

E. G. TODT.
METAL CUTTING MACHINE.
APPLICATION FILED FEB. 8, 1909.

958,196.

Patented May 17, 1910.

3 SHEETS—SHEET 1.

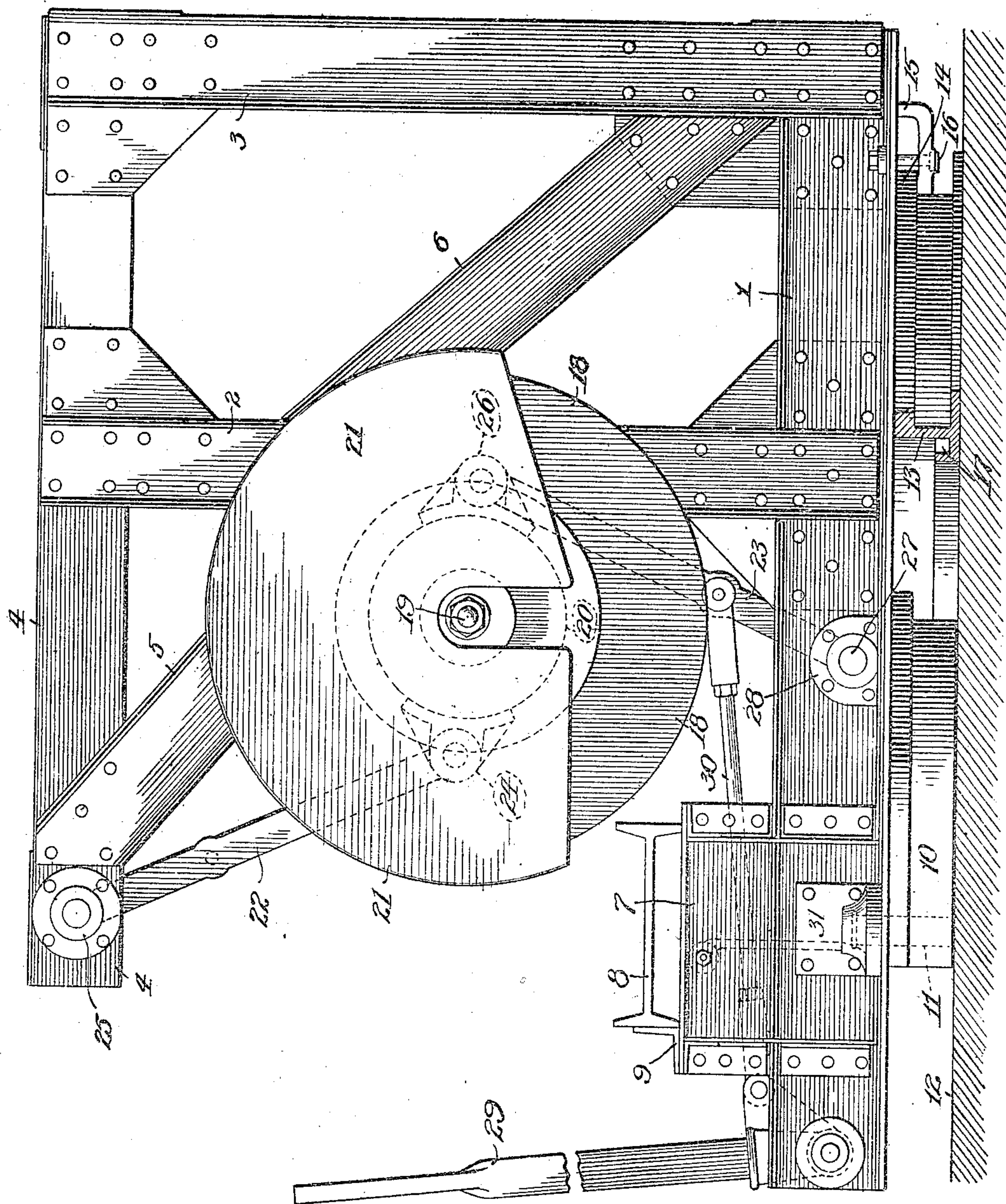


Fig. 1

WITNESSES

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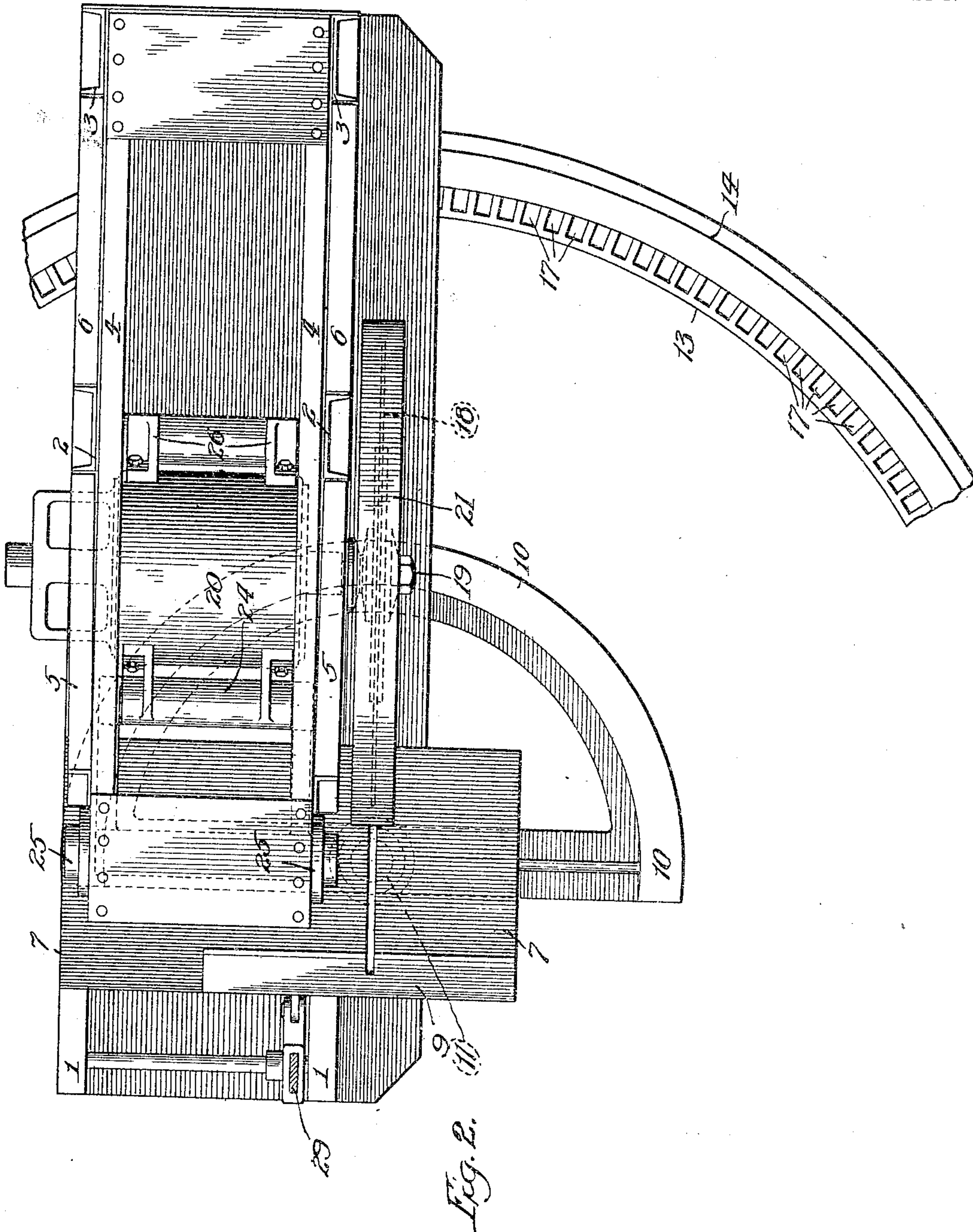
Edward G. Todt
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UNITED STATES PATENT OFFICE.

EDWARD G. TODT, OF MANITOWOC, WISCONSIN.

METAL-CUTTING MACHINE.

958,196.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD G. TODT, a citizen of the United States, residing at Manitowoc, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Metal-Cutting Machines, of which the following is a specification.

The invention relates to metal cutting machines, and has for its primary object the provision of an improved mounting of the machine whereby it may be readily shifted to receive work brought from any direction without the necessity of shifting such work; and the provision of a shiftable machine of the character indicated which has all of the stability of a permanently fixed machine. One embodiment of the invention is illustrated in the accompanying drawings, wherein;—

Figure 1 is a side elevation of the machine,

Figure 2 is a plan view thereof, and

Figure 3 is a front elevation thereof.

The purpose or function of the particular embodiment of the invention illustrated in the drawings, is the severing of commercial sections, such as I beams and the like, but it will be obvious that the invention is capable of wide application, and is not limited to this particular use. The machine as hereinafter described in detail, comprises a frame for supporting the member or section to be cut, a saw, with its drive motor mounted for free movement toward and from the member, and means whereby the entire machine may be swung around a fixed axis to receive the members as they approach the machine from any direction, the latter function being desirable as it avoids the necessity of swinging the long unwieldly commercial sections or members to suit the position of the machine. The machine thus arranged has all the stability of a permanent machine combined with the adaptability of a portable machine.

The main framework comprises the pair of horizontal channel beams 1—1; the two pairs of vertical channel beams 2—2 and 3—3; the upper pair of horizontal channel beams 4—4 and the two pairs of bracing struts 5—5 and 6—6 all securely fastened together by means of rivets and gusset plates as shown. The front portion of the frame is provided with the work supporting table 7 of the construc-

tion clearly indicated in Figures 1 and 2, which table is adapted to support the I beam 8 or other section to be severed, and carries upon its upper surface the positioning angle bar 9. The framework has secured beneath its forward portion the semi-circular base casting 10 provided with the vertical bearing pin 11 socketed in the casting 31 mounted upon the frame member, 1. The rear portion of the machine rests movably upon the circular track 13 (Figures 1 and 2), such track being preferably secured to the foundation 12. The track is of the cross section indicated in Figure 1, and has a rearwardly projecting flange portion 14 with which the clamping member 15 is adapted to engage, such clamping member 15 being secured to the movable framework above by means of the bolt 16. This arrangement permits of the shifting of the entire machine about the bearing pin 11, and provides for the securing of such frame rigidly in any adjusted position. In order to facilitate the movement of the rear end of the frame upon the track 13 the recesses 17 are provided in the track casting for the reception of the end of a crow bar or similar prying means for working the heavy frame along the track. The saw preferably employed consists of a smooth steel sheet 18 secured to the end of the shaft 19, which shaft constitutes the axis of the electric motor 20, and carries the armatures thereof. The saw is provided with the usual metal shield 21.

The mounting of the motor for movement in substantially a right line is accomplished by means of the pair of links 22 and 23 pivoted respectively to the frame above and below the motor and to the motor casing. The front side of the motor is provided with an extended bracket 24 (Figure 3), carrying a shaft whose ends are engaged by the side members of the link 22. The upper end of the link 22 is laterally extended at 24' and carries a shaft secured at its end in bearing members 25—25 riveted to the channel beams 4—4. The other side of the motor is provided with a pair of brackets 26—26 (Figure 2) between which is journaled the upper end of the link 23 upon a shaft extending between the brackets 26—26. The lower end of the link 23 is pivotally mounted upon a shaft 27 carried by the brackets 28—28 (Figure 1). It will be seen from the foregoing that a substan-

tially horizontal or right line movement of the saw is provided for, as the lower end of the link 22 swings downwardly while the upper end of the link 23 swings upwardly a corresponding distance, thus maintaining the drive shaft 19 at substantially the same vertical height throughout the lateral swing of the saw. The amount of power required to swing the device is obviously much less than would be the case if the motor and saw were mounted to slide upon guides, and the construction is simpler and less expensive. The movement of the motor and saw are readily controlled by means of the hand lever 29 connected by means of the link 30 to the link 23. It will be seen that as the machine is self maintained and all the operative parts are carried by the movable framework, it is immaterial in what position the machine is placed with respect to its circular track 13. This is a very desirable feature where long heavy beams are to be operated upon as it is very much easier in such cases to shift the machine so that it will readily receive the beam, than it is to shift the beam around so that it will properly engage a fixed work support. Furthermore the space in machine shops is often so restricted that it is impossible to do much shifting with a long beam, and under such conditions the func-

tion of shiftability is very valuable in a machine of this character.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. In combination in a machine for cutting beams and structural steel work, a base, a framework, a work support and cutting means carried by the framework, a vertical pivot support for the frame adjacent one side thereof, and means for rigidly securing the opposite side of the framework to the base.

2. In combination in a machine for cutting beams and structural steel work, a framework provided with a work support and cutting means, a curved track adjacent one side of the machine, a pivotal support for the framework at the side opposite the track, whereby the frame may be shifted bodily on the track about the pivotal support, and means whereby the framework may be rigidly clamped upon the track.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

EDWARD G. TODT.

Witnesses:

E. L. NASH,
PEARL SMART.