

UNITED STATES PATENT OFFICE.

ALANSON CARY, OF NEW YORK, N. Y.

IMPROVEMENT IN MODES OF TEMPERING SPRINGS.

Specification forming part of Letters Patent No. 116,266, dated June 27, 1871.

To all whom it may concern:

Be it known that I, ALANSON CARY, of city, county, and State of New York, have invented a new and useful Improvement in Furniture-Springs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

This invention relates to spiral springs, usually made in a conical form, of steel wire, and extensively used in upholstering sofas and chairs, and for bed-bottoms, &c.; and consists in subjecting the spring to a tempering process after it has been completed in the usual manner, whereby its strength, elasticity, and durability are greatly increased.

The ordinary furniture-spring is made of hard drawn wire, coiled and forced to the proper shape, and when this is done the spring is considered finished, without having been subjected to any tempering process other than what is incidental to the drawing of the wire. To give them a finished appearance, however, copper or other material is frequently applied by suitable means. The metal being greatly condensed and hardened in the process of drawing the wire, a good degree of elasticity is given the wire thereby; but in bending or coiling the wire into the proper shape the metal is unavoidably weakened—the outer portion of the wire coil is drawn or stretched, while the inner portion is crushed or shortened. When straight bars or wire is subjected to the bending process the stretching or drawing of the outer and crushing of the inner portions are inevitable re-

sults. This greatly reduces the elasticity, strength, and durability of the spring. Being a manufacturer of furniture-springs, and aware of this difficulty, I have tried many experiments with a view of restoring the wire, after being bent or formed into springs, to its normal condition. This I have discovered can be done by subjecting the spring to a degree of heat known as “spring-temper heat,” which is about 600°, more or less, and that a subjection to this temperature for about eight minutes is sufficient to produce the result desired. This temperature I have found to be sufficient to so far relax or produce a complete homogeneity of the metal of the spring as to add from twenty to thirty per cent. to the value of the spring, consequent on its increased powers of resistance. Thus treated the spring will bear much heavier pressure, and its strength and elasticity are much less impaired than the ordinary spring after long-continued use.

For carrying out and putting in practice my discovery I have invented a tempering-oven, for which I have an application for Letters Patent now pending.

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

The method of tempering furniture or other coiled springs, substantially as hereinbefore described.

ALANSON CARY.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.

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