March 29, 1932. O. WEBER 1,851,224

METAL BINDING MEANS FOR VINES

Filed June 10, 1929

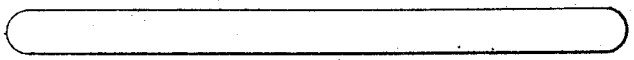

Fig.1.

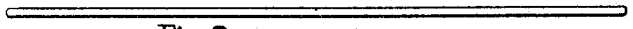

Fig.3.

Fig.2.

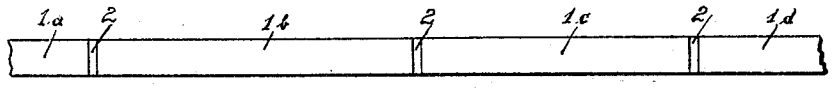

Fig.4.

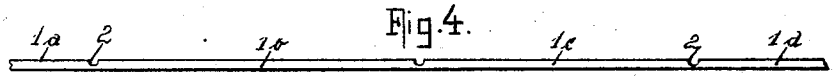

Fig.5.

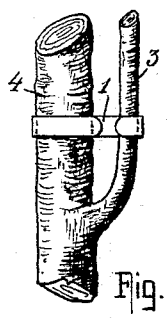

Fig.6.

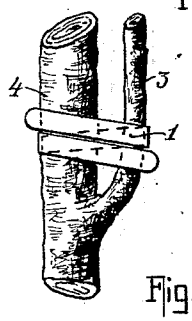

Fig.7.

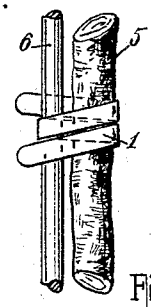

Fig.8.

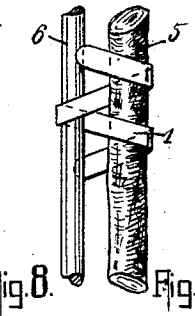

Fig.9.

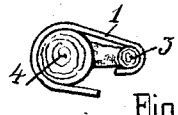

Fig.6a.

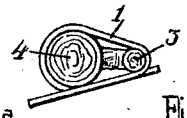

Fig.7a.

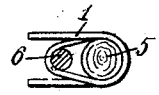

Fig.8a.

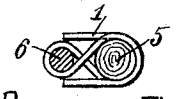

Fig.9a.

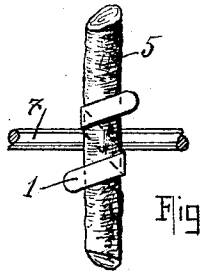

Fig.10.

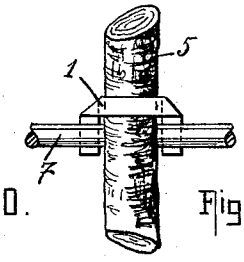

Fig.11.

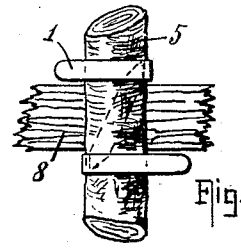

Fig.12.

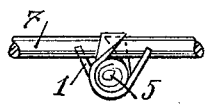

Fig.10a.

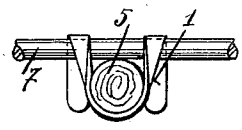

Fig.11a.

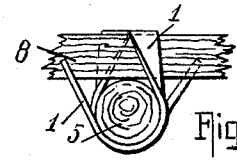

Fig.12a.

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Patented Mar. 29, 1932 1,851,224

UNITED STATES PATENT OFFICE

OTTOMAR WEBER, OF RATHEN-ON-THE-ELBE, GERMANY

METAL BINDING MEANS FOR VINES

Application filed June 10, 1929, Serial No. 369,744, and in Germany February 17, 1928.

For fastening twigs, sprigs, sprays etc., to a trellis in horticultural work, it has up to now been the custom to employ bast thread, thin willow twigs or material derived from reeds or rushes. Such cases occur for instance when vines, fruit trees have to be fastened to a trellis, or when newly occulated shoots have to be fastened to their stem or branch or when standard roses or other high plants have to be attached to their prop. It is the disadvantage of these bindings that they have constantly to be inspected and renewed, as owing to influences of the weather they soon decay or brake. Furthermore, they only give way to a small degree or not at all and thereby often cause strangulation. It has already been proposed to employ buckled metal straps, in most cases attached by means of nails etc., and fixing cramps made of spring-steel. All these contrivances include some kind of locking-means. They were therefore expensive and limited in employment.

It is the object of the present invention to provide fastening means made of pliable metal and having the form of a simple, narrow and smooth strip of even width, the material being of such strength and of such thickness that it can easily be bent and twisted by hand, rendering the use of tools superfluous and maintaining the shape given to it according to the manner of fastening chosen.

Such binding-means, called for preference binding-strips or binding-ribbons have the advantage that they can easily be bent in the manner desired and that they hold firmly without any locking-contrivance, at the same time giving way because the end being free allows the binding to expand with growth thus accommodating itself to the plant and preventing strangulation. The latter can hardly be avoided when the known nonelastic binding-means are employed. Furthermore, the time employed for the tying of a knot and subsequent loosening of same is spared, the metal ribbon may be used over and over again and is not subjected to damage owing to influences of the weather, as the ribbon can be protected by zincifying the metal. To these advantages the further advantage: low price may be added. The metal ribbons are lower in price than bast thread. The main advantages are the extremely convenient attachment and thereby the saving of time and money (wages) as constant inspection (control) of the bindings is unnecessary.

The edges of the metal-binding-ribbon should for preference be rounded in order to avoid scars or dents. Such strips can very conveniently be manufactured by means of a rolling-machine out of ordinary wire of circular cross-section rolled flat. Zincified iron wire is most suitable, also wire made of aluminium, zinc etc. Through the rolling-process various properties of the wire are improved; especially the strength of the material is increased, so that comparatively thin wire may be employed, an advantage resulting in further economy: saving of metal. When rolling the wire, it is of advantage to notch the same in certain regular distances; the horticulturist employing same in the garden can then easily separate suitable lengths from a bobbin.

The accompanying drawings, in conjunction with the present description which are given by way of example, show the application of the binding-means mentioned.

Figs. 1–3 drawn on a larger scale show the binding-strip seen from the broad and narrow side and from the end.

Figs. 4 and 5 show a ribbon from which pieces 1*a*, 1*b*, 1*c*, 1*d* may be separated by bending the metal to and fro several times. The separation is simplified by notches 2, also drawn on a far larger scale for purpose of clearness.

Figs. 6–12*a* drawn in plan and elevation show quite a number of possibilities for tying the metal strip 1 without the employment of any special tool.

Figs. 6, 6*a*, 7, 7*a* show the attachment of an occulated shoot 3 to the main branch 4.

Figs. 8, 8*a*, 9, 9*a* show the attachment of a branch 5 to a trellis wire 6 running parallel to it.

Figs. 10, 10*a*, 11, 11*a* show the connection of a branch 5 with a trellis wire 7 crossing in a transverse direction.

Figs. 12, 12*a* show the attachment of a branch 5 to a trellis lath 8 crossing in transverse direction.

Figs. 10–12*a* specially demonstrate the manner in which the binding-strip may be twisted.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

A tie for growing plants comprising an elongated narrow flat strip of soft pliable metal having rounded edges and capable of being easily bent and twisted and of sufficient length to have its intermediate portion engaged about a plant and support for the plant and its end portions bent to form retainers, serving to hold the tie in place and yielding when subjected to determined pressures.

In testimony whereof I have signed my name to this specification on the 18th day of May, 1929.

OTTOMAR WEBER.