

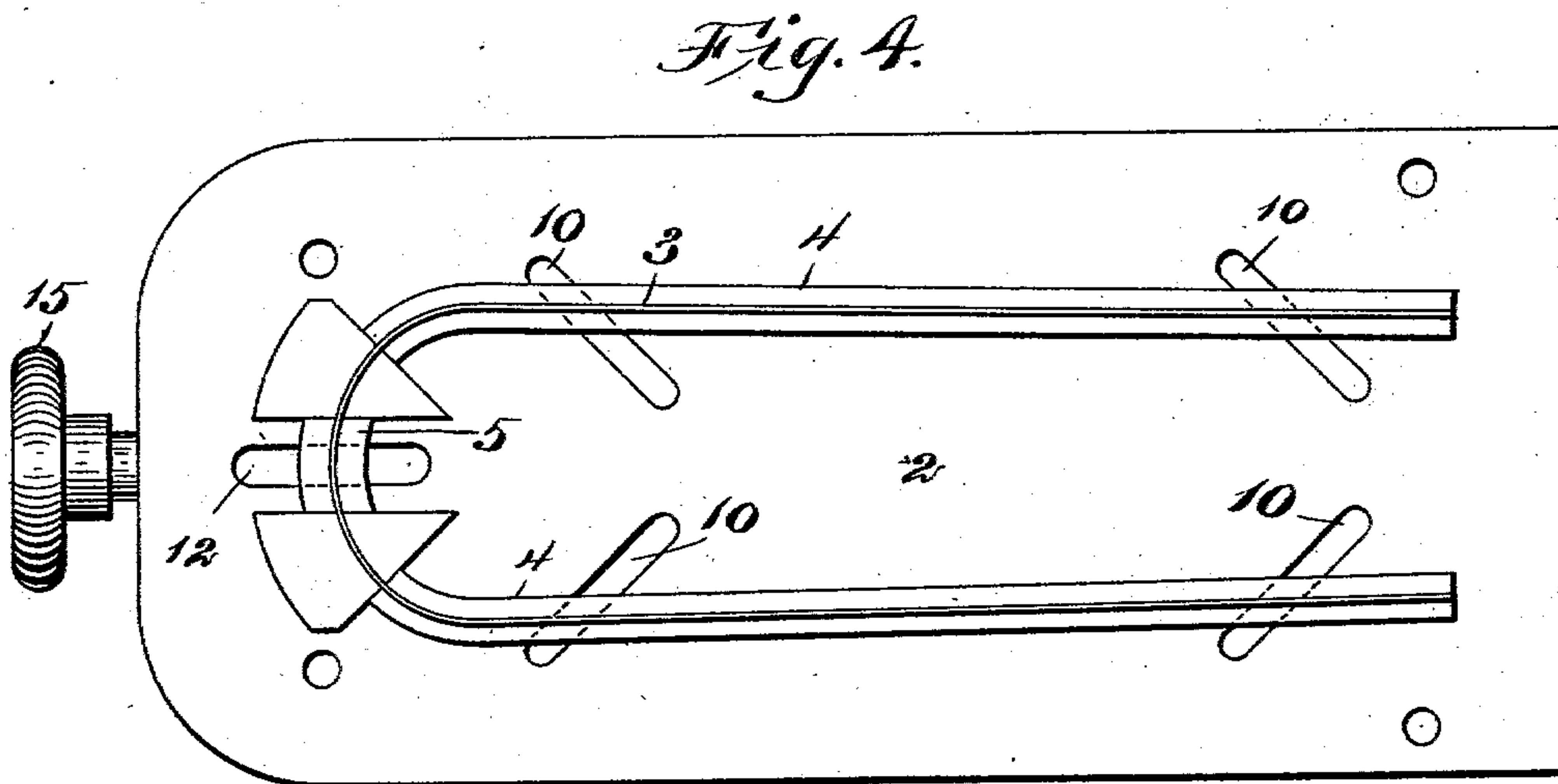
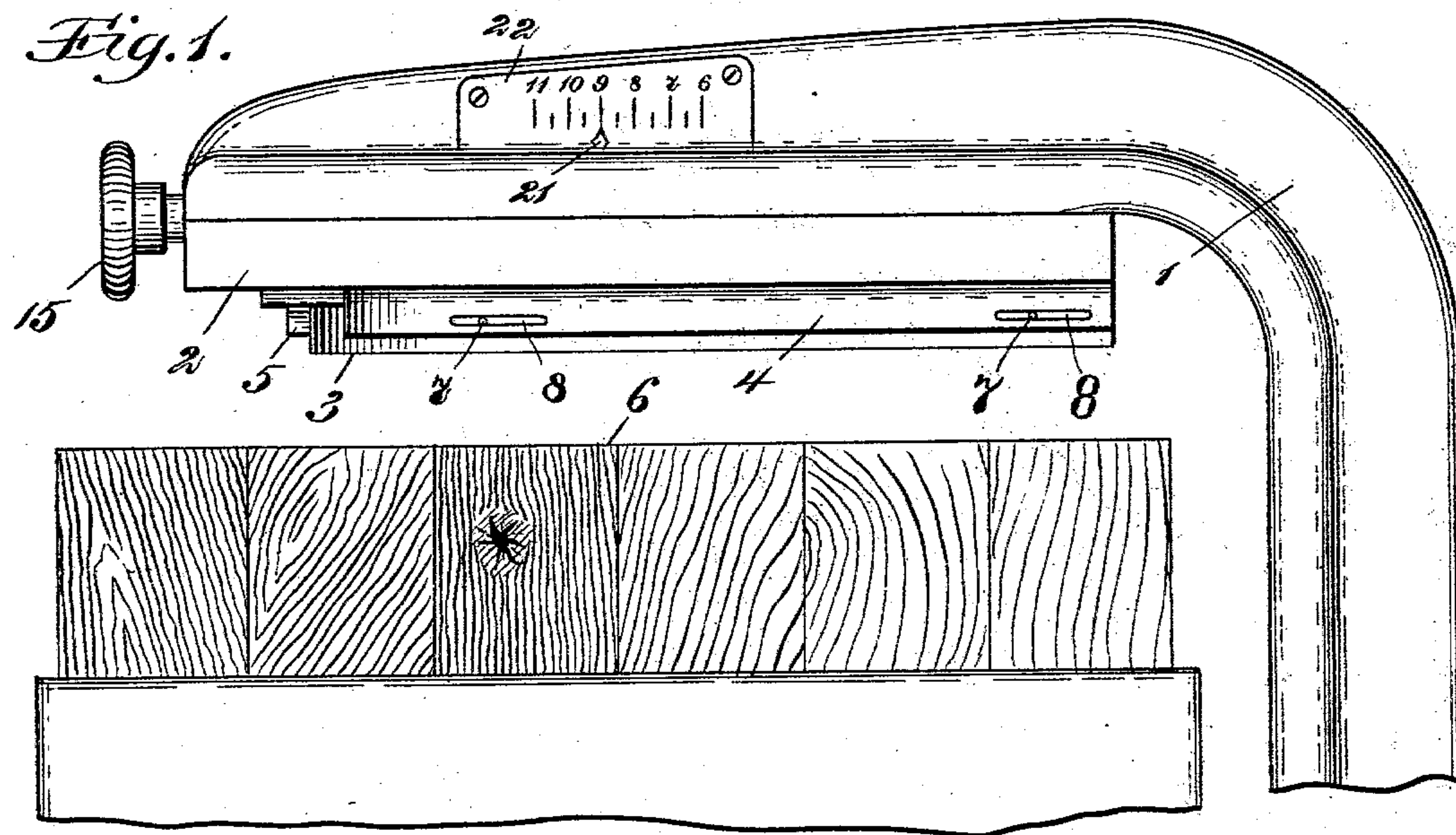
No. 716,876.

Patented Dec. 30, 1902.

G. F. DUNN.  
VAMP THROATING DIE.  
(Application filed Jan. 17, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
E. Batchelder  
P. H. Pezzetti

Inventor:  
G. F. Dunn  
By *Wright Brown* *Quincy*  
Attys

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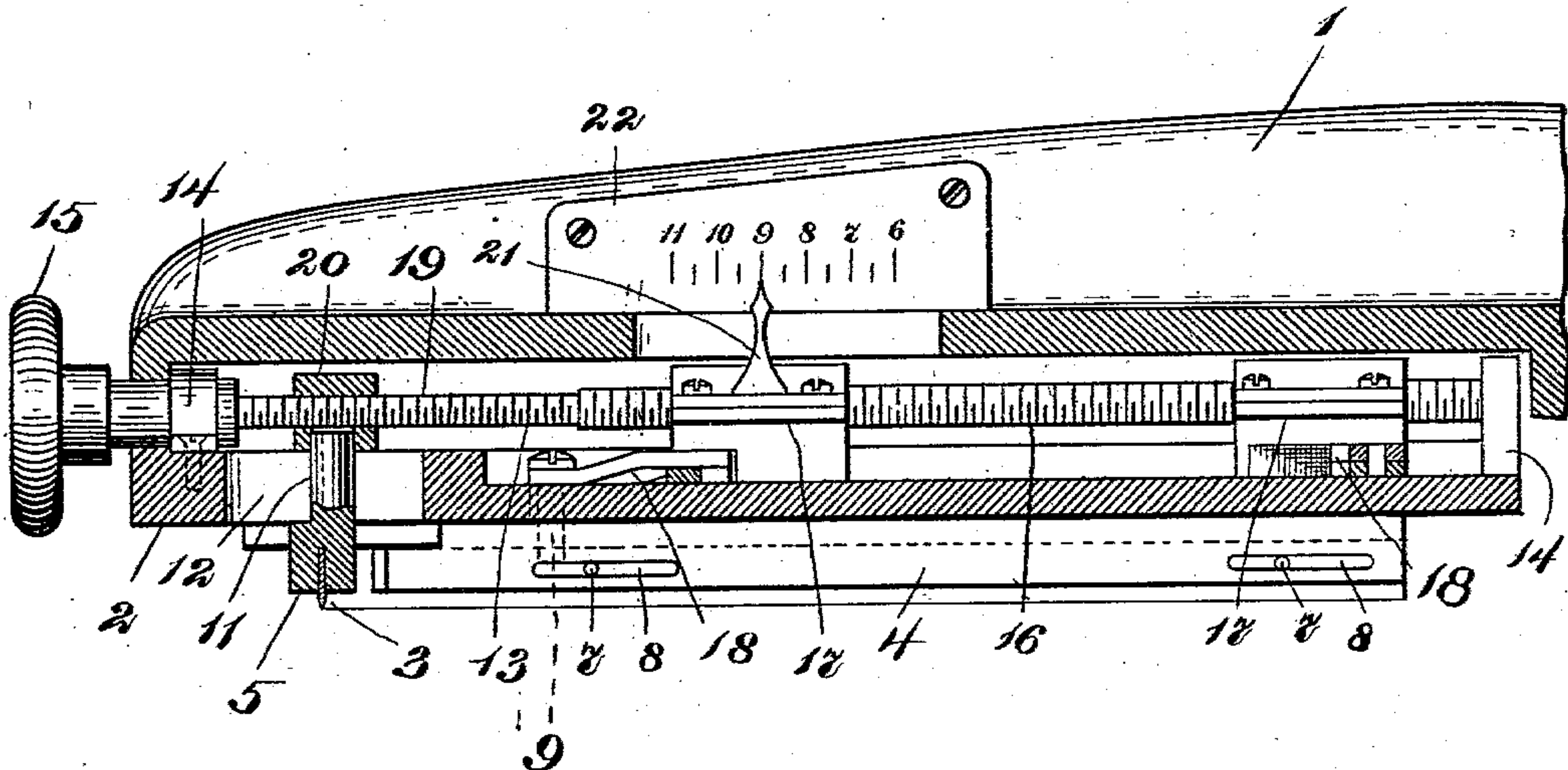
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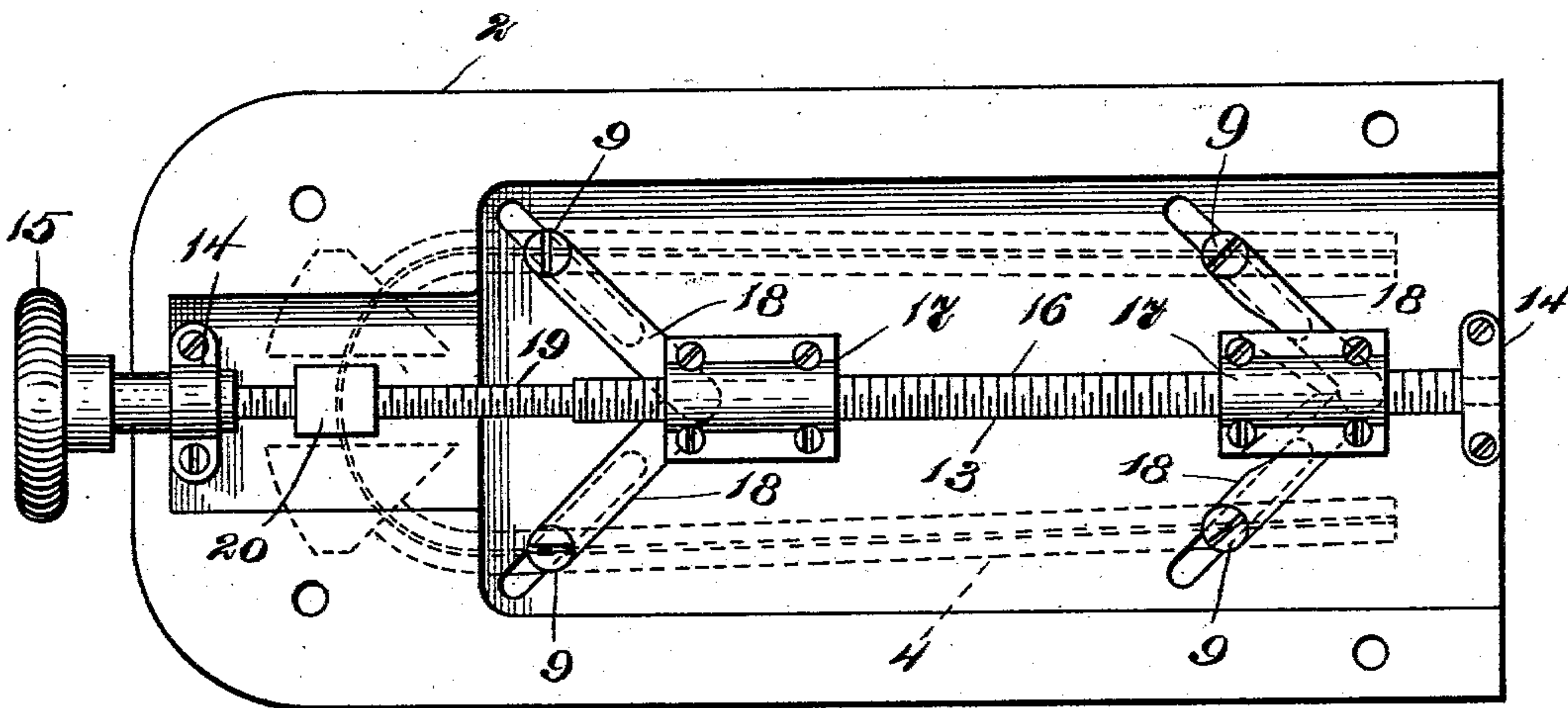
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2 Sheets—Sheet 2.

*Fig. 2.*



*Fig. 3.*



Witnesses:

E. Batchelder  
P. H. Pezzetti

Inventor:

G. F. Dunn  
By Wright & Brown  
Attys



# UNITED STATES PATENT OFFICE

GEORGE F. DUNN, OF BROCKTON, MASSACHUSETTS.

## VAMP-THROATING DIE.

SPECIFICATION forming part of Letters Patent No. 716,876, dated December 30, 1902.

Application filed January 17, 1902. Serial No. 90,168. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. DUNN, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Vamp-Throating Dies, of which the following is a specification.

This invention relates to a machine for throating vamps of boots and shoes—*i. e.*, for cutting out an open-ended recess in the material, so as to leave a substantially U-shaped curve on the inner edge. The machine is adapted for all dieing-out work of this nature in which the shape imparted to the work by the removal of material is an open-ended curve.

The invention has for its objects to make smooth work and provide a die which is inexpensive to manufacture and is capable of being easily adjusted.

Of the accompanying drawings, Figure 1 represents a side elevation of the die and block of a die-press constructed in accordance with my invention. Fig. 2 represents a longitudinal sectional view. Fig. 3 represents a top plan view of the holder and attached parts. Fig. 4 represents a reverse plan view thereof.

The same reference characters indicate the same parts in all the figures.

Referring to the drawings, 1 represents a vertically-reciprocating frame carrying a die which is made up of a base or holder 2, a cutting-blade or knife 3, a sectional carrier 4 4 5 for said cutting-blade, and means for adjusting said carrier. The cutting-blade 3 is a thin flexible steel ribbon bent into a U shape and sharpened on its lower edge, so that when it descends upon the work mounted upon the die-block 6 it will die out a recess in the work by severing an oblong piece of material therefrom, which operation is commonly known as "throating" the vamps.

The knife-carrier is made up of two elongated side sections 4 4 and an end section 5, all of which are grooved to receive the back edge of the blade or knife 3, said knife being held in engagement with the side sections 4 by means of pins 7 7, fixed to the knife and occupying slots 8 8 in the sections 4, which slots are elongated longitudinally to permit the longitudinal movement of the knife with respect to the sections, as hereinafter more fully

described. Each of the side sections 4 4 of the knife-carrier is provided with two upwardly-projecting studs 9 9, which occupy diagonal slots 10 10 in the holder 2, the slots on opposite sides of the median line of the die diverging at an angle of substantially ninety degrees. The end section 5 of the knife-carrier is provided with an upwardly-projecting stud 11, occupying a slot 12 in the holder 2, elongated in a direction parallel to the median line of the die.

13 is a screw mounted above the die-holder 2 in fixed bearings 14 14 and capable of rotation in said bearings, but not of longitudinal movement. On the forward end of the screw is a hand-wheel 15 for rotating it. The screw is provided with a threaded portion 16, on which are mounted two nuts 17 17, which partake of an equal longitudinal movement in the same direction when the screw 14 is rotated. These nuts are connected by links 18 18 with the studs 9 9 on the side sections 4 of the knife-carrier, so that when longitudinal movement is imparted to the nuts 17 by rotation of the screw the said side sections 4 4 will be caused to approach or recede from each other in a diagonal direction, according to the direction in which the screw is rotated. The screw is provided with another threaded portion 19, engaged with a nut 20, fixed to the upper end of stud 11, the direction of this thread being such as to move the nut 20 in the same direction as the nuts 17 17 when the screw is rotated. The rotation of the screw 14 therefore has the effect of expanding and contracting the cutting-blade 3, the flexibility of said blade permitting it to change its curvature in response to the movements of the sections 4 5. During the expansion and contraction of the blade it moves longitudinally in the grooves of the side sections 4 4. By properly regulating the pitch of the thread 19 with respect to the thread 16 the middle part or bend of the cutting-blade may be given a greater longitudinal movement than the lateral movement imparted to its side portions, and a wider range of vamps may thus be acted on in the machine than if the movements of the different portions of the cutting-blade were all uniform.

On one of the nuts 17 I have shown an upwardly-projecting pointer 21, cooperating



with a graduated index-plate 22 on the frame 1, the whole forming a gage whereby the die may be accurately adjusted to work on any size of vamp within its range.

5 I am aware that it has been proposed prior to my invention to employ an expanding flexible cutter adjusted by means of a sectional carrier, to the sections of which a simultaneous movement is imparted, and I do  
10 not claim this broadly.

I do not confine myself to the exact construction herein set forth, as considerable variation may be made without departing from the spirit of my invention.

15 I claim—

1. In a die for throating vamps and like purposes, a substantially U-shaped flexible cutter, side carrier-sections engaging the sides of said cutter at the ends of the bend or curve  
20 of the U and in sliding relation to said cutter, an end carrier-section engaging the cutter at the bottom of the bend of the U, means to impart a relative lateral movement to said side sections for expanding the cutter, and means  
25 to impart a relative longitudinal movement to the end and side sections.

2. In a die for throating vamps and like purposes, a substantially U-shaped cutter, side carrier-sections engaging the sides of the  
30 U and in sliding relation thereto, and means for guiding said sections diagonally with respect to each other in predetermined paths.

3. In a die for throating vamps and like purposes, a substantially U-shaped cutter,  
35 side carrier-sections engaging the sides of the U and in sliding relation thereto, means for

guiding said sections diagonally with respect to each other in predetermined paths, and an adjusting mechanism common to said sections and having provisions for simultaneously ad- 40 justing them.

4. In a die for throating vamps and like purposes, a substantially U-shaped cutter, side carrier-sections engaging the sides of the U and in sliding relation thereto, means for  
45 guiding said sections diagonally with respect to each other in predetermined paths, an adjusting-screw having a device movable longitudinally by rotation of said screw, and connections from said device to the respective  
50 side sections.

5. In a die for throating vamps and like purposes, a substantially U-shaped cutter, side carrier-sections engaging the sides of the U and in sliding relation thereto, an end car- 55 rier-section engaging said cutter at the bottom of the bend of the U, means for guiding the side sections diagonally with respect to each other in predetermined paths, a rotatable rod held from axial movement and having  
60 two screw-threaded portions of different pitch, a nut on one of said portions having connections with the respective side sections, and a nut on the other portion having a connection  
65 with the end section.

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

GEORGE F. DUNN.

Witnesses:

R. M. PIERSON,  
C. F. BROWN.