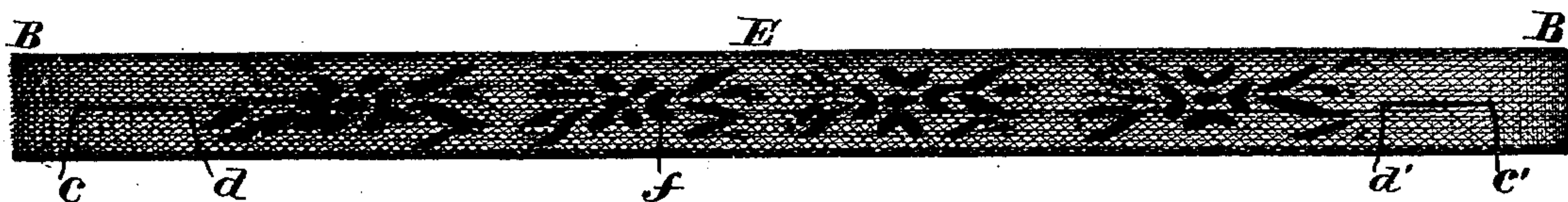


W. F. OSBORNE.  
Method of Weaving Suspender Strap Webbing.  
No. 234,056. Patented Nov. 2, 1880.

*Fig. 1.*



WITNESSES:

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*J. A. Rutherford.*

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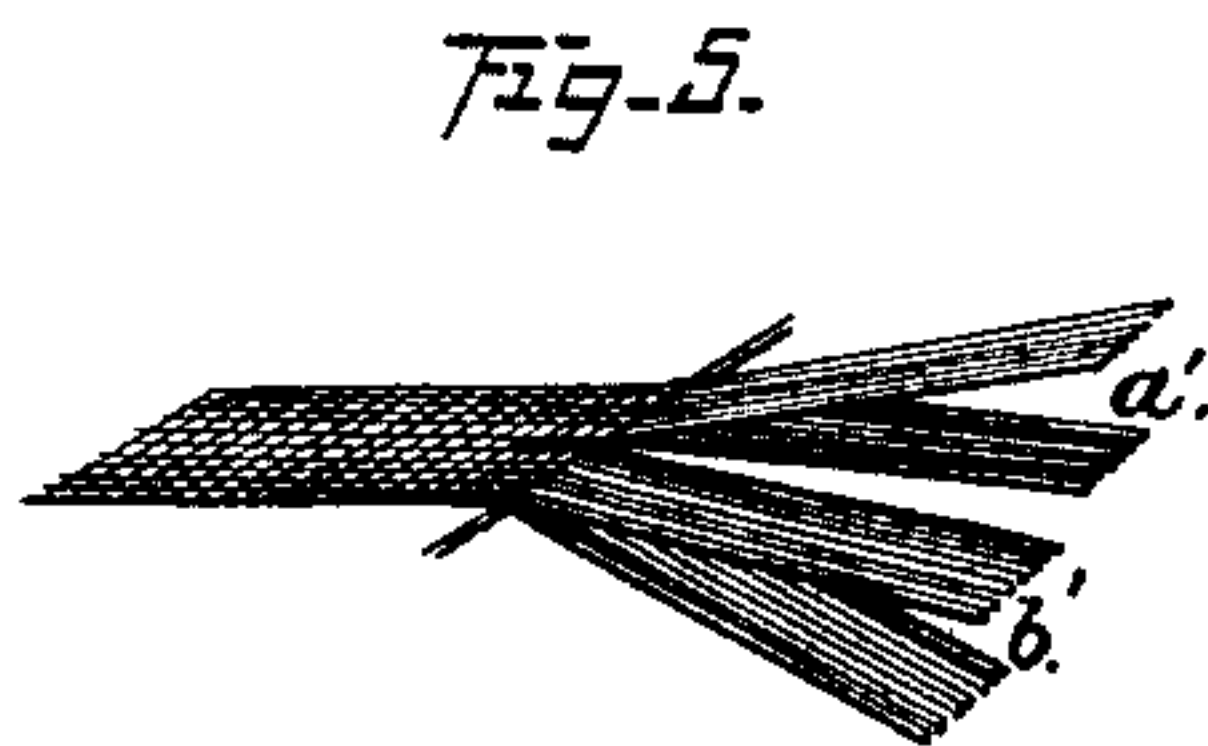
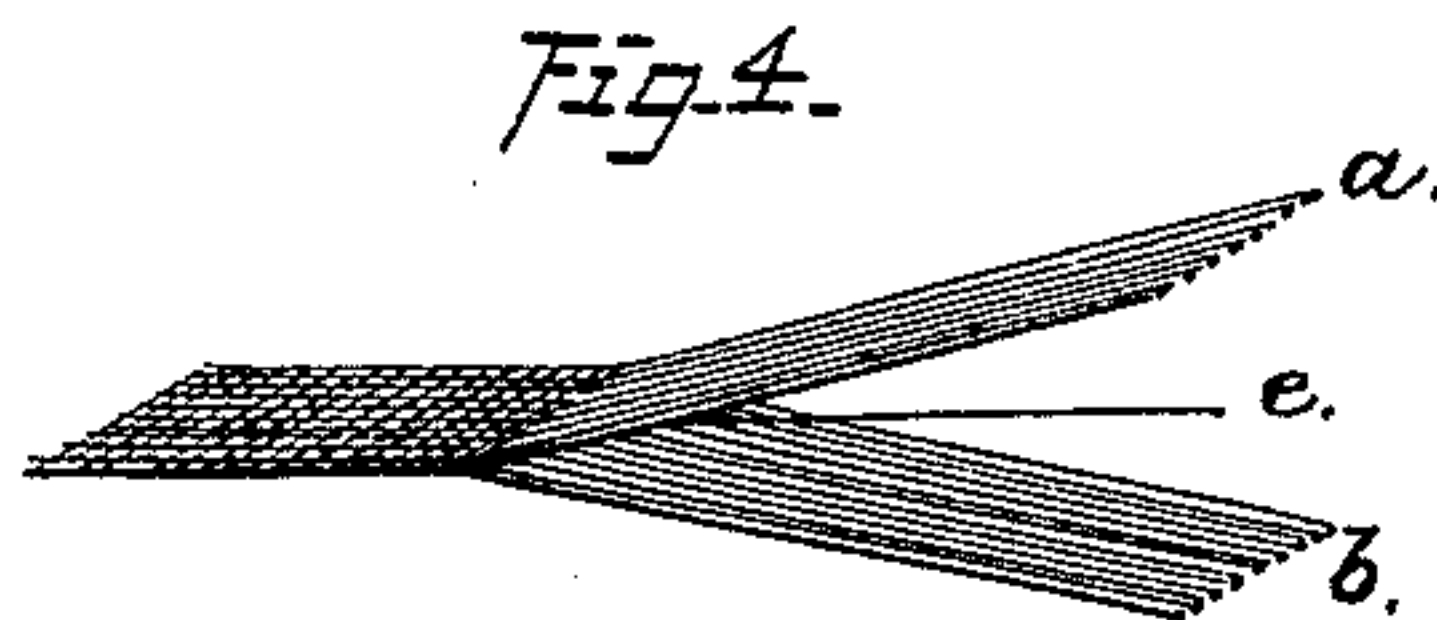
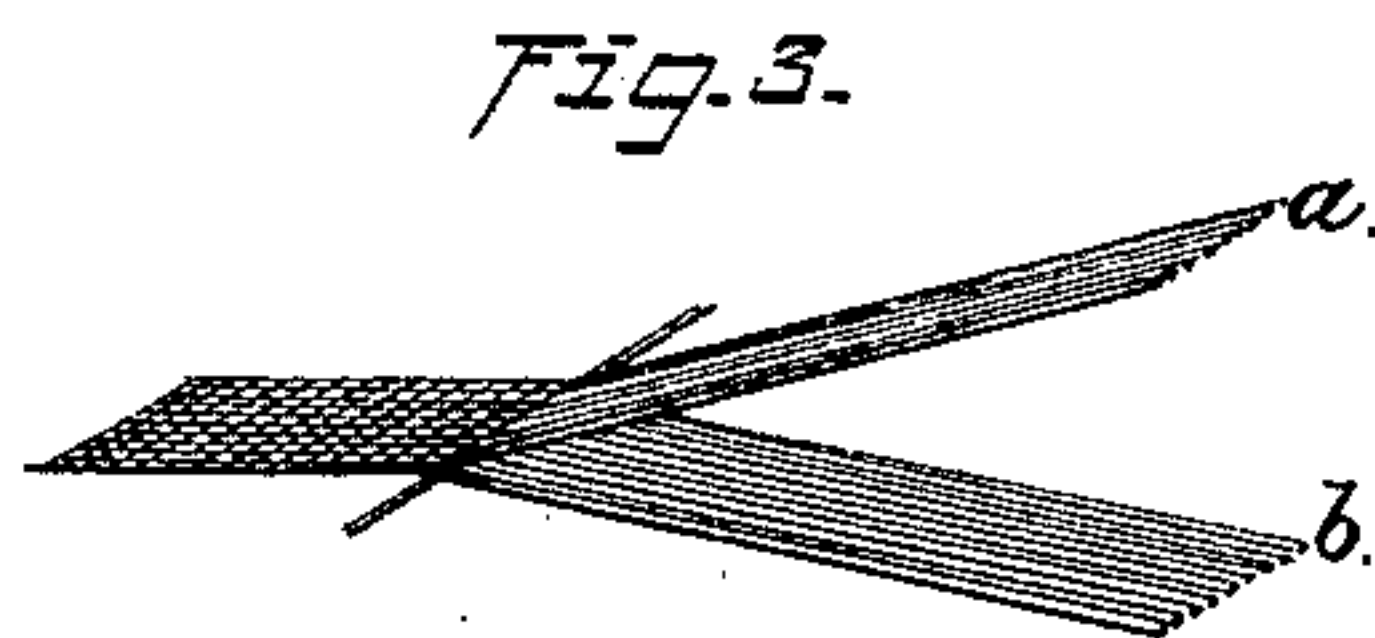
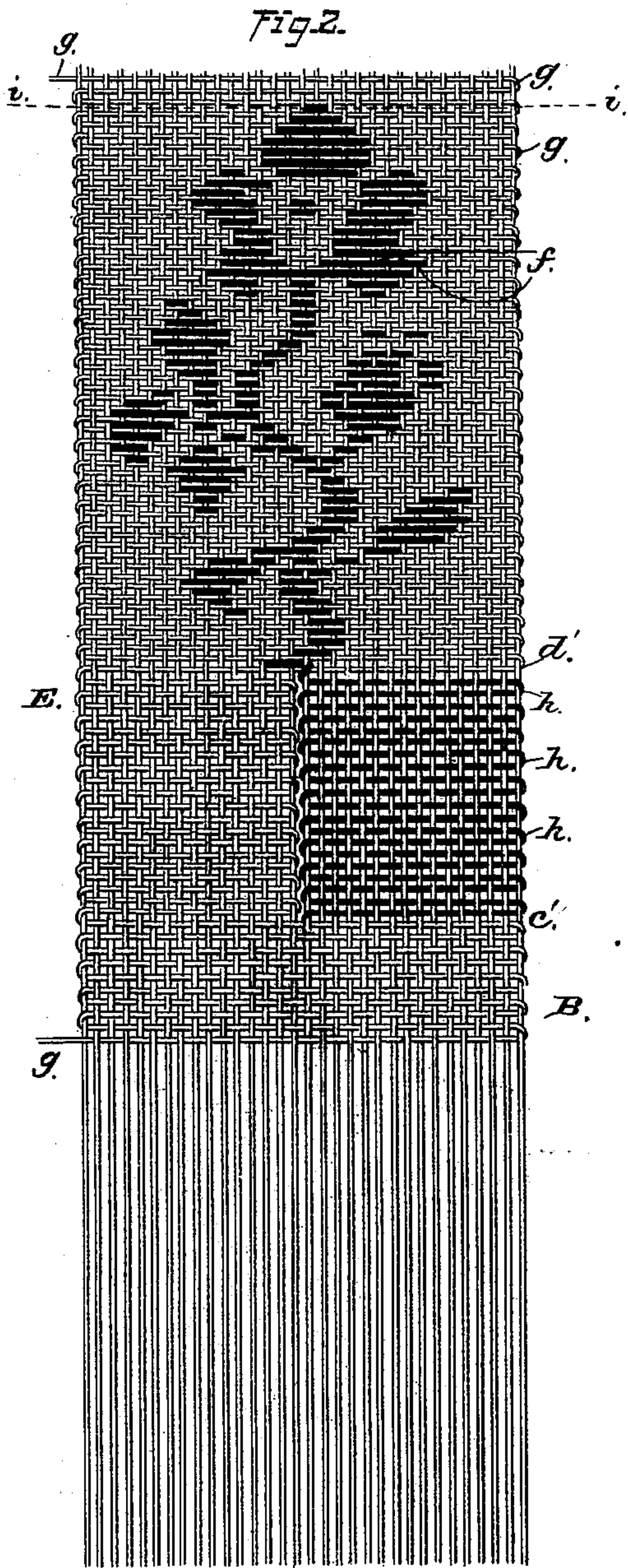
*Wilbur F. Osborne,*

*by James L. Norris.*  
 *Att'y.*

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# UNITED STATES PATENT OFFICE.

WILBUR F. OSBORNE, OF ANSONIA, CONNECTICUT.

## METHOD OF WEAVING SUSPENDER-STRAP WEBBING.

SPECIFICATION forming part of Letters Patent No. 234,056, dated November 2, 1880.

Application filed October 8, 1879.

*To all whom it may concern:*

Be it known that I, WILBUR F. OSBORNE, of Ansonia, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in the Method of Weaving Suspender-Strap Webbing, of which the following is a specification.

This invention relates to certain improvements in the method of weaving suspender-strap webbing having woven button-holes; and it has for its object to form a Jacquard figure upon the body of the strap, utilizing for this purpose that shuttle employed for forming the selvage at one edge of the button-hole that usually remains idle during the weaving of the main body of the strap.

To this end my invention comprises the method of weaving with two shuttles suspender-strap webbing having woven button-holes, which consists in weaving the body of the strap and the portion on one side of the button-hole with the weft of one shuttle, and in weaving a Jacquard figure on the body of the strap and that portion of said strap on the other side of the button-hole with the weft of the other shuttle, essentially as hereinafter described.

In the accompanying drawings, Figure 1 is a view of a suspender button-hole strap woven according to my improved method. Fig. 2 is an enlarged view of a sufficient portion of a button-hole strap to illustrate my invention, the threads being separated in order to show their respective courses. Figs. 3, 4, and 5 are views illustrating the required shedding of the warp in weaving a button-hole strap by my improved method.

Referring to Fig. 1 of the drawings, the weft of a single shuttle forms the entire portion B of the strap, the warp being shedded as shown in Fig. 3, alternate threads *a* and *b* being respectively raised and lowered, and when the point *c* is reached one half of the warp, *a'*, from the center to the edge, is raised and the other half, *b'*, depressed sufficiently to permit the two halves to be shedded, as shown in Fig. 5, to allow separate shuttles to be used in weaving in the weft of the two halves, forming inner selvages for each half for a proper distance to form the inner edges of the button-hole, the shuttle carrying the regular weft forming one

side and that carrying the additional weft the other. When the point *d* is reached the edges of the button-hole have been completed. The two halves of the warp are then brought in the same plane and shedded in three divisions, as shown in Fig. 4, when one of the shuttles is thrown clear across above the warp-threads *b* and below the warp-thread *e*, weaving in the regular weft for the entire width of the strap for the whole length of the body E of the strap between the button-holes, while the other shuttle, carrying the additional weft, is thrown across above the thread *e* and below the threads *a*, the thread *e* bringing into sight the additional weft, so that by a proper arrangement of the number and positions of the threads *e* of the middle division of the warp, which will be governed by the Jacquard, this additional weft is utilized for forming the Jacquard figure *f* until the point *d'* at the opposite end of the strap is reached, when the two halves of the warp are again separated and shedded, as in Fig. 5, and the separate shuttles weave their respective portions of the strap at the sides of the button-hole until the point *c'* is reached, when one of the shuttles is thrown out of operation and the other continues, forming the full width of the weft of the strap.

In Fig. 2 the weft-thread *g* is the regular weft, and *h* designates the additional weft. Fig. 4 shows the shed of the warp at the line *i* of Fig. 2 in the process of weaving where but one warp-thread is used to bring the additional weft-thread into sight. The two weft-threads should be preferably of different colors, in order that the figure may be of a different color from the body of the strap; or the additional weft-thread may be of a different material from the other, and the cop in the additional shuttle may be changed after weaving the first button-hole portion and a thread of a different kind used for weaving in the figure until the next button-hole is reached, when the cop used at the first may be replaced.

I am aware that in weaving button-hole straps with two shuttles the additional weft-thread has been woven into the body of the strap for the purpose of hiding what is called the "floating filling," and I do not claim such method of weaving.

What I claim is—

The method herein described of weaving  
suspender button-hole straps with two shut-  
tles, the same consisting in weaving the body  
5 of the strap with the weft of one shuttle and  
at the same time weaving a Jacquard figure  
thereon with the weft of the other shuttle, and  
weaving one side of the button-hole portion of  
the strap with one of said shuttles and the

other side with the other shuttle, substantially 10  
as set forth.

In testimony that I claim the foregoing I  
have hereunto set my hand in the presence of  
the subscribing witnesses.

WILBUR F. OSBORNE.

Witnesses:

FRANKLIN BURTON,  
ADOLPH W. KING.