

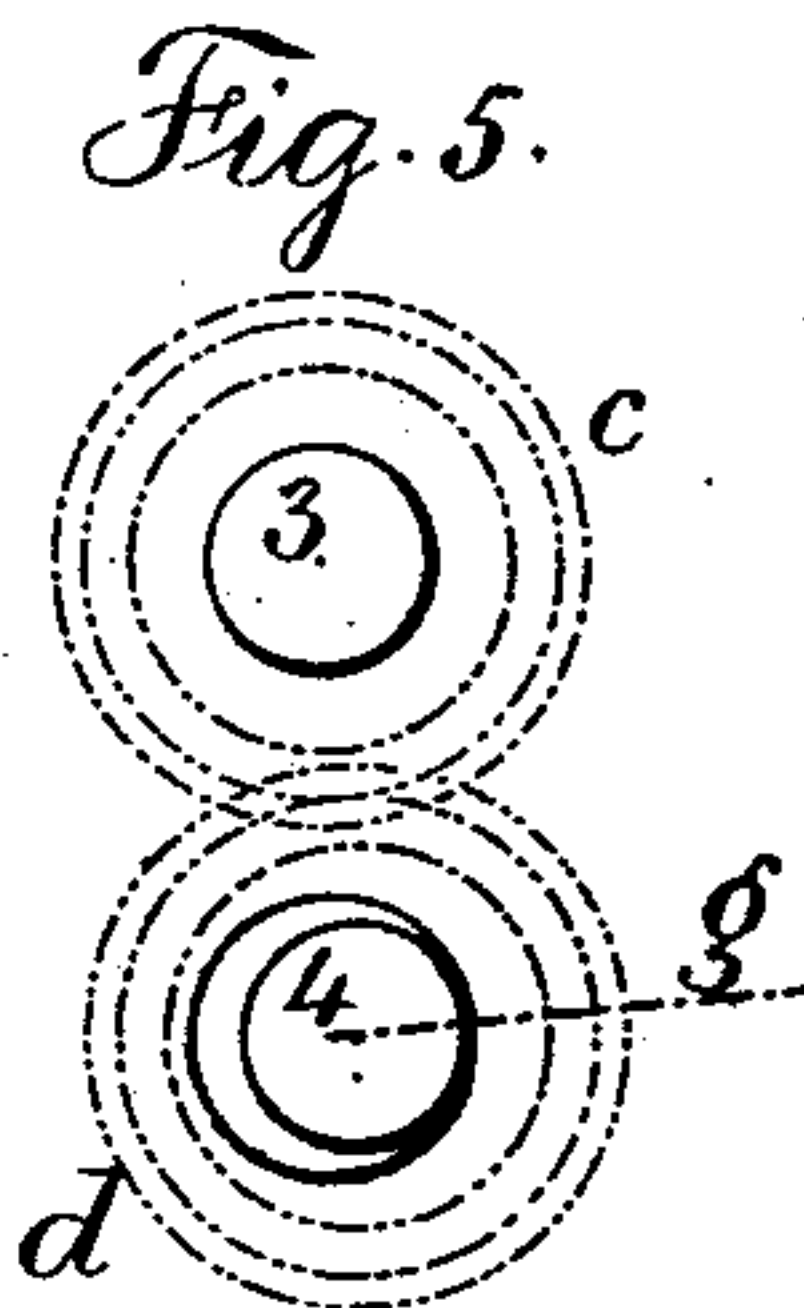
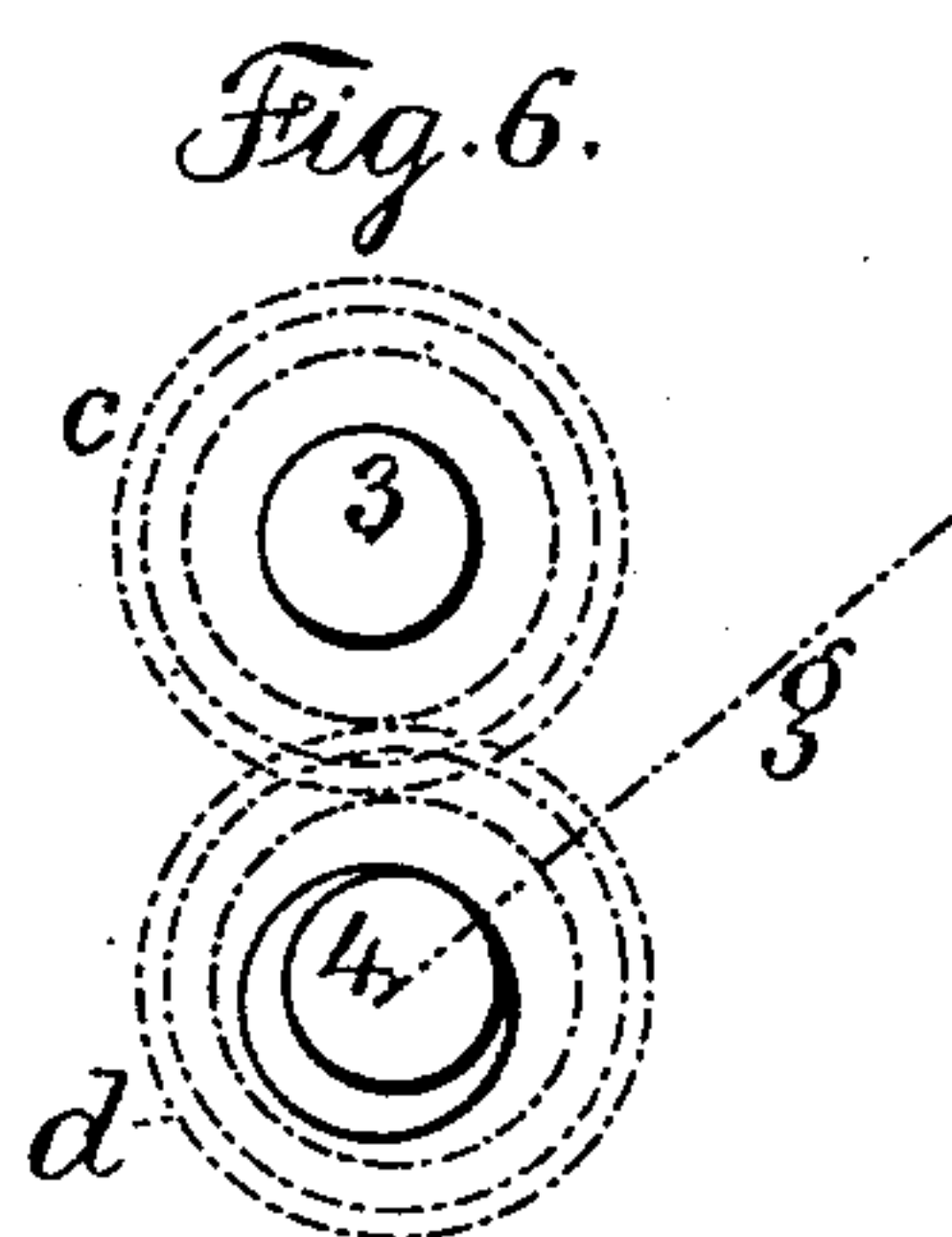
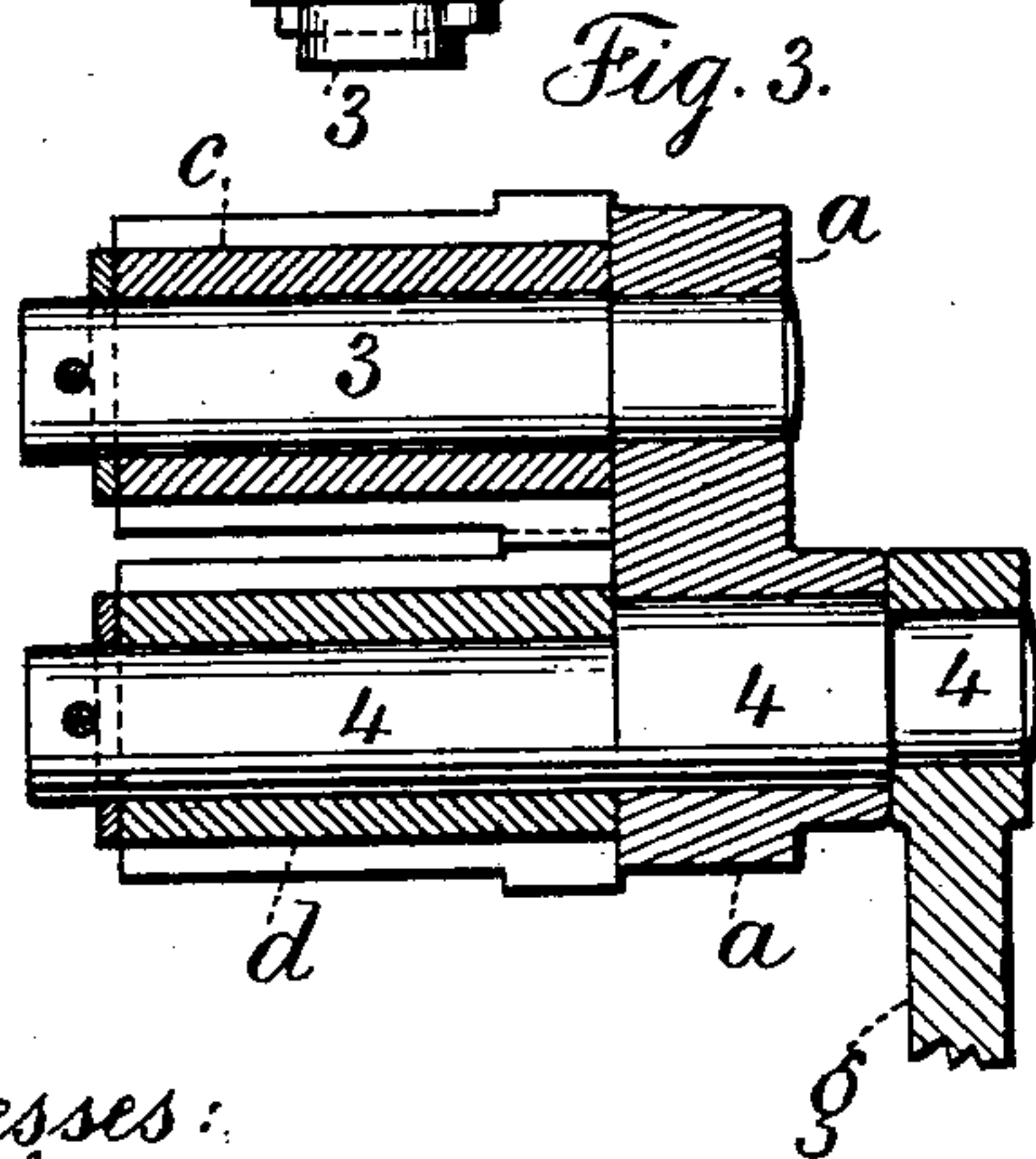
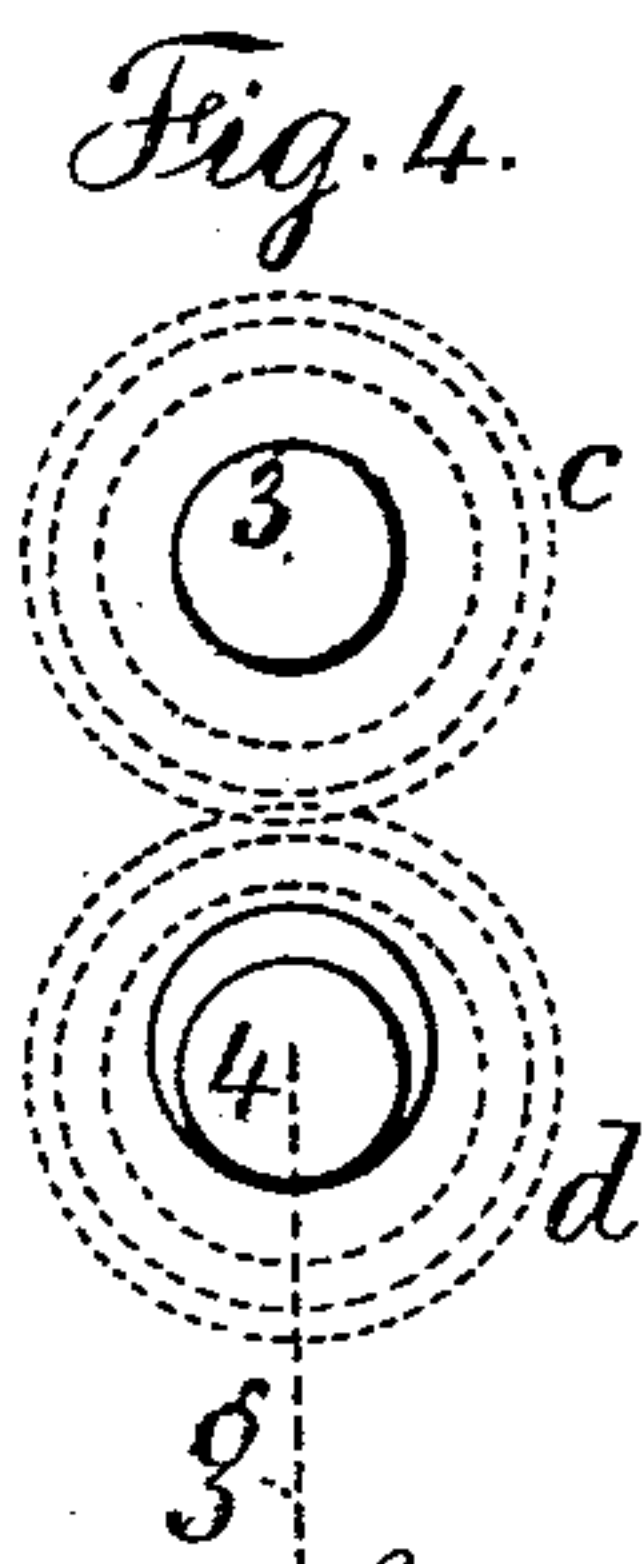
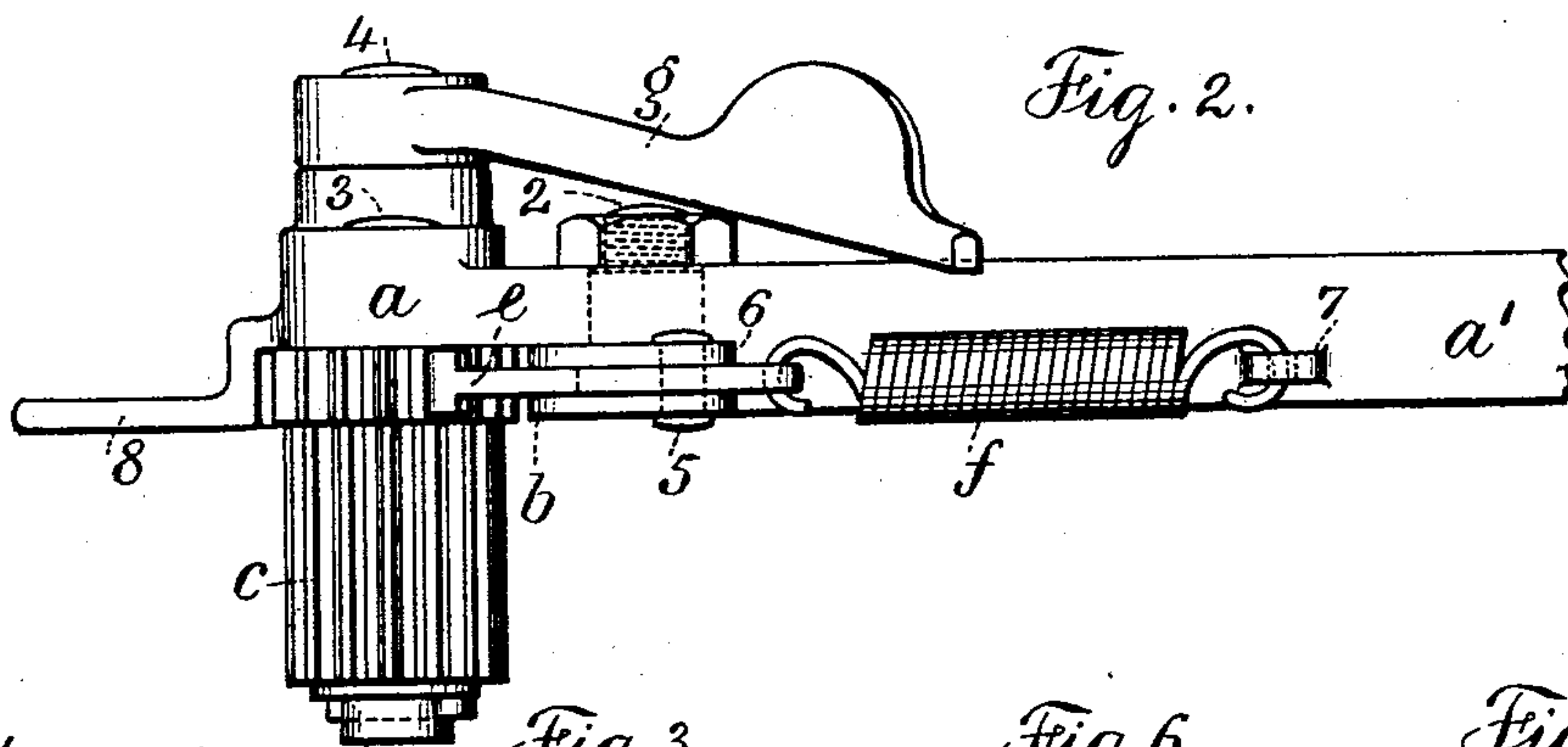
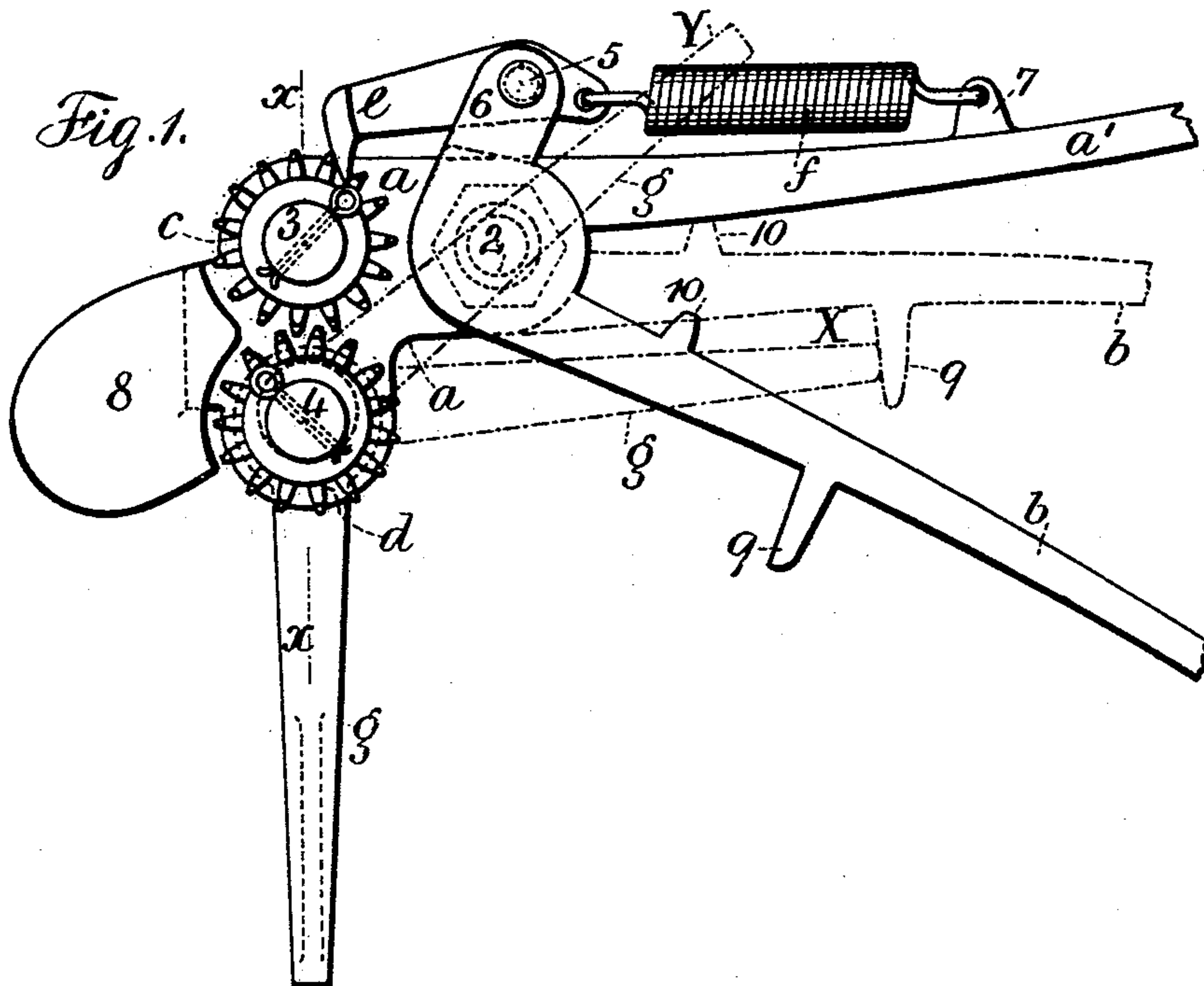
No. 733,131.

PATENTED JULY 7, 1903.

J. BLUMER.
CORRUGATING TOOL.

APPLICATION FILED NOV. 18, 1902.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES BLUMER, OF NEW YORK, N. Y.

CORRUGATING-TOOL.

SPECIFICATION forming part of Letters Patent No. 733,131, dated July 7, 1903.

Application filed November 18, 1902. Serial No. 131,867. (No model.)

To all whom it may concern:

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

The device of my present invention is an improvement upon the device shown and described in Letters Patent granted to me July 18, 1893, No. 501,644.

The object of my present invention is to produce a corrugating-tool that can be held in a closed position in which the parts are compact. This end is accomplished, preferably, by a device adapted in its movements to effect the relations of the corrugating-rollers.

In carrying out my invention and in combination with a stock forming the support of the corrugating-rollers, a handle formed as a continuation of said stock, a second handle pivoted to the stock, arbors and corrugating-rollers mounted upon the stock, and a pawl and spring device acting in connection with the movement of the second handle for turning the corrugating-rollers and an eccentric arbor for one of the corrugating-rollers I employ an arm connected to one end of the eccentric arbor of one corrugating-roller, and which arm partakes of the nature of a crank, and projections upon the second handle, one of which forms a stop against the handle of the stock and the other one a stop for the free end of said arm, so that when the handles are in proximity and held by the aforesaid stop at an appreciable distance apart the free end of the arm bears against the other projection or lug to maintain the handles in their closed position. This arm when moved out into a downward vertical position so opens or separates the corrugating-rollers that a sheet of metal may be introduced between the same, and when said arm is swung over past an upright vertical position into an acute angle with reference to the line of the handle formed with the stock the eccentric arbor is so moved that the corrugating-rollers are brought into mesh to crimp or corrugate the sheet metal progressively with the operation of the respective handles.

In the drawings, Figure 1 is a side ele-

vation representing my improvement, the parts in full lines indicating the open position of the corrugating-rollers, in dotted position X the closed position of the handles, and in the second dotted position Y of the aforesaid arm the closed and operative position of the corrugating-rollers. Fig. 2 is a plan view of the parts shown in Fig. 1 with the aforesaid arm shown in full lines in said closed position of the corrugating-rollers. Fig. 3 is a vertical cross-section at $x x$ of Fig. 1. Figs. 4, 5, and 6 are diagrammatic positions of the arbors of the corrugating-rollers, there being in each of said figures a radial dotted line from the center of the lower arbor indicating the position of the aforesaid arm, the arbors Fig. 4 corresponding in position with the arbors Fig. 3, the arbors Fig. 5 corresponding with the position when the handles of the corrugating-tool are held in a closed position, and Fig. 6 corresponding with the operative position of the arbors and corrugating-rollers.

The stock a is provided with a handle a' , with a gage 8 formed on the end thereof, and the handle a' is provided with a stud 7, having an end perforation therein. A second handle b is connected to the stock a by a pivot-bolt 2, and this second handle is formed with a prolongation or projection 6, having an end perforation. This handle is also provided with projections or lugs 9 and 10, extending out from opposite sides of the handle and at distances spaced apart from the pivot-bolt 2.

The corrugating-rollers $c d$ work together similar to gears. They are mounted on arbors 3 4, the arbor 3 being fixed to the stock a and the arbor 4 passing through the stock and projecting at the other side. As placed upon the arbors 3 4 the corrugating-rollers have portions adjacent to the stock that are always in mesh, so that thereby a rotation of the one corrugating-roller turns the other at all times. The major portion of the teeth on these rollers is of reduced area to the portion just described, and these parts are operatively in engagement and can be separated at pleasure for the introduction between them of sheet metal which is to be crimped or corrugated when said rollers are in operative relation.

The portion of the arbor 4 in the stock a

bears an eccentric relation to the portion on which the corrugating-roller *d* is mounted, so that with the rotation of the arbor 4 the corrugating-roller *d* is moved either toward or
 5 away from the corrugating-roller *c*. A pawl *e* is connected by a pivot 5 to the projection 6 of the second handle *b*, and the tooth of the pawl is in engagement with the teeth of the corrugating-roller *c*, and the opposite end of
 10 the pawl is made with a perforation engaged by one end of a contractile spring *f*, the other end of the spring *f* engaging the perforation of the stud 7. With the exception of the projections 9 and 10 on the second handle *b* the
 15 parts hereinbefore described are substantially identical with the parts shown and described in my Patent No. 501,644.

I employ an arm *g*, shown with an enlarged portion for a finger-bearing which is adjacent
 20 to the free end of the arm. This arm is secured to the reduced end of the arbor 4, projecting beyond the stock *a* on the opposite side to the corrugating-rollers. The swinging movement of the arm *g* turns the arbor 4
 25 in the stock and moves the corrugating-roller *d* nearer to or farther from the corrugating-roller *c*.

When the handles are brought into proximity, the projection or lug 10 comes against
 30 the under surface of the handle *a'* and limits the proximity of the handles to one another. In this position the arm *g* may be swung toward the second handle *b* and its free end brought frictionally into contact with the sur-
 35 face of the downwardly-extending projection or lug 9, the arm in this position holding the handles *a'* and *b* in a substantially locked or fixed position with reference to one another, so that the parts of the corrugating-tool are
 40 brought into compact relation one to another. This position is shown by dotted position X in Fig. 1 and is shown diagrammatically in Fig. 5.

When the arm *g* is in the downwardly-extending or suspended vertical position, (shown
 45 in Figs. 1 and 3 and diagrammatically in Fig. 4,) the eccentric arbor is so turned that the corrugating-rollers are separated to their greatest extent. In this position the sheet
 50 metal to be crimped or corrugated is to be inserted between the corrugating-rollers, after which the arm *g* is to be swung forward and over into the dotted position Y, Fig. 1, the full position, Fig. 2, and the diagrammatic
 55 position, Fig. 6. In this position the corrugating-rollers are at their nearest point with the teeth thereof slightly in mesh, sufficiently so to corrugate or crimp the metal between them when the handles are operated.

60 The forward or progressive movement of the metal through the corrugating-rollers is effected by moving the handles toward one another and turning the corrugating-rollers by means of the pawl *e*, the return movement
 65 of the pawl and handle being effected by the contractile spring *f*. The gage or part 8, integrally formed upon the stock *a*, covers the

gear-teeth portions of the corrugating-rollers and serves to prevent the metal being corrugated passing into or against the said teeth
 76 in the operation of the corrugating-rollers.

I claim as my invention—

1. The combination with the corrugating-rollers, arbors therefor, a stock for supporting the same, handles connected to the stock,
 75 and means operated by one of the handles for rotating the corrugating-rollers progressively, of means connected to one of the handles for limiting the proximity of the handles to one
 80 another, a device connected to one of the arbors of one of the corrugating-rollers and acting to control the relation of the rollers to one another, and a projection upon the moving handle with which the free end of said de-
 85 vice engages to hold the handles in a substantially fixed or locked relation to one another and compact the parts of the corrugating-tool, substantially as set forth.

2. The combination with the corrugating-rollers, arbors therefor, a stock for support-
 90 ing the same, handles connected to the stock, and means operated by one of the handles for rotating the corrugating-rollers progressively, of a projection 10 upon one of the handles contacting with the other handle to limit the
 95 proximity of the handles to one another, a projection 9 from the opposite side of the same handle, an arm connected to one of the arbors of one corrugating-roller and adapted in its various positions to control the relation
 100 of one corrugating-roller to the other, the free end thereof being adapted to come against the projection 9 to hold the handles in a substantially fixed or locked position in prox-
 105 imity to one another so that the parts of the corrugating-tool are compact, substantially as set forth.

3. The combination with a stock, a handle extending out from the stock, an arbor fixed to the stock, an eccentric arbor pivoted in the
 110 stock, corrugating-rollers mounted on said arbors and one end of the eccentric arbor projecting from the other side of the stock, a handle pivoted to the stock and a pawl spring-controlled operated by the latter handle for
 115 progressively rotating the corrugating-rollers, of an arm having the function of a crank and secured to the projecting end of the eccentric arbor and adapted to rotate the eccentric arbor and in its several positions to control
 120 the relations of the corrugating-rollers to one another, and devices connected to the pivoted handle for determining the proximity of the handles to one another and for engaging the free end of said arm to maintain the handles
 125 in a fixed or substantially locked position, substantially as set forth.

4. The combination with a stock, a handle extending out from the stock, an arbor fixed to the stock, an eccentric arbor pivoted in
 130 the stock, corrugating-rollers mounted on said arbors and one end of the eccentric arbor projecting from the other side of the stock, a handle pivoted to the stock and a pawl

spring-controlled operated by the latter handle for progressively rotating the corrugating-rollers, of an arm having the function of a crank and secured to the projecting end of the eccentric arbor and adapted to rotate the eccentric arbor and in its several positions control the relations of the corrugating-rollers to one another, a projection 10 on the pivoted handle coming in contact with the handle of the stock to determine the proximity of the handles to one another, a projection 9 from the other side of the pivoted handle and

with which the free end of the said arm comes into frictional contact to maintain the handles in a fixed or substantially locked position in proximity to one another, substantially as set forth. 15

Signed by me this 15th day of November, 1902.

JAMES BLUMER.

Witnesses:

GEO. T. PINCKNEY,
BERTHA M. ALLEN.