A. Komp,

Making Springs,

No. 50,721, Patented Oct. 31, 1865.

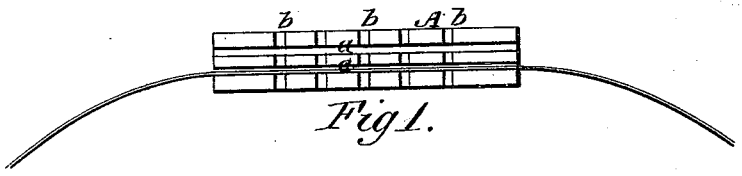

Fig 1.

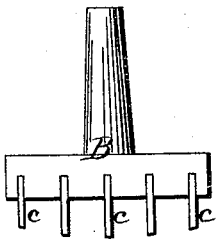

Fig 2.

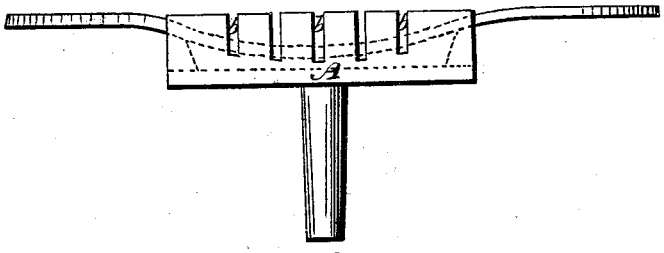

Fig 3.

Witnesses.
Wm Treurn
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Inventor.
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By Munn & Co

UNITED STATES PATENT OFFICE.

A. KOMP, OF NEW YORK, N. Y.

IMPROVED DIE FOR CURVING SPRINGS.

Specification forming part of Letters Patent No. **50,721**, dated October 31, 1865.

To all whom it may concern:

Be it known that I, A. KOMP, of the city, county, and State of New York, have invented an Improved Die for Curving 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, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of the female die. Fig. 2 is a side elevation of the male die or punch. Fig. 3 is a similar view of the female die.

Similar letters of reference indicate like parts.

This invention relates to an improved method of curving such springs as are extensively used for the purpose of strengthening or stiffening the brims of hats. Such springs are generally made of narrow strips of sheet-steel bent like a hoop, and in order to accommodate them to the desired shape of the brim, they must be curved edgewise at those places which correspond to the sides of the hat.

By means of the die which forms the subject matter of this present invention, the operation of curving such springs is performed in an easy manner. The female die is provided with one or more narrow longitudinal grooves, just wide enough to receive the blade or blades, pin or pins, of the punch. The ground of the longitudinal groove or grooves is curved, and the blades or pins of the punch are gradually decreasing in length from the middle toward both ends. By placing the spring in the longitudinal groove of the die and giving to it repeated blows with the punch the desired curvation is effected.

A represents the female die, which is furnished with one or more longitudinal grooves, *a*, just wide enough to receive the wire edgewise. The transverse slots or cavities *b* are intended to receive the blades or pins *c* of the punch B. These blades or pins are gradually decreasing in length from the middle toward the ends, though it must be remarked the operation may also be effected with a punch having a single blade or pin or two blades or pins of the same length, but it would require more time and greater skill to accomplish the operation. The bottom of the longitudinal groove or grooves *a* is curved or deep enough to be below the deepest transverse slot, as indicated in dotted lines in Fig. 3, and the spring to be curved is placed edgewise into one of the longitudinal grooves, and by repeated blows with the punch the desired curvation is produced. Instead of using a punch with transverse blades, a punch might be used with a single longitudinal blade, curved and made to fit into one of the grooves of the die.

By means of my die wire covered with cotton or other textile fabric or other material can be curved as easy as plain wire, and the operation of curving can be accomplished with the greatest ease and neatness.

I claim as new and desire to secure by Letters Patent—

1. A female die with one or more longitudinal grooves wide enough to receive the wire to be curved, and with one or more cavities intended to receive the blade or blades or the pin or pins of the punch, substantially as and for the purpose set forth.

2. A die with transverse grooves and one or more longitudinal grooves wide enough to receive the wire to be curved, in combination with a suitable punch, constructed and operating substantially as and for the purpose described.

A. KOMP.

Witnesses:
W. HAUFF,
M. M. LIVINGSTON.