

No. 851,404.

PATENTED APR. 23, 1907.

F. CREASSEY.  
LACE.

APPLICATION FILED APR. 18, 1906.

2 SHEETS—SHEET 1.

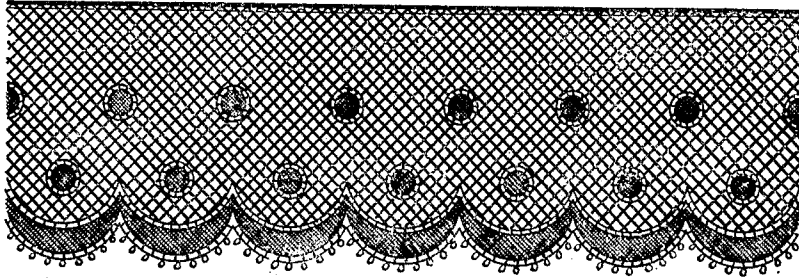


Fig 1

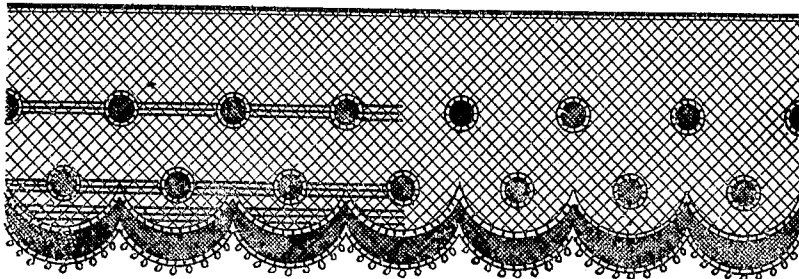


Fig 2

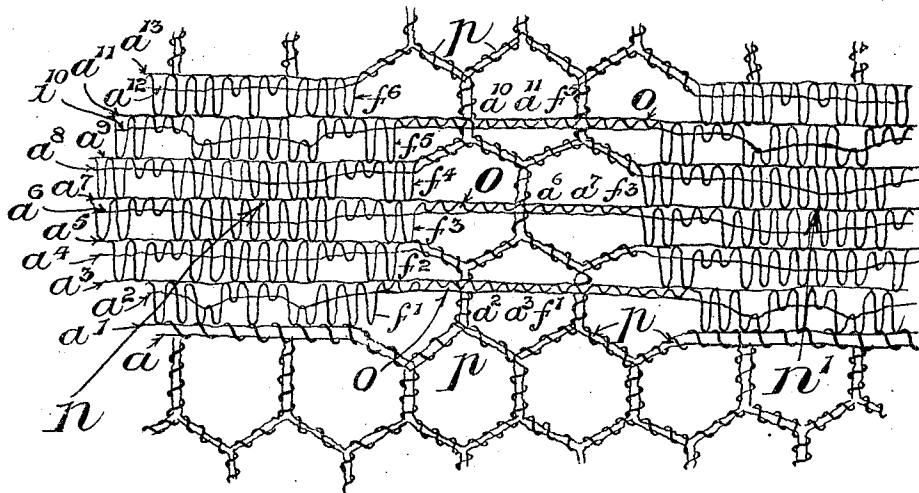


Fig 3.

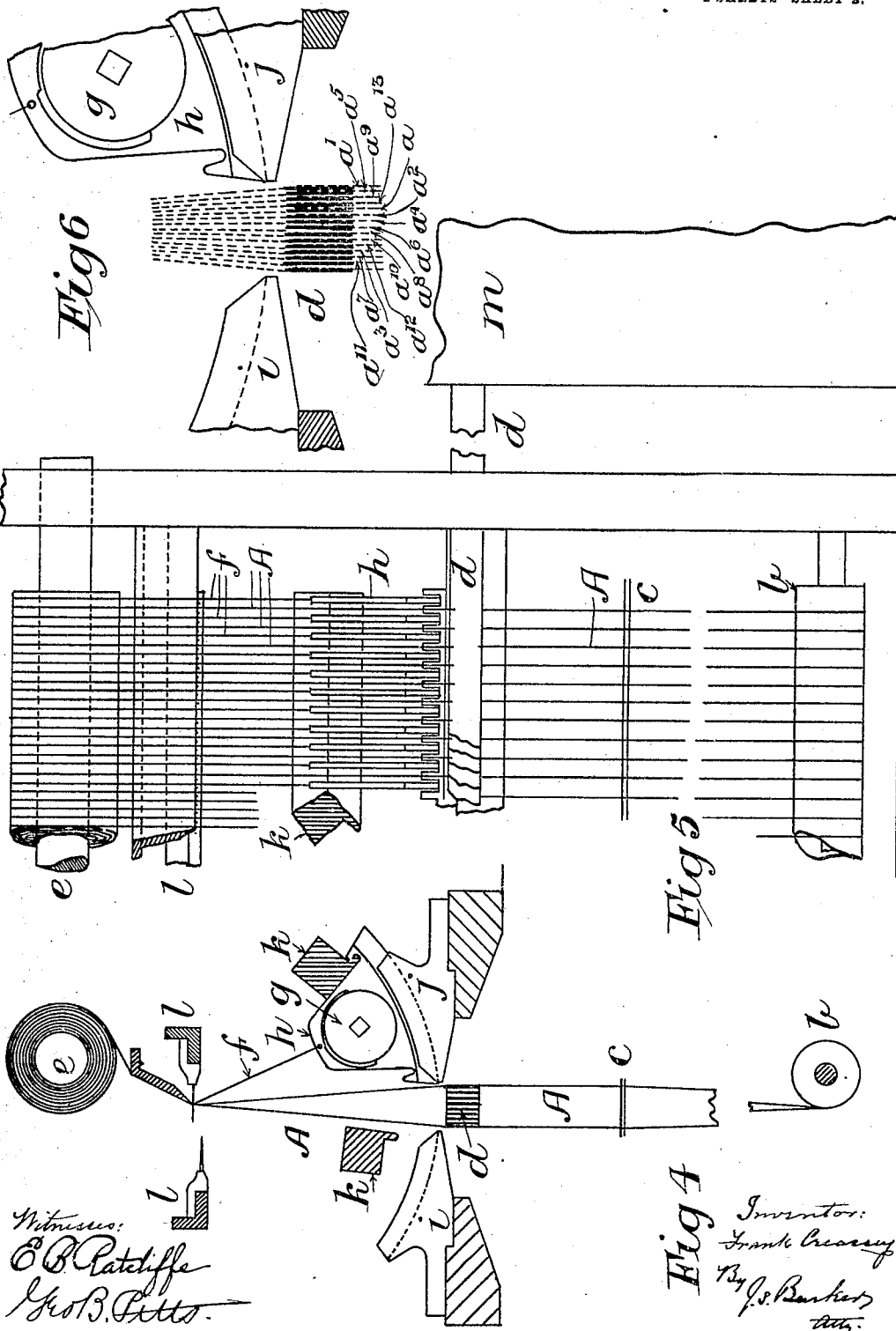
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2 SHEETS-SHEET 2.



# UNITED STATES PATENT OFFICE.

FRANK CREASSEY, OF NOTTINGHAM, ENGLAND.

## LACE.

No. 851,404.

Specification of Letters Patent.

Patented April 23, 1907.

Application filed April 18, 1906. Serial No. 312,504.

*To all whom it may concern:*

Be it known that I, FRANK CREASSEY, a subject of the King of Great Britain, and a resident of the city of Nottingham, in the county of the said city, England, have invented new and useful Improvements in Lace, of which the following is a specification.

This invention has reference to improvements in bobbin fining Valenciennes and similar laces made from the warp on twist lace machines of the Lever's type, the object of the invention being the production of a lace having a net which is thinner than the net produced by the ordinary method, whereby the bobbin fining patterning effects are more prominently shown in contrast with the surrounding net.

In the accompanying drawings:—Figure 1 is a drawing of a piece of lace made according to the general method. Fig. 2 is a drawing of a piece of lace made according to this invention. Fig. 3 is a drawing, to an enlarged scale, illustrating the arrangements of the threads in a piece of lace made according to this invention. Fig. 4 is a transverse section of an ordinary lace machine which is referred to in the explanation of the method of making lace according to this invention. Fig. 5 is a part front elevation of an ordinary lace machine, and Fig. 6 is a diagrammatic section of part of an ordinary lace machine.

In a machine used for making lace according to this invention the warp threads *A* are all drawn from a beam *b* and pass through a fixed sley *c* and through thread guide bars *d* to the work roller *e*. The bobbin threads *f* are drawn from bobbins *g* which are fitted to revolve in carriages or shuttles *h*, and these latter are moved to and fro between the back combs or guides *j* and the front combs *i* by catch bars *k*, while the crossings or twists of the bobbin and warp threads are taken up by point bars *l*. There are two warp threads to each bobbin thread, and the guide bars *d* which carry the warp threads are connected to and actuated by the jacquard *m*.

In the manufacture of bobbin fining laces made from the warp a certain number of warp threads are required to produce the bobbin fining effect, and previous to this invention all the warp threads used in a bobbin fining effect have been incorporated in the net made between the bobbin fining effects, with a result that the net has been thick and heavy as illustrated in Fig. 1. In

this drawing the shaded spots and the shaded portion at the lower edge of the lace represent bobbin fining effects and between any two spots in the same row, and between opposite points in the fining at the edge, the warp threads used for the bobbin fining effect are incorporated in the net, and unnecessary warp threads are used in other portions of the net in order to produce a net of equal thickness throughout. The spot is shown as an illustration only, and in some patterns one part or other of the design would or might extend from one edge of the lace to the other edge.

According to this invention the bobbin fining effects in the lace are made from the same number of bobbin and warp threads as are required in previous methods, but after the bobbin fining effect is finished certain warp and bobbin threads twist together to form the net, while the remaining warp and bobbin threads twist together to form clips which are afterwards cut away, thus leaving the lace with bobbin fining effects of the same density as ordinarily produced and having a net much thinner than heretofore.

In the drawing Fig. 2 the bobbin fining effects are shown by the shaded portions and the clips by the thick horizontal lines at the left side of the drawing, the right hand portion of the drawing showing the finished lace.

In the diagram Fig. 3 the bobbin fining effects *n* and *n'* are produced by twisting together the warp threads *a* to *a*<sup>13</sup> with the bobbin threads *f'* to *f*<sup>6</sup> in the combinations shown, and at the completion of the fining effects the clips *o* are formed by twisting the warp threads in the pairs, *a*<sup>2</sup> *a*<sup>3</sup>, *a*<sup>6</sup> *a*<sup>7</sup>, and *a*<sup>10</sup> *a*<sup>11</sup>, respectively with the bobbin threads *f'*, *f*<sup>3</sup> and *f*<sup>5</sup>, while the net *p* between the bobbin fining effects *n* and *n'* is produced by twisting together in the combinations shown, the warp and bobbin threads not used for the clips. To obtain this result the warp threads are, in one arrangement, threaded through the guide bars *d*, as shown in Fig. 6 and for the making of the bobbin fining effects all the bobbin and warp threads embraced by the breadth of the effect, work and twist together in the usual manner.

During the making of the net, the net making bobbin threads at certain motions of the machine pass to and fro between the clip making warp threads without twisting with them, while at other motions of the machine,

the clip making bobbin threads pass to and fro between the net making warp threads without twisting with them, but each set of bobbin threads twist with their own warp threads when passing to and fro between the other warp threads.

The number of clips in a breadth of lace is varied according to the pattern, and the threads are divided theoretically into net and clip threads as may be required. The clips may be formed on the back or front of the lace, or at the back and front according to the requirements of the lace.

What I claim as my invention and desire to secure by Letters Patent in the United States is:—

1. A lace fabric made from the warp having therein bobbin fining patterning effects made from all the warp and bobbin threads embraced by the width of the fining effects, and having a net between such fining effects

made from a less number of warp and bobbin threads than is used for the fining effects substantially as herein described.

2. A lace fabric made from the warp having therein bobbin fining patterning effects made from all the warp and bobbin threads embraced by the width of the fining effects, and in which, between the fining effects some of the warp and bobbin threads used for the fining effects twist together to form the net, while the other warp and bobbin threads twist together to form clips which are afterwards cut away from the lace substantially as herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK CREASSEY.

Witnesses:

WILLIAM H. POTTER,  
JOHN ARCHER.