

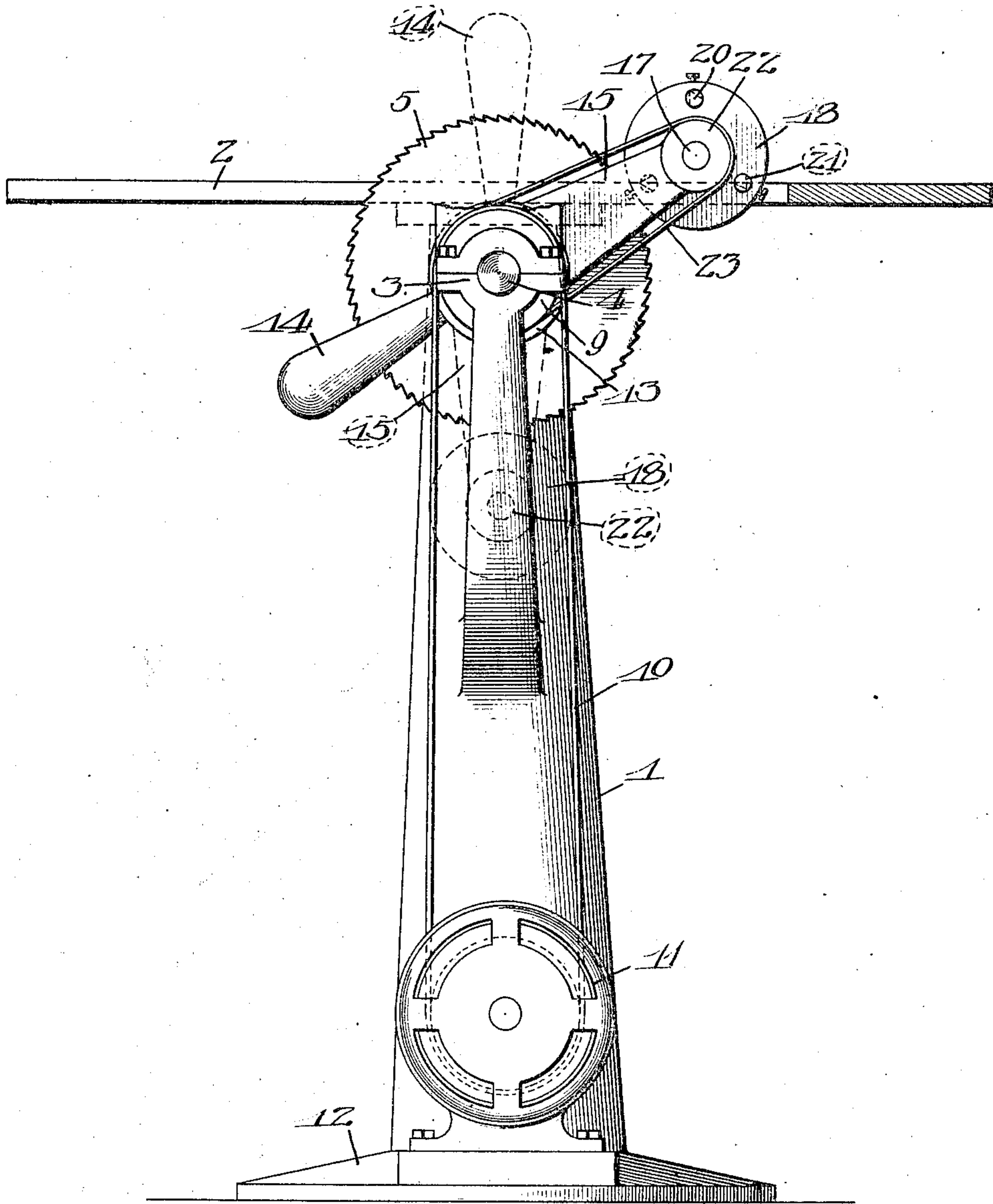
985,272.

H. G. MILLER.  
METAL SAW AND TRIMMER.  
APPLICATION FILED JULY 1, 1907.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

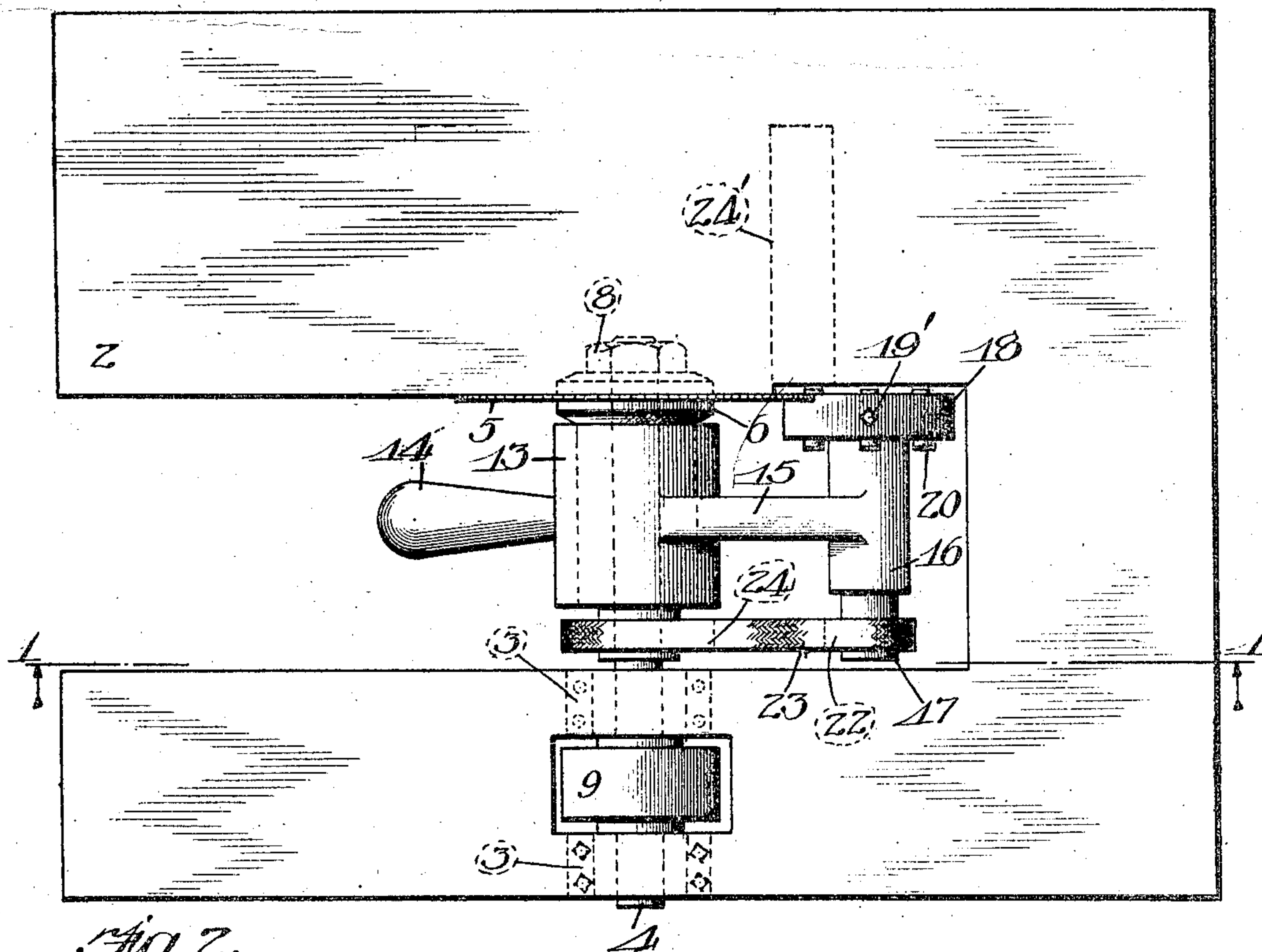


Fig. 2.

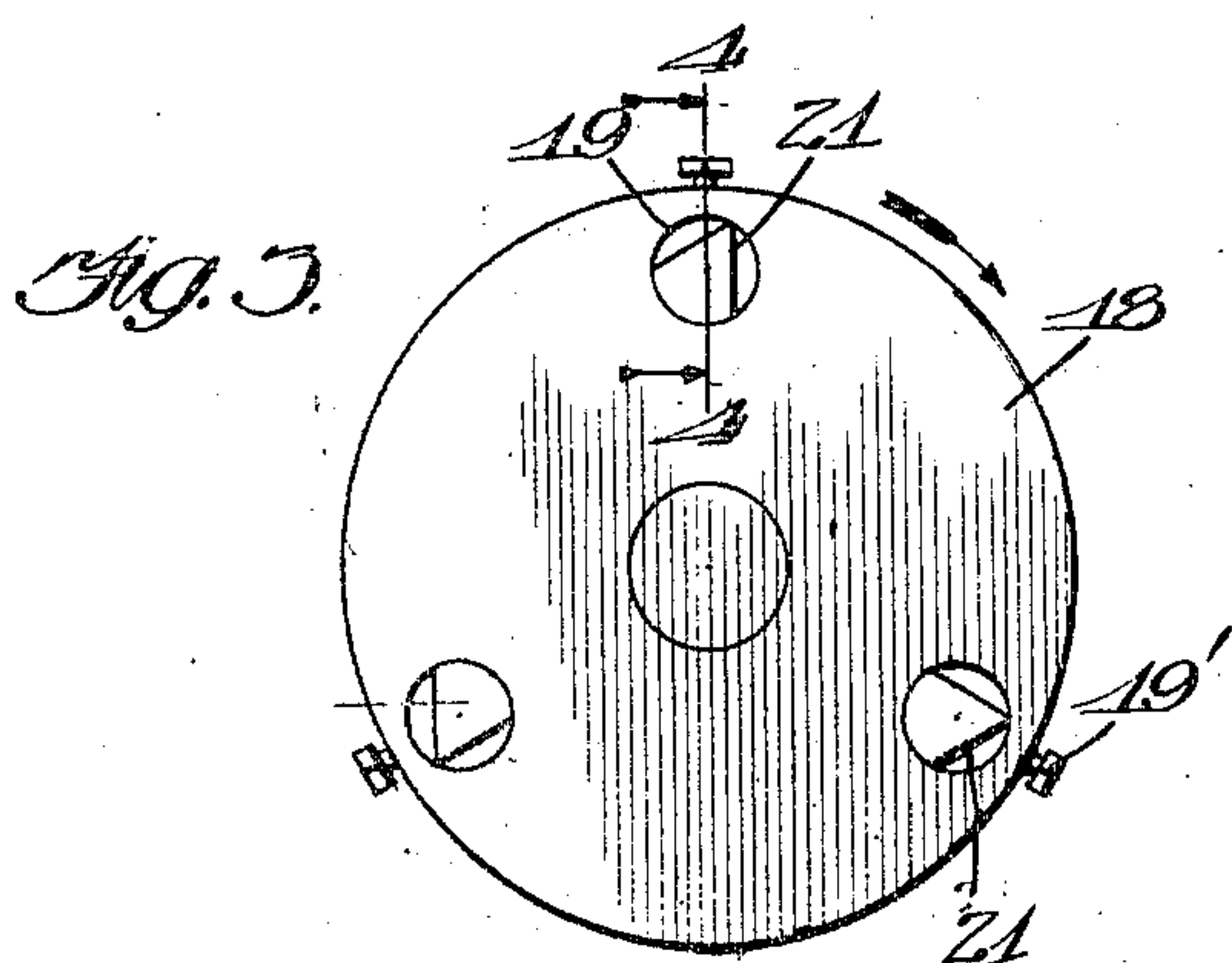


Fig. 3.

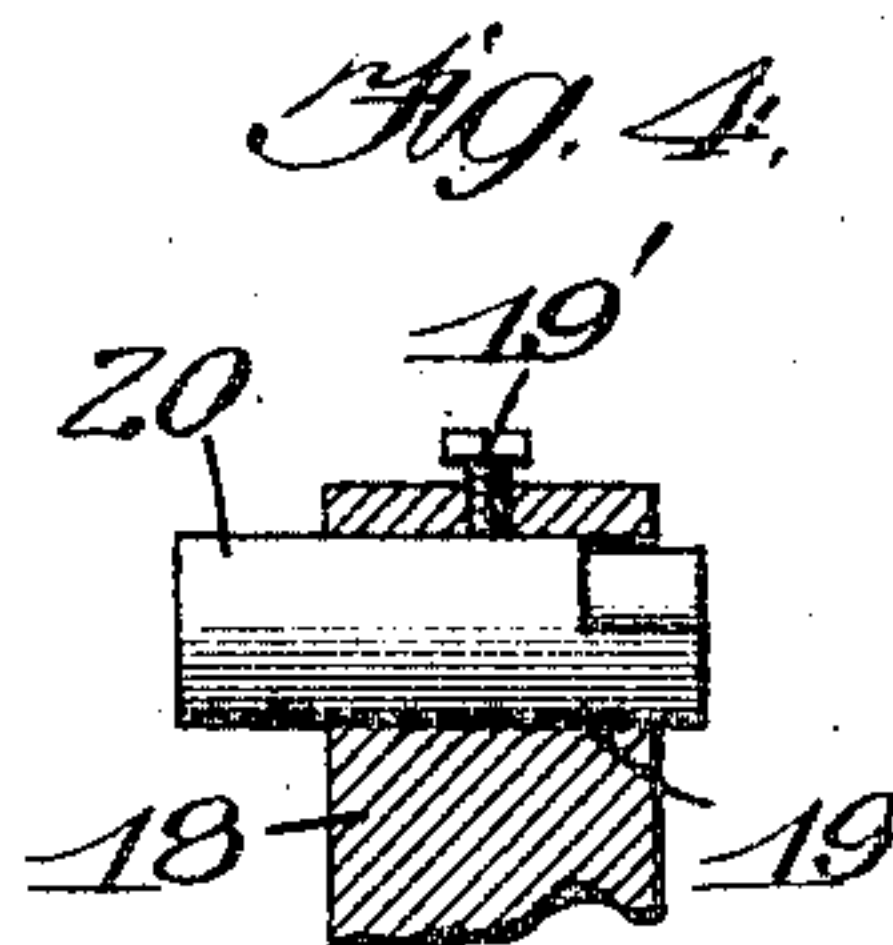


Fig. 4.

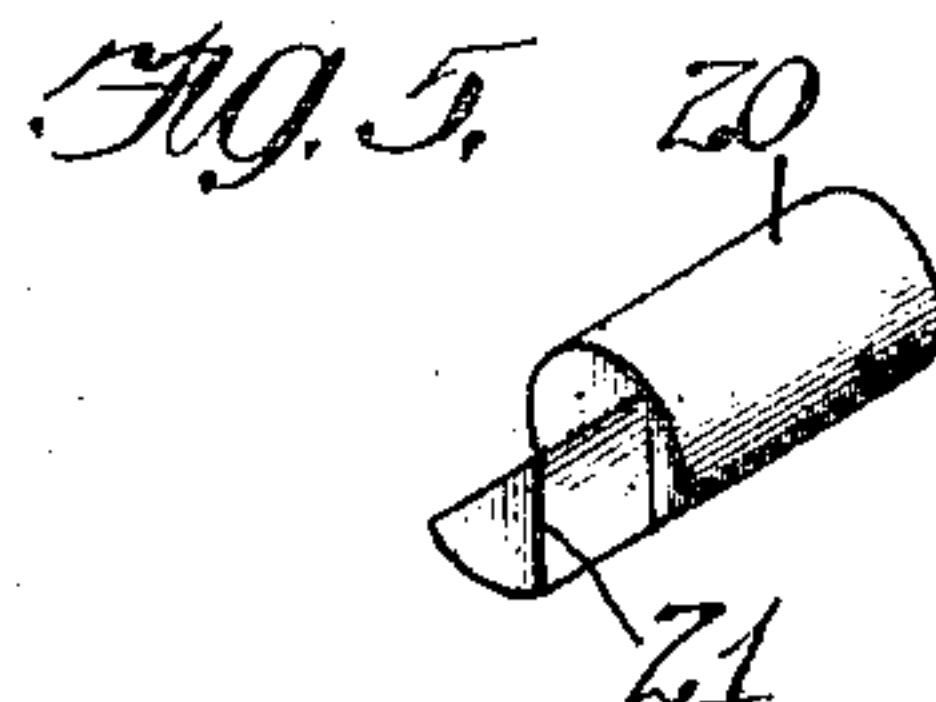


Fig. 5.

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# UNITED STATES PATENT OFFICE

HARRY G. MILLER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO MILLER SAW-TRIMMER COMPANY OF MICHIGAN, OF ALMA, MICHIGAN, A CORPORATION OF MICHIGAN.

METAL SAW AND TRIMMER.

985,272. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed July 1, 1907. Serial No. 381,798.

To all whom it may concern:

Be it known that I, HARRY G. MILLER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Metal Saws and Trimmers, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to a combined metal saw and trimmer and it is one of the objects of my invention to so arrange the trimmer that it may be moved with respect to the work-holding table in such a manner that when it is desired, the trimmer may be thrown to an idle or inoperative position where it will not interfere with the work done by the saw.

Referring to the drawings, Figure 1 represents a side elevation partly in section taken on line 1—1, Fig. 2, of my improved saw and trimmer, the latter being shown in its operative position in full lines, and in its idle or inoperative position in dotted lines; Fig. 2 is a top-plan view of my device; Fig. 3 is a detached view of the trimmer; Fig. 4 is a cross-sectional view taken on line 4—4, Fig. 3, to illustrate one way of securing the knives to the trimmer; for the sake of clearness, the knife is shown in elevation; Fig. 5 is a view in perspective of one form of trimmer-knife that may be employed.

The supporting column or standard 1 carries a suitable table 2 which, for the sake of promoting clearness and simplicity in the drawings, is shown stripped of all the usual attachments,—such as the work-holding lever, the gages, the sliding table, line-holders, etc., which while they may be used advantageously with my invention are not shown as it is believed the invention may be more clearly understood without them. The standard 1 carries bearings 3, in which is journaled the shaft 4. The rotary saw 5 is secured to said shaft near one end thereof by means of washers 6. These washers may be conveniently secured to the shaft by causing their screw-threaded central openings to engage the correspondingly screw-threaded portion of the shaft. In this way the saw-blade may be firmly clamped between the two washers. However, other suitable means may be resorted to for securing the

saw upon the shaft. To prevent accidental loosening of the washers, and thereby endangering the stability of the saw, I prefer to employ a locking nut 8. Between the bearings 3 is the driving pulley 9, which through the belt 10 is connected to some suitable source of power,—as an electric motor 11 at the base 12 of the column 1. The pulley 9 being rigidly secured to the shaft 4, it will be seen that the rotation of the latter is communicated to the saw.

I come now to the trimmer-arrangement. Mounted loosely upon the shaft is a sleeve or hub 13, provided on one side with a handle 14, and on the other side with an arm or extension 15. The outer extremity of this arm carries a sleeve 16, in which is snugly journaled a shaft 17. It is to this shaft that the trimmer 18 is secured. This trimmer may be of any improved construction; in the particular instance illustrated, it consists of a solid body-portion having a sufficient number of openings 19 therein (the trimmer shown in Fig. 3 has three openings). In each of these openings is adjustably secured (as by screw 19') a trimmer-knife 20, having a cutting edge 21. The pulley 22, rigidly fastened to the projecting end of shaft 17, is connected by a belt 23 to the pulley 24 secured to the shaft 4 between the hub 13 and the inner bearing 3. It will be observed that in view of the loose mounting of the hub 13 on the shaft 4, the trimmer-mechanism will normally assume a vertical position due to gravity, as indicated in dotted lines in Fig. 1. In this way the trimmer is normally in an idle or inoperative position, without leastwise interfering with the proper working of the saw. In case it is desired to use the trimmer, it is simply necessary to grasp the handle 14 and move the entire trimmer-arrangement to the operative position, as shown in full lines in Fig. 1. If desired, suitable stops may be provided for limiting the upward movement of the trimmer-mechanism. In the operation of the machine, as soon as the metal plate or bar under treatment has passed beyond reach of the saw (as indicated at 24' in Fig. 2), it enters the field of action of the trimmer-knives, which trim it down to the required size or form. Upon releasing the handle 14, the entire trimmer-arrangement drops out of the way, ready to



be moved into operative position at any moment.

Although I have shown and described one embodiment of my invention, yet I will have it understood that the invention is by no means confined to the specific structure shown and described. It is apparent that the essence of my invention, as set forth in the annexed claims, is susceptible of other and further embodiments or modifications which might suggest themselves to those skilled in the art, and which, therefore, the appended claims seek to cover.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein mounted on said standard, a rotary saw projecting when in operative position above the plane of the table through said opening and carried on said standard, and a trimmer head carried by said standard rotating in the same direction as the saw and in a plane parallel therewith, trimmers mounted in said head projecting beyond the face of the head and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers, the relation of the head to the saw being such that the work must be fed to the trimmers in the same direction as it is fed to the saw, said trimmer head being mounted to move independently of the table substantially vertically into and out of the plane of the table through an opening therein.

2. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein mounted on said standard, a rotary saw projecting when in operative position above the plane of the table through the opening therein and carried by said standard, and a trimmer head carried by said standard arranged to the rear of said saw rotating in the same direction as the saw and in a plane parallel with the saw, trimmers mounted in said head projecting beyond the face of the head and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers, said trimmer head being mounted to move independently of the table substantially vertically into and out of the plane of the table through an opening therein.

3. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein, a shaft mounted on said standard, a saw mounted on said shaft to project above the plane of the table through said opening, a trimmer head carried by said

standard rotating in the same direction as the saw and in a plane parallel with the saw, trimmers mounted in said head projecting beyond the face of the head and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers, and a support for said trimmer head carried by said shaft and arranged to support the trimmer head in the rear of the saw, said support being movable independently of the table to permit the trimmer head to be moved into and out of the plane of the table.

4. In a device of the character described, the combination with a standard, of a table carried thereby having an opening therein, a shaft journaled on said standard, a saw mounted on said shaft to project through the opening in said table, an arm rotatably mounted on said shaft extending rearwardly from said saw and having a journal formed in its outer end, a shaft mounted in said journal, a trimmer head on said shaft rotating in the same direction as the saw and in a plane parallel with the saw, trimmers mounted in said head and projecting beyond the face of the head and into the line of travel of the material to be cut whereby the cut made by the saw will be trimmed by said trimmers, and means for rotating said arm to throw the trimmer head into and out of the plane of the table surface.

5. In a device of the character described, the combination with a standard, of a flat-topped table mounted thereon and having an opening therein, a rotary saw mounted on a shaft and arranged to project when in operative position through said opening and above the top of the table, a supporting shaft carried by said standard vertically movable independently of said table and arranged in the rear of the saw carrying shaft, a trimmer head mounted on said shaft rotating in the same direction as the saw, trimmers adjustably mounted in said head projecting beyond the face of the head and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers.

6. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein mounted on said standard, a rotary saw projecting when in operative position above the plane of the table through the opening therein and carried on said standard, a trimmer head carried by said standard rotating in the same direction as the saw and in a plane parallel with the saw, trimmer knives adjustably mounted in said head projecting beyond the face of the head and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers, the relation of the trimmer head to the saw being such that the work



must be fed to the trimmers in the same direction as it is fed to the saw, said trimmer head being mounted to move independently of the table substantially vertically into and out of the plane of the table through an opening therein.

7. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein mounted in said standard, a shaft journaled in said standard, a rotary saw mounted on said shaft, a driving pulley mounted on said shaft, and a driven pulley mounted on said shaft, a second shaft carried by said standard vertically movable independently of the table, a trimmer head mounted on said shaft in a plane parallel with the saw, trimmers mounted in said head projecting beyond the face of the head and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers, a pulley on said trimmer head shaft and a belt extending from the driven pulley on the saw shaft to the driving pulley on the trimmer head shaft for rotating the trimmer head in the same direction as the saw.

8. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein mounted on said standard, an arm associated with said table, a shaft arranged at one end of said arm, a saw mounted on said shaft to project when in operative position above the plane of the table through said opening, a shaft arranged at the opposite end of said arm, a trimmer head mounted on said shaft in a plane parallel with the saw, trimmers mounted in said head projecting beyond the face thereof and into the line of travel of the material where-

by the cut made by the saw will be trimmed by said trimmers, the relation of the trimmer head to the saw being such that the work must be fed to the trimmer head in the same direction as it is fed to the saw, and means for moving said arm to move the trimmer head substantially vertically whereby the trimmer head is moved above or below the plane of the table surface.

9. In a device of the character described, the combination with a standard, of a flat-topped work supporting table having an opening therein mounted on said standard, an arm associated with said table, a shaft arranged in one end of said arm, a saw mounted on said shaft to project when in operative position through the opening in said table above the plane thereof, a second shaft mounted at the opposite end of said arm, a trimmer head mounted on said shaft and arranged in a plane parallel with the saw, trimmers mounted in said head projecting beyond the face thereof and into the line of travel of the material whereby the cut made by the saw will be trimmed by said trimmers, means for moving said arm independently of the table to throw the trimmer head above or below the plane of the table, means for driving the saw shaft, and means operated from the saw shaft for rotating the trimmer head shaft in the same direction as the saw shaft whereby the work must be fed to the trimmer head in the same direction as it is fed to the saw.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

HARRY G. MILLER.

Witnesses:

M. R. ROCHFORD,  
A. A. THOMAS.