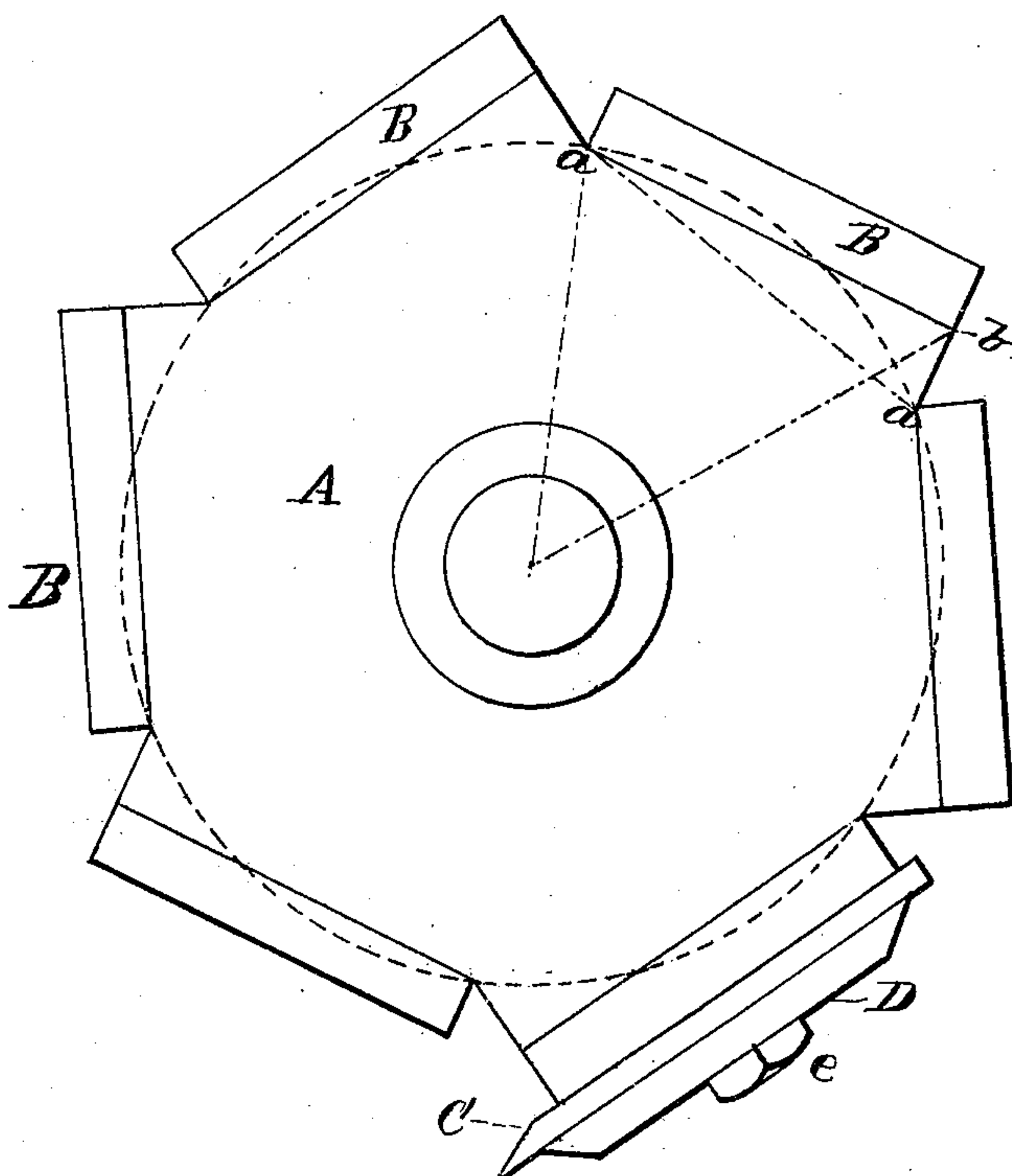


**E. BENJAMIN.**  
**Cutter-Heads.**

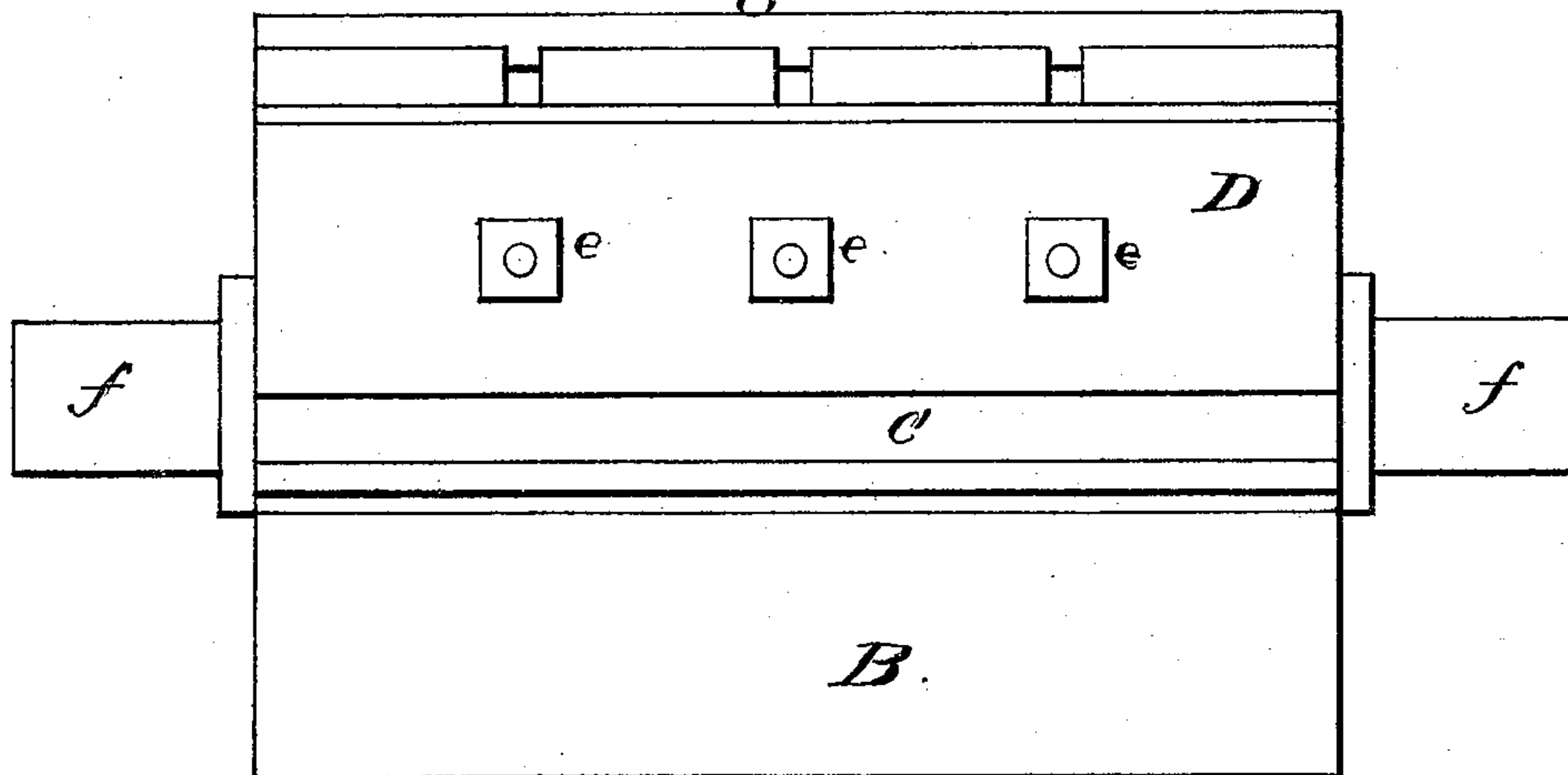
No. 142,669.

Patented September 9, 1873.

*Fig. 1.*



*Fig. 2.*



*Witnesses*

*H. W. Dodge*  
*W. E. Chaffee*

*Inventor.*

*E. Benjamin*  
*by Dodge & Son*  
*Attys.*

# UNITED STATES PATENT OFFICE.

EDWIN BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND  
SAMUEL W. PEASE, OF SAME PLACE.

## IMPROVEMENT IN CUTTER-HEADS.

Specification forming part of Letters Patent No. 142,669, dated September 9, 1873; application filed  
May 6, 1872.

*To all whom it may concern:*

Be it known that I, EDWIN BENJAMIN, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Cutter-Heads, of which the following is a specification:

My invention relates to that class of cutter-heads which are used with matching-bits, and is an improvement upon the cutter-head used in the matcher patented to me December 5, 1871; and the invention consists in constructing the head with a series of plane faces on its exterior, for holding the knife or bit at such an angle as to permit a series of six knives to be used in place of the three heretofore used, and still have their cutting-edges presented to the wood at the same angle, as hereinafter more fully explained.

Figure 1 is an end view of my improved cutter-head, and Fig. 2 is a face view of the same.

In this class of implements, experience has demonstrated that it is necessary to have the edge of the cutter strike the wood at a certain angle, in order to make a smooth clean cut, and prevent tearing or peeling up the fiber. This has been done with heads carrying three cutters or knives; but it is desirable to use a greater number of knives, as, by that means, the velocity of the head can be reduced, or the amount of work performed increased, as the case may be. In order to accomplish this result, I construct my cutter-head of the form represented in Fig. 1, in which A represents one of the end pieces, there being two such mounted on a shaft, *f*, which is shown in Fig. 2. These end pieces are formed with six equal plane faces, the

outer edges, *b*, of which project beyond the edges *a*, at an angle of about twelve degrees, as shown in Fig. 1—that is to say, a line drawn from *a* to *b* will diverge from a line from *a* to *a*, so as to form an angle between them of about twelve degrees. Upon these faces are secured flat metal plates B, upon which the knives or cutters C are secured by a clamping-plate, D, held by bolts *e*, as represented in Figs. 1 and 2, this being a common mode of securing the cutters. With the head thus constructed and the knives secured thereon, as represented, all six of the knives will present their cutting-edges to the wood at the same angle, as is now done with cutter-heads using three knives on equilateral triangular heads. It is obvious that the head, instead of being constructed of end pieces having the plates B bolted to them, may be cast complete in a single piece, and have its faces dressed off true at the proper angle, and the knives secured thereon in the same manner, this being merely a matter of detail in the construction, not affecting at all the nature or principle of my invention.

Having thus described my invention, what I claim is—

A cutter-head having six sides or faces, so arranged that the front edge of said faces shall project at an angle of about twelve degrees more than their rear edges, whereby the cutters attached to said faces are held in such a position as to present their cutting-edges to the wood at the required angle, as set forth.

EDWIN BENJAMIN.

Witnesses:

W. C. BRUSON,  
G. L. CHAPIN.