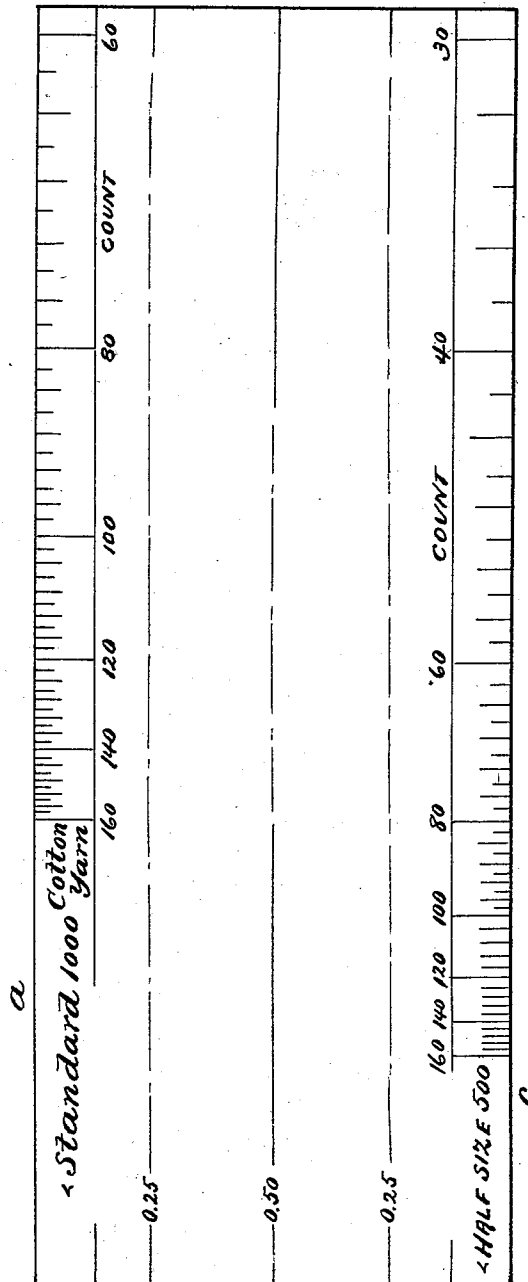


(No Model.)

A. SCHAER.
GRADUATED YARN TEMPLET.

No. 543,898.

Patented Aug. 6, 1895.



Witnesses.

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ARNOLD SCHAER, OF WARREN, RHODE ISLAND.

GRADUATED YARN-TEMPLET.

SPECIFICATION forming part of Letters Patent No. 543,898, dated August 6, 1895.

Application filed February 7, 1895. Serial No. 537,573. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD SCHAER, of Warren, in the county of Bristol and State of Rhode Island, have invented certain new and useful Improvements in Graduated Yarn Temples or Gages; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is to produce a graduated temple by which, the number of threads or counts of a piece of cloth per inch being ascertained, the size of a piece to be cut to weigh, to find the number of yarn of which the cloth is woven, will be plainly indicated thereon.

Referring to the drawings, the space between the divisions on the side *a* of the temple marked "standard" are so proportioned that a piece of cloth cut of the full width of the plate and of the length between the left end of the plate and the mark indicated by the count or number of threads per inch in the piece will contain a given length of yarn. For example, a piece of cloth of full width of the plate A—of, say, one hundred picks or counts to the inch—cut to the length of the left end of the plate to the line marked "100," will contain the same number of yards of yarn as a piece of cloth of the full width of the plate of eighty picks or counts to the inch cut to the length between the left end of the plate and the line marked "80" will contain, and consequently either piece of cloth may be put on the scales and weighed the same as so much yarn and the number of the yarn ascertained.

In graduating the scale marked "standard" for cotton yarn or spun silk the number taken for standard is one thousand. The length of yarn contained in each of the various samples cut as above directed is one hundred and twenty yards, and if a sample cut to the measure indicated by the number of picks or counts per inch weighs twenty-five grains this number divided into one thousand equals forty, which is the number of the yarn, and if it weighs twenty grains, one thousand divided by twenty equals fifty, which is the number of the yarn in that case.

In making the temple for woolen cloth the proportional graduation of the scale is the same as that used for cotton; but the plate itself is made narrower in proportion to the difference in weight of the two materials. This proportion is as five hundred to five hundred and twenty-five—that is, the plate would be one-twenty-fifth narrower than the plate given for cotton, and the results would be given in "runs" instead of numbers.

For worsteds the temple can be taken just as it is for cotton, but the "standard" number, instead of being one thousand, as in cloth, will be fifteen hundred, and this number divided by the number of grains the piece weighs indicates the number of the yarn. For example, if a piece of worsted measured and cut to dimensions according to the count of threads to the inch, as above, weighs seventy-five grains, fifteen hundred divided by seventy-five equals twenty, the number of the yarn in the sample.

In making the temple for raw silk, or silk in the gum, the plate is made narrower than for the cotton, in the proportion of one hundred to one hundred and twenty, or one-sixth narrower, and the graduations are made the same as for cotton. As a sample large enough to cut full width of the plate and of the necessary length cannot always be had, I have provided an arrangement of proportional divisions on the other side of the plate marked "half-size," by which, if a sample is as wide as the plate, but not long enough to reach up to the line indicated by its number of threads per inch on the standard side, it can be cut by the side of the scale marked "half-size," and the number to be divided by the weight in grains will be five hundred instead of one thousand; and if a sample is long enough to reach the required mark, but is too narrow to reach across the plate, it can be cut to the middle mark ".50" lengthwise of the scale and the result of the grain-weight divided into one thousand, divided by two, or halved, will give the number of the yarn. A line marked "25" is for a quarter-sized sample, and the result is divided by four. Still another line is provided for one-eighth size, the result to be divided by eight. With these lines a very small sample can be used.

In making a count of the threads per inch

in the cloth to ascertain the desired size to cut a sample, as it is the area and not the mere length that counts in weighing, the warp-threads should be counted as well as the filling, and if they differ the average of the two counts should be used. For example, if the warp has eighty threads per inch and the filling ninety-two threads, the average, eighty-six threads, is the number to be used as the "count" of the goods.

Having thus described my improvements, I claim as my invention and desire to secure by Letters Patent—

1. A templet graduated with lines indicating in connection with the width of the templet, the size of a sample of any cloth required

by its "number of count," to contain a certain number of yards of yarn, substantially as described.

2. A templet graduated with lines indicating the size of a sample of any cloth required by its "number of count" to contain a certain number of yards of yarn, and also provided with lines for a proportional reduction in the size of the piece of cloth, for the purpose of utilizing small samples, substantially as described.

ARNOLD SCHAER.

Witnesses:

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