

C. A. SPRAGUE.  
HOOP-SKIRT FORMERS.

No. 194,935.

Patented Sept. 4, 1877.

Fig 1

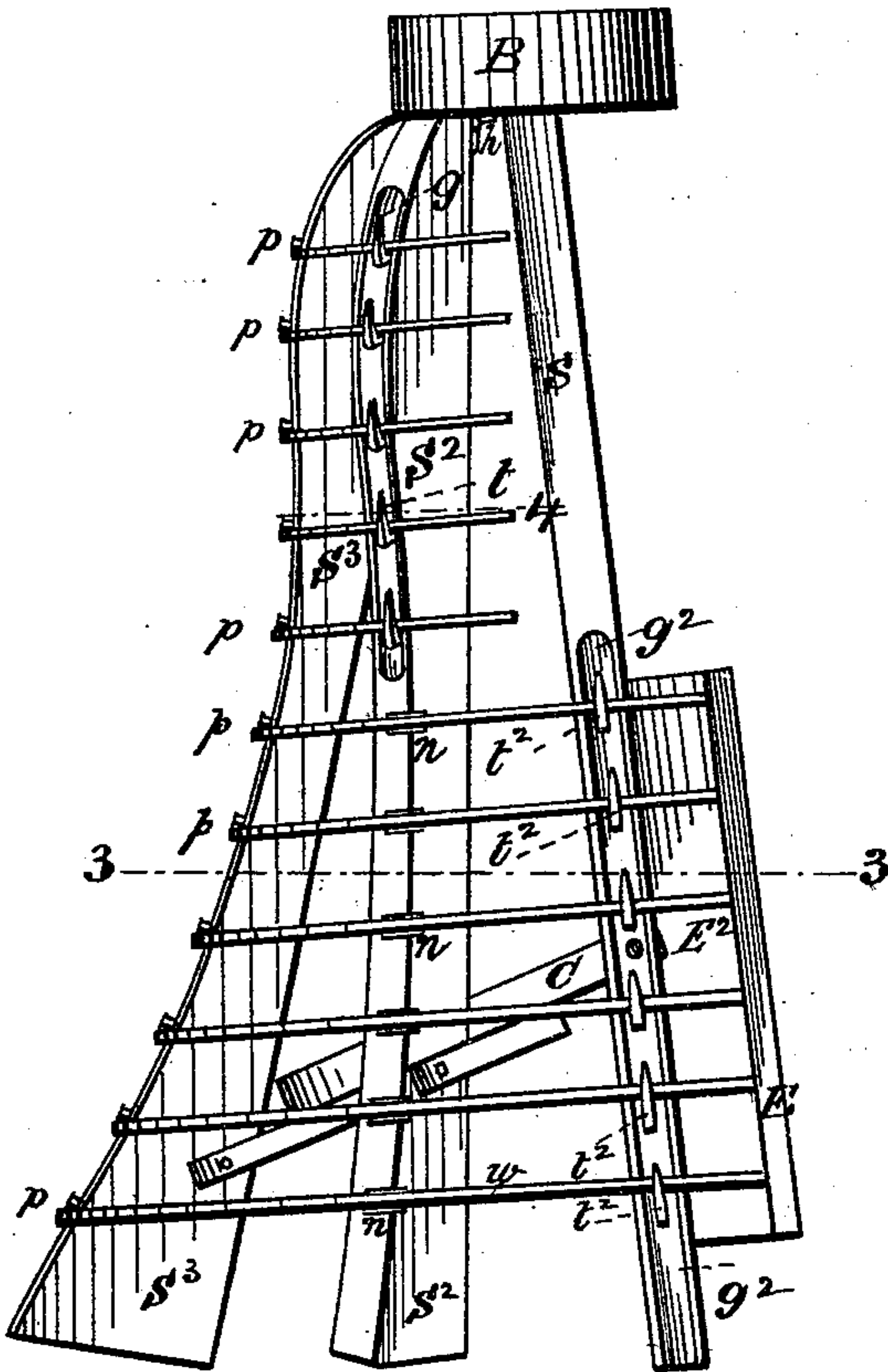


Fig. 2.

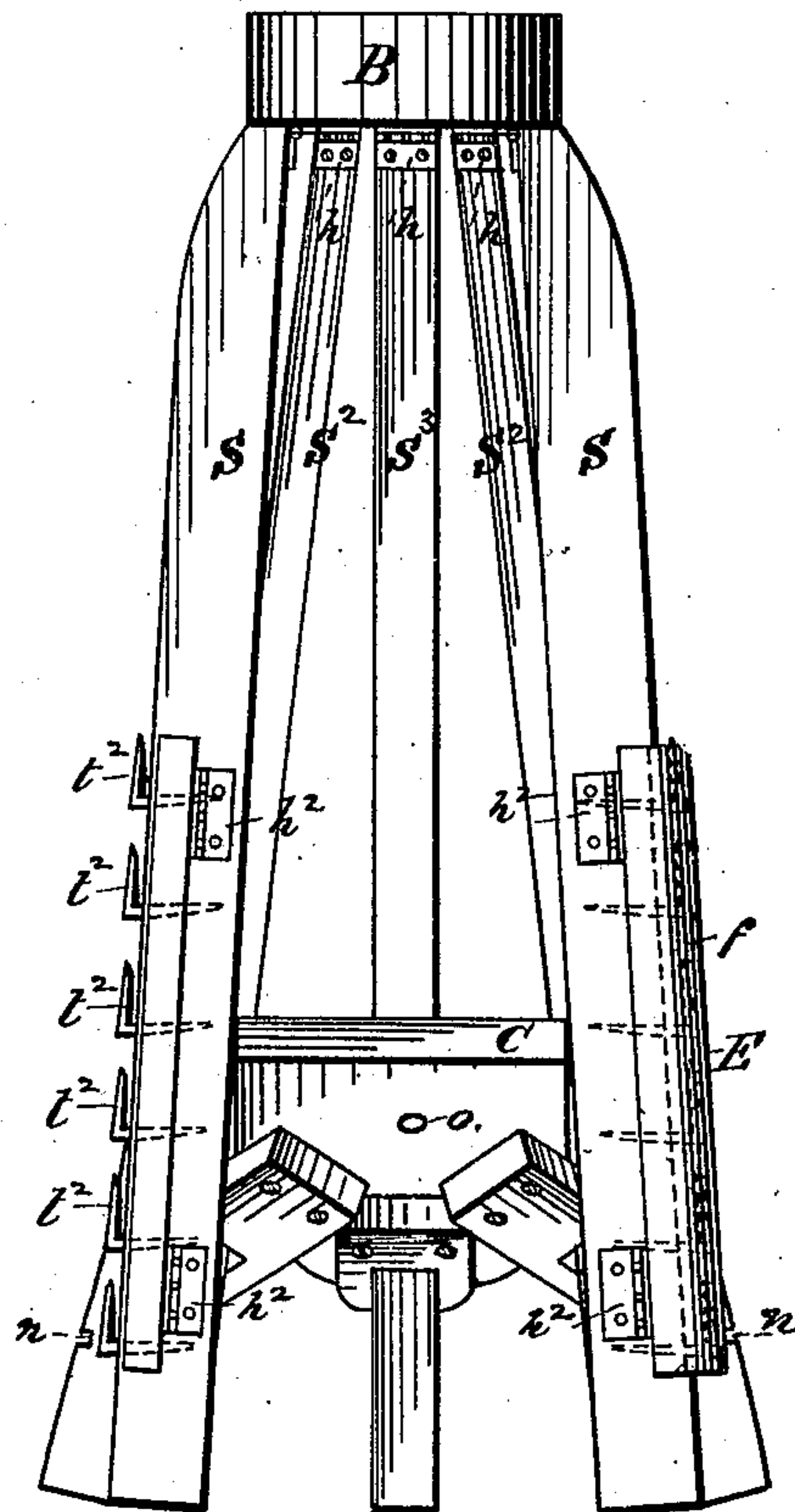


Fig. 4.

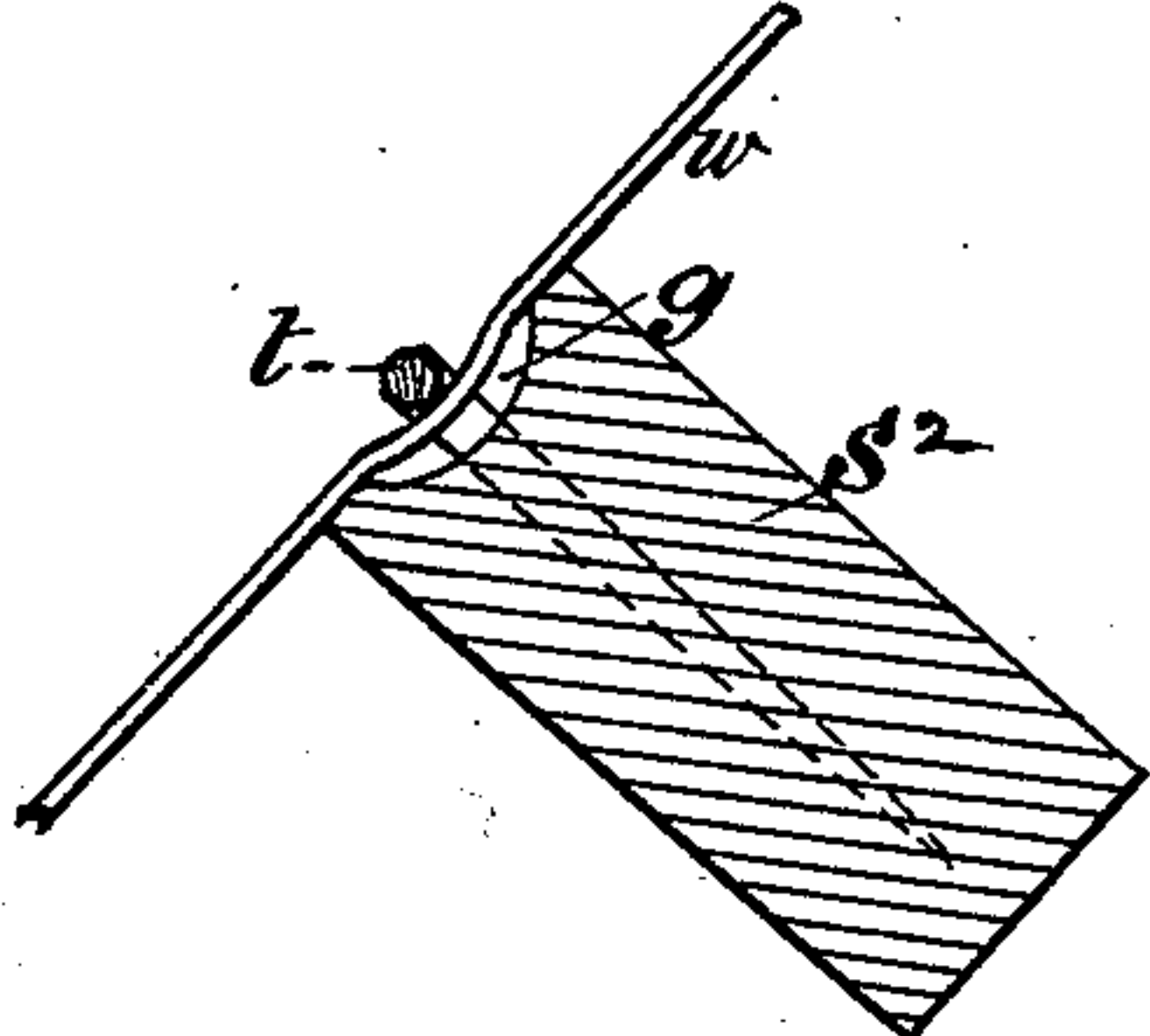
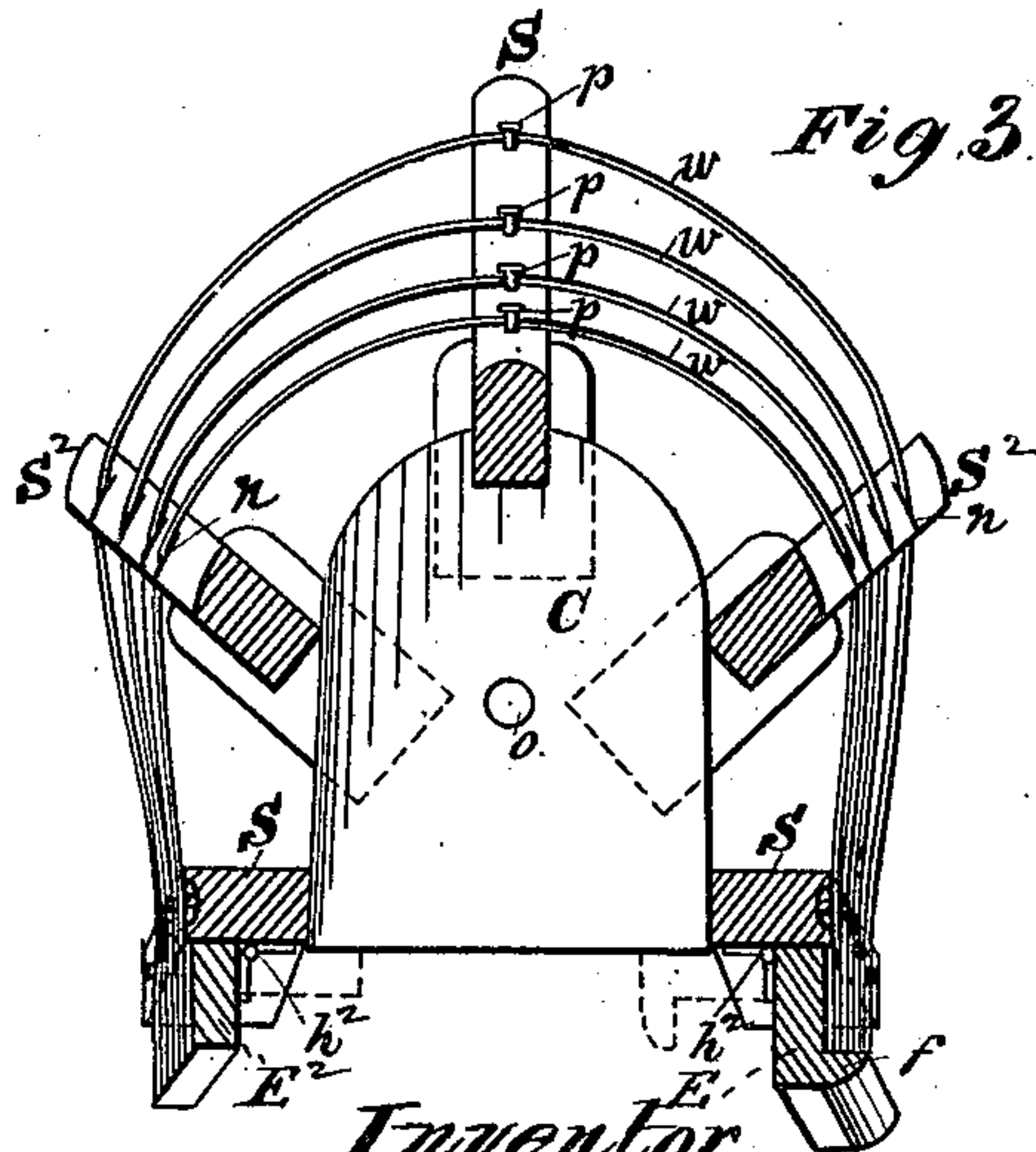


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN HOOP-SKIRT FORMERS.

Specification forming part of Letters Patent No. 194,935, dated September 4, 1877; application filed June 29, 1877.

*To all whom it may concern:*

Be it known that I, CHARLES A. SPRAGUE, of Birmingham, in the county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Hoop-Skirt and Bustle Formers, of which the following is a specification:

This invention relates to the forms or formers on which the wires or hoops of hoop-skirts and bustles are arranged and supported preliminary to and during the attachment of the tapes thereto.

Heretofore, in making the present forms of hoop-skirts, with open or tape fronts, the wire for each skirt has been coiled spirally around the inner part of a large double form, then clamped, and then cut down the front. This operation is very inconvenient, and occasions great waste of wire at the tops of skirts where the hoops are cut away at the sides as well as in front.

The present invention consists, first, in a former provided with means for holding the wire for each hoop so that the hoop may be cut to the proper length when it is placed upon the former; secondly, in simple and efficient means for so holding the hoops or wires; thirdly, in one or more movable or swinging gages, which afford convenient access to the ends of the wires after determining their length and alignment; and, fourthly, in a pair of such end gages, made with special reference to the peculiar mode of wiring the former above stated, and hereinafter more fully set forth.

Figure 1 is a side elevation of a hoop-skirt former illustrating this invention. Fig. 2 is a front view of the same. Fig. 3 represents a horizontal section on the line 3 3, Fig. 1. Fig. 4 represents a cross-section of one of the slats or sections of the former at 4, Fig. 1, on a large scale.

Like letters of reference indicate corresponding parts in the several figures.

This improved hoop-skirt former consists of a top piece or waist-block, B, and five longitudinal forming sections or slats, S S<sup>2</sup> S<sup>3</sup>, with a removable or adjustable center-piece, C, by which the diameters of the skirt are determined. The waist-block is circular and flat, and the forming-sections are attached to the bottom thereof by hinges h, so as to be ex-

panded or collapsed at will. The forming-sections are slats of sufficient width, arranged radially, and cut away at their outer edges to give the desired curves.

At the top of the former the outer edges of the front sections S S are plain, as the hoops do not extend forward to them, but the second or intermediate sections S<sup>2</sup> S<sup>2</sup> are provided with means for attaching and holding the ends of each short hoop, said means consisting of a longitudinal groove, g, in the outer edge of each section, and a sufficient number of tenter-hooks, t, in each groove. These hooks are L-shaped, as shown in Fig. 2, with the head of each projecting upward, and beveled, curved, or inclined, so as to wedge the wire w inward when the wire is pressed down behind the same. Each head is also sunk partially within the groove. Consequently, the wire, when pressed into the hooks, is bent slightly within each groove, as shown in Fig. 4, and, being retained in this shape by the hooks, the wire is securely held. The first hoop, being thus attached to the former, is severed at once. The second is formed in like manner, and so on.

At the bottom of the former similar grooves and tenter-hooks g<sup>2</sup> t<sup>2</sup> are provided, at the outer edges of the front sections S S, and the intermediate sections S<sup>2</sup> S<sup>2</sup> are provided with notches n n, in line with the hooks latitudinally.

The rear section S<sup>3</sup> is provided with gage-pins p, from top to bottom, in line with all the tenter-hooks, and the wire is passed beneath these gage-pins and through the notches n, as shown in Figs. 1 and 3, in forming the successive hoops.

The front sections S S are further provided with a pair of folding or swinging end gages, E E<sup>2</sup>, which are attached to the respective front sections by hinges h<sup>2</sup>, so as to project forward when in use, as shown in full lines in Fig. 3, and so as to fold inward, as shown in dotted lines in Fig. 3, to give more convenient access to the ends for the purpose of clasping the tapes thereto. The effective width of each gage is about two inches, and they are made long enough to gage all the long hoops.

The gage E, at one side of the former, is constructed with a flange, f, along its outer edge. The end of the wire is placed against



this flange in beginning to form a hoop, and the wire is simultaneously pressed down behind the head of one of the adjacent tenter-hooks of the same section. The wire is then passed under the corresponding gage-pin on the rear section, through the corresponding notches of the intermediate sections, and into the corresponding tenter-hook of the other front section, and is cut off at the outer edge of the unflanged gage E<sup>2</sup>. This can be done very rapidly, and insures perfect uniformity.

Similar end gages can be applied to the intermediate sections S<sup>2</sup> for gaging the short upper hoops, and, in an inferior modification, the end gages may be removable instead of hinged.

The former above described is intended to be mounted on a vertical pivot so as to be rotary, and an orifice, o, is bored in the center-piece C, and a corresponding socket is bored in the waist-block B, to form bearings for the pivot. This is not, however, an essential feature of the improved former.

It will also be apparent that, for the purposes of this invention, the former may have any preferred number of sections, adjustable in any way or stationary, and of any shape and material; also, that many well-known devices, such as friction-springs or simple mechanical clamps, can be used for holding the ends of the individual hoops upon the former, according to the first part of this invention.

The upper part of a skirt-former, such as the one shown, can be used for making bustles, or a separate former for this purpose may have either or both of the provisions herein specified, without any material modification thereof.

When the hoops for a skirt or bustle are all in position, the tapes will be made fast to them by the clasps now in use, or in any preferred way, and the skirt or bustle will then be lifted from the former, which will then receive another set of hoops.

I am aware that a hoop-skirt former has been provided with clamps or buckles for stretching and holding the tapes which extend

downward from the waistband, and also that it is not new to provide means for supporting the hoops at the proper heights on the former. The clamps forming part of this invention serve not simply to support the hoops vertically, but peculiarly to clamp them near their ends so as to retain them individually in shape preliminary to severing the wire, which is done before placing another hoop upon the former.

The following is what I claim as new and of my own invention, and desire to secure by Letters Patent, namely—

1. An open-front hoop-skirt or bustle former, provided with individual clamps or fastenings for tightly clamping and holding the ends of the respective hoops as said hoops are successively placed upon the former and severed, and subsequently while the tapes are being attached to the hoops, as herein set forth.

2. A hoop-skirt or bustle former having one or more of its sections or ribs provided with grooves and series of tenter-hooks, the head of each tenter-hook being constructed with a wedging-bevel curve or incline, and partially sunk within the groove so as to slightly bend the wire, as herein shown and described, for the purpose specified.

3. A movable or swinging end gage attached to one of the sections of a hoop-skirt or bustle former, and adapted to be folded or removed to give more convenient access to the gaged ends, substantially as herein described.

4. A pair of end gages hinged to the front sections or intermediate sections of a hoop-skirt or bustle former, so as to fold out of the way when not in use, one of the same being constructed with a gage-flange to facilitate starting each hoop, and the other with a plain edge to facilitate cutting the wire when each hoop is finished, substantially as herein specified.

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