July 29, 1958 A. P. BRILL, JR 2,844,913

WRAPPER AND CLAMP FOR BUDDING AND GRAFTING

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Fig. 1

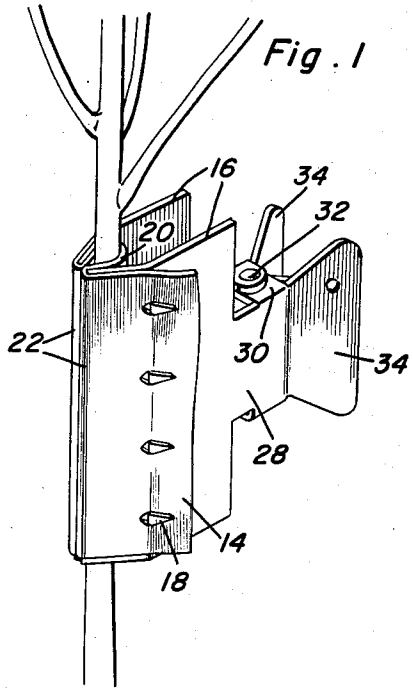
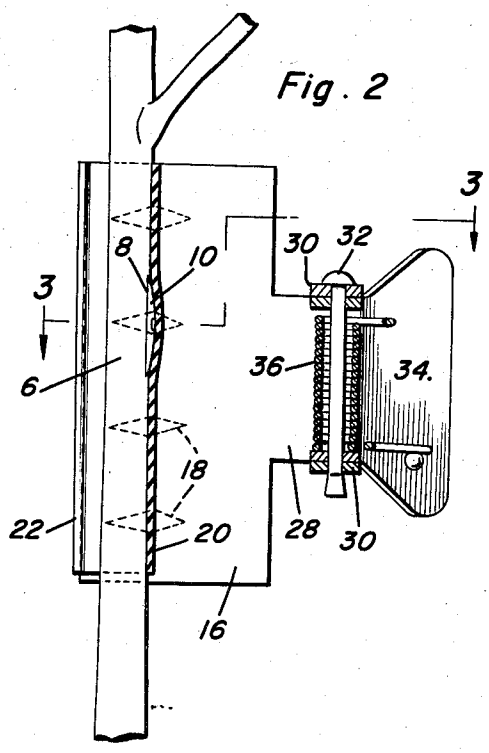


Fig. 2



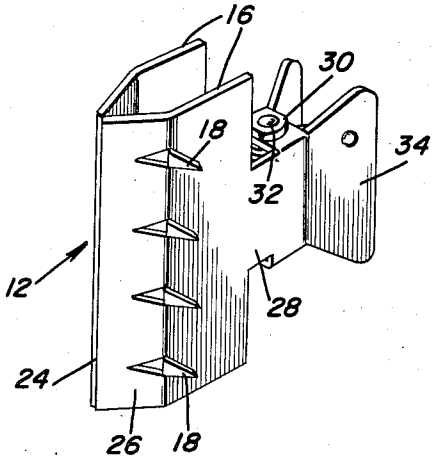
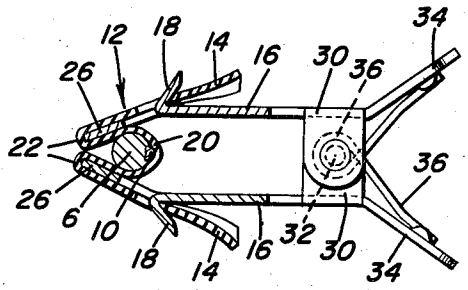


Fig. 4

Fig. 3



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WRAPPER AND CLAMP FOR BUDDING AND GRAFTING

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2 Claims. (Cl. 47—6)

The present invention relates to wrapper and clamp means by which budding and grafting steps may be more expeditiously undertaken and the desired grafting results effectually attained.

Persons conversant with the line of endeavor herein under consideration are aware that present methods involve wrapping buds and grafts. The wrappings commonly used are tapes, strips or bands of commercial plastics, rubber or equivalent materials. These strips vary in width and length, depending upon the size of the stock being budded or grafted, and certain modes require the use of cord or string and a coating of paraffin. The procedures are generally those in which the wrapping steps are carried out by hand.

It is a matter of common knowledge that the purpose of all wrapping materials and methods involving the same is to hold tightly in place the bud-eye or graft wood cambium-to-cambium with the thought in mind of keeping out virtually all moisture until the bud or graft "takes," after which the temporarily applied wrapping material is detached and manually unwound and removed.

As is ordinarily the situation, the materials used in carrying out the grafting requirements are subject to damage and, therefore, are ordinarily thrown away and consequently are not reused. Not only is it highly desirable to protect the union of the components, the over-all problem poses other conditions. Therefore, it is the objective in the instant concept to bring about a more satisfactory solution of the problem. To this end and looking toward reliable achievements where a cion (twig, shoot or bud-eye) is inserted in a given place in a stock, there is provided a piece of elastic sheet material which constitutes a wrapper or wrapping material. This is saddled over, covers and firmly binds the cion in cambium-to-cambium relation in respect to the stock. Mechanical manually actuatable means is connected to the respective end portions of the elastic sheet material and the latter is stretched and, in this manner, tensioned and kept under tension. Consequently, the material yields and conforms intimately to the irregularities of the surfaces of the cion and stock and the desired cincturing takes place, holding the cion in place, keeping out moisture whereby to permit the insert or cion to "take" and to start its union with the stock.

More specifically, novelty is predicated on the elastic sheet material and the means for transforming it into a conforming saddle, said means comprising a tool or implement which, more particularly, may be described as a clamp. The clamp has handles and jaws, the jaws being fashioned to permit the end portions of the sheet material to be anchored thereon, the material spanning the edge portions of the jaws so that it may be stretched and tensioned as intended.

Other objects, features and advantages will become more readily apparent from the following description and drawing.

In the drawing, wherein like numerals are employed to designate like parts throughout the views:

Fig. 1 is a perspective view showing the aforementioned stock with the clamp and elastic sheet material or wrapper applied;

Fig. 2 is a view on a slightly enlarged scale which brings out the structural details more plainly and which serves to show the insert, cion or the like and how it is saddled and bound in place;

Fig. 3 is a section on the irregular horizontal line 3—3 of Fig. 2, looking in the direction of the arrows; and

Fig. 4 is a perspective view of the clamp by itself.

As will be hereinafter evident, the invention in an over-all or combination sense features the factors of reusability of the clamp, as well as the elastic sheet material, speeds up the time of applying the wrap to the bud or graft and likewise the unwrapping or removing step. In fact, the entire method of use which comes into play with this invention involves an effectual mode of application and removal and makes for adjustment to varying shapes and diameter sizes of stock trees and the like.

With reference now to Fig. 2, the component identified as the stock is denoted generally by the numeral **6**. This is provided at a given spot with the customary cut-out or hewn area **8** to intimately conform to and accommodate the cion **10**, which as before mentioned may be otherwise described as a twig, shoot, bud-eye or graft.

Of significance first is the elastic sheet material. This may be of rubber or equivalent material and it is of the prerequisite texture and nature to serve the intended purposes here under consideration. It is sufficiently tough to withstand the stretching strain and is yet sufficiently thin to conformingly contact with the irregular surfaces of the stock and cion. The sheet of material is here referred to broadly by the numeral **12**, and the transverse end portions (the sheet usually being rectangular) are denoted at **14**, and these are penetrated by and held in position on the jaws **16** of the clamp by way of the struck-out prongs **18**. That is to say, prongs **18** are struck out and bent back and suitably pointed and they are punched through the sheet material so that it is held in the applied position shown in the drawing. The central or intermediate portion of the sheet material wraps partially but tightly around the stock and cion in the manner shown in Figs. 2 and 3 in particular and fashions into a saddle, as at **20**. Adjacent portions **22** are bent and stretched tautly over the free edges **24** of the converging free end portions **26** of the jaws. The jaws are provided with handles **28** having in-turned, laterally bent ears **30** connected by a hinge pin **32** and provided with outwardly diverging fingers-pieces or grips **34**. The usual coil spring **36** is provided and surrounds the pin and is held in place, all as brought out in Fig. 2 of the drawing.

It will be evident, after having studied the description and drawing, that the reusable wrapper applying and retaining clamp serves all the purposes of the materials and methods set forth in the introductory portion of the specification and, in addition, supplies the desired pressure, waterproofing and, in fact, is equal or superior to known ways and means in this line of endeavor. Primarily, the fact that the clamp and wrapper may be used over and over as a combination wrapping means in budding and grafting requirements is of the utmost importance.

The method of applying a wrap to a bud or graft by the wrapping clamp is distinct from all present methods in its ease of application, by its ability to be easily adjusted to different size diameters of stock trees and the speed of removal without bud injury; its unusual speed in mass budding operations; its ability to be cleaned by

boiling or use of soap and water; and its general resistance to the elements.

The reusable wrapping clamp for budding and grafting is available in aluminum. It may also be manufactured from steel, alloys and plastics. The wrapping material used on the clamp is rubber or plastic. The clamps may be painted various colors for ease of identification in the field.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A device of the class described comprising a pair of hingedly connected handles provided with finger grips and also with jaws, said jaws having inwardly converging free edge portions and being further provided with outstanding hook-like sheet material penetrating and anchoring prongs, and a strip of elastic sheet material having end portions superimposed upon the exterior surfaces of the respective jaws and free end portions attached removably and adjustably to the selected prongs, the intermediate portion of said sheet material being disposed between said jaws so that it may be fashioned temporarily into a tensioned saddle which, in turn, may be wrapped around the portion of the stock and inserted graft as desired.

2. For use in budding, grafting and temporarily holding a cion where inserted in a given place in a stock: a piece of elastic wrapping material saddled over, covering and firmly binding the cion in cambium to cambium relation in respect to said stock, and means connected to end portions of said material for stretching and tensioning the material whereby it conformingly contacts the intended portions of the stock and grippingly binds the cion in place, keeping out moisture until the graft "takes" and the material is then aptly removable, said means comprising a clamp having hingedly connected levers and jaws, said jaws having converging free edge portions and also having pointed anchoring prongs with which cooperating end portions of said material have detachable connection, the major median portion of said material being fashioned into a saddle and said saddle being situated when in use parallel with said free converging edge portions.

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