No. 630,967. Patented Aug. 15, 1899.

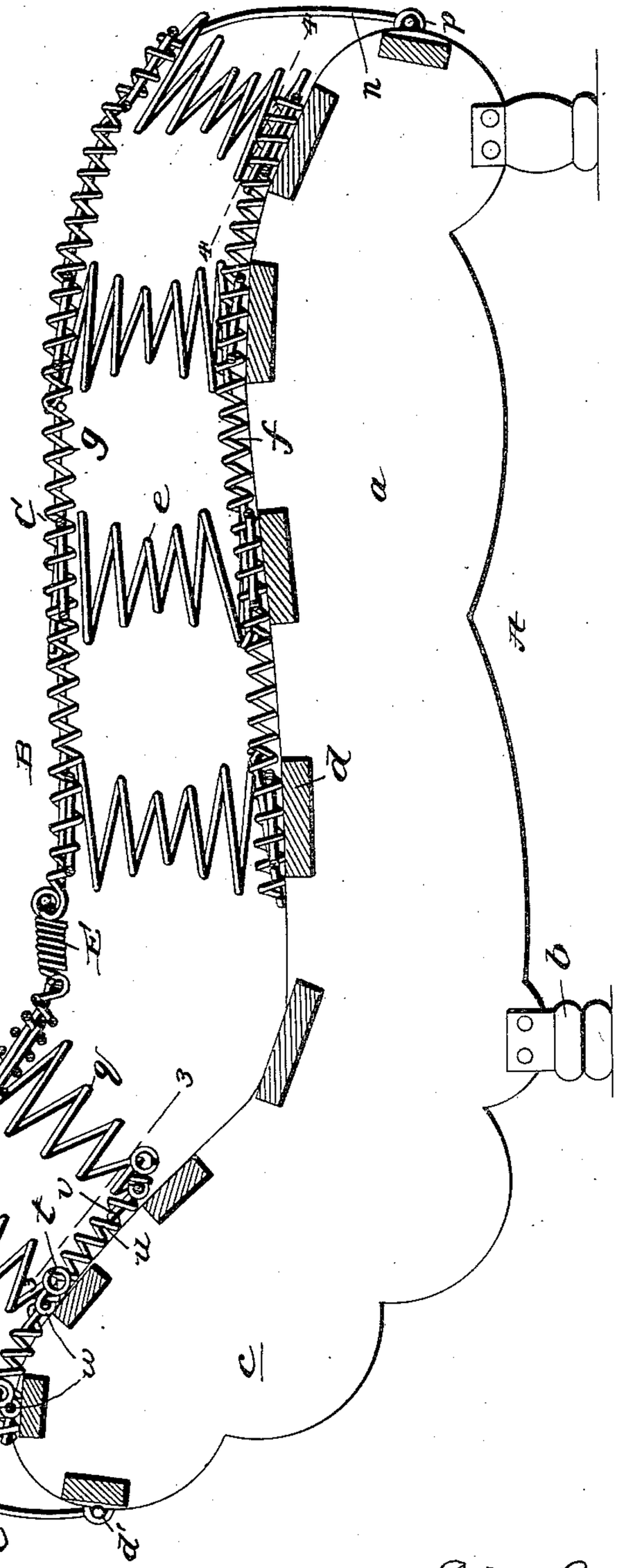
E. M. BONNELL.

COUCH.

(Application filed June 21, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

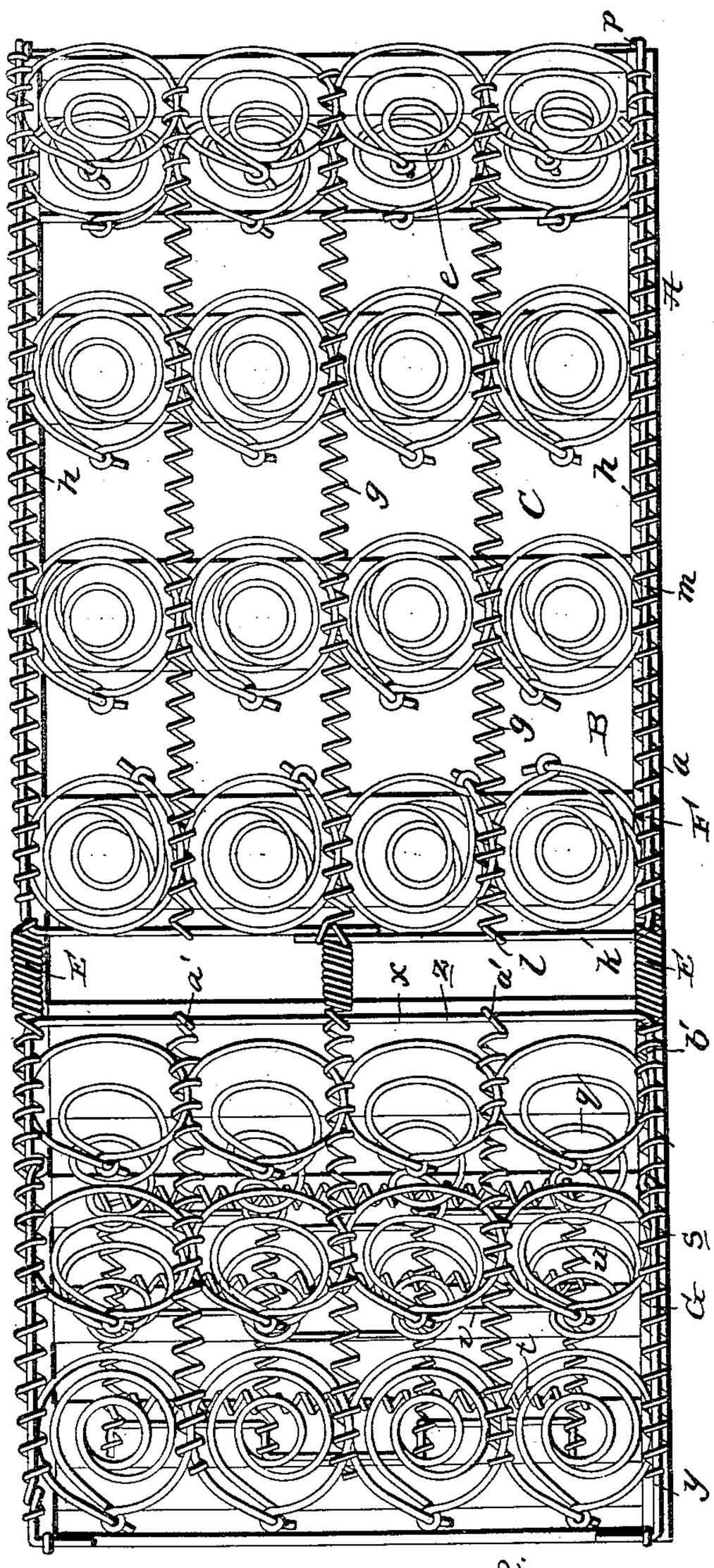

Fig. 2.

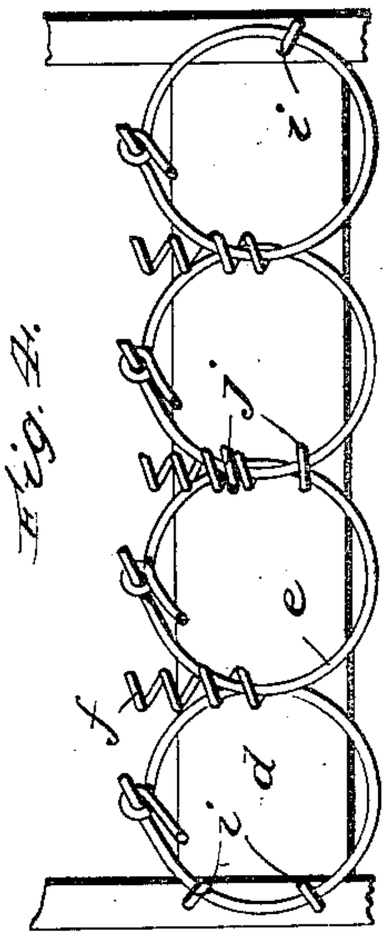

Fig. 4.

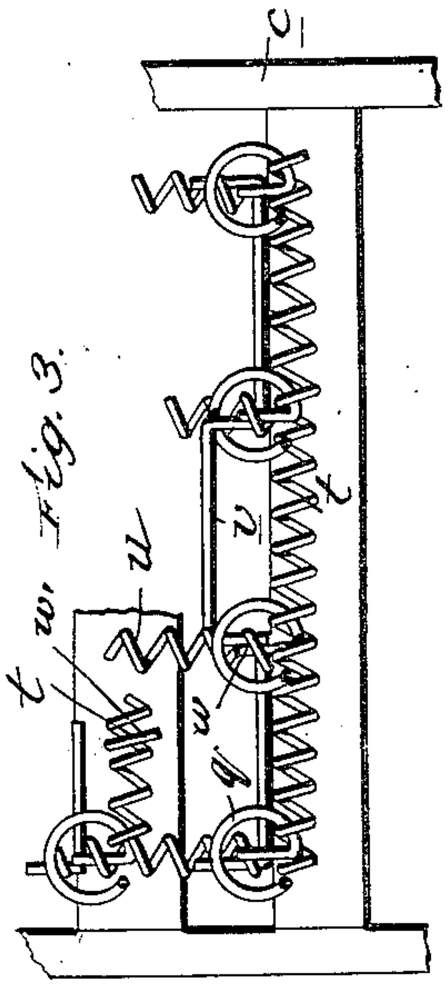

Fig. 3.

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UNITED STATES PATENT OFFICE.

ELLIOTT M. BONNELL, OF CORRY, PENNSYLVANIA.

COUCH.

SPECIFICATION forming part of Letters Patent No. 630,967, dated August 15, 1899.

Application filed June 21, 1899. Serial No. 721,359. (No model.)

To all whom it may concern.

Be it known that I, ELLIOTT M. BONNELL, a citizen of the United States, residing at Corry, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Couches, of which the following is a specification.

My invention relates to those couches which embrace spring-cushions, and contemplates the provision, in a couch, of a spring-cushion which while very comfortable is simple, inexpensive, and strong in construction and is connected with the main frame in such manner that it is not likely to be broken down or worked out of shape by the usage to which couches are ordinarily subjected.

The invention will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a longitudinal central section of a couch embracing my invention with the upholstering omitted. Fig. 2 is a plan view of the same. Figs. 3 and 4 are detail sections taken in the planes indicated by lines 3 3 and 4 4, respectively, of Fig. 1.

Referring by letter to the said drawings, A is the main frame of the couch, which in the preferred embodiment of the invention is of wood and embraces side rails *a*, mounted on legs *b* and having upwardly-extending head portions *c*, and cross bars or slats *d* interposed between and connected to the side rails at intervals in the length thereof.

B is the cushion, which is arranged upon the frame A and comprises a body-section C, a head-section D, and coiled springs E, interposed between and connecting the said sections. The body-section C of the cushion is made up of helical springs *e*, which are preferably of the hour-glass pattern and are arranged in longitudinal and also in transverse series, as shown, lower longitudinally-disposed coiled springs *f*, which are arranged between the longitudinal series of springs *e* and are coiled about the contiguous portions of the lower whirls of springs *e* belonging to the same transverse series, so as to connect the several springs *e* in transverse as well as in longitudinal series at their lower ends, upper longitudinally-disposed coiled springs *g*, which are arranged between the longitudinal series of springs *e* and are coiled about the contiguous portions of the upper whirls of springs *e* belonging to the same transverse series, so as to connect the several springs *e* in transverse as well as in longitudinal series at their upper ends, and upper longitudinally-disposed coiled springs *h*, which are arranged at the outer sides of the outer longitudinal series of springs *e* and are coiled at intervals in their length about the upper whirls thereof. The lower whirls of the springs *e* in the outer longitudinal series are connected to the side rails *a* of the frame A by staples *i*, and the middle lower coiled spring *f* and the whirls of the springs *e* engaged thereby are connected to the slats or cross-bars *d* by staples *j*. By reason of this construction the lower ends of the springs *e* are securely connected to the main frame A, and the necessity of tying the springs together is obviated. The cushion-section C is also connected with the frame A through the medium of a wire frame F, which embraces transverse portions *k*, extending through eyes *l* at the inner ends of the upper coiled wires *g*, and longitudinal portions *m*, which extend through the whirls of the coiled wires *h* and terminate in depending portions *n*, connected by staples *p* to the frame A. As will be readily appreciated, the wire frame F securely connects the upper portion of the cushion-section to the main frame, and thereby retains the section in shape and holds it against sagging or breaking down from usage, which is an important advantage.

The upper or head section D of the cushion B is composed of helical springs *q*, which are preferably tapered or reduced in diameter toward their lower ends and are arranged in longitudinal and transverse series, upper longitudinally-disposed coiled springs *r*, which are coiled about and connect the contiguous upper whirls of the springs *q*, upper longitudinally-disposed coiled springs *s*, which are arranged at the outside of and are coiled about the upper whirls of the outer springs *q*, lower transversely-disposed coiled springs *t*, which are coiled about or engage the lower whirls of the springs *q*, lower longitudinally-disposed coiled springs *u*, which are coiled about the lower ends of the springs *q* and are interlocked with the transverse springs *t* and

transverse wires *v*, (see Fig. 3,) each of which takes through eyes *w* at the lower ends of all the springs *q* in one transverse series and also through one or more coils of each coiled wire *u* and serves to connect the same together. Thus the lower ends of the helical springs embraced in the section D are securely connected together in such manner as not to diminish their resiliency. The said section D is connected in turn to the frame A by staples *w'*. Its upper portion is also connected with the main frame A through the medium of a wire frame G. This frame G preferably comprises a wire *x*, having a transverse portion *z* extending through eyes *a'* at the inner ends of the coiled wires *r*, and angular arms *b'*, extending through whirls of the coiled wires *s*, and wires *y*, which extend through whirls of the coiled wires *s* and are connected at one end to the arms *b'* of wire *x* and are provided at their opposite ends with depending portions *c'*, which are connected by staples *d'* to the frame A. The wire frame G securely connects the upper portion of the cushion-section D to the main frame, and thereby retains said section in shape and holds it against sagging or breaking down.

The adjacent transverse portions of the two frames F G serve for the connection of the springs E, as shown in Fig. 2. These springs E tie the two cushion-sections C D together to hold the helical springs thereof against sagging in the direction of the length of the couch, and yet do not interfere with the compression and expansion of the springs *e q* or diminish the resiliency of the two cushion-sections C D.

It will be observed from the foregoing that my improvements form a couch which may be made quite as easily and cheaply as the ordinary couch and yet is very comfortable and is not liable to be worked out of shape or broken down by ordinary usage.

I have entered into a specific description of the construction and relative arrangement of the parts of my improved couch in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention.

Having thus described my invention, what I claim is—

1. The combination with a main frame; of cushion-sections arranged upon and connected to said frame and respectively comprising a plurality of helical springs, retaining-frames comprising transverse portions arranged at the inner ends of the cushion-sections and connected with the upper whirls of springs thereof, and longitudinal portions resting at the outer sides of the cushion-sections and connected with the upper whirls of springs thereof and also connected to the main frame, and a spring connection interposed between the inner transverse portions of the retaining-frames, substantially as specified.

2. In a couch, the combination with a main frame having a body and an inclined head portion; of cushion-sections arranged upon and connected to the body and head portion, respectively, and respectively comprising a plurality of helical springs, wire shape-retaining frames comprising transverse portions arranged at the inner ends of the cushion-sections and connected with the upper whirls of springs thereof, and longitudinal portions resting at the outer sides of the cushion-sections and connected with the upper whirls of springs thereof and terminating in depending portions connected to the main frame, and coiled springs interposed between and connecting the transverse portions of the wire frames, substantially as specified.

3. In a couch, the combination with a main frame having a body and an inclined head portion; of cushion-sections arranged upon and connected to the body and head portion, respectively, and respectively comprising a plurality of helical springs, longitudinally disposed, intermediate, coiled springs interposed between the helical springs and engaging the upper whirls thereof and having eyes at their inner ends, longitudinally disposed, outer coiled springs arranged alongside of and engaging the upper whirls of the outer helical springs, wire, shape-retaining frames comprising transverse portions arranged at the inner ends of the cushion-sections and extending through the eyes of the intermediate coiled wires, and longitudinal portions extending through the whirls of the outer coiled wires and terminating in depending portions connected to the main frame, and coiled springs interposed between and connecting the transverse portions of the wire frames, substantially as specified.

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

ELLIOTT M. BONNELL.

Witnesses:
GEO. A. NANTES,
ANNA B. HEERLEIN.