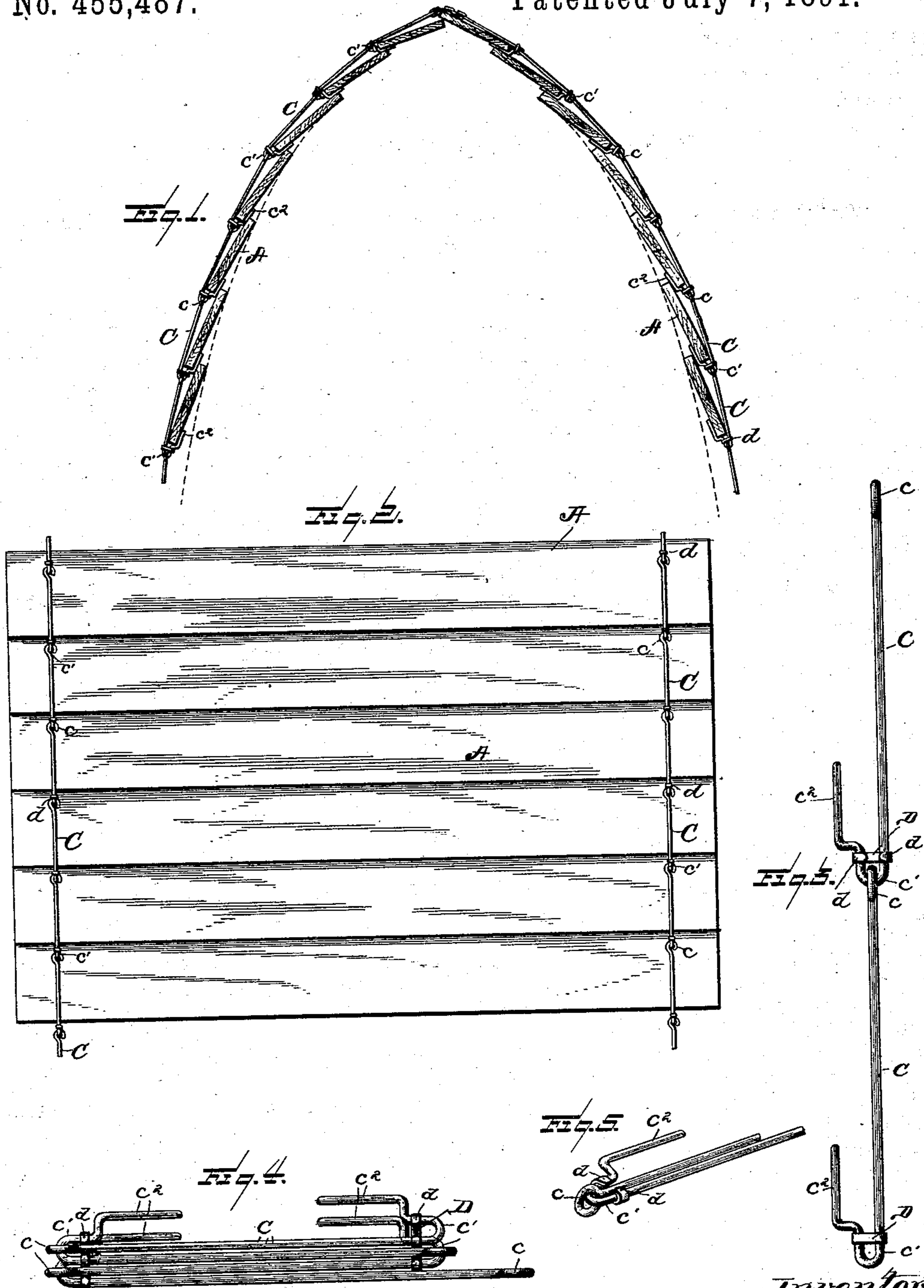


(No Model.)

J. E. KIRK, H. A. ALDEN & B. M. STEELE.  
PORTABLE STACK ROOF CHAIN.

No. 455,487.

Patented July 7, 1891.



Witnesses:

L. B. Carpenter  
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Inventor:  
B. M. Steele, J. E. Kirk  
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attys

# UNITED STATES PATENT OFFICE.

JOHN E. KIRK, HORACE A. ALDEN, AND BENJAMIN M. STEELE, OF PEORIA, ILLINOIS, ASSIGNORS TO THE ACME HARVESTER COMPANY, OF SAME PLACE.

## PORTABLE-STACK-ROOF CHAIN.

SPECIFICATION forming part of Letters Patent No. 455,487, dated July 7, 1891.

Application filed November 11, 1890. Serial No. 371,033. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN E. KIRK, HORACE A. ALDEN, and BENJAMIN M. STEELE, citizens of the United States, residing at Peoria, in the county of Peoria, State of Illinois, have invented certain new and useful Improvements in Portable-Stack-Roof Chains, of which we do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our present invention has relation to that class of portable roofs designed for hay or straw stacks, corn-cribs, stock-sheds, and other purposes wherein a series of boards are held together by means of flexible chains or links.

Our invention has for its object to improve the construction of chain whereby the boards of the roof will be held together; and to this end our invention consists in the novel features of construction hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in vertical section of a portable roof having our invention applied thereto. Fig. 2 is a view of the roof in side elevation. Fig. 3 is an enlarged detail view of two of the chain-links. Fig. 4 is a view showing the links of the chain in folded position. Fig. 5 is a perspective view of a portion of two of the chain-links.

A designates the boards of the portable roof, which may be of any convenient size and number, these boards being connected by chains formed of the peculiar construction of links hereinafter described, and provided, preferably at their lower ends, with suitable weights, as well understood in the art, whereby the roof may be more securely retained upon the stack. Each of the links of the chains consists of a body portion C, having at its upper end an eye *c* and having its lower end bent or otherwise constructed to form an eye or seat *c'* and an upturned portion *c''* to constitute the holder for the edge of the board. The eye *c* at the top of one link will engage with the seat *c'* at the bottom of the next adja-

cent link, and when in such position it will be guarded against accidental displacement by means of a clip or guard D, the ends *d* of which overlap the lower portion of the link. It will be observed that the ends *d* of the clip or bar D do not completely come together across the lower end of the link, but allow a space, as shown more particularly in Figs. 3, 4, and 5, whereby when the links of the chain are to be folded the body of one link shall come parallel with the body of the next adjacent link. This feature of a clip D is especially advantageous, not merely because it guards against any accidental disconnection of the chain-links, but inasmuch as the free space is allowed between the ends of the clips the links can be much more compactly folded together than would be possible if the clips D completely encircled the lower ends of the links. Consequently when the chains are folded together for shipment they will occupy much less space than would otherwise be the case.

While our invention in its preferred form embodies the clips D, still the feature of the peculiar construction of holder *c''* at the base of the links might be used with advantage even without the employment of such clips. So, also, we would regard it as within the spirit of our invention to form the closed eyes at the lower ends of the links in such manner that the links can be compactly folded together, even if such eyes should be closed by other means than the specific construction of clips hereinbefore described.

We do not wish to be understood as claiming herein, broadly, a roof-supporting chain comprising a series of short links provided at their lower ends with holders formed in one piece therewith for sustaining the boards and provided at both their upper and lower ends with closed eyes for securely holding the links together.

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

1. A chain for portable roofs, comprising the links having body portions C, with eyes *c* at their upper ends, and having at their lower

ends seats  $c'$  and holders  $c^2$ , and provided with clips D, partially encircling the lower ends of the links, substantially as described.

2. A chain for portable roofs, comprising 5 links having body portions C, with eyes at their upper ends, and having at their lower ends seats  $c'$ , and having suitable guards extending across the seats  $c'$  at one side of said

seats, whereby the links can be more compactly folded, substantially as described.

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