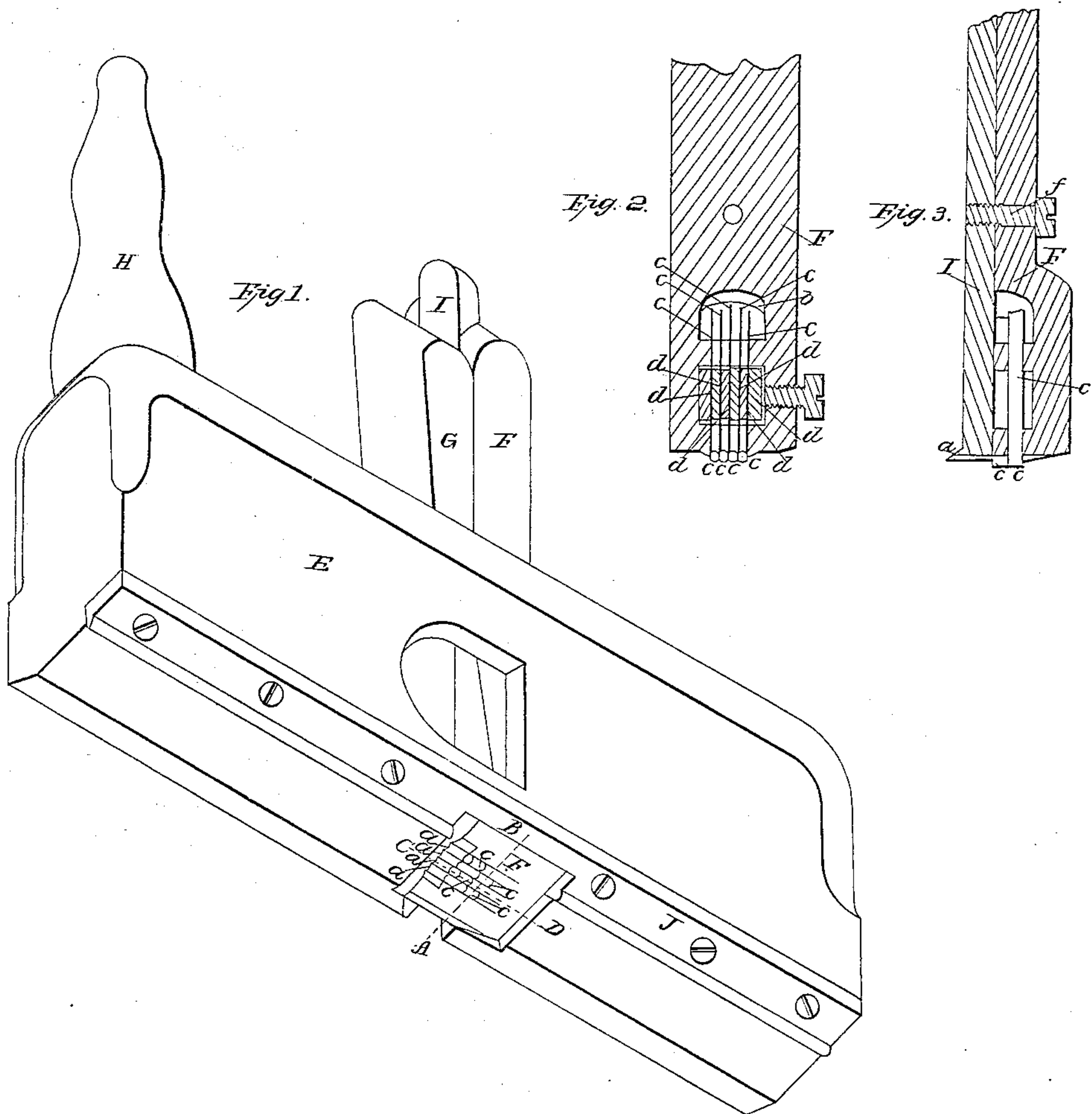


*A. Welsch,*

*Making Matches.*

*N<sup>o</sup> 43,358.*

*Patented June 28, 1864.*



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ANTONY WELSCH, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN MACHINES FOR CUTTING MATCHES.

Specification forming part of Letters Patent No. 43,358, dated June 28, 1864.

*To all whom it may concern:*

Be it known that I, ANTONY WELSCH, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Match-Cutters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters and figures marked thereon, which form part of this specification.

In said drawings, which are hereunto annexed, Figure 1 represents a perspective view of my invention. Fig. 2 is a transverse sectional view of the block F, and Fig. 3 is a sectional view of the same through the line C D in Fig. 1.

Similar letters of reference in the several figures denote the same parts of my invention.

The nature of my invention consists in the employment, in combination with a cutting-tool provided with a series of semicircular grooves, of a series of spring-steel cutters, arranged in the rear of the aforesaid grooves in such a manner that when the match-cutter is moved forward the said grooves cut the upper half of the match-sticks from the wood, while the aforesaid semicircular cutters of spring-steel, which are placed immediately behind the grooves and form the opposite arc of the circle, cut the lower half of the match-sticks from the wood, and thus by a single stroke of the instrument the sticks are cut of any desired length and number.

My invention also consists in arranging the elastic rear cutters, above described, in two rows, one being arranged just at the rear of the other alternately, or in any equivalent manner, so that said cutters may have freer play, and so that the cutting is distributed and less obstruction is presented by the wood to the passage of the cutters through the same.

To enable those skilled in the art fully to understand how to construct and use my invention, I will proceed to describe the same with particularity, reference being made to the aforesaid drawings.

E represents the wooden body of an ordinary bench-plane, substantially the only difference being such as is necessary to conform it to the peculiar cutting device constituting my invention.

F represents a block of brass or other suitable metal provided with a longitudinal groove, in which the steel bar I is adjusted and confined by means of the set-screw f.

I at its lower end is provided with the series of grooves before described, which cut the upper portion of the round match-stick from the wood, which grooves are marked *a* in the drawings. This bar or cutter I is adjustable up and down in F, so as to adapt it to the required depth or position when in use. The lower end of F is provided with a series of deep narrow channels or saw-cuts, into which the cutters *c c'* are inserted, as shown. F is also provided with two chambers, *b* and *h*. The chamber *b* receives the ends of the steel springs *c c'*, and permits an adjustment of said springs either by dropping them lower or by raising them higher, as may be desired. When adjusted to the desired position, the said springs are readily confined in place by means of the loose blocks *d*, arranged between them in the chamber *h*, and the set-screw *e*. By arranging the grooves *a* farther apart the spring-cutters *c c'* might be arranged in a single row across the instrument, only in such case much of the wood would be wasted, whereas by the alternate arrangement of the cutters (shown in Fig. 2) the grooves may be placed contiguous to each other, thereby saving and avoiding such waste.

I have shown my invention with only four grooves and cutters, and as arranged to be operated by hand; but there may be a series of any desired number of grooves and corresponding elastic or flexible cutters, and may be operated by machinery, as is the case with a planing-machine, or in any suitable manner, either by moving the instrument or by making the machine or cutter stationary and moving the wood upon the cutters.

Having described my improvement in match-cutters, I will now specify what I claim as new herein and desire to secure by Letters Patent.

1. The combination and arrangement of a series of cutting-grooves, *a*, with a corresponding series of flexible spring-cutters, *c c'*, whether said cutters *c c'* are arranged alternately, as shown, or not, operating substantially as and for the purposes herein described and shown.

2. Arranging the spring-cutters *c c'* alternately in two rows, substantially in the manner and for the purposes specified.

ANTONY WELSCH.

Witnesses:

W. E. MAUS,

WM. A. HENDRIS.