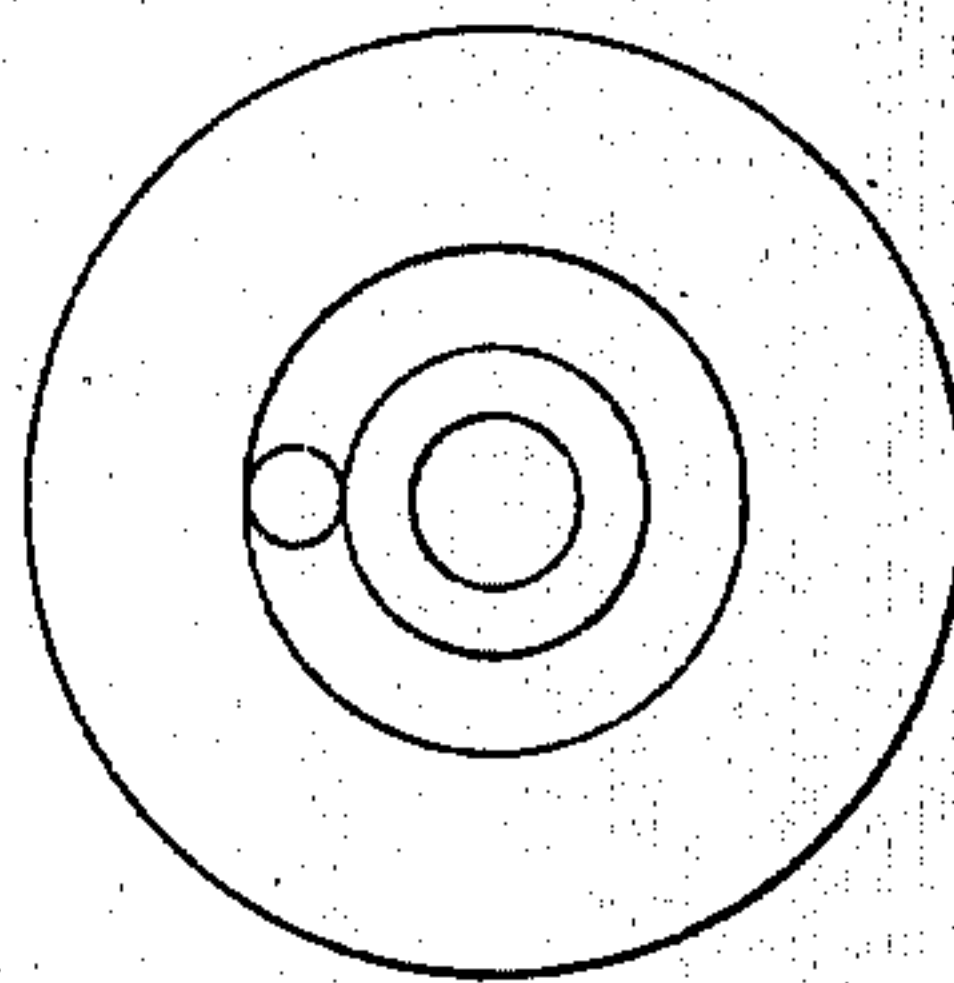


Fig. 3.



Witnesses.

W. Blomington
Jas. A. Service

Inventor.

Chas. H. Fiske
Per *[Signature]*
Attorney

United States Patent Office.

CHARLES H. FISKE, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 71,371, dated November 26, 1867.

IMPROVEMENT IN BOBBINS.

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, CHARLES H. FISKE, of Lowell, Middlesex county, State of Massachusetts, have invented a new and useful Improvement in Filling-Bobbins; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is an axial section of a bobbin made according to my invention.

Figure 2 is a top view, and

Figure 3 is a bottom view.

Similar letters of reference indicate like parts.

The object of this invention is the improvement of bobbins used in weaving to hold the filling-yarn; and it consists in giving to them a peculiar shape to prevent the slipping of the filling, which is apt to occur in the operation of weaving. Much loss is occasioned from this cause, both in the amount of "waste" made by the slipping off of the filling, and in the time necessarily spent in stoppage of the looms, and in also rewinding such portions of the yarn as are not hopelessly entangled, sometimes the entire body of filling on a bobbin coming off at once.

Ordinary "filling-bobbins" are now made with straight or regular tapering sides from heel to point, with shallow circular grooves or indentations upon them. My improved bobbin is made by turning upon it a succession of inverted truncated cones, so as to produce a succession of divisions in the length of the bobbin, the point of the greater diameter of each division being at that part which is nearer the end of the bobbin, and the point of the less diameter being at the part which is nearer the base of the bobbin, so that the coils of the filling are prevented from slipping off during the operation of weaving. The base of the bobbin is conical for a little distance, and the sides of such conical part are turned into a succession of horizontal terraces or steps, with vertical sides. These terraces are designated by the letter C. They are continued as high as the conical portion of the bobbin, each terrace being of smaller diameter than that below it. This conical portion is intended to aid in giving proper shape to the filling when being wound on. The greater part of the length of the bobbin is the portion which extends from the top of the conical base to the end of the bobbin, which part, as before explained, is occupied by a succession of inverted truncated cones, D, whose respective diameters are equal throughout, and whose bases prevent the filling from slipping off, and occasioning loss by "waste," and loss of time in weaving. The bobbin may be made in other respects in any suitable way, an opening, B, being made through it to receive the spindle of the shuttle, and its bottom being formed so as to fit the rail of the machine, on which it is placed to receive the filling.

The ordinary filling-bobbin, made with straight or regular tapering sides, having a succession of shallow grooves or indentations, has been found insufficient to prevent the filling from slipping, for the reason that between the creases a smooth surface is left, upon which the filling cannot be held, and from which it easily slips, if the usual tension is applied sufficient to properly weave the cloth. If the creases are placed too near each other, the bobbin is made so rough that the yarn will not unwind without breaking, if the bobbin is revolved with the necessary rapidity. In bobbins of this construction it has been found necessary to make the top of an increased diameter, exceeding the diameter of the remaining portion below it about one-sixteenth of an inch for coarse work, and one thirty-second of an inch for fine work. This increased diameter, however, was found to be insufficient to prevent waste, or the filling from slipping, and also caused the yarn to break badly. By my invention these difficulties are avoided. The bobbin is constructed with a series of tapers, made to resemble inverted truncated cones, each of which may have as much or the same variation in its diameter as can be used in the entire length of the tapering bobbins in common use, thereby multiplying the wedging surface of the bobbin to any extent required. As soon as the yarn starts to unwind, the constantly-increasing diameter of each cone causes it to be held with a wedging action, which tightens the remaining portion upon the cone, and effectually prevents it from slipping. The upper end or top of the bobbin is of the same diameter as the base of each cone, all being the same. Bobbins of this construction do not, in any manner, prevent the yarn from unwinding, under the proper degree of tension, as rapidly as is necessary in the process of weaving.

I claim as new, and desire to secure by Letters Patent—

A filling-bobbin whose sides, for a greater or less portion of its length, are formed to resemble a succession of inverted truncated cones, substantially as described for the purpose specified.

CHARLES H. FISKE.

Witnesses:

S. C. PRATT,

S. WILKINS.