

Oct. 12, 1948.

P. DE V. D'AVACOURT

2,451,383

WIRE SAW STRAND

Filed Dec. 7, 1945

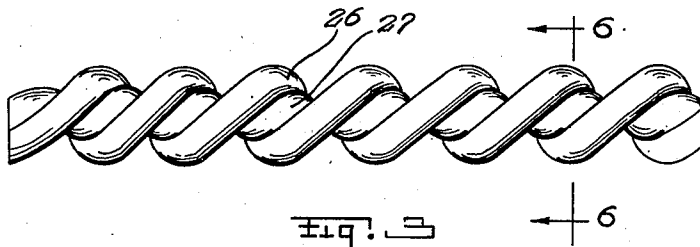
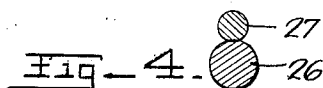
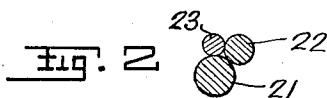
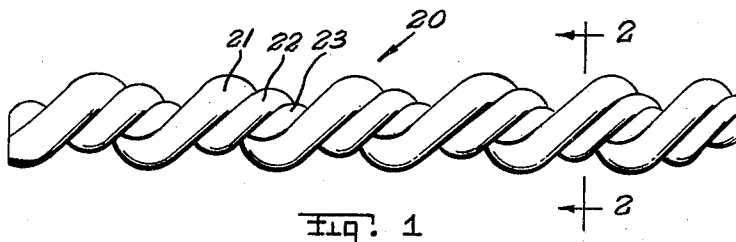
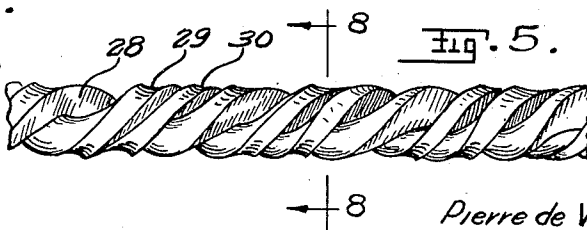
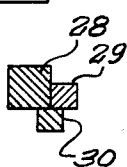


Fig. 6.



Inventor

Pierre de Vitry d'Avacourt

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,451,383

WIRE SAW STRAND

Pierre de Vitry d'Avaucourt, Bainbridge, Pa.

Application December 7, 1945, Serial No. 633,430

10 Claims. (Cl. 125—12)

1

This invention relates to wire saw strand, and more particularly to such a strand for the cutting of stone, marble and slate, limestone, granite or similar materials.

A primary object of the invention is the provision of an improved strand adapted to carry a relatively greater quantity of abrasive material than the conventional three strand round wire saw strand.

A further object is the provision of such a strand provided with relatively large interstices between the strands or the twist thereof.

It may be pointed out that at the present time the conventional wire saw strand is comprised of three twisted round wire strands, either twisted together to form a single twisted strand, or alternatively reversely twisted as by twisting the three strands in one direction for a predetermined distance, and in the opposite direction for another predetermined distance.

This results in a relatively unitary wire structure, having little space between the strands and consequently carrying little abrasive. Consequently if a strand is worn smooth the cutting speed is materially reduced. An important object of this invention therefor is to provide relatively greater cutting spaces and interstices therebetween, in such manner that the abrasive capacity of the strand is materially enhanced.

Other objects will in part be obvious and in part be pointed out in the following description. The invention is shown in the accompanying drawing wherein there are disclosed preferred embodiments of this inventive concept.

In the drawing:

Figure 1 is an elevational view of one form of wire saw strand embodying features of the instant invention.

Figure 2 is a sectional view taken substantially along the line 2—2 of Figure 1.

Figure 3 is an elevational view of a still further modified form of this inventive concept.

Figure 4 is a sectional view taken substantially along the line 4—4 of Figure 3.

Figure 5 is a side elevational view of a further modified form of this inventive concept.

Figure 6 is a sectional view taken substantially along the line 6—6 of Figure 5.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawing, and more particularly to Figures 1 and 2, there is generally indicated at 20 a twisted wire saw strand comprised of three intertwisted strands 21, 22 and

2

23, it being noted that each of these strands is of a different diameter, to provide a relatively rough abrasive surface, with relatively great abrasive capacity.

In the modification disclosed in Figures 5 and 6, there are disclosed two strands 26 and 27, both round strands of different diameters.

Figures 7 and 8 disclose three twisted wire strands 28, 29 and 30, of rectangular cross-section all of different cross sectional area.

It will be readily apparent that in all of the foregoing modifications, the interstices between the strands are materially greater than in the conventional three wire saw strand. Thus, the instant invention provides materially greater abrasive capacity.

From the foregoing it will be seen that the improved wire saw strand accomplishes all the above stated objects of this invention, and presents many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A twisted wire saw strand comprised of a plurality of intertwisted wires all of different diameters.

2. A twisted wire saw strand comprised of a plurality of intertwisted square wires all of different cross sectional area.

3. A twisted wire saw strand comprised of three intertwisted wires, each of a different diameter.

4. A twisted wire saw strand comprised of three intertwisted square wires, each of a different cross sectional area.

5. A twisted wire saw strand comprised of two intertwisted square wires each of different cross sectional area.

6. A twisted wire saw strand comprised of a plurality of intertwisted wires all of different sizes and the same cross sectional shape so twisted on each other as to provide relatively greater interstices between the twists thereof.

7. A twisted wire saw strand comprised of a plurality of intertwisted wires all of different cross sectional area.

8. A twisted wire saw strand comprised of a plurality of intertwisted wires all of different cross sectional areas and the same cross sectional shape.

9. A twisted wire saw strand comprised of three

3

intertwisted round wires of different cross sectional sizes.

10. A twisted wire saw strand comprising a plurality of intertwined wires all of different cross sectional area and the same cross sectional shape.

PIERRE DE VITRY D'AVAUCOURT.

REFERENCES CITED

The following references are of record in the file of this patent:

Number
1,687,089
1,730,756
2,123,619

5

Number
82,990

10

4

UNITED STATES PATENTS

Name	Date
Green -----	Oct. 9, 1928
Brown -----	Oct. 8, 1929
Wienholz -----	July 12, 1938

FOREIGN PATENTS

Country	Date
Germany -----	Sept. 6, 1895