

No. 766,077.

PATENTED JULY 26, 1904.

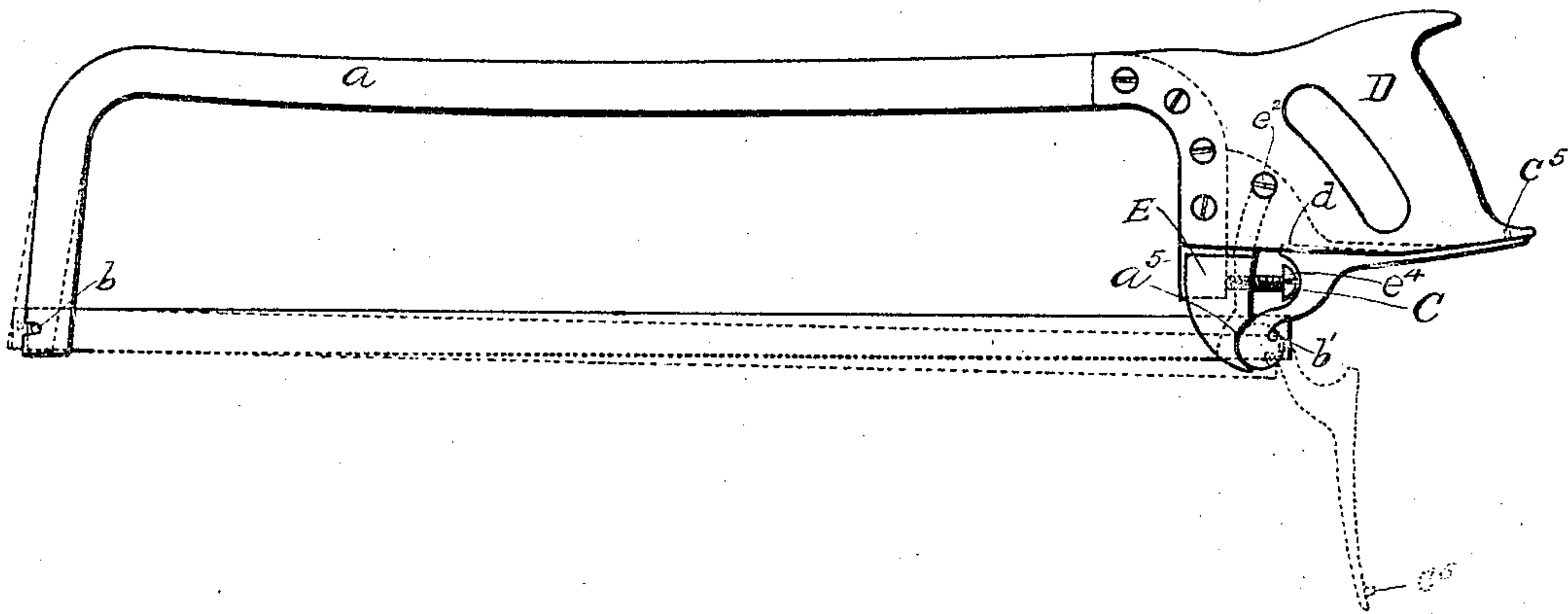
G. M. TILDEN.

SAW.

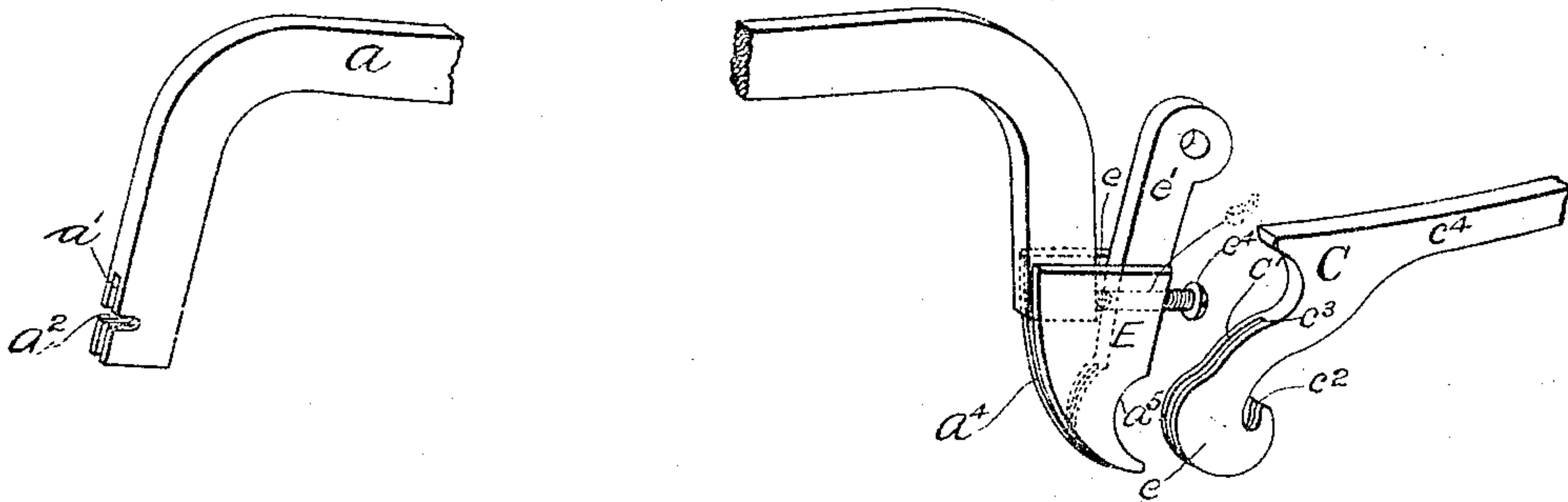
APPLICATION FILED NOV. 13, 1903.

NO MODEL.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*L. J. Davis*  
*G. M. Saywell*

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by his attorney *J. A. Fay*

# UNITED STATES PATENT OFFICE.

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## SAW.

SPECIFICATION forming part of Letters Patent No. 766,077, dated July 26, 1904.

Application filed November 13, 1903. Serial No. 181,016. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. TILDEN, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Saws, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to saws, and particularly to butcher-saws, its object being to provide such saws with means whereby a removable blade may be quickly and easily removed and replaced and adjusted in an efficacious manner. Said invention consists of means hereinafter fully described, and particularly set forth in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure 1 represents a side elevational view of a butcher's saw embodying my invention. Fig. 2 represents a perspective view of the outer end of the saw-frame, the inner end of such frame to which an adjustable head is secured, and a lever forming a part of the invention, such parts being shown detached from one another.

My invention is designed to be an improvement upon that disclosed in United States Letters Patent No. 739,457 in that it provides an adjustable head in which the eccentric shown and described in said patent may work, as hereinafter more fully described.

One of the frame ends, preferably the outer frame end,  $a$ , is provided with a slot  $a'$ , adapted to receive the end of the saw-blade, and a notch  $a^2$  for receiving a transverse pin  $b$ , secured in the outer blade end, as will be understood. Secured preferably to the rear frame end is an adjustable head  $E$ , similarly provided with a slot  $a^4$  and formed in its rear side with a portion comprising a cylindrical bearing-surface  $a^5$ , intersecting said slot  $a^4$ .

A lever  $C$  is formed with a cylindrical bearing portion  $c$ , which is provided with a slot  $c'$  and is adapted to set and turn upon the bearing-surface  $a^5$ , the two slots  $a^4$  and  $c'$  registering with each other in such position of said lever. The inner end of the saw-blade extends through said slots and is provided with a transverse pin  $b'$ . The cylindrical bearing portion of said lever is further provided with a transverse slot  $c^2$ , intersecting its cylindrical surface and terminating intermediately of the cylinder-axis and said surface. Said slot  $c^2$  is adapted to receive and secure the pin  $b'$  eccentrically relatively to the fulcrum-axis of the lever—that is, the cylinder-axis. Said lever is formed with an angular arm comprising the parts  $c^3$  and  $c^4$ , the part  $c^4$  being elongated and provided with a stud  $c^5$ , adapted to project into a hole formed in the under side of the inner end of the handle  $D$ . The angularity of said arm is made substantially equal to that between said under side of the handle and the contiguous portion of the head  $E$ .

When it is desired to insert a blade into the saw, lever  $C$  is turned down, as shown in dotted lines in Fig. 1, which action brings slot  $c^2$  upon the under side of the lever and near the head  $E$ . The blade is now inserted in slots  $a'$ ,  $a^4$ , and  $c'$ , pins  $b$  and  $b'$  being caused to engage notch  $a^2$  and slot  $c^2$ , respectively. The lever is now turned upwardly into the position shown in full lines, Fig. 1, thereby drawing the blade into place, springing the frame, and so securing the blade tightly in its proper position. The lever, as a result of its described angular form, fits the frame, and lateral displacement of the arm  $c^4$  is prevented by the stud  $c^5$  and the groove  $d$ , formed in the bottom surface of the handle  $D$ , in which groove the arm  $c^4$  is adapted to rest.

I have found that the saw as thus described does not always provide means for giving to the blade the proper tension, and especially is this true after the blade has been in use for a period. I have therefore shortened the inner frame end, as can be seen from the drawings accompanying this application, and have provided an adjustable head  $E$ , in which the eccentric  $c$  may work. It is seen that the ac-



tion of the cylindrical bearing-surface  $c$  upon the adjustable head  $E$  is substantially the same as was the action of the cylindrical bearing in the patented device upon the bearing-surface in the lower portion of the inner frame end. This adjustable head is provided with the groove  $e$ , adapted to receive the inner frame end, as shown, the head being provided with a portion  $e'$ , adapted to enter a suitable groove in the handle and be secured to the latter by the screw  $e^2$ . The inner end of the head is provided with a screw-threaded hole  $e^3$ , intersecting the groove  $e$ , whereby a screw  $e^4$  may be caused to bear upon the inner frame end, and thus change the relative longitudinal positions of said head  $E$  and frame end by causing the head to move inwardly or outwardly. This, as will be seen, will secure the blade more tightly in position or loosen the same when the lever  $C$  is turned upwardly into the position shown in full lines in Fig. 1. By providing this adjustable head the saw-blade may be kept at the proper tension, even after the same may have sprung somewhat from use, and hence require that it be more tightly fastened than was necessary when it was new. Furthermore, the presence of the adjustable head obviates the necessity of extreme care when manufacturing the device in securing the proper tension of the blade by means of the lever alone, any small inequalities from this source being easily and conveniently taken up by the rearward or forward movement of the head with respect to the inner frame end.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the

means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a saw, the combination of a frame provided with a blade-seat in one of its two ends, an adjustable head provided with a blade-seat and secured to the other end of such frame, a blade seated in such seats and removable therefrom, and a lever having a fulcrum bearing upon the adjustable head and adapted to engage the contiguous saw end eccentrically relatively to its fulcrum-axis.

2. In a saw, the combination of a frame, an adjustable head provided with a blade-seat and secured to such frame, a blade removably seated in said frame and head, and a lever located beneath the saw-handle, having a bearing upon the adjustable head, and connected with said blade eccentrically relatively to the fulcrum-axis.

3. In a saw, the combination of a frame, an adjustable head provided with a blade-seat and secured to such frame, a blade removably seated in said frame and head and provided with a transverse pin, and a lever having a cylindrical bearing portion, a slot located transversely of the cylinder-axis and intersecting the cylindrical surface of said bearing portion adapted to receive said pin and secure same in a position eccentric relatively to the fulcrum-axis.

Signed by me this 11th day of November, 1903.

GEORGE M. TILDEN.

Attest:

D. T. DAVIES,  
G. W. SAYWELL.