(No Model.)

I. E. PALMER.

METHOD OF FOLDING MOSQUITO NET, TARLATAN, AND OTHER PIECE GOODS.

No. 378,212. Patented Feb. 21, 1888.

Fig. 1

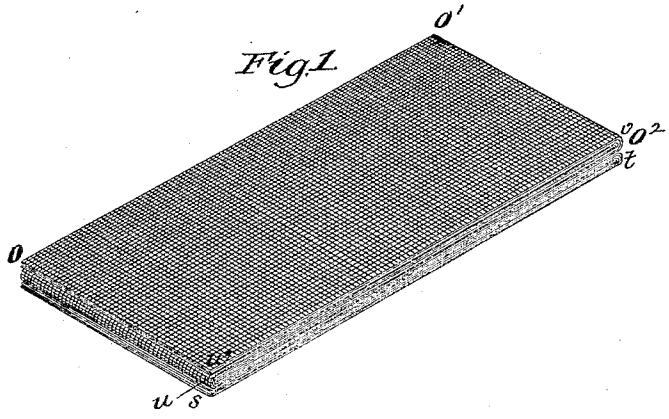


Fig. 2.

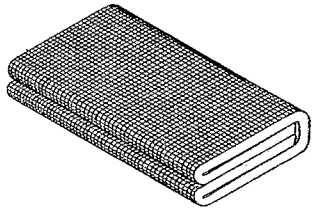


Fig. 3.

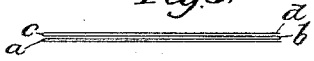


Fig. 4.

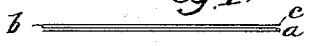


Fig. 5.

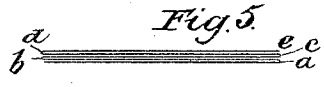


Fig. 6.



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UNITED STATES PATENT OFFICE.

ISAAC E. PALMER, OF MIDDLETOWN, CONNECTICUT.

METHOD OF FOLDING MOSQUITO-NET, TARLATAN, AND OTHER PIECE GOODS.

SPECIFICATION forming part of Letters Patent No. 378,212, dated February 21, 1888.

Application filed October 22, 1887. Serial No. 253,048. (No model.)

To all whom it may concern:

Be it known that I, ISAAC E. PALMER, of Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in the Method of Folding Mosquito-Net, Tarlatan, and other Piece Goods, of which the following is a specification.

My invention, although it may be employed generally in folding woven or other fabrics, is particularly intended for tarlatan, mosquito-netting, and other thin starched goods which are cut off in pieces of twelve, twenty-four, or other determinate number of yards; and the objects of my invention are to provide for folding such goods into a compact package without unnecessarily wrinkling or impairing the goods, and in which package the plies usually each represent a definite number of yards or parts of yards, so that a given number of yards of fabric may be measured or told off by simply counting the plies, and may then be separated from the piece by simply making a short cut with shears, instead of being under the necessity of measuring and severing the desired quantity by cutting entirely across the full width of the fabric.

In carrying out my invention I first fold the goods lengthwise of the piece and from opposite directions alternately—that is to say, the folds between the plies of goods which are adjacent to each other will be at opposite edges of the folded piece alternately. I then fold the goods transversely to their length, and also from opposite directions alternately, so as to form plies of determinate length—say of one-yard length—and I finally fold the said plies also transversely of the length of the goods to form a compact package, as will be hereinafter more fully described.

In the accompanying drawings, Figure 1 represents a piece of goods folded according to my method into a package in which the plies from *o* to *o'* are of determinate length—say one yard. Fig. 2 represents a piece of goods after it has been folded still farther in a direction transverse to its length in order to bring it to a compact shape and convenient size for shipment. Figs. 3, 4, and 5 represent transverse sections of a piece of goods which is folded in the direction of its length and according to the first step of my invention, and Fig. 6 represents an edge view of the opened-out package as shown in Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

In the following description it should be continually borne in mind that the direction from *o* to *o'* is lengthwise of the piece of goods, and the direction from *o'* to *o²* is crosswise or breadthwise of the goods.

The first step of my improved method consists in folding the goods in the direction of their length, so as to bring the piece of goods, whether it be one, one and a half, two, or three yards in width, into a long strip of a width not greater than is desired for one of the dimensions of the completed package. This longitudinal folding I accomplish by folding over the goods from opposite directions or from opposite edges of the folded ply alternately.

Fig. 3 illustrates the folded piece of goods as it would appear if folded lengthwise so as to form four plies—that is to say, the goods would be first folded at *a*, then folded toward the right hand to *b*, then folded toward the left hand to *c*, and finally toward the right hand to *d*. Thus if two-yard goods are to be folded the strip or fourfold ply will be eighteen inches wide.

In Fig. 4 I have illustrated a similar transverse section in which the piece of goods is folded lengthwise to form three plies—that is to say, it is first folded toward the left from *a* to *b*, and is then folded toward the right from *b* to *c*. Thus if the goods be one and one-half yard wide a three-ply strip will be formed which is eighteen inches in width.

In Fig. 5 I have represented a transverse section of a piece of goods folded lengthwise to form five plies. This piece of goods is first folded toward the left from *a* to *b*, is then folded toward the right from *b* to *c*, is then folded toward the left from *c* to *d*, and is finally folded toward the right to *e*. Instead of making a multiple strip of a half-yard width, as here supposed to be, the piece of goods may be folded lengthwise so as to form a multiple strip of any other width—as, for example, goods a yard wide may be folded twice to form three plies of one foot wide each. It is much more advantageous to fold the goods lengthwise in the manner described, or from oppo-

site edges and in opposite directions alternately, because of the ease with which the swords or blades of the folding-machine whereby these folds are formed may be passed into the goods; and another very considerable advantage is, that it is possible to fold the goods into a multiple strip with any desired number of plies, either odd or even.

I have illustrated in Figs. 3, 4, and 5 how the goods may be folded lengthwise to form a multiple strip with either four, three, or five plies, and it will be readily understood that a multiple strip having any other (odd or even) number of plies may be formed.

Where the goods are folded lengthwise by first folding them in the middle and then folding both the two plies in the middle of their width to form a four or more ply strip, it will be understood that the goods must always be folded with an even number of folds; but this is sometimes undesirable, considering the width of the goods and the size of the package which is to be formed. For example, suppose that it is desired to fold goods one and one-half yard wide so that the width of the multiple strip will be eighteen inches. Of course this cannot be done with an even number of folds. After this first step of my method I fold the multiple strip transverse to the length and also from opposite directions alternately. This is illustrated in Fig. 6, and may also be traced out in Fig. 1. For example, the goods are folded or laid in plies, beginning at the point *s*, thence to the point *t*, thence they are folded toward the left to the point *u*, thence toward the right to the point *v*, and thence toward the left to the point *w*. This latter folding I do so that each one of the plies represents either a yard or some other determinate unit of measure. Suppose, for example, that this present package is folded so that the distance from *s* to *t* equals a yard and the goods are two yards wide. All that the attendant has to do to measure off or select a given number of yards is to count the simple plies—that is, the goods from *w* to *v* constitute one yard of double-width goods, the goods from *v* to *u* constitute another yard, the goods from *u* to *t* constitute another yard; and to detach any desired number of yards the clerk has only to cut through the fold for a distance of eighteen inches, which is far easier to do than to cut accurately and neatly across the entire width of two yards. After this second step of my method the goods may be folded again in the direction of their width, as upon the lines *x x*, dotted in Fig. 6, so as to produce a compact package, as represented in Fig. 2.

In Figs. 3, 4, 5, and 6 the thickness of the pile formed by the plies of folded goods is much exaggerated, in order to represent the different plies distinct from each other, each by a separate line.

Fig. 2 is simply intended to illustrate the appearance of the piece after the final folding on the lines *x x*, Fig. 6, and as no attempt is there made to show the several plies, save those formed by the final folding on the lines *x x*, the thickness of the piece is not there exaggerated, and the several letters of reference used in describing the manner of folding with reference to Figs. 3, 4, 5, and 6 cannot be applied to Fig. 2, because the separate single plies are not there shown.

From the above description it will be understood that although my invention may with certain advantages be employed in narrow goods—say one yard wide—yet its advantages are more particularly apparent in wider goods—such as mosquito-netting of two or more yards in width; and it will be also observed that when the goods are folded transversely so as to form plies of determinate length—say one yard—as shown in Figs. 1 and 6, the folding of the goods into the compact package shown in Fig. 2 will form folds of one quarter, one-half, and three-quarters of a yard, or other determinate measures on which the goods can be cut, so as to give to the purchaser the yards and fractions of a yard desired.

What I claim as my invention, and desire to secure by Letters Patent, is—

The method of folding mosquito-net and other piece goods, consisting in first folding the goods lengthwise and from opposite directions alternately, as from *a* to *b*, to *c*, to *d*, in then folding the goods transversely to their length and from opposite directions alternately, as from *s* to *t*, to *u*, to form plies of determined length, and in finally folding the said plies also transversely to the length of the goods to form a compact package, substantially as herein described.

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