

S. CAWLEY.
WIRE FORMING DEVICE.

Patented June 22, 1886.

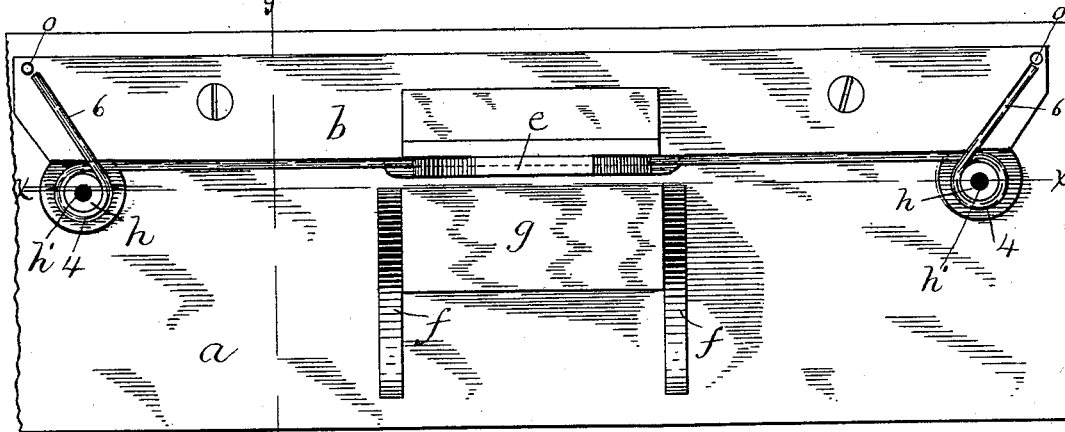


Fig. 1.

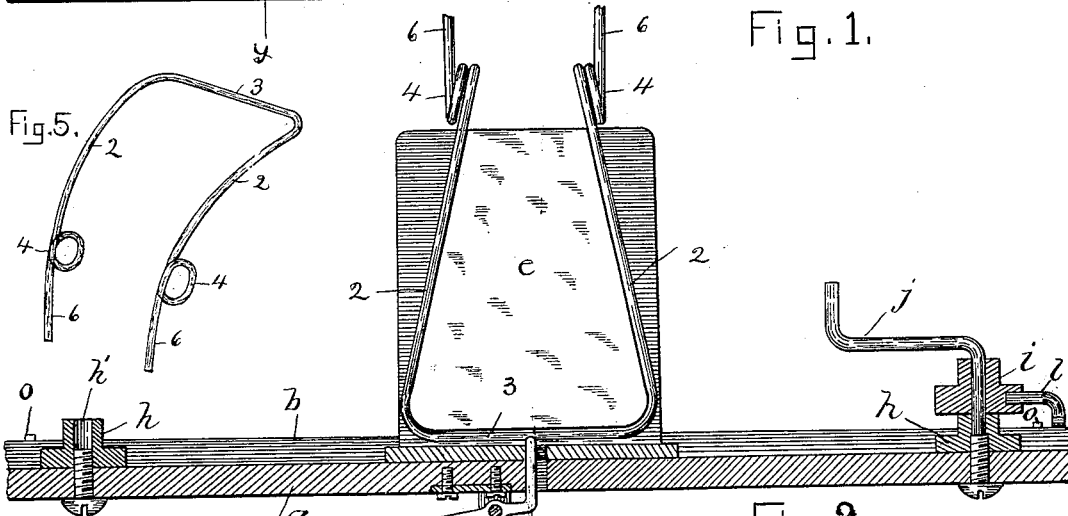


Fig. 2.

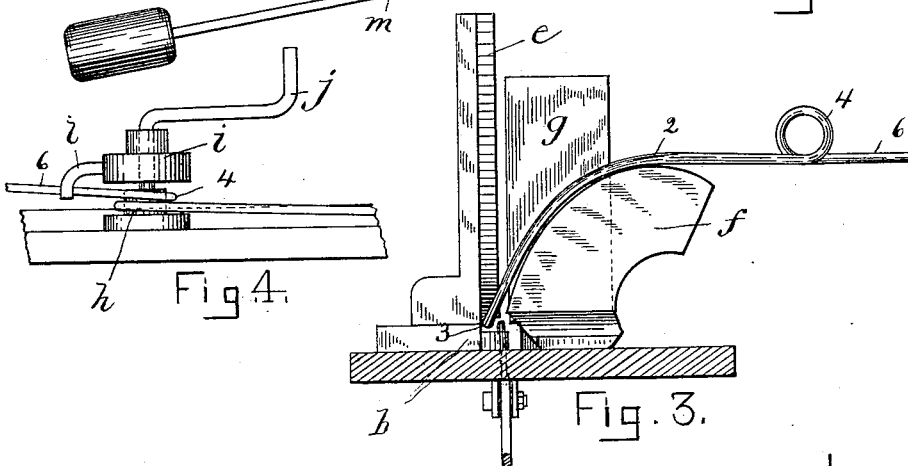


Fig. 3.

WITNESSES:

H. Brown.

A. Hanson

INVENTOR:

Saml Cowley
by night & Brown
acts

UNITED STATES PATENT OFFICE.

SAMUEL CAWLEY, OF KENDALLVILLE, INDIANA.

WIRE-FORMING DEVICE.

SPECIFICATION forming part of Letters Patent No. 344,247, dated June 22, 1886.

Application filed October 28, 1885. Serial No. 181,131. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL CAWLEY, a citizen of the United States, a resident of Kendallville, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Wire-Forming Devices, of which the following is a specification.

This invention relates to an improved device for forming a piece of wire into the proper shape to be used for a head-rest to be attached to the backs of car-seats, chairs, &c.; and it consists of a bed supported by a suitable frame, formers over which the wire is bent to give it the desired shape, and means for bending said wire near its ends to form coiled springs, all of which I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of my improved device. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a section on line *y y*, Fig. 1, showing a portion of the machine in elevation. Fig. 4 represents the means employed in forming the coil in the wire. Fig. 5 represents a perspective view of the completed rest.

The same letters of reference indicate the same parts in all the figures.

The rest formed by my improved device is shown in perspective in Fig. 5, and consists of the ends 6 6, adapted to be inserted in a support, the sides 2 2 and cross-bar 3 constituting the rest, and the coils 4 4, which act as springs for the rest, the whole being formed from one piece of wire.

In carrying out my invention I attach to a supporting-bed, *a*, a straight strip, *b*, of sufficient length to form a back-support for the piece of wire to be treated. Said strip may be either of wood, iron, or other suitable material, and is rigidly secured to the bed. (See Fig. 1.) I also attach to the bed what I denominate a "side-curve former," *e*. Said former is a block having inclined edges shaped to give the desired inclination to the portions 2 2 of the completed head-rest, as shown in Fig. 2.

ff represent curved pieces or formers suitably secured to a block, *g*, on the bed of the machine, and formed to give the parts 2 2 of the wire the curved form shown in Fig. 3.

h h represent mandrels adapted to form the coils 4 4. Said mandrels are secured to the supporting-bed by screws from the under side, Fig. 2, or in any suitable manner, and are provided with apertures *h'*, for the purpose hereinafter specified.

For the purpose of easily and uniformly forming the coils 4 4, I provide a disk, *i*, Fig. 2, preferably of metal, and adapted to be rotated on the mandrels *h h* by means of a crank, *j*, said crank projecting downwardly through said disk and into the aperture *h'* in the mandrel with which the disk is engaged.

l represents a bent arm secured to the disk *i*, and projecting downwardly to engage the wire to be coiled. (See Fig. 4.) The disk *i* is adapted to be detached from the mandrels, and only one disk is required to form the coils on each end of the wire, although two may be provided, if desired.

m represents a lever pivoted at *n*, its shorter arm extending upwardly through the bed to grasp the wire and prevent it from being displaced during the process of forming. (See Figs. 2 and 3.)

I have shown two pins, *o o*, Figs. 1 and 2, inserted in the strip *b*. Said pins are denominated "stop-pins," and are intended as guides in winding the wire into coils, the ends 6 of the wire being caused to stop at the pins, so that said ends receive a uniform inclination.

The operation of my improved device is as follows: A straight piece of wire of suitable size is placed against the strip *b*, as shown in Fig. 1, said wire passing under the side former, *e*, as shown in Fig. 2, the lever *m* being displaced so as to admit the wire under said side former, and then caused to grasp the wire by means of a weight on its longer arm. The coils 4 4 are then formed on the wire by rotating the disk *i*, the arm *l* engaging the wire and winding it around the mandrel, as shown in Figs. 1 and 4. After forming the coils the disk *i* is removed from the mandrels, and the wire is bent upwardly around the side former, *e*, as shown in Fig. 2, and is finally bent outwardly, as shown in Fig. 3, over the formers *ff*, which completes the operation.

I claim—

1. The combination of the bed, the stop or rest *b*, and the mandrels *h h*, whereon a wire

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bearing against said stop may be coiled, as set forth.

2. The combination of the bed, the stop *b*, the mandrels *h h*, and the rotary coil-forming
5 device, as set forth.

3. The combination of the bed, the straight stop *b*, and the coil-formers, one at each end of said stop, as set forth.

4. The combination of the bed, the stop *b*,
10 the former *e*, and the formers *f f*, as set forth.

5. The combination of the bed, the stop *b*, the coiling devices, and the formers *e f f*, as set forth.

6. The combination of the bed, the stop *b*, the coiling devices, the formers *e f f*, and the
15 wire-holding dog or lever *m*, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 14th day of October, 1885.

SAMUEL CAWLEY.

Witnesses:

PAUL RAYMOND,
C. M. KIMBALL.