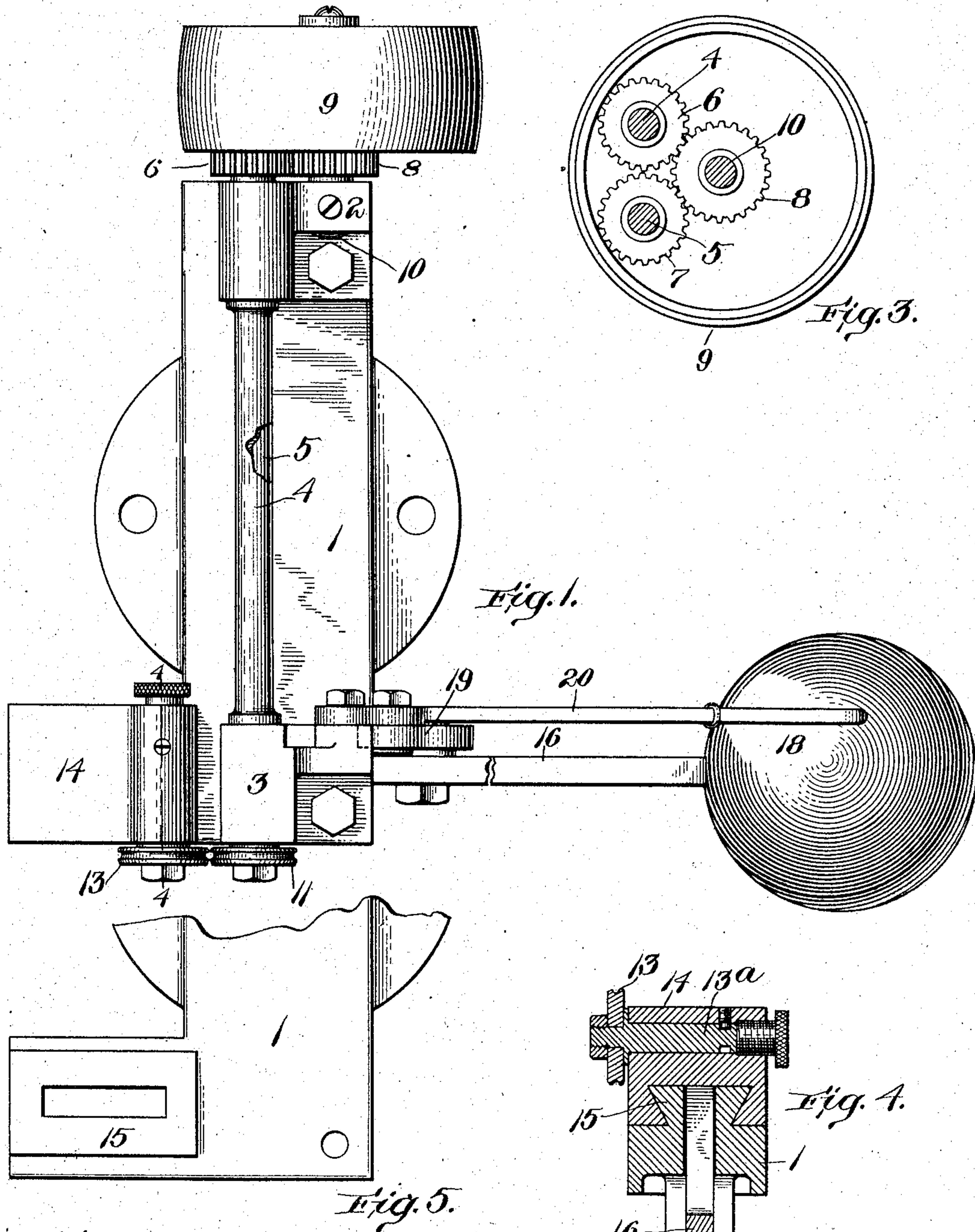


No. 790,088.

PATENTED MAY 16, 1905.

F. J. THOMAS.  
CRIMPING MACHINE.  
APPLICATION FILED JULY 27, 1904.

2 SHEETS—SHEET 1.



Witnesses:

Arthur T. Randall.  
C. S. Woodberry.

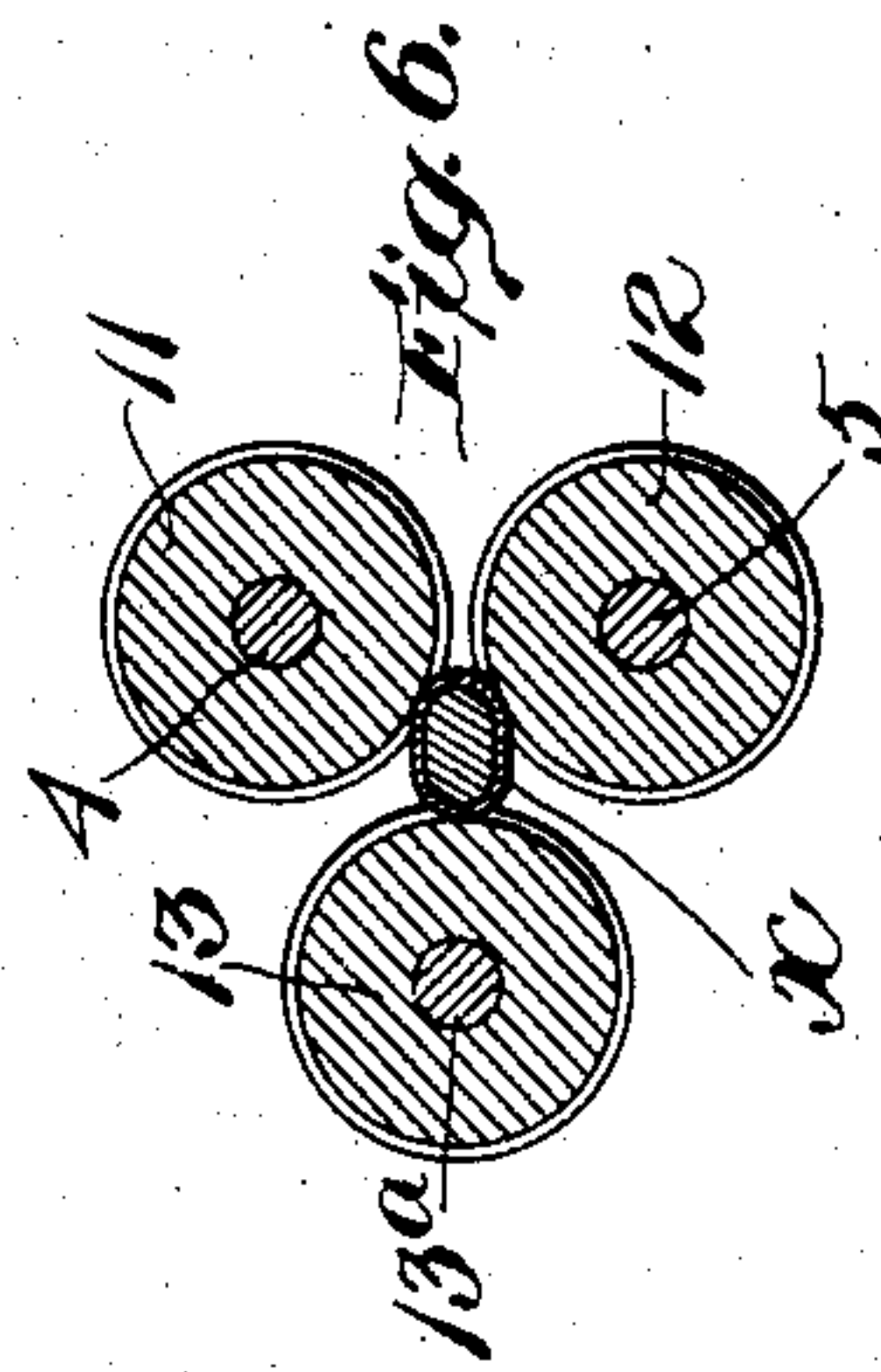
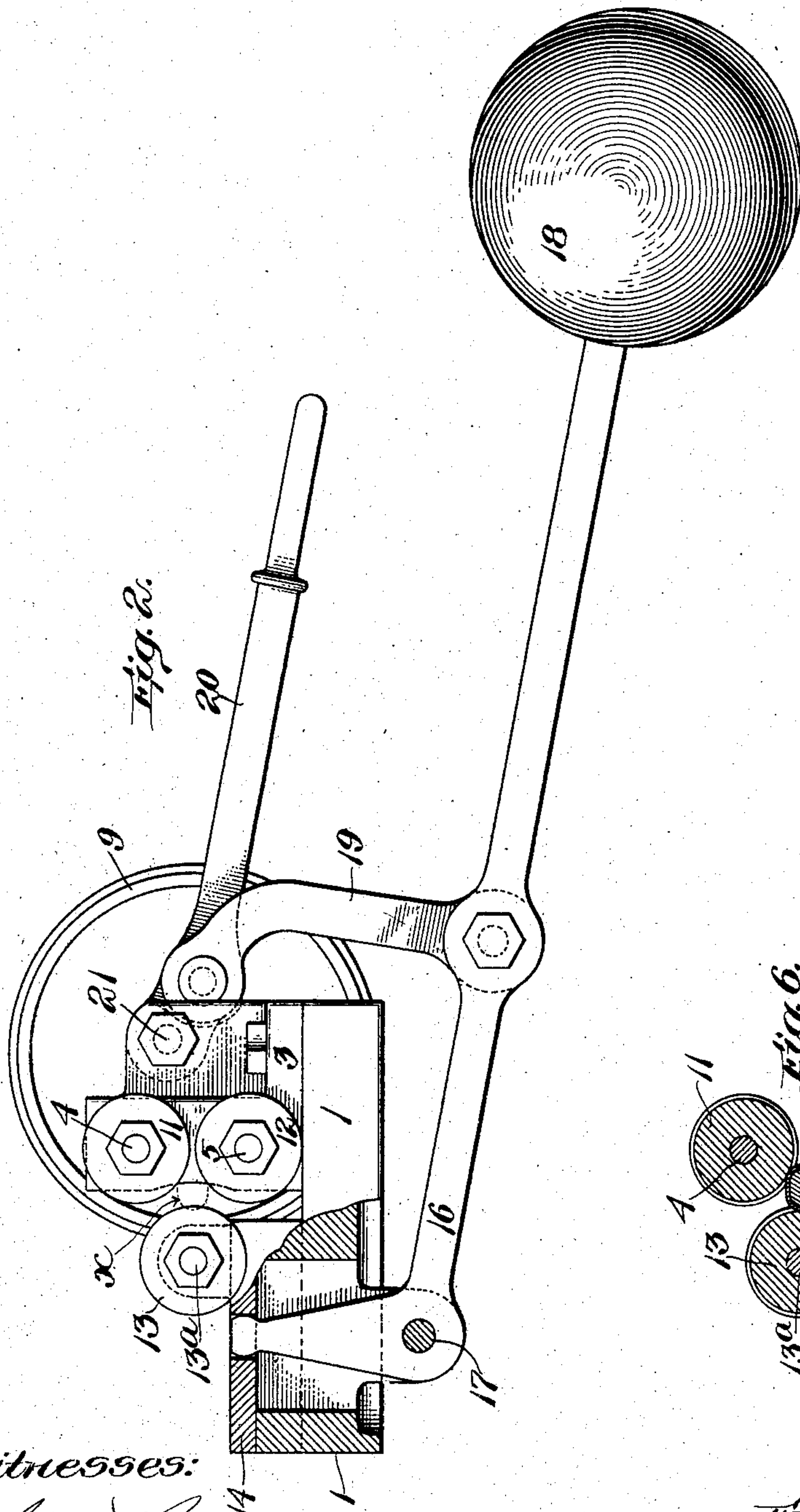
Inventor:  
Fred. J. Thomas,  
by Roberts & Mitchell  
Attorneys.

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2 SHEETS—SHEET 2.



Witnesses:

*Arthur Randall*  
*C. D. Woodberry*

Inventor:

*Fred J. Thomas,*

*by Roberts & Mitchell*  
*Attorneys.*



# UNITED STATES PATENT OFFICE.

FREDERICK J. THOMAS, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO  
REED AND BARTON CORPORATION, A CORPORATION OF MASSACHU-  
SETTS.

## CRIMPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 790,088, dated May 16, 1905.

Application filed July 27, 1904. Serial No. 218,338.

*To all whom it may concern:*

Be it known that I, FREDERICK J. THOMAS, a citizen of the United States, and a resident of Taunton, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Crimping-Machines, of which the following is a specification.

My invention relates to machines for crimping metal articles.

In United States Patent No. 763,111, dated June 21, 1904, and granted to William A. Raymond, is shown and described a knife comprising a blade made with a shank having an annular flange near the junction of the shank and blade and a hollow sheet-metal handle having the rim at its inner end turned or crimped over the flange on the shank.

My invention has for its object to provide an improved crimping-machine, and is illustrated as embodied in a machine for use in crimping the inner end of the handle of the knife, shown and described in the patent above noted, over the flange on the shank to unite the parts.

My improved machine comprises a number of crimping wheels or rolls grouped so as to provide between them a pocket to receive and support the article to be crimped. Mechanism is provided to rotate the rolls so as to cause the article being crimped also to be rotated, but on an axis of its own, thereby causing the rolls to circumscribe, and thereby turn or crimp, the rim of the handle or other article being operated upon.

In the best form of my invention three rolls are employed, forming a triangular group, so as to pocket and grip between them the article being crimped. One of the three rolls is mounted upon a holder which is yieldingly pressed toward the other two rolls, the latter preferably being carried by a fixed support. Any suitable mechanism to rotate the rolls may be utilized; but I prefer, as herein shown, to drive the two rolls on the fixed support and to let a third yieldingly-supported roll act as an idler and be turned by rotation of the article being operated upon. The article to be operated upon is placed between the

three rolls with the rim to be crimped in the same plane with and engaged by the rolls. The machine being started, the two driven rolls rotate the article, which transmits rotary motion to the other roll, and as the rolls circumscribe the rim the latter is crimped by the bending action of the rolls thereon.

In the accompanying drawings, Figure 1 is a plan view of a crimping-machine embodying one form of my invention. Fig. 2 is a front view of the machine shown in Fig. 1. Fig. 3 shows the drive for two of the rolls. Fig. 4 is a section on line 4 4 of Fig. 1. Fig. 5 is a plan view of one end of the frame of the machine shown in Fig. 1. Fig. 6 is a detail hereinafter described.

Having reference to the drawings, 1 represents the frame or base of my crimping-machine. Fixed to base 1 are two brackets 2 and 3, in which are journaled two shafts 4 and 5, carrying at their rear ends gears 6 and 7, respectively, both driven by a gear 8, fixed to the hub of a belt-wheel 9, the latter being journaled on a stud 10, projecting from bracket 2. At their front ends shafts 4 and 5 carry crimping-rolls 11 and 12, arranged one above the other in the same vertical plane. Horizontally opposite the space between the two rolls 11 and 12 and in the same plane with the latter is a third crimping-roll 13, fixed to the outer end of an arbor 13<sup>a</sup>, journaled loosely in a holder 14. Holder 14 is mounted to slide on a way 15, provided on base 1, toward and from rolls 11 and 12 and is engaged by one arm of a bell-crank lever 16, pivoted at 17 to base 1. The other arm of lever 16 carries a weight 18, which acts to yieldingly hold roll 13 toward rolls 11 and 12. Connected by a link 19 with the weighted arm of lever 16 is a hand-lever 20, pivoted at 21 to bracket 3. By means of this lever 20 the operator can shift roll 13 toward or from rolls 11 and 12, and also by downward pressure thereon this lever can be used by the operator to secure any desired pressure on the article while it is being crimped.

The three rolls 11, 12, and 13 are grouped in a triangle, so as to form between them a



pocket to receive and hold the article to be crimped, as shown at *x* in Figs. 2 and 6, and in some instances the article need not be otherwise supported.

5 The handles of knives, in the manufacture of which this machine is principally intended to be used, are more or less elliptical, as shown; but the movability of holder 14 on its way 15 and the yielding pressure of lever 16  
10 permit roll 13 to follow the irregularities of the knife or other article as it rotates with the rolls.

As herein shown, the rolls are made with annular grooves upon their peripheries to em-  
15 brace the flange on the shank of the knife shown and described in the patent above noted, and as the knife rotates between the rolls the sides of the grooves turn in or crimp  
20 the rim at the end of the handle over the flange and fit it to the flange.

During the operation of the machine the pressure of the rolls on the article being operated upon caused by weight 18 can be increased or diminished by the operator, as re-  
25 quired, through handle 20, which also serves as a convenient means to shift roll 13 toward and from rolls 11 and 12 to permit of inserting or removing the work.

Of course when the machine is to operate  
30 upon articles other than the knife, which is shown for illustrative purposes, the shape of the rolls can be modified as may be required.

What I claim is—

1. A crimping-machine comprising a num-  
35 ber of crimping-rolls grouped to pocket and support the article to be operated upon so as to cause it to be rotated on an axis of its own when the rolls are actuated; a lever connected with one of said rolls, a weight acting through  
40 the lever to yieldingly support the roll con-

nected with said lever, and means to rotate positively one or more of the rolls.

2. A crimping-machine comprising a number of crimping-rolls grouped to pocket and support the article to be operated upon so as  
45 to cause it to be rotated on an axis of its own when the rolls are actuated; a fixed support on which some of the rolls are mounted; a holder movable toward and from the rolls on the fixed support and carrying another one of said  
50 rolls; a lever connected with said holder, a weight acting through the lever to yieldingly force the holder and roll carried thereby toward the rolls on the fixed support, and means to rotate positively one or more of the rolls. 55

3. A crimping-machine comprising a number of crimping-rolls grouped to pocket and support the article to be operated upon so as to cause it to be rotated on an axis of its own  
60 when the rolls are actuated; a fixed support on which some of the rolls are mounted; a holder movable toward and from the rolls on the fixed support and carrying another one of said  
65 rolls; a lever connected with said holder, a weight acting through the lever to yieldingly force the holder and roll carried thereby toward the rolls on the fixed support, a separate  
70 lever connected with the holder whereby to shift the latter and roll carried thereby toward and from the rolls on the fixed support to permit the insertion or removal of the article to be operated upon, and means to rotate positively one or more of the rolls.

Signed by me at Cottage City, Massachusetts, this 21st day of July, 1904.

FRED. J. THOMAS.

Witnesses:

GEORGE F. MOULTON,  
F. L. BUNKER.