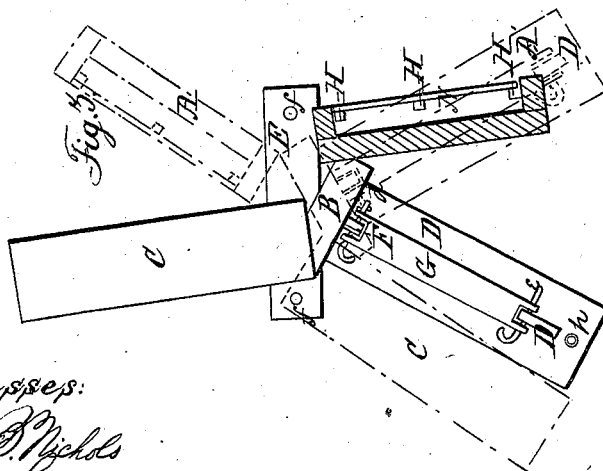
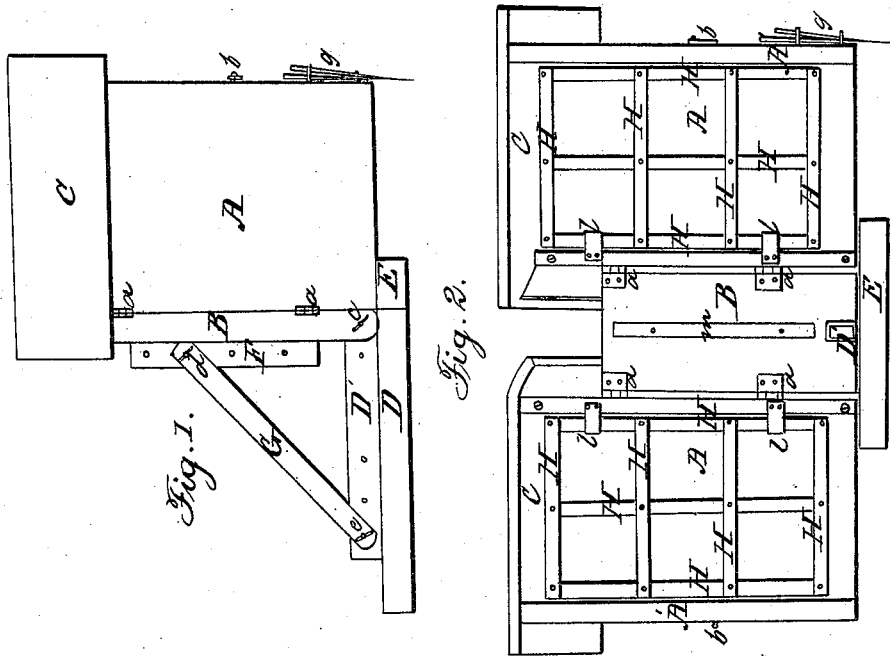


J. S. DAVIS.
Grape-Vine Protector.

No. 54,302.

Patented May 1, 1866.



Witnesses:
Geo. P. Nichols
J. J. Snow

Inventor:
Jacob S. Davis
by Coburns Mans
attorneys.

UNITED STATES PATENT OFFICE.

JACOB S. DAVIS, OF LA PORTE, INDIANA.

IMPROVEMENT IN GRAPE-VINE PROTECTORS.

Specification forming part of Letters Patent No. 54,302, dated May 1, 1866.

To all whom it may concern:

Be it known that I, JACOB S. DAVIS, of La Porte, in the county of La Porte and State of Indiana, have invented a new and useful Improvement in Grape-Vine Protectors; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

My said invention consists in a novel apparatus or arrangement for sheltering and protecting grape vines or other vines and plants from the cold in winter and from unseasonable frosts in the spring and autumn, while at the same time it admits of a ready and easy adjustment so as to give the vines the benefit of any warm weather or sunshine in the early spring or late in the autumn, which is of great importance in the grape culture in our more northern climate.

My invention further consists in a novel attachment to the main part of the protector, whereby, while the same is opened during the day to admit the sun in those parts of the year when slight frosts are usual during the night, the apparatus may be inclined back so as more freely to present the vines to the action of the sun, or inclined forward to shelter the vines during the night from the frosts without the trouble of closing the apparatus, as is necessary in colder weather.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention; Fig. 2, an elevation of the same when open, showing an interior view; and Fig. 3, a plan or top view of my invention when open, part being in section.

Similar letters of reference in the different figures denote corresponding parts of my invention.

A A' represents the exterior casing or inclosure in which the vines are trained, being constructed in two parts, as shown, and hinged at *a a* to the upright post or plank B, at each edge thereof, so that when the two wings are closed together the said upright B forms the back, and the uprights A' the front, of the inclosure thus made.

C C represent the sides of a sloping roof, one side being attached to each wing of the apparatus, so that when the same are closed together the parts of the roof match or fit together and thoroughly exclude the cold and rain or snow. That part of the rear wall lying above the upright B, as shown, is attached to the wings, so that when the wings are closed there is formed a close chamber, in which the vines are inclosed, or said rear wall may be formed by a continuation of the upright B, suitably constructed and shaped. Within suitable grooves and rests in the wings, as shown in Fig. 2, are arranged the trellises or frames H, for supporting the vines, which have a reciprocating movement up and down, for the purposes hereinafter specified.

D is a timber or plank, of suitable size, having a central rib or projection upon its upper side, to the front end of which the upright B is attached by a hinge or pivot, as shown at *e*, so that said upright may be inclined backward or forward, as may be desired. The said upright B is secured in the position desired by means of the adjustable brace G, the series of holes in the ribs D' and F attached to B, as shown, and the removable pins *d e*. The position of the foot of the upright B may also be varied in a similar manner, as shown. The front end of D is also pivoted at the center of the cross-bar E, so as to have a horizontal movement about said pivoted attachment.

Having described the construction of my invention, I will now describe its operation.

The apparatus is stationed near each vine (one being required for each vine) and properly secured by driving pins into the ground through the holes *f f* and *h* in the frame or support D E. The vines are then trained upon and attached, in any suitable manner, to the trellis-frames H. The wings are then closed together and secured by means of the latch or catch *b*, and the vines are thoroughly inclosed and protected from the cold. If desired, the space between the trellises H and the sides A may be packed with straw or other suitable material to keep out the cold more effectually, and the apparatus may also be banked up around the bottom, when the vines will live through the coldest weather uninjured.

As shown in Fig. 3, it will be seen that the wings may be opened and turned so as to front in various positions, according to the di-

rection in which the sun is, and also to shield the vines from chilling winds. The rear supporting-plank, D, also, as will be seen, can be moved laterally from one side to the other, as indicated by the dotted lines in Fig. 3, so that by originally arranging the apparatus diagonally with respect to the direction of the rows of vines it may be turned either way far enough to allow the rows to be cultivated both ways.

Whenever it is desired, in order more effectually to expose the vines to the sun, to incline or lean them back, it may be done by raising the upper end of the brace G or removing the lower end farther from the apparatus, or by attaching the foot of the upright nearer to the front end of D, or in all these ways, if a great degree of inclination be desired. By the reverse of the above operation the upper end of the wings may be inclined forward, so as to shed the vines and thus shelter them from slight frosts.

The trellises are made adjustable, as described, in order that the opening of the wings may not tend to draw the vines from the ground nor tear the tendrils from their supports, which is obviated by allowing the

trellis to move downward as the apparatus is opened, while it may be restored to its former position when the apparatus is closed by means of a cord attached to the top of the trellis and passing out at the top side and under the end of the machine, and wound on a nail or held by a weight.

Having described the construction and operation of my invention, I will now specify what I claim therein and desire to secure by Letters Patent:

1. The arrangement of the wings A A, hinged, as described, to the upright B, when provided with suitable trellises H H, operating substantially as and for the purposes specified and shown.

2. The combination of the wings A A, upright B, and sill D, arranged and operating as and for the purposes set forth.

3. Providing the wings A A with the movable trellises H H, for the purposes specified.

JACOB S. DAVIS.

Witnesses:

R. A. HEWS,
JOHN MILLIKAN.