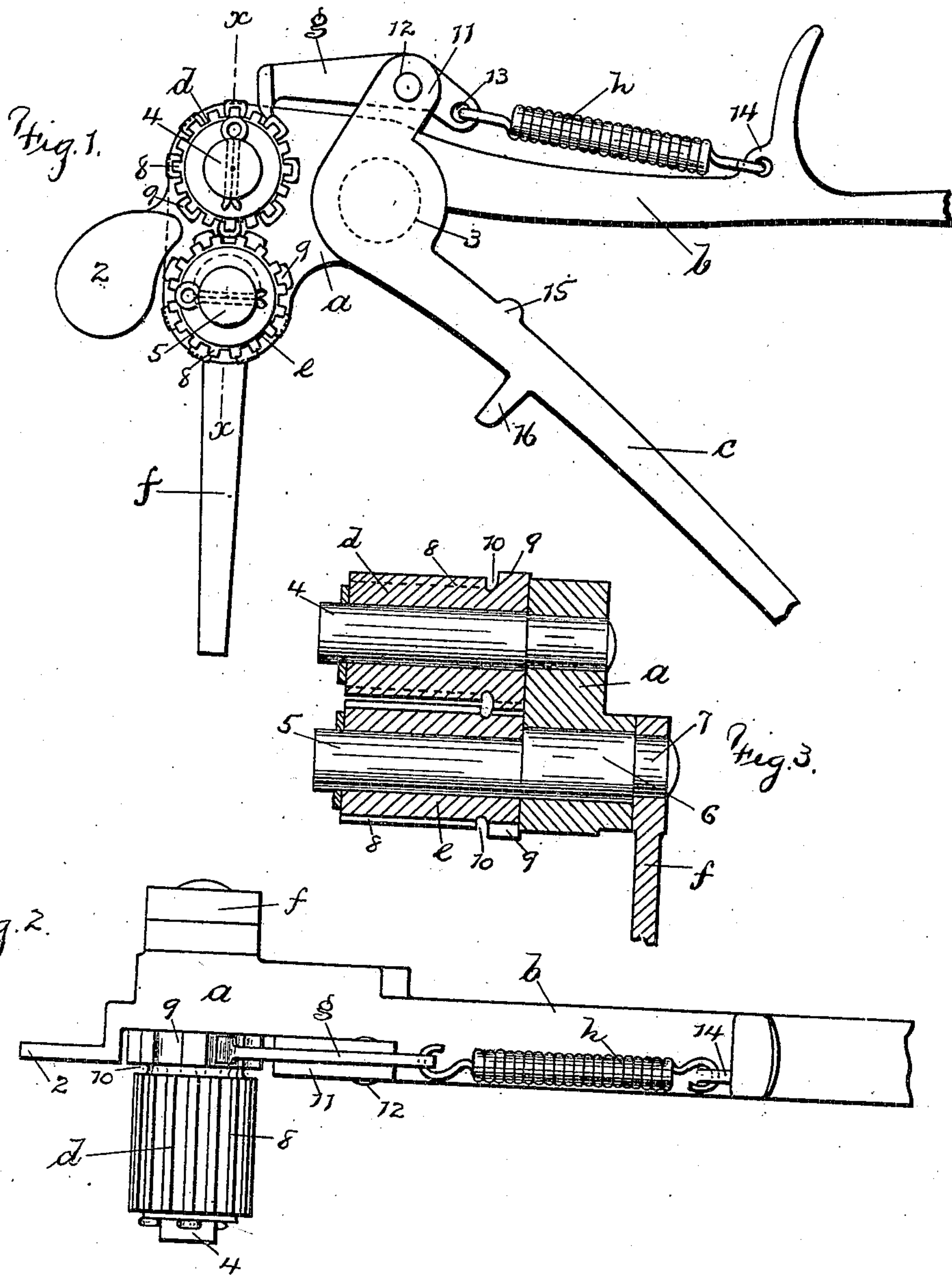


No. 837,783.

PATENTED DEC. 4, 1906.

J. BLUMER.
CORRUGATING TOOL.
APPLICATION FILED NOV. 22, 1905.



WITNESSES
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JAMES BLUMER, OF NEW YORK, N. Y.

CORRUGATING-TOOL.

No. 837,783.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed November 22, 1905. Serial No. 288,530.

To all whom it may concern:

Be it known that I, JAMES BLUMER, a citizen of the United States of America, residing in the borough of Brooklyn, city and State of New York, have invented an Improvement in Corrugating-Tools, of which the following is a specification.

My invention relates to corrugating-tools for crimping the edges of sheet-metal articles, and particularly to the rolls or corrugating members thereof and the relation of the teeth of the same to the intermeshing gears which operate said rolls; and the present invention is an improvement on the rolls shown and described in Letters Patent Nos. 501,644 and 733,131, granted me July 18, 1893, and July 7, 1903, respectively, for corrugating-tools.

In carrying out my present invention I employ a stock, a handle forming a continuation thereof, a second handle pivoted to said stock, rolls mounted in arbors having bearings on said stock, a pawl pivoted in a projection of said second handle, and a spring connecting one end of said pawl with a lug on the stock-handle, all as described in Letters Patent aforesaid; but in my present invention I prefer to leave an appreciable space between the adjacent ends of the corrugating-teeth and the gear-teeth of each roll, so that the teeth do not run together, this space leaving true faces to the gear-teeth against which the edge of the sheet metal being corrugated may bear without slipping. Furthermore, each gear-tooth of one roll is in alinement with the corrugating-tooth of said roll, and the respective gear-teeth are in alinement with the alternate corrugating-teeth, and each gear-tooth of the other roll is intermediate of a pair of corrugating-teeth of said other roll, and the respective gear-teeth are in alinement with the spaces between alternate teeth, thus insuring larger gear-teeth that cannot be broken or damaged and a greater bearing-surface for the operative pawl upon the teeth.

In the drawings, Figure 1 is a side elevation of my improved corrugating-tool. Fig. 2 is a plan of the same; and Fig. 3 is a cross-section on line *xx*, Fig. 1.

a designates a stock provided with a handle *b* and a gage 2, and *c* is a handle pivotally connected at 3 to the stock *a*.

4 and 5 are arbors, the arbor 4 being secured in the stock *a*, and a roll *d* is mounted thereon, while the arbor 5, which carries a roll *e*, is eccentric to that portion 6 thereof

which is mounted in the stock *a* as a bearing and is provided with a reduced end 7, to which is secured an arm *f*, by means of which the rolls may be moved toward and away from one another, as set forth in my Letters Patent aforesaid.

Each roll is provided with a series of gear-teeth 9 and corrugating-teeth 8, with an intervening circumferential space 10, and the gear-teeth of one roll—*d*, for instance—are arranged in alinement with alternate corrugating-teeth of said roll, while the gear-teeth of the other roll are intermediate of each pair of corrugating-teeth of the said other roll *e*, which construction embraces the novel features of my improved corrugating-tool.

From the description and the illustration it will be apparent that the faces of the gear-teeth 9 at the intervening circumferential space 10 are adapted for the edge of the sheet metal being corrugated to bear against the same without slipping, the teeth 9 being of appreciably greater diameter with the roll than the teeth 8, and it will also be apparent from the construction of the respective gear-teeth 9 and their relation with the corrugating-teeth 8 of one roll and the spaces between said teeth and the other roll that said gear-teeth are large and strong for the operative pawl to bear against them with force and that the intervening space between said gear-teeth 9 provides for a free movement of the pawl and a greater bearing-surface for the operative pawl upon the teeth with the rotation of the rolls.

The arm *c* is provided with a projection 11, in the outer end of which a pawl *g* is pivotally mounted at 12. This pawl *g* is provided with an eye at 13, between which and connected to said eye and to a lug 14 in the handle *b* I employ a spring *h*, not only to normally separate the handles *b* and *c*, but also to maintain the pawl *g* in engagement with the gear-teeth 9 of the roll *d*. The handle *c* may be provided with a lug 15, adapted to strike the handle *b* when the handles are drawn together to limit their approach, and also on the opposite side with a lug 16, against which the extremity of the arm *f* may rest when the tool is not in use and by which the handles are then maintained in a close relation.

It will be manifest that in the use of the hereinbefore-described tool the arm *f* is first swung from the position with its extremity against the lug 16, thereby turning the bearing and separating the eccentric arbor from

the fixed arbor sufficiently to admit the edge of the metal to be corrugated between the teeth of the rolls carried by said arbors, whereupon the arm *f* is returned sufficiently to cause the said roll-teeth to slightly intermesh, and upon operating the handles *b c* the pawl *g* is actuated to turn the rolls by means of the gear-teeth thereon, whereby the corrugating is effected.

10 I claim as my invention—

1. In a corrugating-tool, a stock, a handle connected therewith, a second handle pivoted in said stock, arbors mounted in said stock, rolls on said arbors, corrugating-teeth integral with said rolls, gear-teeth also integral with said rolls and spaced apart from said corrugating-teeth, each gear-tooth of one roll being in alinement with a corrugating gear-tooth on that roll and each gear-tooth of the other roll being intermediate of a pair of corrugating-teeth on that roll, and means for turning the said rolls through the intervention of the said gear-teeth.

2. In a corrugating-tool, a stock, a handle connected therewith, a second handle pivoted in said stock, arbors mounted in said stock, rolls on said arbors, corrugating-teeth integral with said rolls, gear-teeth also integral with said rolls and spaced apart from said corrugating-teeth, the gear-teeth of one roll being in alinement with alternate corrugating gear-teeth on that roll and the gear-teeth of the other roll being intermediate of each pair of corrugating-teeth on that roll and means for turning the said rolls through the intervention of the said gear-teeth.

3. In a corrugating-tool, a stock, a handle connected therewith, a second handle pivoted in said stock, arbors mounted in said stock,

rolls on said arbors, corrugating-teeth integral with said rolls, gear-teeth also integral with said rolls and spaced apart from said corrugating-teeth, the gear-teeth of one roll being in alinement with alternate corrugating gear-teeth on that roll and the gear-teeth of the other roll being intermediate of each pair of corrugating-teeth on that roll, a projection integral with said second handle, a lever pivoted therein and adapted at one end to engage the gear-teeth of one of the said rolls, a lug on the first aforesaid handle and a spring extending between the said lug and the opposite end of the said lever.

4. In a corrugating-tool for crimping sheet metal, the combination with a fixed arbor and an eccentric movable arbor, of a roll on one arbor having gear and corrugating teeth and each gear-tooth in alinement with alternate corrugating-teeth, and a second roll on the other arbor also having gear and corrugating teeth and each gear-tooth intermediate of each pair of corrugating-teeth.

5. In a corrugating-tool for crimping sheet metal, the combination with a fixed arbor and an eccentric removable arbor, of a roll on the fixed arbor having gear and corrugating teeth and each gear-tooth in alinement with alternate corrugating-teeth, and a roll on the eccentric arbor also having gear and corrugating teeth and each gear-tooth intermediate of each pair of corrugating-teeth.

Signed by me this 11th day of September, 1905.

JAMES BLUMER.

Witnesses:

GEO. T. PINCKNEY,
BERTHA M. ALLEN.