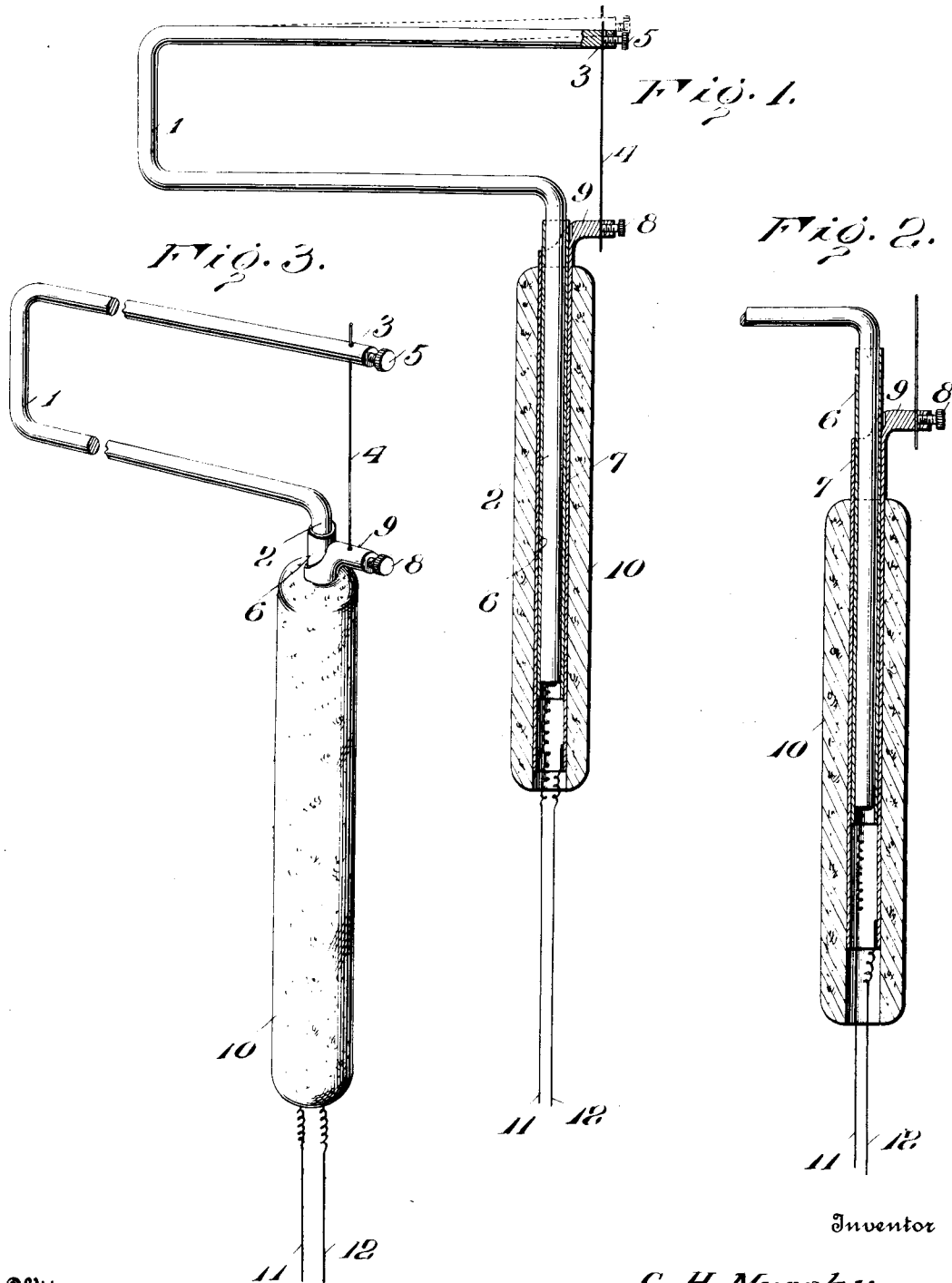


G. H. MURPHY.
ELECTRICAL SCROLL SAW.
APPLICATION FILED JAN. 26, 1915.

1,155,835.

Patented Oct. 5, 1915.



Witnesses
W. A. Williams.
R. P. Wright.

Inventor
G. H. Murphy.
By E. B. Hocking
Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. MURPHY, OF BALLS FERRY, CALIFORNIA.

ELECTRICAL SCROLL-SAW.

1,155,835.

Specification of Letters Patent.

Patented Oct. 5, 1915.

Application filed January 26, 1915. Serial No. 4,501.

To all whom it may concern:

Be it known that I, GEORGE H. MURPHY, a citizen of the United States, residing at Balls Ferry, in the county of Shasta and State of California, have invented certain new and useful Improvements in Electrical Scroll-Saws, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in electrical scroll saws; the object being to provide a scroll saw in which a cutting member formed of high resistance material is employed, which is adapted to be heated until it becomes incandescent so that the same will eat its way through the material being operated upon.

Another object of the invention is to provide an electrical scroll saw which is exceedingly simple and cheap in construction and one in which means is provided for compensating for the expansion of the cutting member so that when the same becomes heated and expands, it will be held taut, whereby the operation of the scroll saw will not be retarded in any way.

Another object of the invention is to provide a scroll saw in which a substantially U-shaped spring frame is employed forming a conductor to which is connected a resistance element, the opposite end of which is connected to a tubular conductor, said conductors being in turn connected to a suitable source of electrical supply, such as a battery or dynamo, so that the resistance element will be heated.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings—Figure 1, is a side elevation of my improved construction of electrical scroll saw showing the handle portion in section; Fig. 2, is a detail enlarged vertical section; and Fig. 3, is a perspective of my improved electrical scroll saw.

Like numerals of reference refer to like parts in the several figures of the drawings.

In carrying out my invention, I employ a substantially U-shaped spring frame 1 which is provided with a right-angled portion 2 at one end and at the opposite end with a suitable opening 3 through which a cutting member 4 is adapted to pass and be secured by a binding screw 5, said cutting member 4 being formed of a high resistance material

which is adapted to be heated until it becomes incandescent, as will be hereinafter fully described.

Mounted on the angled portion 2 of the frame 1 is an insulating sleeve 6 over which is arranged a tubular conductor 7 having a binding post 8 formed on a laterally projecting lug 9 which is provided with a suitable opening through which the opposite end of the resistance member 4 is adapted to extend and be secured by the binding screw thereof.

Arranged over the tubular conductor 7 is a handle 10 preferably formed of cork so as to protect the operator when the scroll saw is in operation.

Suitable lead wires 11 and 12 are connected respectively to the portion 2 of the frame and the tubular conductor 7; said wires leading from a suitable source of supply, such as a battery or dynamo, and it will be seen that when the current is turned on it will pass through the frame back through the resistance member 4, and the lead 12, so as to heat the resistance member 4 and the same can be used for a cutting member so as to eat its way through the material being operated upon.

In inserting a resistance member 4 which is preferably formed of wire, one end is secured within the opening of the lug 9 by the binding screw of the post 8 and the opposite end is forced through the opening 3 of the frame 1 and by compressing the frame, as shown in dotted lines in Fig. 1, and tightening the binding screw 5 the wire will be securely held in a taut position so that the same can be guided through the material being cut. As the wire becomes heated by the electric current passing there-through, the same expands to a certain extent but as the frame 1 is formed of suitable spring metal, any slack which would occur ordinarily in such a cutting member, is taken up by the spring of the frame so as to hold the wire taut at all times.

From the foregoing description, it will be seen that I have provided an electrical scroll saw in which a frame is employed which forms a conductor for an electric current so that the resistance cutting member carried thereby can be quickly heated until it becomes incandescent and the same can be used for cutting purposes.

It will also be seen that I have provided an electrical scroll saw which is especially adapted to be used for pyrographic work,

whereby a suitable design can be cut in the material in such a manner that the edge thereof will be burned thereby avoiding finishing the same with the pyrographic tool.

I claim:

1. An electrical scroll saw, comprising a frame having a binding post for clamping the cutting member, a conductor carried by said frame having a binding post for clamping the opposite end of said cutting member, an insulating member arranged within said conductor to electrically insulate the frame and conductor, and a handle surrounding said conductor.

2. An electrical scroll saw, comprising a substantially U-shaped spring frame having a binding post at one end and provided with a projecting portion at the other end, a tubular conductor arranged over said projecting portion of said frame having a lug provided with a binding post, a cutting member having its ends secured respectively to the frame and projecting portion of said conductor, and lead wires connected respectively to the extension of said frame and conductor.

3. A scroll saw, comprising a U-shaped spring frame having an extension at one end, a tubular conductor arranged upon said extension having a laterally projecting lug provided with a binding post, a binding post carried by the opposite end of said spring frame, a cutting member having its ends connected respectively to said frame and laterally projecting lug of said conductor by said binding posts, an insulating sleeve surrounding said extension within said tubular conductor, and a handle arranged over said conductor.

4. As a new article of manufacture, an electrical scroll saw, comprising a substantially U-shaped spring frame having an extension formed on one end thereof forming a conductor, a lead connected to said extension, an insulating sleeve surrounding said

conductor, a tubular conductor arranged over said insulating sleeve having an extension, a cutting member having its ends connected respectively to the free end of said frame and said extension of said tubular conductor, and a lead connected to said tubular conductor.

5. An electrical scroll saw, comprising a substantially U-shaped spring frame having a binding post at the end of one of the legs thereof and provided with an extension at the end of the opposite leg, an insulating sleeve surrounding said extension, a lead wire connected to said extension, a tubular conductor surrounding said insulating sleeve having an extension provided with a binding post, a cutting member connecting said extension with the free end of said frame and secured therein by a binding post, a handle surrounding said tubular conductor, and a lead wire connected to said tubular conductor.

6. An electrical scroll saw, comprising a substantially U-shaped frame having an extension formed at right angles to one of the legs thereof, said U-shaped frame having an opening formed adjacent the free end of the opposite leg thereof, a binding screw intersecting said opening, a tubular insulating sleeve surrounding said extension of said frame, a tubular conductor surrounding said insulating sleeve having an extension provided with a binding post, a cutting member having its ends secured to the extension and free end of said frame by said binding posts, a handle surrounding said tubular conductor, and lead wires connected respectively to said tubular conductor and extension of said frame.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GEORGE H. MURPHY.

Witnesses:

C. H. BRAYNARD,
C. F. KIMBALL.