(No Model.)

T. L. STEWART.

TOOL FOR CUTTING AND BINDING METALLIC STRIPS.

No. 605,761. Patented June 14, 1898.

Fig. 1.

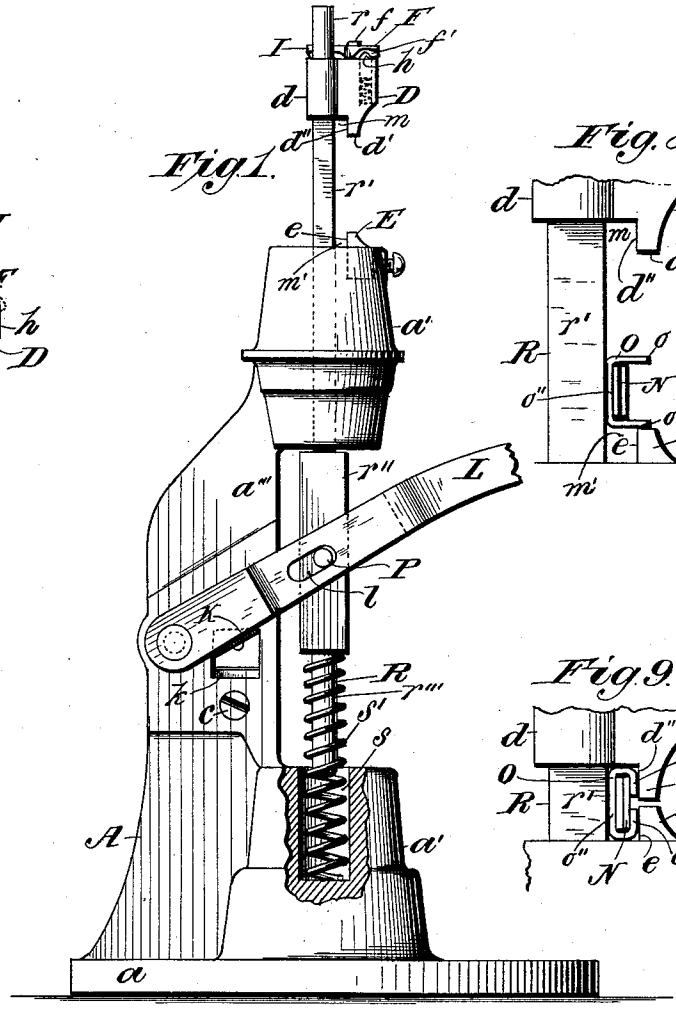


Fig. 4.

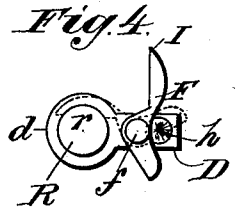


Fig. 5.

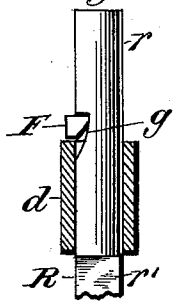


Fig. 6.

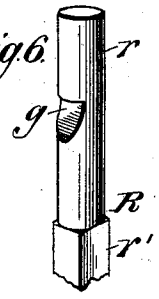


Fig. 7.



Fig. 8.

Fig. 9.

Fig. 2.

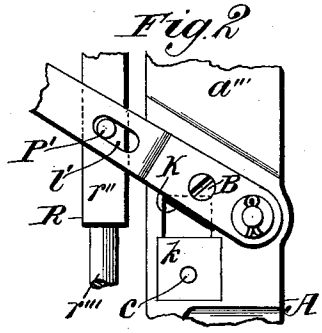
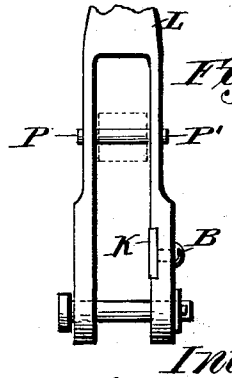


Fig. 3.



Witnesses.
William R. Baird
Robert Everett

Inventor
Theodore L. Stewart
By Burgess & Baird
His Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THEODORE L. STEWART, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE VENETIAN IRON COMPANY, OF NEW JERSEY.

TOOL FOR CUTTING AND BINDING METALLIC STRIPS.

SPECIFICATION forming part of Letters Patent No. 605,761, dated June 14, 1898.

Application filed January 14, 1896. Renewed December 11, 1897. Serial No. 661,560. (No model.)

To all whom it may concern:

Be it known that I, THEODORE L. STEWART, a citizen of the United States, residing at Brooklyn, New York, have invented a new and useful Improvement in Tools for Cutting and Binding Metallic Strips, of which the following is a specification.

My invention relates to metal-working tools; and its novelty consists in the construction and adaptation of the parts, as will be more fully hereinafter pointed out.

The object of my invention is to make it easy to bind together a plurality of pieces of band-iron in the manufacture of grilled work and so-called "Venetian" ironwork, and to make a simple single tool to take the place of the several devices usually employed in this class of work.

In the drawings, in which the same letters refer to the same parts in all of the views, Figure 1 is a side elevation of my device with a portion of the base-plate in partial section and with the end of the lever removed. Fig. 2 is an elevation of the other side of a portion of the tool, showing the location of the knife. Fig. 3 is an enlarged detail view of the bifurcated end of the actuating-lever. Fig. 4 is a top plan view of the upper jaw of the binder. Fig. 5 is a side view of the upper portion of the bar, showing the collar of the upper jaw in section. Fig. 6 is a perspective view of the upper portion of the bar. Fig. 7 is a detached perspective view of the clutch of the upper jaw. Fig. 8 is an enlarged side view showing the relative positions of the jaw, the iron bands, and the binder before action; and Fig. 9 is a similar view showing their position after action.

In the drawings, A is a standard consisting of a bed-plate a, supporting a guide-head a'', and a base-plate a', united by a vertical plate a'''. The base-plate a' is provided with a central vertical socket s, adapted to receive a coiled spring s'. The guide-head a'' is provided with a central vertical slot adapted to receive the upper portion of the bar R, which reciprocates through it.

The bar R is composed of four parts—an upper part r' of central section and slotted at g, a lower part r''', which may be of any shape and around which is coiled the spring s', and two central parts, the upper one of which, r', is square or rectangular in section and about the width of the diameter of the part r, and the lower one of which, r'', may be of any shape in section, but which must be of sufficient size to prevent its passage upward through the slot in the guide-head a'' and the lowermost portion of which affords a place of abutment for the upper end of the spring s'. The bar R is provided with lugs P and P', the purposes of which will presently appear. To each side of the vertical plate a''' is pivotally secured a lever L, which is bifurcated and slotted at l and l' to admit of the passage of the lugs P and P'. The outer extremity of the lever is not shown in the drawings. As will readily be seen, the upward or downward motion of the lever on its pivot will actuate the lugs P and P' and through them communicate a reciprocating movement to the bar R, which is normally held in place by the action of the spring s'. The lever L is recessed at the inner side of one of its arms, and in this recess is secured a knife-edge K by a screw B or other suitable means. The vertical plate a''' is also recessed and adapted to receive a plate or edge k, which is secured in place therein by a screw C or other suitable means. These two edges K and k, the former on the pivoted lever L and the latter on the standard A, form together a powerful pair of shears. The upper portion of the bar R is provided with a detachable member D, provided with a collar d, adapted to slip over the bar R, and a lower projection d', which forms a jaw, and between the inner face of which, d'', and the bar R is formed a pocket m. Similarly a projection E, having an inner face e, forms, with the bar R, another pocket m'. The pockets m and m' are preferably of angular form, as shown.

The means which I employ for securing the member D in place on the bar R is a little friction-catch F, loosely pivoted on top of the member D at f. This is curved at f' and may with the exertion of a little force be moved over a little projecting stud h, normally pressed upward by a spring confined in a socket in the member D. The bar R is re-

cessed at g and adapted to receive the end I of the catch, thus preventing its upward movement and securing the member D firmly in place. When it is desired to remove the member D, the catch F is pressed over the stud h, the catch is thrown out of the recess g, and the collar d readily slides upward and off of the bar.

The method of using my improved tool is as follows: Supposing that it is desired to unite two or more bands, as N, by the binder O, the binders are made already bent into U-shaped pieces and are of different sizes to admit of a different number of bands being secured together. The bands N are placed in close contact and placed within the binder O, so as to be partly embraced thereby. The parts thus arranged are placed on the upper edge of the jaw E, so that that portion o'' of the binder O rests almost or quite against the bar R. The lever L is then depressed. This exerts a downward pull upon the bar R, which carries with it the member D and jaw d' until the latter is in contact with one leg o of the binder O. The downward pressure upon the lever being continued, the outer part of the leg o is first bent over, as shown in Fig. 9, so as to partly encircle the bands N and bind them closely together. Further pressure being exerted the leg o' of the binder O is bent upward against the inner edge of the jaw E and also made to partly encircle the bands N from their lower side. At the same time both bands and binder are tightly wedged into the double pocket, formed between the jaws and the bar. The lever now being released, the reaction of the spring s' causes the bar R to fly upward and the frictional contact between the jaw d' and the bands usually is sufficient to at once pull the bands out of the pocket. Should it stick, however, a slight pressure of the catch F is sufficient to release the jaw d' from the bar R, and thus render the removal of the bands and binder easy.

When a binding-tool is employed which has a fixed upper jaw, it is sometimes extremely difficult to disengage the jaws and move them away from each other after the binding effect has been accomplished, and a vigorous blow of a hammer is necessary at times to effect this purpose. My tool has none of these disadvantages.

By means of shears formed by the pivoted lever, provided with a knife-edge K and the similar knife-edge set into the vertical plate a''', the bands to be united together may be cut any desired length and at any desired angle with great ease, on account of the enormous leverage which is gained by the use of the long handle of the lever L. The workman is thus enabled to dispense with a separate pair of shears.

What I claim as new is—

1. In a binding-tool the combination with a bar, of two jaws provided with angular pockets adjoining said bar, and means for bringing the jaws toward each other.

2. The combination with a bar carrying a jaw having an angular pocket adjoining said bar, of another jaw also having an angular pocket adjoining said bar and mounted on a guide-head through which said bar passes.

3. The combination with a bar and means for moving the same, of two jaws each provided with an angular pocket adjoining said bar, one detachably mounted on said bar and the other similarly mounted on the guide for said bar.

4. In a binding-tool the combination with a bar of a jaw provided with an angular pocket adjoining said bar and means for detachably securing the jaw to said bar.

5. In a binding-tool the combination with a bar of two jaws each provided with an angular pocket adjoining said bar, means for actuating said bar and means for normally keeping the jaws apart when not in use.

6. The combination with a standard of a bar, two jaws provided with pockets adjoining said bar, a lever provided with a knife-edge and adapted to actuate said bar, and a corresponding knife-edge mounted on the standard.

In testimony whereof I have hereunto set my hand the 14th day of December, 1895.

THEODORE L. STEWART.

In presence of—
WILLIAM R. BAIRD,
B. MONTGOMERY SCOTT.