O. E. WAIT.
Bobbin.

No. 210,977. Patented Dec. 17, 1878.

Fig. 1.

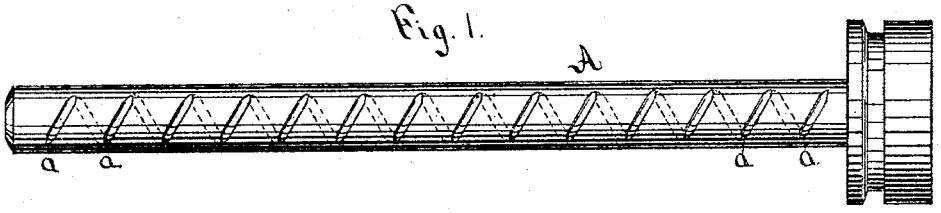


Fig. 2.

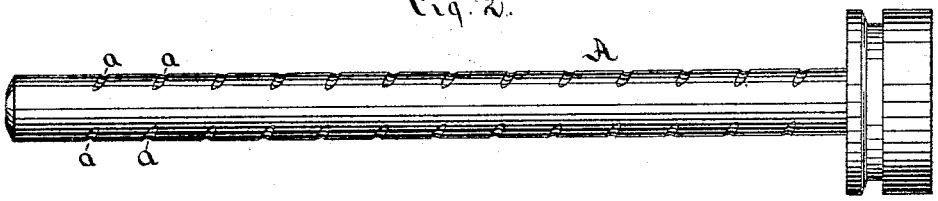


Fig. 3.

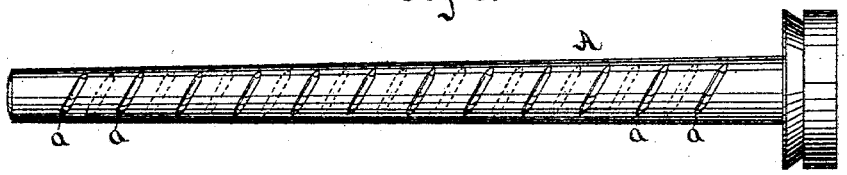
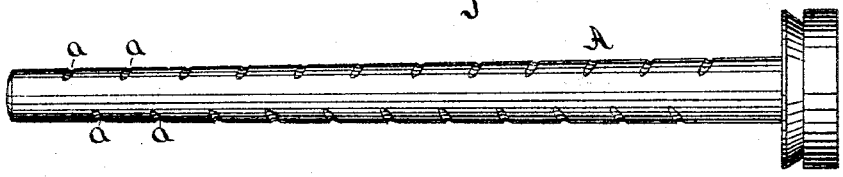


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

OSCAR E. WAIT, OF ROCKPORT, MASSACHUSETTS.

IMPROVEMENT IN BOBBINS.

Specification forming part of Letters Patent No. **210,977**, dated December 17, 1878; application filed April 8, 1878.

To all whom it may concern:

Be it known that I, OSCAR E. WAIT, of Rockport, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Bobbins, of which the following is a specification:

My invention relates chiefly to that class of bobbins which are used in shuttles in the manufacture of woven fabrics, and has reference to the specific means employed to prevent the yarn from slipping off the bobbin in the shuttle.

Prior to my invention wooden bobbins having the object above specified in view have been made of wood, having a rounded spiral thread and round-bottomed groove between, as shown in English Patent No 512 of 1861. They have also been made with annular grooves and ridges, the same being known as "corrugated bobbins." They have also been made with a spiral groove in the plain surface of the barrel, and cop-tubes have been made with perforations of various shapes, as shown in patent to Simmons, No. 172,510, all of which are disclaimed.

My invention consists in a wooden bobbin having two or more sets of scores distributed over the sides of the barrel, with the scores in each set on different transverse planes, as hereinafter described; also, in a wooden bobbin having two or more sets of diagonal or oblique scores in the sides of its barrel, as hereinafter described.

In the accompanying drawing, the several figures are side elevations of bobbins which embody my invention.

The general form of the bobbin may be of any ordinary or approved form of shuttle-bobbin.

In the sides of the barrel A, I form diagonal or oblique scorings *a*, in two or more sets, as shown.

In Figure 1 the side of the barrel containing the whole of each score in one set is shown, while the other set on the opposite side of the barrel are indicated in broken lines.

In Fig. 2 the same bobbin is represented in such a position as to show part of each score in the two sets. The scores in both sets run in the same general direction, but not in line with each other—that is, they are so located that if they were made longer and completely surrounded the barrel they would form two separate spiral scores, side by side; but it is of the essence of my invention that they shall not extend wholly around the barrel, but only about half-way around, preferably a little less than half-way. It is desirable, but not essential, that the scores should be long enough to make the upper and lower ends of the several scores reach the same transverse plane, or, perhaps, lap a little, in which case every coil of thread wound upon the bobbin-barrel will cross and take hold upon at least one of the scores.

Figs. 3 and 4 show the same device, with the single exception that the scores in the two sets run in opposite directions.

In Fig. 3 the side which shows the whole of each score in one set is shown, while the scores in the set on the opposite side of the barrel are indicated in broken lines; and in Fig. 4 the same bobbin is represented in such a position as to show part of each score in the two sets.

The scores in the different sets may run in different directions and be arranged in other forms than those shown, so long as they extend only partially around the barrel, and are distributed over its sides, so as to leave part of the grain forming the wooden barrel uncut, and so as to furnish a hold for the different coils of thread.

The barrels for these bobbins are quite small, and by making the scores in sets, distributed in different transverse planes, as described, the benefit of furnishing a hold for every coil of thread is attained without cutting off or through all of the longitudinal fibers of the wood in the periphery of the barrel, and consequently without materially weakening said barrel. As the scores are not continuous like a screw-thread, it is impossible for the operatives to remove the entire mass of thread from the bobbin by unscrewing it therefrom in case they are disposed to pilfer.

My bobbin, equally with others, prevents the slipping off of the threads, can be made at a very small cost, and with but little injury to the strength of the bobbin.

In order to enable others skilled in the art to construct my scored bobbin, I will briefly describe two of the best modes at present contemplated for producing the same.

Take a bobbin previously formed in any ordinary manner, and hold it in the hands against a gang of revolving burrs or other cutters, inclined at an angle thereto equal to the pitch of the scores. At the same time partially rotate the bobbin until a score of the desired length is cut. Then remove the bobbin and apply again to the cutter in like manner for each set of scores.

Another way is to burn the scores into the barrel by means of hot dies or tongs, and afterward finish by tumbling and oiling.

I claim as my invention—

1. A wooden bobbin having two or more sets of scores distributed over the sides of the barrel with the scores in each set on different transverse planes, substantially as described, and for the purpose specified.

2. A wooden bobbin having two or more sets of diagonal or oblique scores in the sides of its barrel, substantially as described, and for the purpose specified.

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