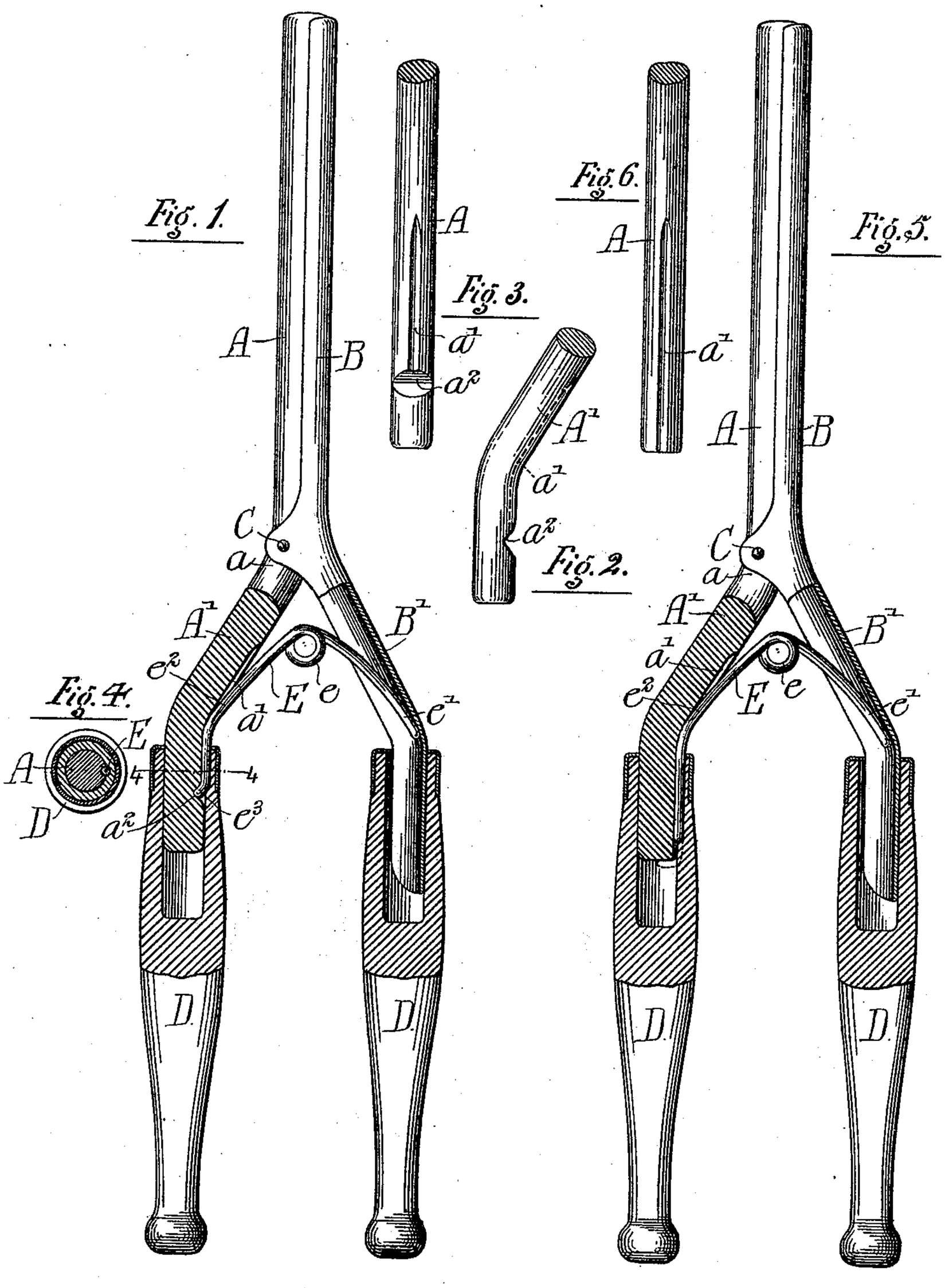
(No Model.)

G. L. THOMPSON.

CURLING IRON.

No. 519,653. Patented May 8, 1894.



Witnesses:
John W. Adams
H. Graham

Inventor:
George L. Thompson.
by Dayton, Poole & Brown
his Att'ys.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE L. THOMPSON, OF CHICAGO, ILLINOIS.

CURLING-IRON.

SPECIFICATION forming part of Letters Patent No. 519,653, dated May 8, 1894.

Application filed September 1, 1893. Serial No. 484,594. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. THOMPSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Curling-Irons; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to curling irons of that class which are provided with a cylindric mandrel, a concave clasp pivoted thereto, two wooden handles attached to the ends of outwardly divergent shanks on the mandrel and clasp, and a spring applied between the shanks to throw the mandrel and clasp together, and wherein the mandrel and its shank consist of a cylindric rod of drawn metal properly bent to form the shank, and the clasp consists of a single piece of sheet metal properly bent to form the clasp and its shank.

The invention relates more particularly to the construction of springs for such curling irons and means for securing the same in place.

In the accompanying drawings illustrating my invention: Figure 1 is a view in side elevation, with parts in section, of a curling iron embodying the invention. Fig. 2 is a detail side view of the shank of the mandrel. Fig. 3 is a face view of that part of the mandrel shank shown in Fig. 2. Fig. 4 is a cross section taken on line 4—4 of Fig. 1. Fig. 5 is a side elevation, with parts in section, of a curling iron differing slightly from that shown in Fig. 1. Fig. 6 is a face view showing the inner surface of the mandrel shank illustrated in Fig. 5.

As shown in the said drawings, A is the mandrel and B the clasp, said mandrel and clasp being connected at their inner ends by a pivot C and being provided with outwardly deflected or inclined shanks A′ B′ to the ends of which are attached two similar wooden handles D D. The mandrel A and its shank are made of a single drawn rod of cylindric form which is oppositely bent at a a^3 to form the inclined shank A′, in the manner illustrated. The clasp B and its shank B′ are formed of a single piece of sheet metal which is transversely bent into curved form to give proper concave shape to the clasp B and to make the shank B′ of U-shape in cross section for giving stiffness to the same. The handles D D are secured to the shanks A′ B′ of the mandrel and clasp by being provided with sockets into which the ends of said shanks are inserted or driven.

E is a spring which consists of a thin metal rod or wire bent into U or V form with a central coil e to give elasticity thereto and located between the shanks of the mandrel and clasp with its ends adjacent to the outer ends of said shanks and acting upon said shanks to force the same apart so as to hold the clasp normally closed against the mandrel. Wire springs thus formed and applied have been heretofore used and my invention consists in a novel means for holding or securing such a spring in place, such means being constructed as follows:

That end e' of the spring E which bears against the inner surface of the clasp shank merely rests within the same without attachment thereto, and in this respect the spring is like others heretofore made. The opposite end e^2 of the spring is so bent as to stand parallel with that part of the shank A′ which enters the handle D, and in the inner surface of said shank is formed a longitudinal groove a' of the same width as the wire of which the spring is composed but of less depth than the thickness of the wire, so that the end of the spring will fit closely in said groove and will be held from lateral movement therein while at the same time the wire will project from the groove and outside of the cylindric surface of the mandrel, as clearly seen in Fig. 4, so that it will be partially embedded in the wood forming the handle. The socket of the handle being unprovided with any recess or groove to receive the end of the spring, it is obvious that when the handle is forced upon the mandrel shank and over the end of the spring which projects from the same, in the manner described, it will tightly or closely bind and hold the end of the spring in the groove a' and thus afford a strong and secure attachment of the spring

to the shank. As shown in Figs. 1, 2 and 3, the groove a' terminates short of the extreme end of the mandrel shank, terminating in a transverse groove or notch a^2, but in the construction shown in Figs. 5 and 6 the groove a' extends to the extreme end of the mandrel. In either case the general result secured is the same, to wit, the end of the spring is firmly clamped to the mandrel while the engagement of the spring with both the mandrel shank and handle prevents the turning of the handle on the said shank.

When the transverse notch or depression a^2 is present, as seen in Figs. 1, 2 and 3, the extreme end e^3 of the spring will be bent outward so as to enter or rest in said notch or depression, the purpose of this construction being to prevent the end of the spring from shifting endwise on the mandrel, either in placing the handle on the mandrel shank or in the subsequent use of the article. The notch or depression a^2 is shown in the drawings as extending across the mandrel shank transversely to the groove a', but a recess or depression of any suitable shape, provided it is adapted to receive the out-turned end e^3 of the spring, will obviously serve the same purpose. When the groove a' is extended to the extreme end of the mandrel shank, as seen in Figs. 5 and 6, the end of the spring may either be terminated short of the end of the shank as seen in full lines in Fig. 5, or it may be extended to the end of the shank and provided with a laterally bent part extending over the end surface of the shank, as seen in dotted lines in said Fig. 5, this latter construction obviously serving to hold the spring from longitudinal movement on the shank in the same manner as the construction illustrated in Fig. 1.

One of the principal advantages gained by the employment of a groove in the cylindric mandrel shank of the same width as the diameter of the wire but shallower than the wire of the spring so that the wire is embedded partially in the wood of the handle, is that this construction prevents the turning of the handle on the shank. In the construction of curling irons of this kind the handles are merely forced upon the shanks and no other fastening device used to prevent the detachment of the handles. It is found, however, that if the handle be once turned upon the shank it will thereafter be so loose as to be easily pulled endwise therefrom and it is therefore highly desirable to prevent the turning of the handle on the shank. This result is produced by the construction described, it being clear that after the handle has been forced over the shank and the end of the wire spring which projects from the same, the handle cannot afterward be turned with any ordinary force applied thereto and is therefore secure from detachment by any ordinary use of the implement during the ordinary life of the same. If the mandrel shank were left in its cylindric form and the end of the wire spring inserted in the handle with the shank it is obvious that the handle could be easily turned on the shank, and when so turned it is obvious that the end of the spring thus inserted would be carried around the shank with the handle. It is furthermore obvious that after the handle is once loosened by turning in this manner the outward pressure of the spring acting on the smooth surface of the cylindric shank would tend to carry or turn the handle farther around if slightly shifted from its original or normal position. By the formation of a shallow groove in the cylindric shank, as described, the possibility of such turning of the handle or displacement of the spring and handle by the action of the spring is entirely avoided. The construction described furthermore constitutes an important advantage in the manufacture of implements of the kind described, because affording a secure and permanent fastening of the spring in place without adding, to any appreciable extent, to the expense of manufacturing the article. In this connection it is to be noted that the groove a' and the notch or recess a^2, when the latter is present, may be formed by the press or drop hammer at the same time the rod is bent to form the mandrel shank, it being only necessary to suitably shape the surface of the die used for bending in order to produce this result.

I claim as my invention—

1. A curling iron comprising a cylindric metal rod constituting a mandrel member bent to form a shank and having in the inner surface of its shank a longitudinal groove, a clasping member pivotally connected with the mandrel member and having an outwardly extending shank, a V-shaped wire spring interposed between the mandrel shank and clasp shank and adapted to rest at one end within the groove in the cylindric mandrel shank, said groove being made of the same width as, but of less depth than, the diameter of the wire, and wooden handles having sockets to receive the mandrel and clasp shanks, the handle which is attached to the mandrel shank being forced over the end of the same and the spring which rests in the said groove, substantially as described.

2. A curling iron comprising a cylindric metal rod constituting a mandrel member bent to form a shank and having in the inner surface of its shank a longitudinal groove and at the end of said groove a depression or recess, a clasping member pivotally connected with the mandrel member and having an outwardly extending shank, a V-shaped wire spring interposed between the mandrel shank and clasp shank and adapted to rest at one end within the groove in the cylindric mandrel shank and having its extreme end bent outwardly to enter the said depression or recess, said groove being made of the same width as, but of less depth than, the diame-

ter of the wire, and wooden handles having sockets to receive the mandrel and clasp shanks, the handle which is attached to the mandrel shank being forced over the end of the same and the spring which rests in the said groove, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

GEORGE L. THOMPSON.

Witnesses:
C. CLARENCE POOLE,
TAYLOR E. BROWN.