UNITED STATES PATENT OFFICE.

THOMAS B. ANDREWS, OF BALTIMORE, MARYLAND, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO JOHN D. MORITZ AND HENRY KEIDEL, OF SAME PLACE.

IMPROVEMENT IN MANUFACTURE OF PISTOL-SPRINGS.

Specification forming part of Letters Patent No. **205,988**, dated July 16, 1878; application filed November 23, 1877.

To all whom it may concern:

Be it known that I, THOMAS B. ANDREWS, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in the Manufacture of Tempered-Steel Mainsprings for Pistols, which is fully set forth in the following specification.

Heretofore the method of manufacturing steel springs for pistols consisted of clipping from a strip of untempered steel pieces of the length desired for the spring, or forging them and forming the pieces into the desired shape, and, lastly, hardening and tempering the bent pieces to suit. As, when tempering a number of springs at once by this method, there is liability of some being too soft and others too hard, it is necessary to separately test each spring, and to retemper all that do not possess the proper temper. Notwithstanding the care exercised in these operations, it is found that many springs thus tempered are faulty, chiefly from the fact that the metal is hardened on the edges to the same extent that it is on the broad surfaces, or by reason of being too hard, and crack or break the first time they are used, from which cause a considerable loss results.

In manufacturing these mainsprings for pistols, I clip from steel plates of proper thickness that have been suitably tempered, as hereinafter set forth, pieces of a width desired for the springs, and then bend the already-tempered pieces into the requisite shape, thus producing a mainspring for pistols the broad surfaces of which have a certain peculiar temper, and the edges of which are softer than the broad surfaces, as hereinafter more fully described.

To carry out my invention on a scale to meet the requirements of an extensive pistol manufactory, take soft sheet-steel of suitable thickness, and cut it into plates having a width corresponding to the length desired for the springs. These plates are then tempered to about the same degree of hardness imparted to wood-saw blades, and from the plates so tempered pieces of the proper width for the springs are clipped by shears and bent as desired, and, without any additional tempering, are ready to be placed in the pistol. By this method all of the springs possess a uniform temper, and, while they are sufficiently hard, still admit of bending as desired. The hardening and tempering of the separate pieces are avoided. Testing each spring is unnecessary. As there are no faulty springs, there is no resulting loss.

From the fact that the broad surfaces only of these mainsprings are hardened, as described, while the cut edges are comparatively soft, they may be bent to the shape required for insertion in the pistol without liability of breaking, as ordinary mainsprings are sure to do. Thus, while these springs are superior, the cost of manufacture is greatly lessened.

I claim as my invention—

The herein-described improvement in the art of making steel mainsprings for pistols, consisting in cutting from soft sheet-steel plates having a width corresponding to the length desired for the spring, tempering said plates to the degree of hardness usually imparted to wood-saw blades, and then clipping therefrom pieces of the proper width for springs, as set forth.

THOMAS B. ANDREWS.

Witnesses:

GEO. A. GUEMPEL,

CHARLES M. LOANE.