H. I. GOULD.
Corset Steel.

No. 196,221. Patented Oct. 16, 1877.

Fig. 1.

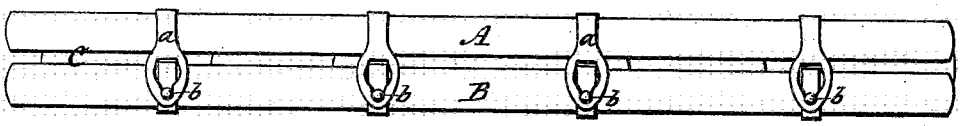


Fig. 2.

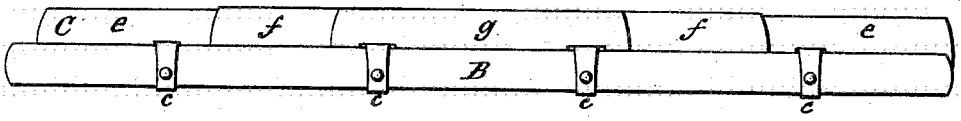


Fig. 3.

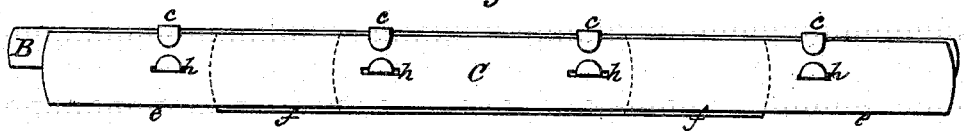


Fig. 4.

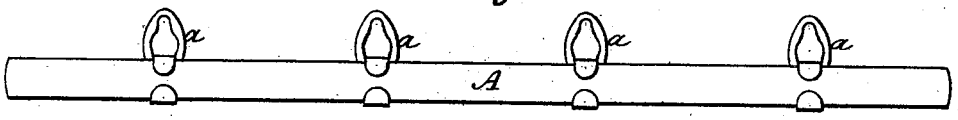
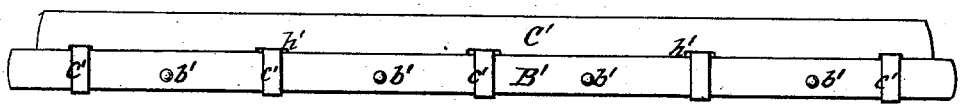


Fig. 5



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HERBERT I. GOULD, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN CORSET-STEELS.

Specification forming part of Letters Patent No. **196,221**, dated October 16, 1877; application filed August 14, 1877.

To all whom it may concern:

Be it known that I, HERBERT IRVING GOULD, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Corset-Steels; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

My improvements relate to that class of corset-steels which embody, with the two ordinary corset steels or springs, a third wide steel or spring, commonly called a "stay" or "busk;" and the main object of my invention is to so combine these three steels that the wide spring or busk shall not only underlie the two narrow springs when clasped, be inclosed within the fabric of the corset, and susceptible of the requisite degree of longitudinal play to secure flexibility, as heretofore provided for, but also so that neither the stay nor the permanently overlying narrow spring can be independently moved laterally.

The underlying busk or stay, as heretofore combined with the usual corset-steels, has either been a separate and detachable device, or separately inclosed in fabric, and then stitched to the corset, or by means of a bent portion thereof, which is made to loosely embrace the corset-steel at each end and at one edge, the two being inclosed in the fabric of the corset.

The detachable busk occupies a position in the art and trade which is peculiar to itself, and it does not constitute a part of the corset, as is the case with the others referred to, as well as my own.

In corsets which have the busk inclosed in fabric, and then stitched to the body of the corset beneath both steels, it will be seen that the steel or spring on the same side of the corset with every movement of the body when worn chafes the fabric which incloses the busk and the steel, by reason of a lateral and a longitudinal motion, the busk or steel being capable of moving in any direction independently of the other. This movement of the two steels results in speedy wear of the fabric.

In corsets which have the underlying busk and one steel loosely connected therewith, both being inclosed, as described, there is no such wear of the fabric, as in the case previously cited, because the steel and busk are flatly in contact with each other, and have no fabric interposed between them; but in these corsets, however, the central portion of the narrow steel under strain incident to use is frequently moved laterally with reference to the stay or busk, which causes all the strain upon the studs, which in each case pass through the fabric to be borne by said fabric, which results in its rupture at each of the central studs.

In the ordinary corset the studs do not often rupture the fabric, because the strain on the studs is borne by the fabric at the outer edge of the spring; but in the case of the busk last referred to, its outer edge cannot bear the strain, because the narrow steel is capable of more or less lateral springing movement.

My invention consists, mainly, in the combination, with the usual narrow corset-steels, of an underlying stay or busk, which is permanently united at each end, and centrally to one of the narrow steels, so as to prevent any independent lateral movement of either the stay or the narrow spring; and, further, in the combination, with a narrow corset-spring, of an underlying stay or busk, which is composed of several leaves of thin metal of different lengths, piled at the center, one upon the other, and so united to the narrow steel as to prevent lateral movement of the stay or any of its leaves independently of the corset-spring, and at the same time so as to permit the several leaves, when bent as in use, to adjust themselves longitudinally with reference to each other, thus causing them to operate as one complex spring, which has a gradually-increased flexibility from the middle to each end.

I am aware that stays have heretofore been composed of several leaves of different lengths, all of which were united at one end of the stay, and that such stays have either been employed with corset-steels linked to the edge of the stay, or provided with studs at one side for engagement with a corset steel or spring.

These are objectionable, first, because the stay is not equally flexible at both ends, and, next, because if the busk is properly located at the center of the body, the corset-spring is at the one side thereof instead of over it.

I am also aware that corset-steels have been made of several leaves of thin steel of the same length, but these have a uniform degree of flexibility throughout.

It is well known that steel corset-springs are specially subject to corrosion, resulting in objectionable discoloration of the corset, and also that steel is the only metal really practicable for the purpose; and in order to obviate the corrosion I plate my corset steels and stays in nickel, which can be done without impairing their flexibility or strength, and enables me to attain a high and practically non-corrosive finish.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 represents, in front view, a set of corset-springs embodying my improvements. Fig. 2 represents the same with one of the narrow springs detached. Fig. 3 represents, in rear view, the combined corset spring and stay shown in Fig. 2. Fig. 4 represents, in rear view, the detachable narrow spring. Fig. 5 represents, in front view, an ordinary corset-steel with studs, attached to a plain stay in accordance with one feature of my invention.

In Figs. 1 and 4, A denotes the detachable narrow spring which is attached to one side of the corset. It is provided with clasps *a*, for engaging with the studs *b* on the second narrow spring B. The spring B is united to the stay or busk C, preferably, by means of clamps *c*, which are composed of sheet metal, with ends bent so as to embrace the stay, one end thereof passing around and beneath at the edge, and the other passing through longitudinal slots in the stay, as clearly indicated in the drawings. The necessary studs *b* may be mounted upon these clamps, or upon the narrow steel B at proper points between the clamps. The clasps *a* are, in this instance, formed of sheet metal, so cut and bent that they also serve as clamps for uniting them to the narrow steel A. The rear end is bent so as to embrace the steel at its rear edge, and the opening for receiving the stud is formed by cutting the metal through at the sides and front only, leaving a portion thereof which, when bent downward and beneath the spring, operates with the opposite end to firmly unite the clasp and spring.

The stay C is of novel structure, and is composed of two, three, or more leaves of thin spring-steel of different lengths, as at *e*, *f*, and *g*, which designate three leaves, which are independent of each other, except in so far as they are bound together by the clamps *c*. The slots *h* in the stay are of different lengths. Those near each end in the main or longest leaf *e* are only as long as the width of the metal clamps *c*, but the central slots, which are in all of the leaves, are longer than the metal clamp is wide; and, therefore, although bound together by the central clamps, they do not prevent a free longitudinal adjustment of the leaves with reference to each other when bent as is incident to their use. On the other hand, all of these slots are only wide enough to receive the clamps, and, therefore, there is no independent lateral movement of the spring B or the stay C, or any of its leaves.

It will be seen that the leaves of the stay may be of exceedingly thin steel, and that the degree of flexibility varies, the stay being extremely flexible at each end, and is stiffened at the end of each leaf, and that these ends are each free to move on the surface of the next underlying leaf without hinderance from the clamps. The width of the stay is equal to the combined width of the springs A and B, as heretofore.

While the complex or leaf stay, constructed as described, is deemed by me a great improvement over the plain stay, the latter may be employed with a common corset-steel and clamps, which will obviate the possibility of lateral strain on the studs in accordance with the main feature of my invention, as illustrated in Fig. 5, in which B′ denotes a narrow corset-steel, with the studs *b′* thereon, applied to a plain stay, C′, by means of clamps *c′* in slots *h′*.

With that construction it is impossible for the fabric of the corset adjacent to the studs to be ruptured in consequence of the lateral strain thereon, because the fabric at the edge of the stay will bear all the strain, and it will be more or less evenly distributed throughout its length.

Although I prefer the clamps as shown, I am well aware that rivets may be successfully employed for uniting the narrow spring and stay, and that if the stay be provided with slots only wide enough to receive the rivets, a proper lateral unity will be effected without preventing the desirable longitudinal freedom of the stay and its leaves, and I do not, therefore, limit my invention to the form of clamp shown.

The plating of the stay and springs with nickel I find does not impair their springing flexibility, and the high degree of finish attainable with their practically non-corrosive capacities renders my plated corset-steels of great value in first-class corsets.

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

1. The combination, with two narrow corset-springs, respectively provided with clasps and studs, of an underlying stay, which is united at each end, and centrally with one of the narrow springs, substantially as described, whereby, when applied to a corset, the lateral strain

will be borne by the fabric at the outer edge of the stay, as set forth.

2. The combination, with two narrow corset-springs, respectively provided with clasps and studs, of an underlying stay, which is composed of two or more leaves of different lengths, piled at the center, and united to one of the narrow springs, substantially as described.

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Witnesses:
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JOHN A. PLATT.