E. A. HARTZ.

WIRE HEDDLE.

APPLICATION FILED AUG. 13, 1908.

930,857. Patented Aug. 10, 1909.

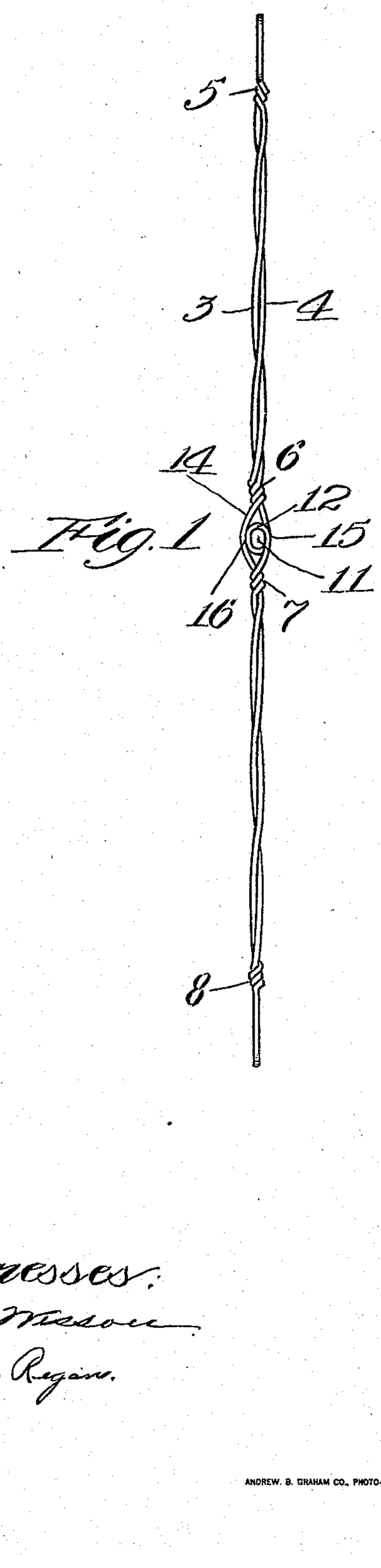

Fig. 1

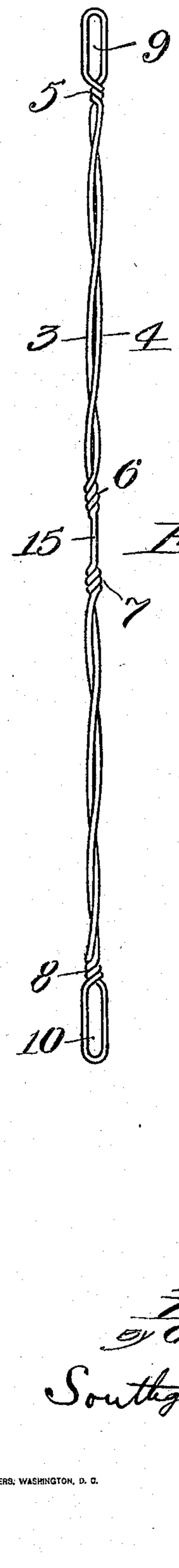

Fig. 2.

Witnesses:
C. F. Wesson
M. E. Regan.

Inventor:
E. A. Hartz.
By Attorneys
Southgate & Southgate.

UNITED STATES PATENT OFFICE.

ERIC A. HARTZ, OF WORCESTER, MASSACHUSETTS.

WIRE HEDDLE.

No. 930,857. Specification of Letters Patent. Patented Aug. 10, 1909.

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To all whom it may concern:

Be it known that I, ERIC A. HARTZ, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Wire Heddle, of which the following is a specification.

This invention relates to that type of heddle for loom-harnesses which is made by twisting two wires together at points above and below the eye, which is formed simply by spreading the wires apart between the two twists.

The principal objects of the invention are to provide simple and inexpensive means for preventing the common fault of this type of heddle, namely, the catching of the knots and the like in the crotch, also to construct the same in such a form that there will be no sharp angle anywhere to catch the warp.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing in which—

Figure 1 is a front elevation of one form of wire heddle made in accordance with this invention, and Fig. 2 is an edge view thereof.

This invention is capable of application to substantially all forms of twisted wire heddles, but only one of them is shown in the drawings. In that form, two wires 3 and 4 are twisted together at four points 5, 6, 7 and 8, and may be connected by soldering, brazing, welding, or the like, as is well understood in this art. They are also shown as twisted between the twists 5 and 6, and 7 and 8. These parts may be made in any form so long as a loop 9 is left at the top, a loop 10 at the bottom, and an eye 11 near the center, the latter being formed by the twisting together of two wires, or of the ends of the same wire. When an eye is formed in this way it has an upper and a lower crotch, as is well understood, both of which usually catch all large knots, and sometimes catch a smooth thread by pulling it into the converging legs thereof. In order to avoid this with a simple construction that will have no projecting angles to catch the warp, I provide one of the wires with an integral loop 12, formed by looping the wire between the twists and bringing the loop around on the inside, between the wire with which it is connected and the other wire 14. In this way all parts are brought substantially into the same plane and there are no projecting parts to form angles in which the thread can catch. In order to further guard against this, the wires, where they cross at 15, are pressed together, preferably with sufficient force to flatten them out so as to occupy about the same transverse space as a single wire. In addition to this the other side of the loop is secured at the point 16 to the wire 14, as by soldering, brazing, electric welding, or the like. This makes a rigid structure, as the two wires of the eye are secured together and the loop is kept positively in the inside of the eye and in the same plane thereof, whereby there are no angles at the outer edges of the eyes to catch the thread.

I am aware that the invention can be applied with equal facility to other forms of heddles, including those in which there is only a single wire above and below the eye 11, and that other modifications can be made by a skilled mechanic without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to all the details of construction shown and described, but

What I do claim is:—

1. A wire heddle for loom harnesses having an eye formed of two wires spread apart and twisted together above and below the eye, one of said wires having a continuous and integral loop in the plane of the eye and located entirely within the periphery of the eye.

2. A wire heddle having an eye consisting of a loop of wire, crossing itself at one side and extending both above and below the body of the loop, and a second wire twisted in with the first named wire both above and below the loop and extending outside the loop in the plane thereof on the side thereof opposite that at which the wires cross.

3. A wire heddle consisting or two strands of wire twisted together at two points and spread apart between the twists to form an eye, one of said strands having an integral loop located in the space between the two strands and in the plane in which both of said strands are located.

4. A wire heddle having an eye formed by spreading two wires apart and twisting them together above and below the point at which they are spread, and a loop in the eye having curved corners at the top and bottom

thereof and supported entirely by one of said wires said loop and wires lying in the same plane.

5. A wire heddle having an eye formed of two wires spaced apart and connected above and below the point at which they are spaced, and a loop in the eye having curved corners at the top and bottom thereof integral with one of said wires and separate from the other, said loop and wires lying in the same plane.

6. A wire heddle having an eye formed of two wires spaced apart and connected above and below the eye, and a loop in the eye having curved corners at the top and bottom thereof integral with one of said wires and separate from the other, but secured rigidly to said other wire, whereby the loop is held firmly between the wires in the eye, said loop and wires lying in the same plane.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

ERIC A. HARTZ.

Witnesses:
ALBERT E. FAY,
MARY E. REGAN.