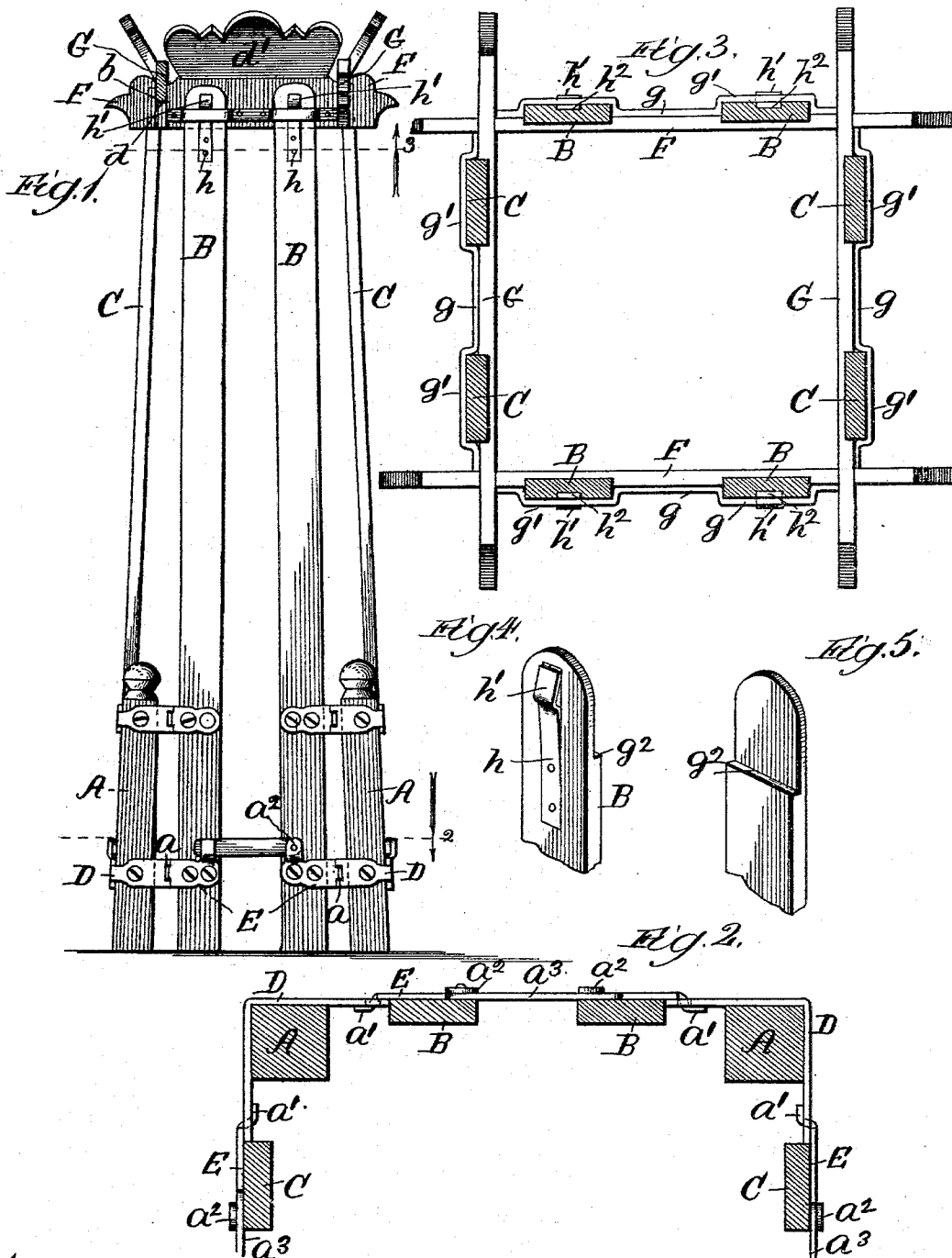


(No Model.)

C. OLSEN.
TREE PROTECTOR.

No. 511,058.

Patented Dec. 19, 1893.



Witnesses:
Charles E. Coupland
Clifford White

Inventor:
Charles Olsen.
By *L. B. Coupland & Co*
Attys

UNITED STATES PATENT OFFICE.

CHARLES OLSEN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CHARLES A. OLSEN, OF SAME PLACE.

TREE-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 511,058, dated December 19, 1893.

Application filed March 2, 1893. Serial No. 464,306. (No model.)

To all whom it may concern:

Be it known that I, CHARLES OLSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tree-Protectors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Reference is had to the accompanying drawings, forming a part of this specification

This invention relates to an improved device for inclosing and protecting the lower parts of trees from injury.

The device consists of an open frame-work, comprising a number of separable pieces which are secured together without the use of nails, screws or similar fastening devices, and may be conveniently placed in position or taken down without injury to any of the parts with regard to their future usefulness.

In the drawings—Figure 1 is a side elevation; Fig. 2 a broken-away horizontal section on line 2, Fig. 1, looking in the direction indicated by the arrow; Fig. 3 a horizontal section on line 3, Fig. 1; and Figs. 4 and 5 are broken-away details of construction.

The arrangement is approximately square in cross-section and is provided at the lower end with four corner posts A; the lower ends of which will be inserted in the earth in placing the protector in position. The respective sides consist of two vertical slats. The slats B B form opposite sides, and the slats C C form opposite sides at right angles thereto. The lower ends of the respective series of slats are all detachably secured to the corner posts in the same manner, so that the description of one side will answer for the others; the same reference characters being used. To each of the corner or base posts is rigidly fastened an angle iron D, the respective ends of which project beyond the edges of the posts, and are provided in such projecting ends with an aperture a . To the adjacent parts of the series of slats are rigidly fastened the catches E; the projecting ends of which terminate in the hook a' , adapted to detachably engage with the apertures a in the ends of the corner angle-irons, as shown in Fig. 2.

The inner adjacent ends of the catches E are provided with upwardly projecting lugs a^2 . To one of these lugs is pivoted one end of latch-bar a^3 ; the opposite end dropping in back of the lug on the adjacent catch. By this means the lower parts of the device are detachably joined together. The construction and arrangement of the upper end are somewhat different and will be next described.

The upper or head-end, in addition to the vertical slats, consists of four cross-bars. The two bars F F on opposite sides are provided in the upper edge, near the respective ends, with a notch b . The two opposite companion bars G G are notched in the lower edge to interlock with bars F, as shown at d , Fig. 1; one of the bars G being shown in section to illustrate the locking feature. These bars are each provided with the inclined ornamental extension d' . The series of bars have a metal strap g , attached to their outer sides which are bent outwardly at two different points to form loops g' , (Fig. 3,) which receive the upper ends of the respective slats, whereby the bars and slats are retained in their proper relative position. The series of slats is provided, near their upper ends and inner sides, with a shoulder g^2 (Figs. 4 and 5) forming a stop-bearing for the lower edges of the connecting locking-bars.

The slats B B, forming opposite sides, are provided at their upper ends and outer sides with springs h . The lower end of these springs is rigidly attached; the upper or loose end being bent to form the locking-shoulder h' , which engages with the upper edge of the straps g and assists in locking the parts together. The slats are provided with the recess h^2 under the loose ends of the springs, so that they may be pressed in flush with the surface in engaging or disengaging these parts.

In placing the protector in position, the corner posts are first inserted in the earth and the lower ends of the vertical slats secured in place by means of the fastening devices described. The two bars F F are next placed in position and finally the companion bars G G.

The different parts forming the protectors may be very compactly folded so as to occupy but little space and thereby lessen the cost of transportation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a tree-protector, the combination of
5 the corner-posts, the angle-irons, having apertures in their projecting ends and rigidly secured to the respective posts, the series of vertical slats, the catches, secured thereto and having projecting hook-ends detachably engaging with said angle-irons whereby the
10 lower ends of the slats are retained in position with reference to the corner-posts, substantially as set forth.

2. In a tree-protector, the combination of
15 the series of vertical slats, the catches, secured thereto and having lugs formed on the adjacent ends thereof, and a latch-bar, pivoted at one end to one of said lugs, the opposite end loosely engaging with the lug on the companion catch, substantially as set forth.

3. In a tree-protector, the combination of
20 the corner-posts, the angle-irons, rigidly secured thereto, the series of vertical slats, the catches, secured to said slats and detachably engaging with the angle-irons, and a latch-bar, pivoted at one end to one of said catches,

the opposite end of said bar loosely engaging with the next catch in order, substantially as set forth.

4. In a tree-protector, the combination of
30 the series of slats, the cross-bars, notched together at the respective corners, the metal straps, secured to the outer sides of said bars and provided with loops in which are inserted the upper ends of the series of slats, substantially as set forth. 35

5. In a tree-protector, the combination with
two or more of the series of slats, of a spring, secured at one end to and near the upper ends of said slats, the loose end of said spring or
40 springs having a shoulder formed thereon and adapted to be compressed into a recess in said slats, the cross-bars, and the metal straps, provided with a number of loops and secured along the outer sides thereof, substantially as set forth. 45

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES OLSEN.

Witnesses:

L. M. FREEMAN,
L. B. COUPLAND.