R. M. AKIN.

ABRADANT.

APPLICATION FILED OCT. 7, 1912.

1,118,255. Patented Nov. 24, 1914.

Fig. 1.

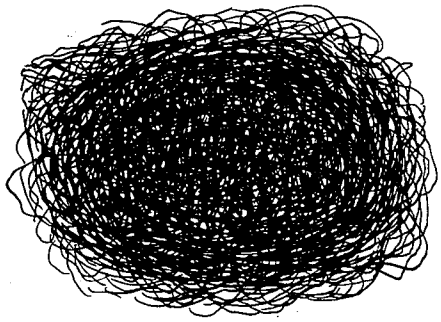


Fig. 2.

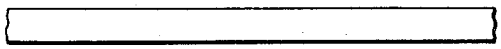


Fig. 3.

Fig. 4.



Fig. 5.

Witnesses:
M. Levy
Chas. W. LaRue

Inventor:
Robert M. Akin
By Wilbur M. Stone.
Attorney.

UNITED STATES PATENT OFFICE.

ROBERT M. AKIN, OF OSSINING, NEW YORK.

ABRADANT.

1,118,255. Specification of Letters Patent. Patented Nov. 24, 1914.

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To all whom it may concern:

Be it known that I, ROBERT M. AKIN, a citizen of the United States, and a resident of Ossining, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Abradants, of which the following is a specification.

This invention relates to abradants and particularly to that class thereof including metallic fibers gathered into a bunch or handful and particularly adapted for smoothing or polishing wood, varnish or other surfaces.

The object of my improvements is to provide an abradant of the class specified having the qualities of endurance, uniformity and high adaptability to various conditions of use.

To these ends my improvements comprise features illustrated in their preferred form in the drawing accompanying this specification wherein—

Figure 1 is a conventional rendering of a bunch of my improved abradant. Figs. 2 and 3 are plan and end sectional views respectively of a single strand or strip of what is shown in Fig. 1, but to a greatly enlarged scale. Figs. 4 and 5 are views corresponding respectively with Figs. 2 and 3 illustrating a modification thereof.

Abradants comprising metal turnings more or less minute and threadlike are well known, but such turnings are necessarily of varying cross section having irregular and ragged edges. While material of this character is serviceable for coarse work its tendency is to scratch the material upon which it is used and furthermore the very nature of its construction makes it brittle and liable to break up into short pieces or into powder-like condition in use. These several objectionable features are eliminated in my improved product.

The preferable method of producing my improved abradant is to draw a portion of metal into wire of small gage and then roll that wire into flatness, then gather a quantity of such flattened wire into a bunch, as shown in Fig. 1, of a convenient size for use. By the above method of procedure I produce a flat wire having smooth parallel edges of superior cutting quality. Furthermore, with some kinds of metal the drawing and rolling produces a temper in the metal, thereby adding to its value as a cutting instrumentality.

In the modification of Figs. 4 and 5 I have illustrated my improved abradant wire as having wavy edges. This form may be produced by first crimping the round wire and then feeding it between the flattening rolls.

In some cases I prefer to make my improved strip entirely of steel and, after rolling into a flat wire, to temper that steel by the usual method of heating and suddenly cooling.

One of the inherent features of my improvements is the fact that the grain or fiber of the strip runs lengthwise thereof whereby tenacity, flexibility and resilience in high measure are obtained. In practice I have found that for fine work a strip of steel having a width of slightly less than one hundredth of an inch and a thickness slightly less than a thousandth of an inch and provided with wavy edges as in Fig. 4, when gathered into a bunch as in Fig. 1 is highly resilient while exceedingly flexible and easy to handle. With such a bunch of my improved material a very high finish may be obtained on varnished surfaces with a comparatively small amount of labor. Furthermore, I have found the material to be of very long life as it retains its continuity and cutting edges through long service.

I claim:

1. An abradant comprising a bunch of flat drawn wire.

2. An abradant comprising flat wire having smooth edges.

3. An abradant comprising flat drawn wire having smooth edges and heat tempered.

4. An abradant comprising flat drawn wire having smooth edges of wavy contour.

5. An abradant comprising flat wire having wavy edges.

Signed at Ossining, in the county of Westchester and State of New York, this 4th day of October, 1912, before two subscribing witnesses.

ROBERT M. AKIN.

Witnesses:

WILLIAM HADDOW,

DAVID PETERSON.