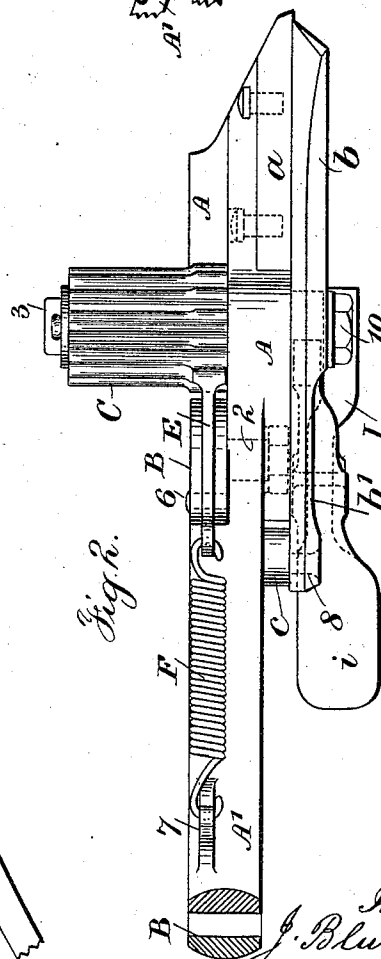
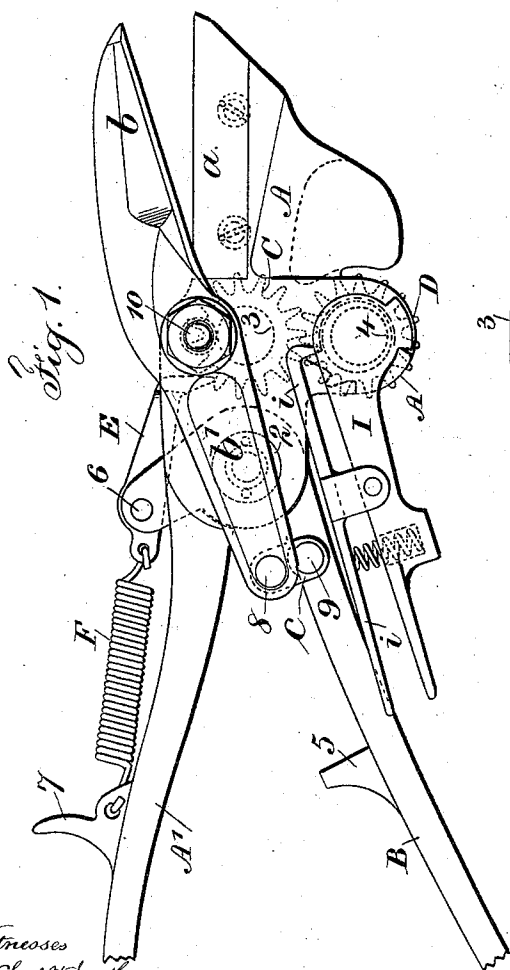
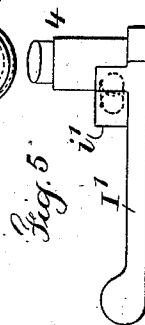
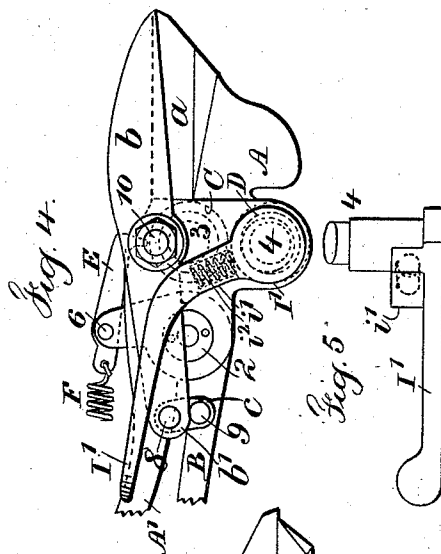
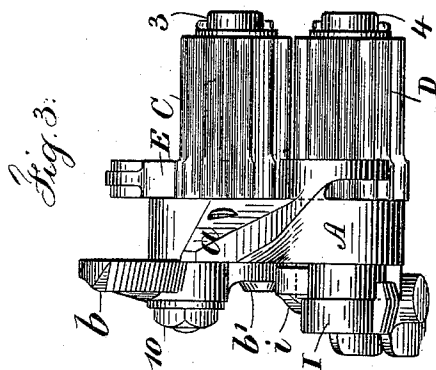


(Model.)

J. BLUMER.
CORRUGATING AND CUTTING TOOL.

No. 542,435.

Patented July 9, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES BLUMER, OF BROOKLYN, NEW YORK.

CORRUGATING AND CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 542,435, dated July 9, 1895.

Application filed January 28, 1895. Serial No. 536,454. (Model.)

To all whom it may concern:

Be it known that I, JAMES BLUMER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Corrugating and Cutting Tools, of which the following is a specification.

My present invention is designed as an improvement upon the device secured to me by Letters Patent dated July 18, 1893, No. 501,644. That patent related to a corrugating-tool for sheet metal especially available for corrugating the sheet-iron at the end of stovepipe-joints, so as to adapt the one end of such stove-pipe-joint to slip into the plain end of the next joint. As it was necessary to frequently cut the metal to be corrugated this corrugating-tool was therefore not as complete and available as it was possible to make it. In my present invention I combine with said corrugating-tool a cutting-tool consisting of a stationary jaw and a moving jaw operated from and by a connection with the moving handle, whereby the metal to be operated upon can with the same instrument be both cut as desired and corrugated; and I also provide in connection with the corrugating-rolls of said corrugating-tool a device for holding the eccentric arbor of one corrugating-roll in the desired position, and also a device for holding the cutters and jaws in a closed condition.

In the drawings, Figure 1 is a side elevation representing my improved corrugating and cutting tool and a modified form of arm. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation. Fig. 4 is a partial elevation representing the preferable form of arm and the handles and jaws as closed thereby, and Fig. 5 is a plan of the arm shown in Fig. 4.

As set forth in my aforesaid patent, the stock A is provided with a handle A', and a second handle B is pivoted at 2 to the stock A, and the corrugating-rolls C and D are supported upon the arbors 3 and 4 that extend out from the stock A. These corrugating-rolls C and D work together similar to gears, their diameters being reduced except at the inner ends adjacent to the stock A, the outer portions of the rolls performing the corrugating operation and the inner ends acting as teeth that remain in gear without the risk of their being separated by the sheet of material

that is introduced between the teeth of the roll to be corrugated.

The handle B has a projection, to which the pawl E is pivoted at 6, and this pawl E engages the teeth of the corrugating-roll C. The pawl E is provided with an eye, and a stud 7 projecting from the handle A' is also provided with an eye, and a contractile spring F is connected with the eyes of the pawl E and stud 7. As the handles A' and B are brought together by the gripping action of the hand the pawl is thrown forward and the corrugating-rolls C and D are rotated and the contractile spring is strained. A stop-block 5 on the handle B regulates the distance of the handles from each other when closed. Upon the release of the hand this spring contracts and opens the handles and returns the pawl to the normal position for again rotating the corrugating-rolls.

The stock A is continued at its forward end and is notched for the reception of a hardened cutting-jaw *a*, which is connected thereto preferably by screws, and said stock A receives the pivot 10 of the moving cutting-jaw *b*. This cutting-jaw *b* has an integral arm *b'* at the other side of the pivot 10, and a link *c* is connected by pivots 8 and 9 to the end of this arm *b'* and to the handle B, and as the handle B is moved the cutting-jaw *b* is operated through the medium of the link *c* and descends over the cutting-edge of the stationary jaw *a*, so as to cut and separate a sheet of metal.

The pivot 10 of the moving cutting-jaw *b* is preferably a pin securely held in the stock A above the arbor 3 of the corrugating-roll C, and this pin or pivot 10 projects through the moving cutting-jaw and is provided with a nut at the end to hold the jaw in place. It is, however, evident that this pivot may be constructed in any desired manner.

The corrugating-roll D is upon an eccentric arbor 4, which projects through the stock A, and to this arbor an arm is connected, the movement of which operates the eccentric arbor to move the roll D nearer to or farther from the roll C, so that said rolls are in engagement with each other or slightly separated, and means are provided for maintaining this arm in the desired position. The preferable form of arm is shown at I', Figs. 4

and 5, and this arm is made with an inwardly-projecting lug i' containing a cavity holding a strong helical spring i^2 , (shown by dotted lines,) and which spring bears upon the surface of the hub of the stock A, which surrounds the arbor 4, to produce sufficient friction to hold the arm I' in whatever position it may be placed. This lug i' when the handles A' B and the cutting-jaws $a b$ are closed and the arm I' is turned to the position Fig. 4 comes up beneath the lower edge of the arm b' and acts as a stop to keep the handles and jaws closed and the tool in a convenient and safe condition to be carried about by the workman. When the arm I' is turned down the corrugating-rolls C D are brought nearer together to perform their functions.

In Figs. 1 and 2 a modified construction of arm is shown as connected to the eccentric arbor of the corrugating-roll D to move the same nearer to or farther from the roll C. This arm I carries a spring-actuated catch i having a downwardly-projecting point to engage in recesses formed upon the surface of the hub of the stock A, which surrounds the arbor 4, to hold the arm I as set and maintain the rolls C D the desired distance apart. The outer ends of the arm I and catch i are brought together to release the catch and allow the eccentric arbor 4 to be turned by the arm I, so as to move the corrugating-roll D out of engagement with the corrugating-roll C, so that the sheet metal to be corrugated may be introduced between said rolls.

This corrugating and cutting tool is exceedingly convenient, because combining in one instrument means for cutting sheet metal and corrugating the same, and it avoids the necessity of carrying and handling two separate tools.

I claim as my invention—

1. The combination with the stock, the rigid handle, the corrugating rolls and their arbors, of a stationary cutting jaw upon the stock, a moving cutting jaw and integral arm pivoted to the stock, the moving handle, and a connection from the end of the arm of the moving cutter to said handle, substantially as and for the purposes set forth.

2. The combination with the stock and the handles, of the corrugating rolls and means for operating the same, the arbor 3 of one corrugating roll secured in the stock, the arbor 4 of the other corrugating roll made eccentric and passing through the stock, and an arm

secured to the end of the eccentric arbor 4 and adapted by its movement to regulate the position of the one corrugating roll to the other, substantially as set forth.

3. The combination with the stock and the handles, of the corrugating rolls and means for operating the same, the arbor 3 of one corrugating roll secured in the stock, the arbor 4 of the other corrugating roll made eccentric and passing through the stock, and an arm secured to the end of the eccentric arbor 4 and adapted by its movement to regulate the position of one corrugating roll to the other, and a means connected to the arm and acting to maintain the position of the arm, substantially as set forth.

4. The combination with the stock and the handles, of the corrugating rolls and means for operating the same, the arbor 3 of one corrugating roll secured in the stock, the arbor 4 of the other corrugating roll made eccentric and passing through the stock, and an arm secured to the end of the eccentric arbor 4 and adapted by its movement to regulate the position of the one corrugating roll to the other, an enlargement upon the side of the arm, a spring connected to the arm and acting upon the stock and producing a friction to maintain the position of the arm, the enlargement when the arm is turned up coming below the arm of the moving cutting jaw to maintain the handles and jaws in a closed condition, substantially as set forth.

5. The combination with the stock, the handles, the corrugating rolls, a stationary arbor for one corrugating roll secured in the stock and an eccentric arbor for the other corrugating roll passing through the stock and the hub projecting therefrom, of a stationary cutting jaw connected to the stock, a moving cutting jaw and integral arm pivoted to the stock, a link connecting the arm of the moving cutting jaw to one handle for operating the cutters, and an arm secured to the eccentric arbor of one corrugating roll, and a spring connected to said arm and adapted to frictionally maintain said arm in position, substantially as set forth.

Signed by me this 23d day of January, A. D. 1895.

JAMES BLUMER.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.