H. H. JENSEN.

MACHINE FOR CUTTING METAL BARS BY TWISTING.

APPLICATION FILED APR. 15, 1908.

913,013. Patented Feb. 23, 1909.

FIG. 1.

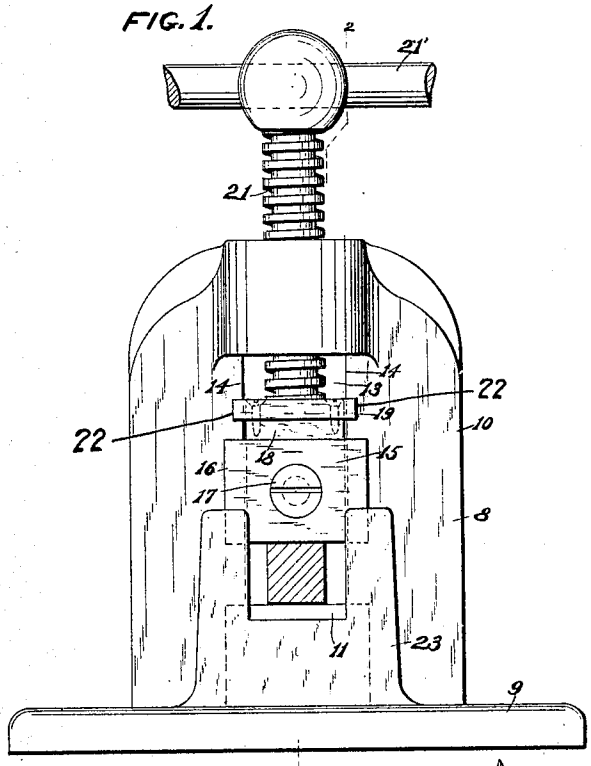


FIG. 2.

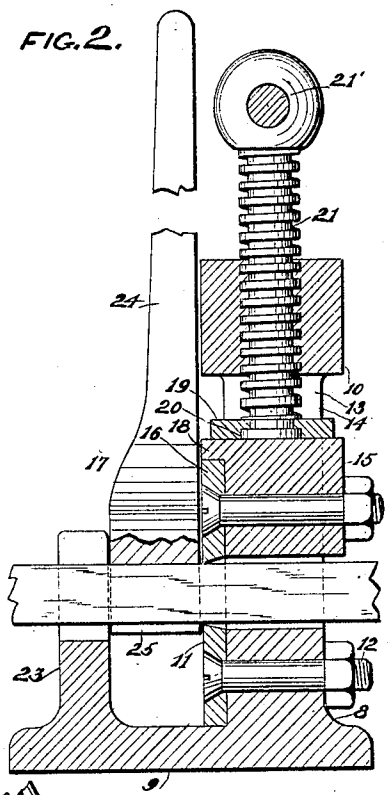


FIG. 3.

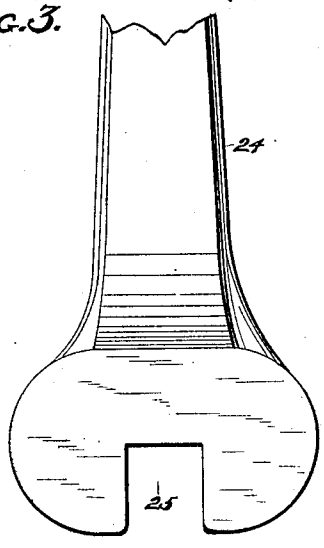


FIG. 4.

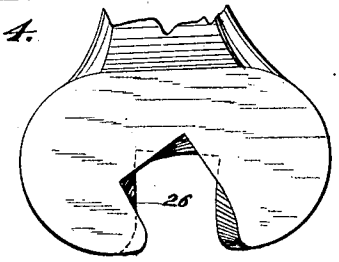


FIG. 5.

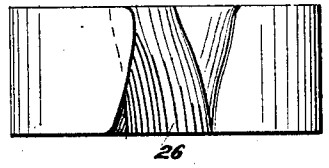
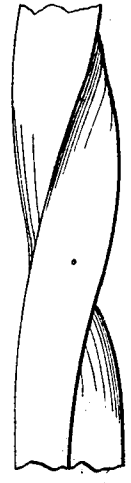


FIG. 6.



WITNESSES.

L. L. Tanner

Anna F. Schmidtbauer

INVENTOR.

Hans H. Jensen

By Benedict, Morsell & Caldwell

ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HANS HOLDEN JENSEN, OF MILWAUKEE, WISCONSIN.

MACHINE FOR CUTTING METAL BARS BY TWISTING.

No. 913,013. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed April 15, 1908. Serial No. 427,110.

To all whom it may concern:

Be it known that I, HANS H. JENSEN, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Machines for Cutting Metal Bars by Twisting, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in machines for cutting metal bars by twisting and is particularly adapted for cutting metal bars to be used in concrete building construction.

One of the objects of this invention is to produce a machine for cutting metal bars by twisting, which is simple in construction and inexpensive to manufacture and will require but a minimum application of manual power for operating it.

Another object of the invention is to provide a machine which is adapted to cut square, round or twisted metal bars, or bars of any shape in cross section, by twisting the same.

A further object of the invention is to provide twisting devices which are adapted to securely hold and twist bars of different shapes in cross section and of different sizes.

A still further object of the invention is to provide a machine which is adapted to hold metal bars of different sizes.

With the above, and other, objects in view, the invention consists of the parts and combination of parts, or their equivalents, and the method, and its several steps, or the equivalents thereof, hereinafter set forth.

In the drawings, in which the same reference characters refer to like parts throughout the different views: Figure 1 is a front elevation of my improved machine, engaging a square metal bar, the bar being in section; Fig. 2 is a vertical sectional view taken on line 2—2 of Fig. 1, showing the machine engaging a bar, and also the bar twisting device in operative position therewith; Fig. 3 is a side view of a bar twisting device used in conjunction with square metal bars; Fig. 4 is a side view of a bar twisting device used in conjunction with twisted bars; Fig. 5 is an inverted lower edge view of Fig. 4; and Fig. 6 is a view of a portion of a twisted metal bar.

Referring to the drawings, the numeral 8 indicates the holding member which consists of a base 9 provided with a standard 10 integral therewith and adapted to have mounted thereon the stationary knife jaw 11 which is bolted thereto by means of a bolt 12. The standard is provided with a central vertical elongated opening 13, the vertical side walls 14 of which serve as a guide for a movable knife jaw support 15 to slide thereon. A movable knife jaw 16 is bolted to the movable jaw support 15 by means of a bolt 17 passing therethrough. Both bolts are provided with ordinary nuts to secure them to their respective supports. The movable support 15 is provided with a projecting shoulder 18 against which the upper edge of the movable knife 16 bears in order to remove the vertical strains from the bolt 17 in clamping and twisting the bar to be cut. The lower knife is positioned so that its lower edge will rest upon the base in order to remove the strain from the lower bolt.

A guide plate 19 screwed to the top of the movable support 15 is provided with a shouldered opening 20 adapted to receive and rotatably hold a shouldered adjustable clamping screw 21. This clamping screw is provided with an enlarged head and a handle 21′ for conveniently turning the screw and to supply sufficient power to clamp the bar. The screw is threaded in the upper portion or head of the standard. The guide plate 19 provided with front and rear shoulders 22 which project in front of and in the rear of the standard 10 guides the movable support 15 in the opening of said standard.

A recessed bar guide 23 projects upwardly from the base 9 in front of the standard and is spaced a sufficient distance from the clamping knives to permit the placing therebetween of a twisting member 24 adapted to engage the bar to be cut. The recess of the bar guide is of a size to permit the turning of a square or twisted bar freely therein. The twisting member 24 is provided with a rectangular recess 25 adapted to engage the rectangular sides of the bar, to be cut, between the clamping knives and the projecting guard.

The clamping knives extend above and below their respective supports to permit the knives to "bite" the bars and also to provide space for the twist of the twisted bar being cut.

Fig. 4 illustrates a modified form of twisting member which is provided with a

spirally twisted recess 26 adapted to engage a spirally twisted bar similar to the fragment of the bar shown in Fig. 6. The holding member is also adapted to clamp and hold a round bar of small diameter, and in twisting a round bar a pipe wrench may be used as a twisting member.

In operation, a bar is placed in the holding member with the clamping knives in engagement with the bar at the point where it is desired to make the cut. The clamping knives are then forced to "bite" and tightly clamp the bar to the holding member by means of the clamping screw. The twisting member is then placed in engagement with the bar between the clamping knives and the projecting guard and given a partial rotation or twist. This movement will twist that portion of the bar which extends through the recess of the guard and will cut the bar at the point where it was initially "bit" by the clamping knives. In twisting the bar, the portion held between the clamping knives may be permitted to have a slight rotation which will cause the knives to "bite" the bars at or near the corners and thus facilitate the cutting. Twisting members are provided with clamping jaws of different sizes to accommodate bars of different thicknesses.

From the foregoing description, it will be seen that a very simple, inexpensive machine is provided which is adapted to be used by even unskilled labor and the machine may be easily moved from place to place.

What I claim as my invention is:

1. A machine for cutting metal bars by twisting, comprising a base provided with a standard, a clamping knife fastened to said standard, a clamping knife movably mounted on said standard, means for adjusting the position of the movable knife, and a twisting member constructed to engage a bar of material held between the clamping knives and to cut the bar at the point of engagement of the knives and the bar by a partial rotation of the twisting member and a portion of the bar.

2. A machine for cutting metal bars by twisting, comprising a base provided with a standard, a guard projecting from the base in front of the standard, a clamping knife fastened to said standard, a clamping knife movably mounted on said standard, means for adjusting the position of the movable knife, and a twisting member constructed to engage a bar of material held between the clamping knives and to cut the bar at the point of engagement of the knives and the bar by a partial rotation of the twisting member and a portion of the bar.

3. A machine for cutting metal bars by twisting, comprising a base provided with a standard, a recessed guard projecting from the base in front of the standard and spaced a distance therefrom, a clamping knife fastened to said standard, a clamping knife movably mounted on said standard, a screw for adjusting the position of the movable knife, and a twisting member provided with a recess formed to correspond with the shape of the bar it is adapted to engage, and constructed to engage a bar held by the clamping knives and to cut the bar at the point of engagement of the knives and the bar by a partial rotation of the twisting member and a portion of the bar, the said twisting member engaging the bar between the knives and the guard.

In testimony whereof, I affix my signature, in presence of two witnesses.

HANS HOLDEN JENSEN.

Witnesses:
A. L. MORSELL,
ANNA F. SCHMIDTBAUER.