

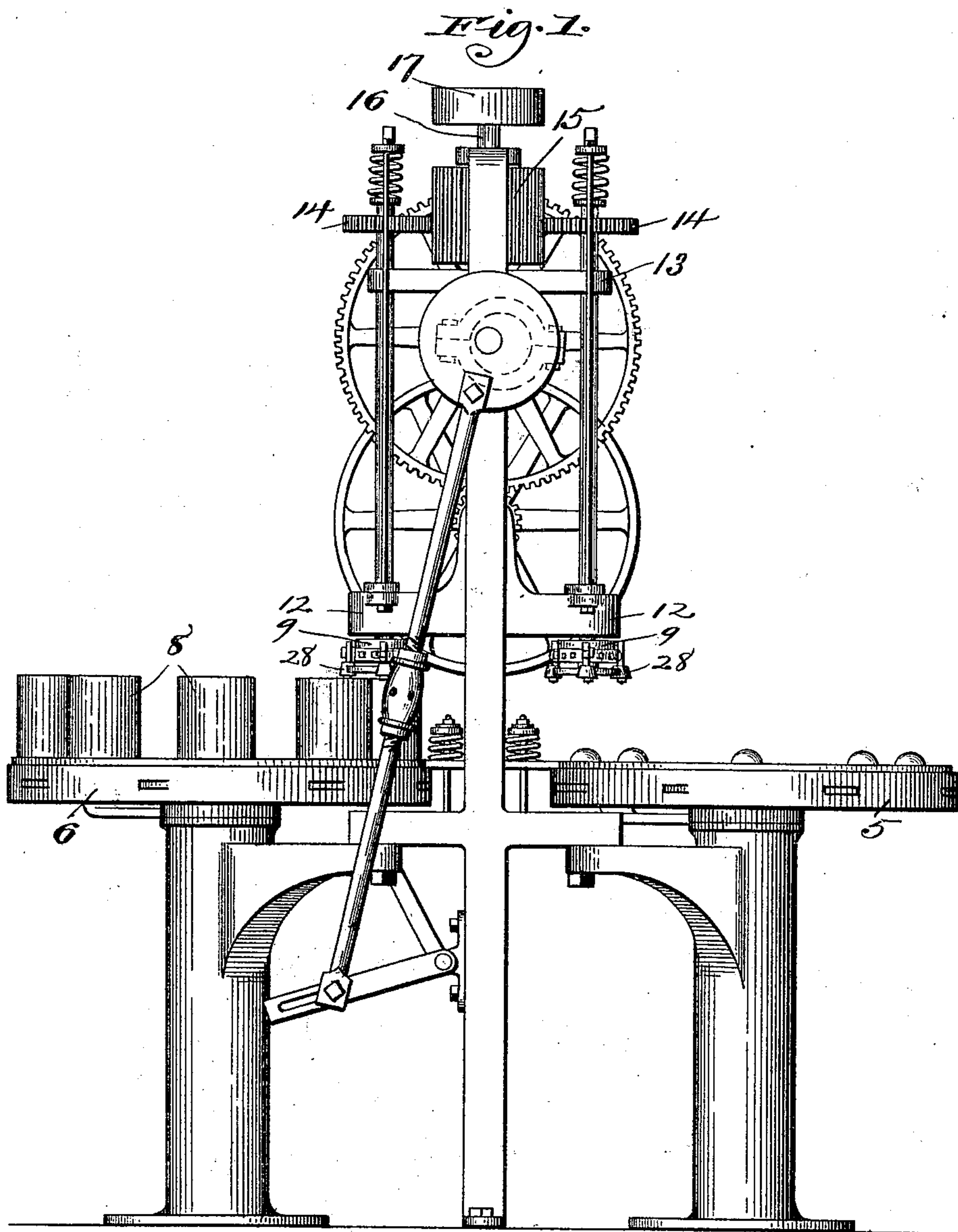
(No Model.)

2 Sheets—Sheet 1.

D. D. RANNEY.
CAN HEADING MACHINE.

No. 515,362.

Patented Feb. 27, 1894.



Witnesses,

J. S. Mann
F. B. Goodwin

Inventor,

Darwin D. Ranney
By *Offield, Fowler & Lathrop*

Attys.

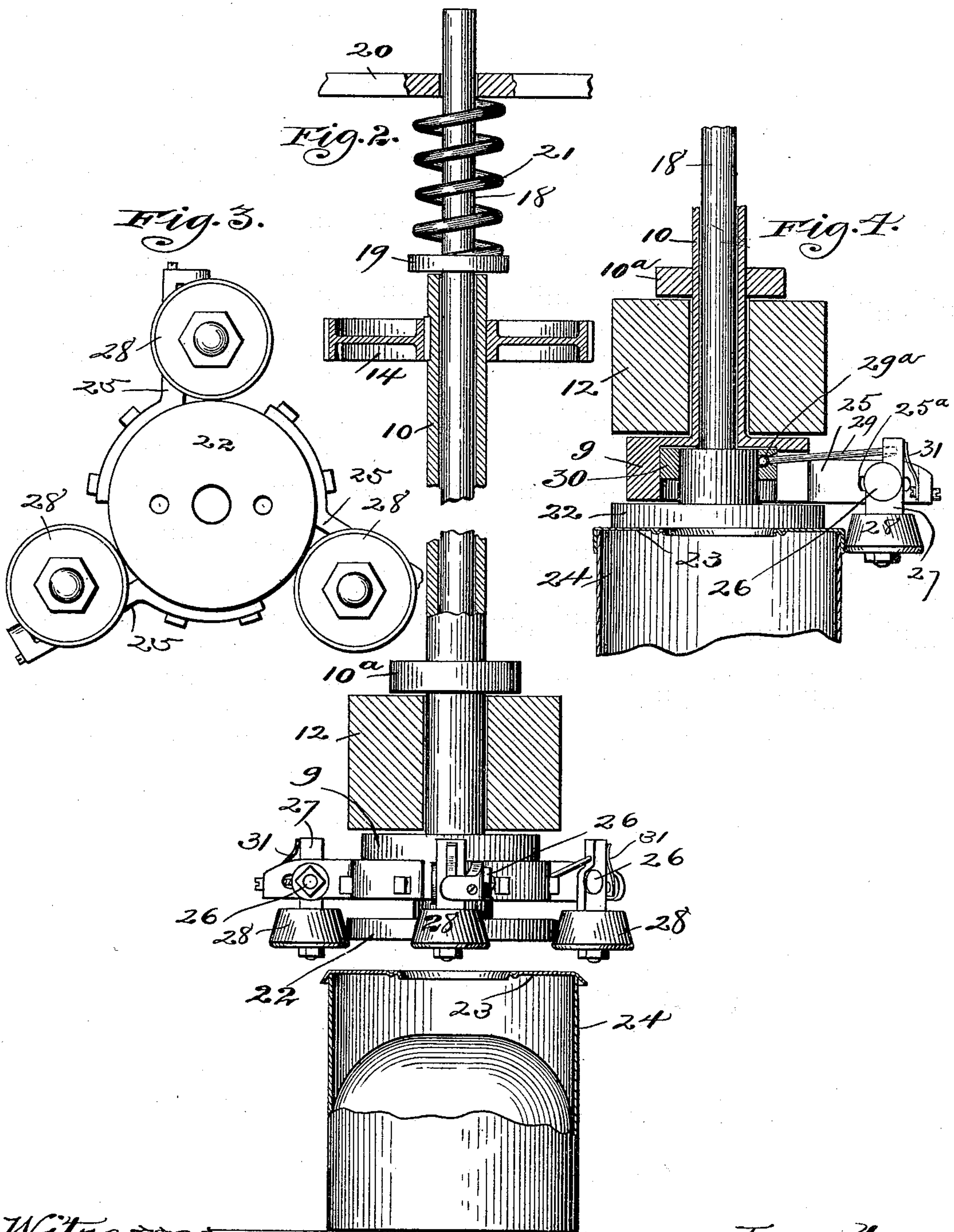
(No Model.)

2 Sheets—Sheet 2.

D. D. RANNEY.
CAN HEADING MACHINE.

No. 515,362.

Patented Feb. 27, 1894.



Witnesses,
J. E. Mann,
H. Goodwin

Inventor,
Darwin D. Ranney
By *Offield, Fowler & Hutchinson*
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UNITED STATES PATENT OFFICE.

DARWIN D. RANNEY, OF LEWISTOWN, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MOSES TURNER, TRUSTEE, OF SAME PLACE.

CAN-HEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 515,362, dated February 27, 1894.

Application filed March 28, 1893. Serial No. 468,005. (No model.)

To all whom it may concern:

Be it known that I, DARWIN D. RANNEY, of Lewistown, Illinois, have invented certain new and useful Improvements in Can-Heading Machines, of which the following is a specification.

My invention relates to a machine for crimping the heads upon sheet metal cans; and the object of my invention is to produce a machine of few parts and simple in construction.

The principal features of improvement relate to the construction of those parts which hold the head upon the can and turn down the flange thereof.

In the accompanying drawings I have shown my invention embodied in a machine which is adapted to operate upon two cans at the same time but the invention is applicable to a machine having several sets of crimping rolls.

In the drawings, Figure 1 is a side elevation of a machine having two sets of crimping rolls to which the cans are presented respectively by two horizontally revolving tables. Fig. 2 is an elevation, partly in section, of a vertically reciprocating rod bearing a clamping head, a sleeve rotatably and slidably mounted on said rod and carrying at its lower end a head on which the crimping rolls are pivotally mounted and showing also a part of the gearing and a can in position to be operated upon. Fig. 3 is an inverted plan view of the clamping head and showing the crimping rolls and their supporting arms; and Fig. 4 is a view in elevation of the clamping head and the lower portion of the rod on which it is mounted, one of the crimping rolls and its supporting bracket, an actuating rod therefor, and showing in section the lower part of the sleeve and the head on which the crimping rolls are mounted, the upper portion of the can being also shown in sectional elevation with the head crimped on.

In the drawings, 5, 6 represent horizontally rotating tables upon which the cans 8 may be placed and suitable mechanism (not necessary to be here described) will impart a step by step rotative movement to said tables to bring the cans successively beneath the action of the crimping rolls. As shown in the

drawings two sets of crimping rolls are employed, each of which is mounted upon a head 9 carried upon or formed integrally with the lower end of a rotating sleeve 10. Said sleeve has its bearing in the sliding cross heads 12, 13, which will be caused to reciprocate in any suitable manner. The upper ends of said sleeves are provided with the gear wheels 14 which mesh with a wide faced driving pinion 15, the latter being secured upon a vertical shaft 16 having a belt pulley 17 applied thereto. Extended through the hollow of the sleeve 10 is a vertically reciprocating rod 18 carrying toward its upper end a collar 19 and working through an aperture in the cross piece 20. Between the collar and the cross piece is interposed a spring 21 which normally tends to depress the rod, the upper end of the sleeve 10 forming a stop to limit the downward movement of said rod. On its lower end this rod carries the clamping head 22 which will, when the cross head, sleeve and rod are vertically reciprocated, engage the head 23 of the can 24, as clearly seen in Fig. 4, and the motion of the rod will be arrested before the sleeve has completed its movement, the spring 21 being compressed and thus holding the head upon the can by the yielding pressure. As the sleeve descends into the operative position a collar 10^a thereon engages the cross head 12 which limits the downward movement of the head.

25 represents bracket arms which are secured to the head 9, and said arms project radially from the periphery of said head and have their outer ends slotted, as seen at 25^a. A combined pivot and clamping bolt 26 is passed through said slot and pivotally mounted thereon is the arm 27 on which is journaled the crimping roll 28. Said roll has its acting face reversely beveled, the short bevel being at the bottom. The arm 27 projects above the pivot bolt and is engaged by the outer end of a short rod 29 whose inner end has a head 29^a which has a bearing in a collar 30 carried by the sliding rod 18. A spring 31 normally tends to throw the crimping rolls away from the can, but the reciprocation of the rod effects the straightening of the rod 29 and consequently forces the crimping wheel 28 in, overcoming the tension of its

spring. This movement does not take place until the crimping wheels have passed below the plane of the top of the can, whereupon the clamping head comes to rest upon the top of the can and as the head 9 carrying the crimping rolls descends still farther said wheels are forced into operative engagement with the projecting flange of the can head.

The several movements will be timed so that after the can with the head loosely placed thereon has been presented beneath the crimping mechanism, the latter descends, the head is clamped upon the can, the crimping rolls are forced into contact with the flange, and the sleeve carrying the head and crimping rolls is rotated, thus carrying said rolls around the periphery of the can and bending the flange over against the side of the body, as clearly shown in Fig. 4. Upon the completion of this operation the cross heads will rise carrying up the sleeves whose gear wheels will slide along the teeth of the pinion 15 and finally the clamping head will be freed from the top of the can, the rods 29 will assume the position shown in Fig. 2, and the springs 21 will throw the crimping rolls out.

The arms carrying the crimping rolls may be adjusted by moving their clamping bolts along the slots in the ends of the arm and the entire mechanism is of such character that its parts may be readily assembled and adjusted and adapted to different sized cans.

I claim—

1. In a machine for crimping the heads upon the bodies of sheet metal cans, the combination with a can support of a vertically reciprocating rod carrying a clamp on its lower end and normally depressed by a suitable spring, a sleeve rotatable upon said rod, said sleeve having a head thereon, rotatable crimping rolls having pivoted journals and connected with said head, and means connected with the reciprocating rod whereby to rock

the journals of the crimping rolls upon their pivots and force them into operative engagement with the flange of the can, substantially as described.

2. In a machine for crimping the heads upon the bodies of sheet metal cans, the combination with a can support of a vertically reciprocating rod carrying a clamp on its lower end and normally depressed by a suitable spring, a sleeve rotatable upon said rod, said sleeve having a head thereon, crimping rolls having pivoted journals connected with said head, and means connected with the reciprocating rod whereby to rock the journals of the crimping rolls upon their pivots and force them into operative engagement with the flange of the can, and springs for returning the crimping rolls to their normal position after each actuation, substantially as described.

3. In a machine for crimping heads upon the bodies of sheet metal cans, the combination with a can support of a vertically reciprocating rod carrying a clamping head, a spring normally tending to depress said rod, a rotatable sleeve slidably mounted upon said rod and having a head upon its lower end, bracket arms radially connected with said head and having their outer ends slotted, short arms pivotally mounted upon bolts passing through said slots, and crimping rolls rotatably mounted upon said short arms, rods having their inner ends pivotally connected with the reciprocating rod and their outer ends bearing upon the arms carrying the crimping rolls, and springs acting in opposition to said rods whereby to control the movements of the crimping rolls, substantially as described.

DARWIN D. RANNEY.

Witnesses:

A. S. TURNER,
W. T. RUCKER.