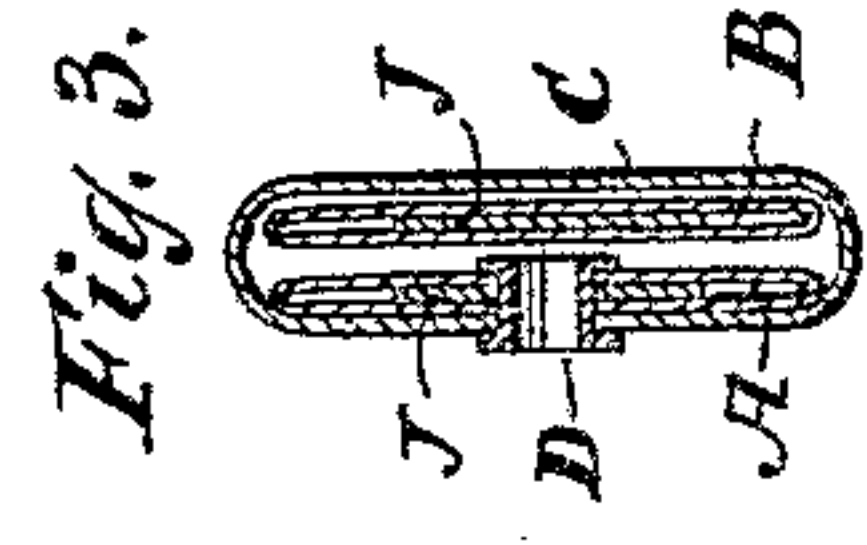
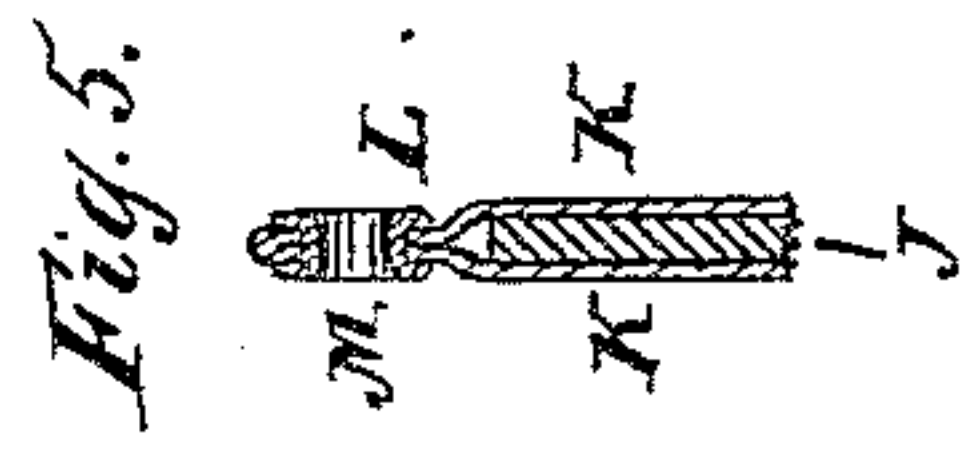
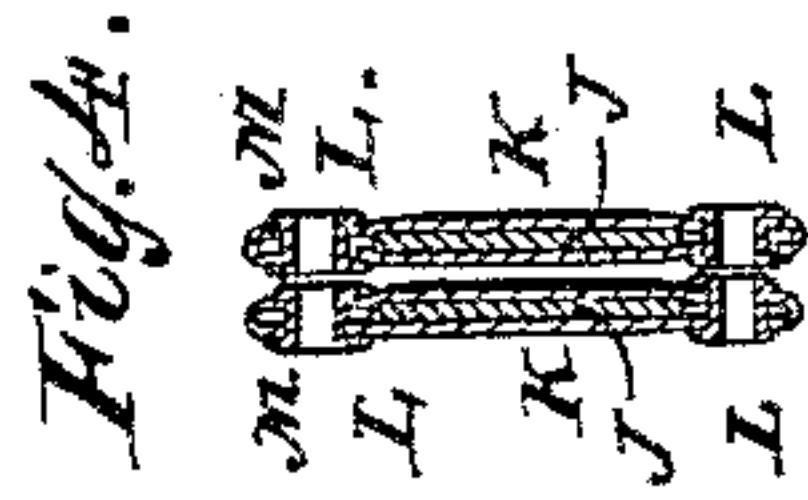
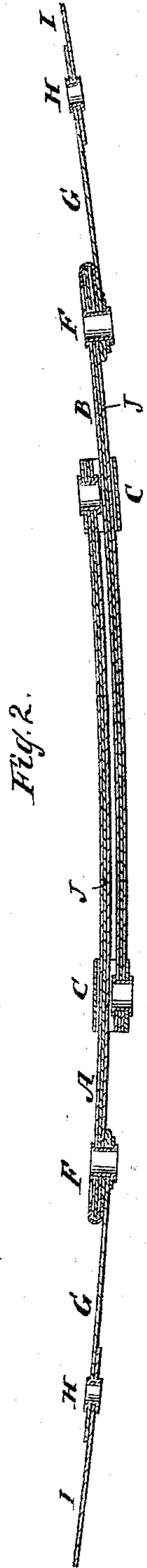
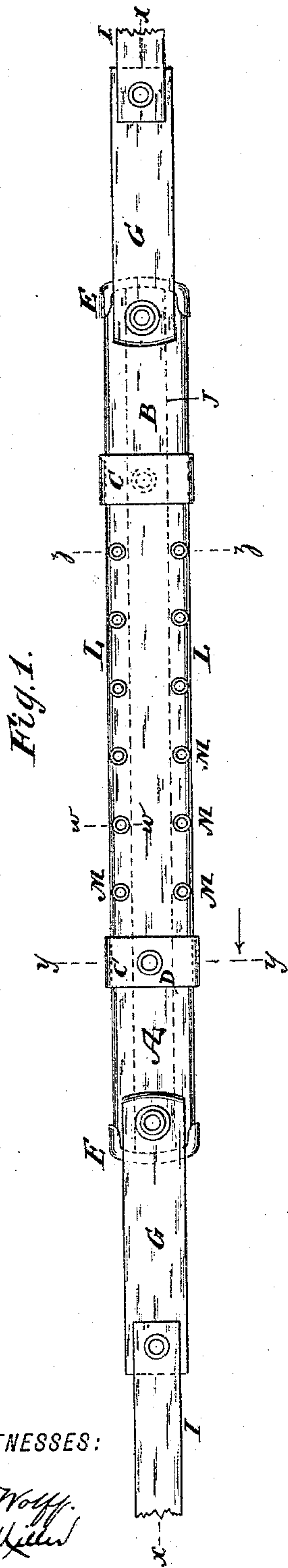


(No Model.)

R. H. WOLFF.  
DRESS SPRING.

No. 412,153.

Patented Oct. 1, 1889.



WITNESSES:

*Edward Wolff.*  
*William Heller*

INVENTOR:

*Raphael H. Wolff.*

BY *Van Santvoord & Hauff*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

RAPHAEL H. WOLFF, OF NEW YORK, N. Y.

## DRESS-SPRING.

SPECIFICATION forming part of Letters Patent No. 412,153, dated October 1, 1889.

Application filed April 19, 1889. Serial No. 307,656. (No model.)

*To all whom it may concern:*

Be it known that I, RAPHAEL H. WOLFF, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Dress-Springs, of which the following is a specification.

This invention relates to dress-springs; and it consists in certain novel features, which are set forth in the following specification and claim, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a dress-spring constructed according to my invention. Fig. 2 is a longitudinal section on the line  $x x$  of Fig. 1. Fig. 3 is a cross-section on the line  $y y$  of Fig. 1, looking in the direction of the arrow. Fig. 4 is a cross-section on the line  $z z$  of Fig. 1. Fig. 5 is a cross-section on the line  $w w$  of Fig. 1.

Similar letters indicate corresponding parts.

The dress-spring which is the subject of this invention is composed of two flat springs A B, placed one upon the other and held in that relation to each other by means of guide-loops C C, which are respectively fastened to the inner ends of the springs by means of eyelets D D, being arranged in such a manner that they surround the bodies of the springs, to which they are not fastened, so that the springs can be moved to and fro through the loops, whereby the two springs are allowed to slide upon each other and the dress-spring be thereby contracted or expanded in length, according to the adjustment required. The outer end of each spring is provided with a metallic tip E, and near the same end is fastened by an eyelet F an elastic strap G, to whose outer end is fastened by an eyelet H the usual fastening-string I.

The springs A B are each composed of a flat metallic plate J, covered on each side with layers of cloth K, which are extended beyond the edges of the plates and cemented closely to each other, so as to form flanges L along the edges of the plates. The plates J are shown in the sectional views, Figs. 2, 3, 4, and 5, and by dotted lines in Fig. 1. The flanges have considerable stiffness, being composed of two lay-

ers of cloth and an interposed layer of cement. I have found that by composing the covering of a layer of cloth combined with a layer of stiff paper a covering of considerable stiffness is obtained. The flanges L are provided with a series of eyelets M, which enable one to fasten the springs A B in any adjustment to which they may have been brought by sliding them through the guide-loops C, the adjustment being such that some of the eyelets M of each spring shall coincide with each other when, by stitching through them, the springs are fastened to the garment of the wearer. The eyelets F can also be used for stitching the dress-spring to the garment.

It is obvious that the flange L can be made on one edge only of the spring. The flange L, being of fibrous material, can be easily provided with eyelets for fastening them to the garments of the wearer; or other ordinary means of fastening can be readily used. The flanges and the eyelets therein enable one to dispense with the labor and expense of punching holes through the metal plates or springs for the purpose of fastening the article to the person of the wearer, such holes in the spring, in addition to the labor involved in their formation, having the disadvantage of weakening the spring.

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

As an improved article of manufacture, the herein-described dress-spring, comprising the two spring-plates lengthwise adjustable one upon the other and each having at its longitudinal edge a projecting flange of fibrous material provided with a series of eyelets, some of which eyelets in one flange are brought into coincidence with the eyelets in the adjacent flange by sliding one spring-plate on the other, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

RAPHAEL H. WOLFF.

Witnesses:

WILLIAM C. HAUFF,

ERNST F. KASTENHUBER.