Dec. 6, 1927. 1,651,823

T. J. KELLEHER

ELECTRIC SHEET METAL CUTTER

Filed May 3. 1926

Fig. 1.

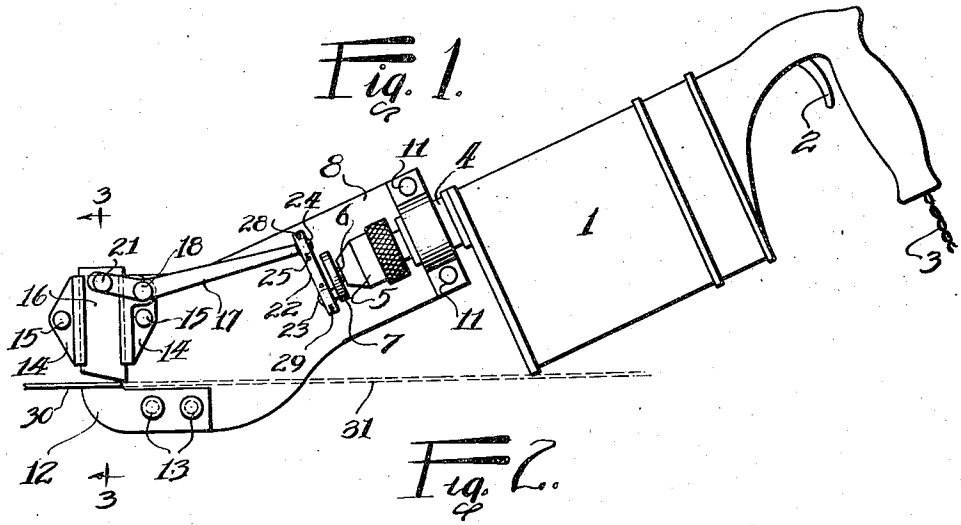


Fig. 2.

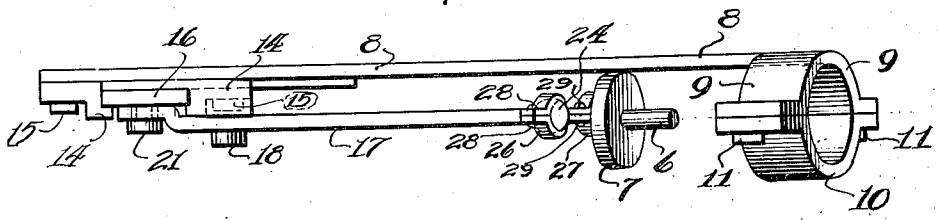


Fig. 3.

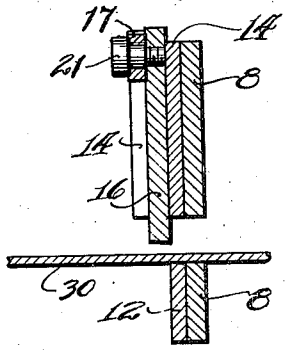
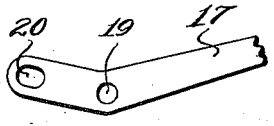


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ELECTRIC SHEET-METAL CUTTER.

Application filed May 3, 1926. Serial No. 106,391.

This invention relates to an electric sheet metal cutter adapted to cut single sheets of sheet metal and usable for all the purposes for which tinners' shears are used.

Among the objects of the invention are to obtain an electric cutter which will rapidly cut flat sheets of metal, of varying thicknesses, and which may be made to follow a line or pattern marked or laid upon the sheet which is being cut. An additional object of the invention is to obtain an electric sheet metal cutter which may be integral with or attachable to the shell of an electric drill of well known types, without change in the construction of said drill or of the shell thereof. A further object is to obtain a cutter of the kind named which is simple in construction, economically made, durable, and not liable to become broken or to get out of order.

In the drawing referred to Fig. 1 is a side elevation of an electric drill and of a construction embodying this invention attached thereto.

Fig. 2 is a top plan view on an enlarged scale, of said construction.

Fig. 3 is a vertical section on line 3—3 of Fig. 1, viewed as indicated by arrows; and

Fig. 4 is a side elevation of a portion of a pivoted lever forming an element of the construction illustrated in the remaining figures.

A reference character applied to designate a given part indicates said part throughout the several figures of the drawing wherever the same appears.

1. represents the shell of an electric drill. 2 represents the switch lever by means of which the energizing of the motor of the drill is controlled. 3 represents the flexible electric conductors to the drill. 4 represents a cylindrical member of the shell of the drill. 5 represents an ordinary drill chuck. 6 represents a shaft which is secured in chuck 5 in the ordinary way of securing drills in said chuck. 7 represents a disk which is rigidly mounted on shaft 6. 8 represents a sheet metal base and 9, 9, curved members which are illustrated as integral with one end of said base and adapted to form elements of a clamp by means of which the construction is attachable to member 4 of the shell 1. 10 illustrates the element of the clamp which is complementary to members 9, 9. 11 represent screws or bolts by means of which the clamp is rigidly attached to said member 4. 12 represents a cutter which is rigidly attached to base 8, as by screws, bolts or rivets 13. 14 represents a member which is rigidly mounted on base 8, as by screws, bolts or rivets 15. 16 represents a cutter which is movably mounted in member 14. When the device is in operation the cutter 16 is rapidly moved longitudinally in member 14, and I prefer to make member 14 of hard bronze metal and cutter 16 is made of a hard steel or alloy. 17 represents a lever which is pivotally mounted, or fulcrumed on bolt 18; said bolt preferably extending through aperture 19, (Fig. 4) and into member 14. Said bolt 18 also preferably extends into a corresponding screw threaded aperture in base 8. The end of lever 17 which is attached to cutter 16 is provided with aperture 20, (Fig. 4); and 21 represents a bolt which extends through said aperture and into the cutter 16. This aperture 20 is slightly elongated to permit the lever 17 to turn on bolt 18, while moving cutter 16 longitudinally in member 14. 22 represents a member having a universal connection which is mounted at one end by a ball joint to crank 23, and at the other end, also by a ball joint, 24, to lever 17. The crank 23 is mounted on disk 7. The ball joint 24 forming one part of connection 22 is mounted or joined to the remainder of said connection by pivot 25, Fig. 1. The ball joint at the ends of connection 22 are illustrated as respectively comprising a removable member, as 26, 27, Fig. 2, which are secured in place by screws or rivets 28, 29. 30 represents a sheet of metal in position to be cut by the device embodying this invention, and 31, Fig. 1, indicates by broken lines a portion of said sheet of metal which has been cut, showing how the shell of the drill, 1, is movable over said sheet of metal while the same is being or has been cut.

To operate the device it is simply necessary to move it and the drill over a sheet of metal which is to be cut so that the line on which the cut is to be made is between the cutters 12 and 16, energize the drill by switch lever 2 and move the drill and cutter along the sheet so that the line thereon which is to be cut is continuously between said cutters. The rapid movement of cutter 16 will cut the sheet of metal along said line.

I claim:

1. An electrically operated cutter provided with a shell, a chuck, and a base rigidly

joined to said shell, in combination with a shaft attached to the chuck of said drill, a crank, mounted on said shaft, a lever fulcrumed on said base, a connecting member provided with ball joints at each end thereof between said crank and said lever, a cutter rigidly mounted on said base and an additional cutter movably mounted on said base to co-act with said rigidly mounted cutter, and a connection between said movably mounted cutter and said lever.

2. An electrically operated cutter provided with a shell and with a chuck rotatably mounted on said shell, in combination with a base rigidly connected to said shell, a shaft attached to said chuck, a crank mounted on said shaft, a lever fulcrumed on said base, a member having a universal connection between said crank and said lever, a cutter rigidly mounted on said base and an additional cutter movably mounted on said base to co-act with said rigidly mounted cutter, and a connection between said movably mounted cutter and said lever.

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