July 17, 1928. 1,677,684

S. W. PARSONS

TOOL FOR CUTTING BOX STRAPPING AND THE LIKE

Filed Nov. 17, 1927

Fig. 1.

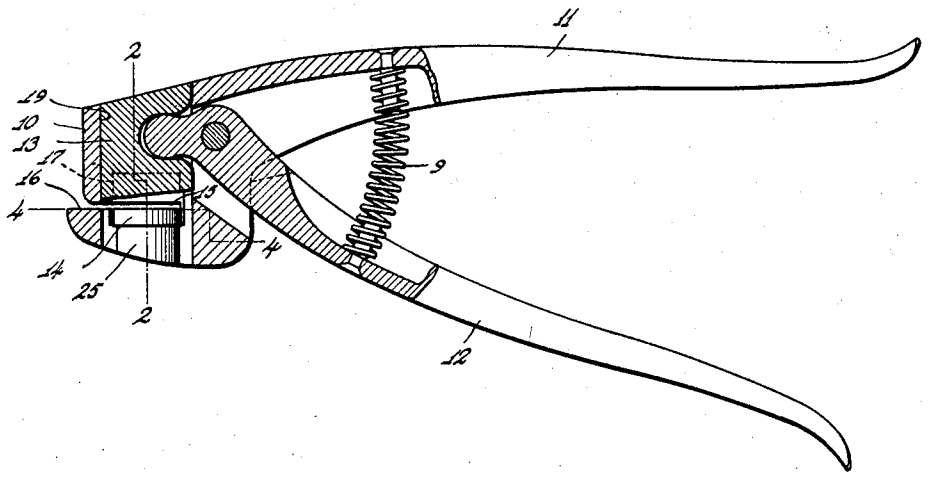


Fig. 4.

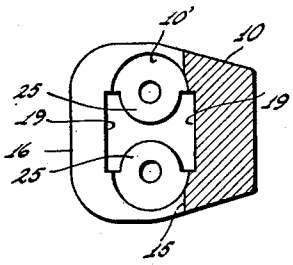


Fig. 2.

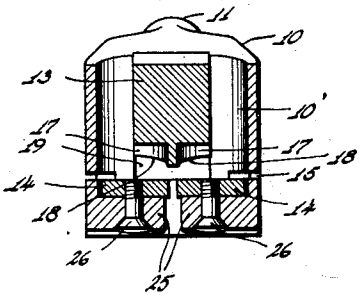


Fig. 5.

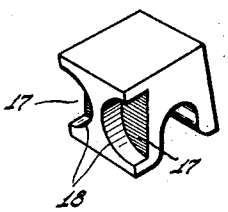


Fig. 3.

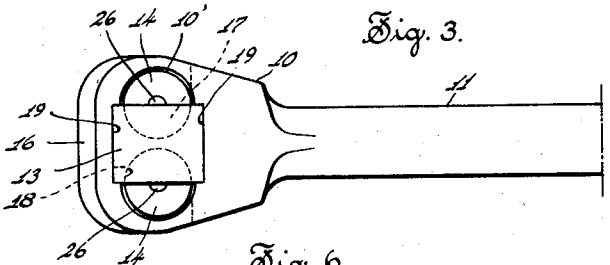
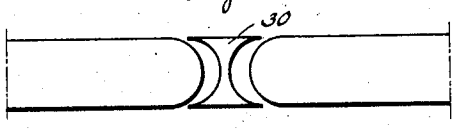


Fig. 6.



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UNITED STATES PATENT OFFICE.

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TOOL FOR CUTTING BOX STRAPPING AND THE LIKE.

Application filed November 17, 1927. Serial No. 233,862.

The practice of applying metal straps or bands about bales, boxes or other forms of packages has grown to very large proportions, and it is of importance to protect those who have to handle the straps or the packages to which they are applied from being cut or scratched by sharp corners which would be present if the ends of the straps were square or cut on an angle. To this end, the present invention contemplates an improved tool for cutting or trimming the strap ends to a shape which will avoid personal injury.

The aim of the present invention is to provide an improved, simple and effective tool by means of which metal straps or metal strips, such as are applied to shipping boxes and the like, may be readily cut to length and at the same time have their ends trimmed, the tools being arranged to give each end of the strap a curved contour which is free of projections, burrs or corners so that anyone handling the strap or applying the same to a box will not be injured thereby.

A further aim of the invention is to provide a tool by means of which two strap ends may be cut and trimmed at one operation.

A further aim of the invention is to provide an improved tool of this sort which may be very readily manipulated, and the cutting members of which may be easily and economically maintained in a sharp condition so that they will make clean cuts.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the appended claims.

In the accompanying drawings, wherein is shown, for illustrative purposes, one of the embodiments which the present invention may take:

Figure 1 is a side elevational view of the improved tool with portions thereof in section;

Fig. 2 is a sectional view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a top plan view;

Fig. 4 is a horizontal sectional view taken substantially on line 4—4 of Fig. 1, the dies being omitted;

Fig. 5 is a perspective view looking at the bottom of the punch; and

Fig. 6 is a view showing the manner in which the straps are cut to length and the ends rounded by my improved tool.

Referring to the drawings in detail, my improved tool has a head 10 from which extends a handle 11. Pivoted to the head is a cooperating handle 12 by means of which the punch 13 is moved up and down in the head. This punch cooperates with a pair of dies 14. The handles are normally urged apart so as to raise the punch by means of a spring 9.

The head 10 has a through vertical opening 10′ which is generally oblong in cross section. Extending inwardly from the forward wall of the head is a horizontal slot 15 adapted to receive the strap to be cut. The lower wall or edge of this slot extends forwardly so as to form a shelf or lip 16 whereby entry of the strap into the slot is facilitated. The punch 13 is located for sliding movement in grooves or guideways 19 provided in the front and rear walls of the vertical opening 10′. The lower end of this punch is provided with a semi-circular recess 17 at each side so as to form generally semi-circular cutting edges 18. It will be observed, particularly from Fig. 1, that the bottom face of the punch is inclined at an angle to the plane of movement of the punch and to the plane of the dies 14 in order to provide the necessary rake. This face is flat and is relatively small and, therefore, the punch may be readily resharpened when necessary by merely holding this face of the punch against a grinding wheel.

Below the slot 15 and extending into the opening 10′ are two bosses 25 having at their upper ends generally circular seats in which are mounted the respective dies 14. These

dies are in the form of flat round disks having radii equal to the radii of the cutting edges 18 of the punch. The dies are located so that the space between the same accurately conforms to the shape of the active face of the punch whereby substantially one-half of the peripheral edge of each die will cooperate with a respective cutting edge 18 of the punch when the latter is lowered. These dies are suitably secured to the bosses 25 so that they may be readily assembled and removed therefrom and also so that they may be rotatably adjusted. To this end, screws 26 extending upwardly through the bosses and screwed into the dies may be employed. It will be observed that when one-half of a cutting edge of a die becomes worn through use, the screw 26 holding that die in place may be loosened somewhat and the die turned 180° thereby bringing the other half of the cutting edge into operative relation to the punch. When the entire upper edge of the die has been worn, the die can be inverted so as to use the edge of the opposite face. When both cutting edges of the die become worn, the die can be very easily removed and sharpened by merely holding the same against a grinding wheel. Thus, these dies have very long lives and the necessity of frequently resharpening the same is avoided.

The operation of the tool will be readily understood from the foregoing description taken in connection with the accompanying drawings. The device may be either employed for trimming the ends of the strap which has already been cut off or for cutting off a strap of the desired length from a roll or strip of metal. It will be observed, particularly from Fig. 6, that when a length of strap is cut off from a coil, the rear end of the cut-off strap, as well as what will now be the forward end of the coiled strip from which the strap has been cut off, will both be given a round or semi-circular contour. The punch cuts out a blank 30 of the shape shown in this figure.

It is, of course, understood that while I have described my improved tool in connection with its use for cutting box and similar strapping, the tool has a more general application as it may be employed for cutting metal strips or metal straps of different kinds for various uses.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim as my invention:

1. A tool for cutting box strapping and the like comprising a head having a strap receiving slot, a handle on which said head is carried, a punch mounted for reciprocation in said head and having a semi-circular cutting or punching edge in its lower end, a handle for operating said punch, a die on said head below said slot and comprising a cylindrical disk having flat parallel end surfaces each provided with a continuous circular cutting edge, and means for adjustably and removably securing said die in place whereby said disk may be angularly adjustable or reversible end for end to bring new cutting edges thereon into play.

2. A tool for cutting box strapping and the like comprising a head having a transverse strap receiving slot, a handle carrying said head, a pair of dies carried by said head below said slot, a punch provided with a cutting portion corresponding to the space between said dies, said dies and punch being arranged to cut from a strap a piece with semi-circularly concave side edges, and a handle for reciprocating said punch.

3. A tool for cutting box strapping and the like comprising a head having a transverse strap receiving slot, a handle carrying said head, a pair of dies carried by said head below said slot and each comprising a cylindrical disk, screws for adjustably and removably securing said disks in place, a punch having its lower face inclined to the plane of said dies and provided with a cutting portion corresponding to the space between said dies, and a handle pivoted to said head for reciprocating said punch.

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