M. M. MURRAY.

Bed-Springs.

No. 133,663. Patented Dec. 3, 1872.

Fig. 1.

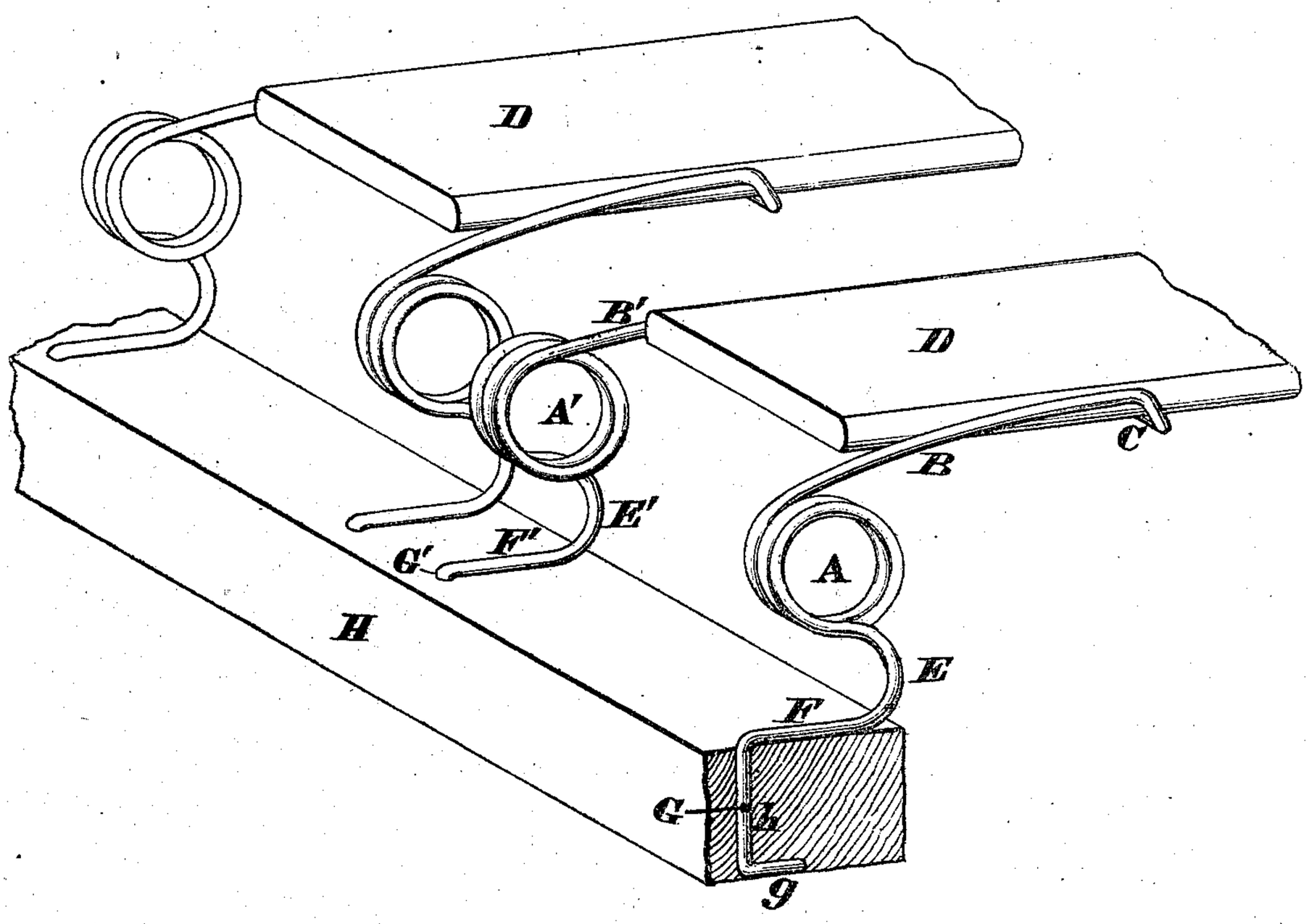
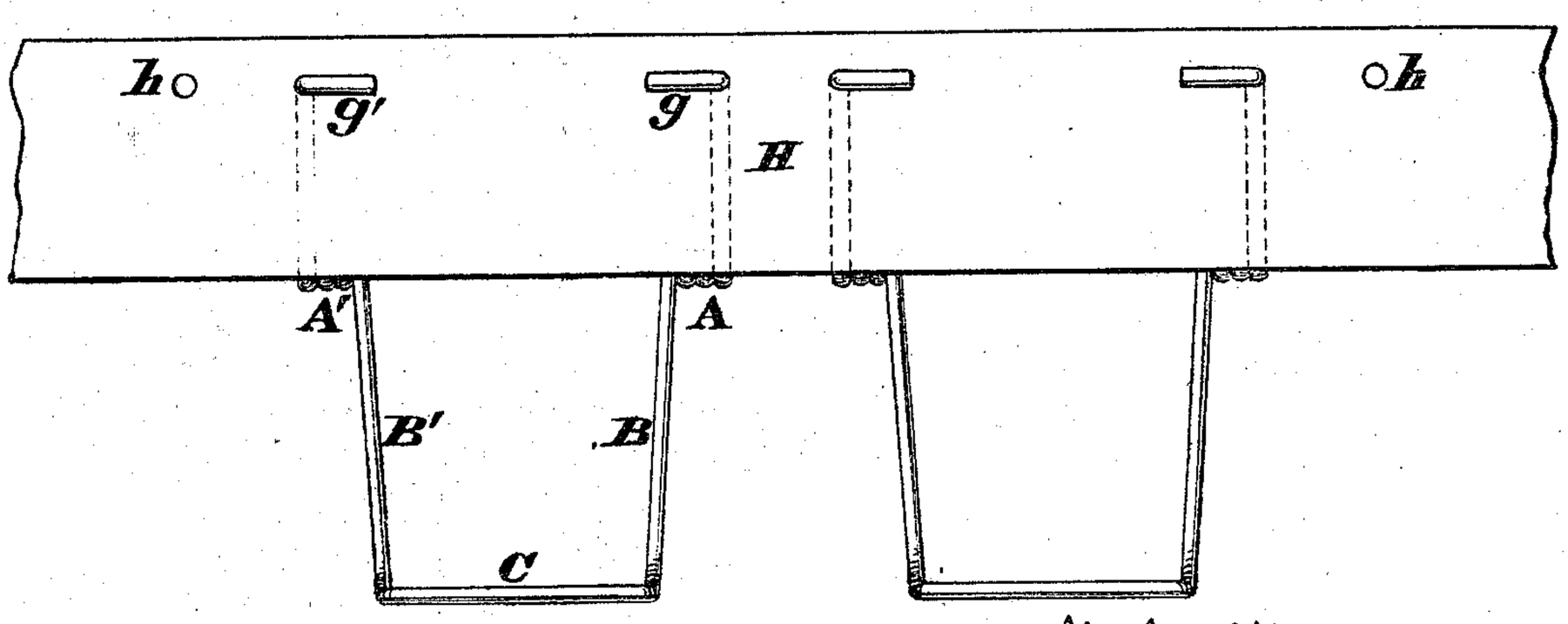


Fig. 2.



Attest.
Jas. H. Layman.
John Kilock

M. M. Murray
By Knight Bros.
Att'ys.

UNITED STATES PATENT OFFICE.

MARSENA M. MURRAY, OF CINCINNATI, OHIO.

IMPROVEMENT IN BED-SPRINGS.

Specification forming part of Letters Patent No. **133,663**, dated December 3, 1872.

To all whom it may concern:

Be it known that I, MARSENA M. MURRAY, of Cincinnati, Hamilton county, Ohio, have invented an Improved Bed-Spring, of which the following is a specification:

Nature and Objects of the Invention.

This invention relates to that class of bed-springs which consist essentially of pairs of coils united by arms and webs or cross-bars, which serve to support the slats composing the bed-bottom. The invention consists in a peculiar construction of this form of spring, by which the coils are elevated so as not to chafe by means of positive supports, which serve also to insure uniformity in elevation and action, and to increase the resiliency of the springs, and to constitute abutments for the attaching-stems, which extend through and are secured below the supporting-rails. A cheap, simple, and secure mode of attaching and securing the uniformity of elevated springs is thus afforded, and one which is free from projecting screws, staples, or other extraneous devices.

General Description.

Figure 1 is a perspective view of a portion of a bed-bottom provided with my improved form of spring; and Fig. 2 is a plan of the under side of the supporting-rail, showing my preferred method of securing the ends of the springs to said rail—that is to say, by clinching in the direction of the grain of the wood.

My spring consists essentially of two helicoidal members, A A′, which, instead of bearing upon the upper surface of the transverse rail H, are elevated some distance above the same so as never to come in contact therewith, no matter how much the bed-bottom may be depressed. Projecting from the upper and inner coils of these helicoidal members are two opposing and precisely similar arms, B B′, whose common cross bar or loop, C, serves to support the customary slat D of the bed-bottom, and which slats may be secured in position by any suitable retaining devices. In order to elevate the helicoidal members A A′ a sufficient distance above the rail to prevent them coming in contact therewith, and at the same time to increase the resilient properties of the spring, I provide them with extensions, which are arranged as follows: These extensions begin at the lower portions of the outer coils of the spring A A′, at which points the wire is bent so as to take the shape of reverse curves E E′, whose diameters may be nearly those of the aforesaid coils. The projection of these curves toward the loop C may be varied according to the views of the manufacturer. In some cases said curves may be carried a considerable distance toward the bar C, or they may terminate in the same vertical plane as the coils A A′, as shown in the illustrations. Projecting from the lower portions of these reverse curves, and extending horizontally back or away from the arms B B′, are prolongations F F′, which constitute the bases of the springs. These bases rest upon the upper surface of the transverse rail H of the bed-bottom, and are bent at right angles so as to form vertical shanks G G′, which are driven into apertures *h* of said transverse rail. The shanks G G′ are long enough to project some distance below the bottom of rail H—say about half an inch—and these projecting portions *g g′* are clinched against and embedded in the lower surface of said rail, preferably with the grain of the wood, as shown at Fig. 2.

The peculiar features of my device, and those which render it superior to all others of its class, consist, first, in elevating the coils A A′ above the supporting rail H by means of the reverse curves E E′, thereby increasing the resilience of the spring and also adding to the durability of the same. The helicoidal members never come in contact with said rail, and consequently their full play and action are never cramped in any manner whatever. This elevation also prevents the coils chafing upon and wearing out the supporting-rail; besides which I secure an immovable positive abutment to the clinched lower extremities *g g′* by means of the horizontal bases or prolongations F F′.

As the coils A A′, arms B B′, cross-bar C, bends E E′, projections F F′, shanks G G′, and clinching portions *g g′* are all composed of a single continuous piece of wire, it will be seen that the spring and its retaining devices are complete in themselves, and consequently there is no need of extraneous and independent screws, staples, saddles, or other expensive attachments, which are liable to work loose, and frequently become lost. The extensions F F′

G G′ retain the spring securely and immovably in the most effective position to secure the durability and efficiency of the device.

In manufacturing the bed-bottom the shanks G G′ are inserted in the holes *h* and driven down until the bases F F′ rest upon the upper surface of the rail H, after which these bases are placed upon an anvil, and the protruding ends of shanks G clinched, as previously described. It will be seen that this method of manufacturing the bed-bottom is very simple and expeditious, and that the springs are all attached to the rails in a perfectly uniform and secure manner. The proportions of bends E may be governed by the length of the arms B, the bends being projected a greater distance forward as said arms are lengthened, and vice versa.

If preferred, the lower ends of the vertical shanks G G′ may be screw-threaded, and nuts employed instead of the clinched portions *g g′* for securing the springs on the rail. The bases F F′ serve as unyielding abutments to receive the strain or compression brought to bear upon the shanks in clinching or screwing them to the supporting-rail H.

Claim.

I claim as my invention—

The improved bed-springs having the recurved limbs E F E′ F′ and vertical attaching shanks G *g* G′ *g′* with arms B B′, elevated coils A A′, and cross-bars C, formed and operating as herein set forth, in combination with perforated supporting-bars H *h*, for the purpose specified.

In testimony of which invention I hereunto set my hand.

M. M. MURRAY.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.