

No. 629,650.

Patented July 25, 1899.

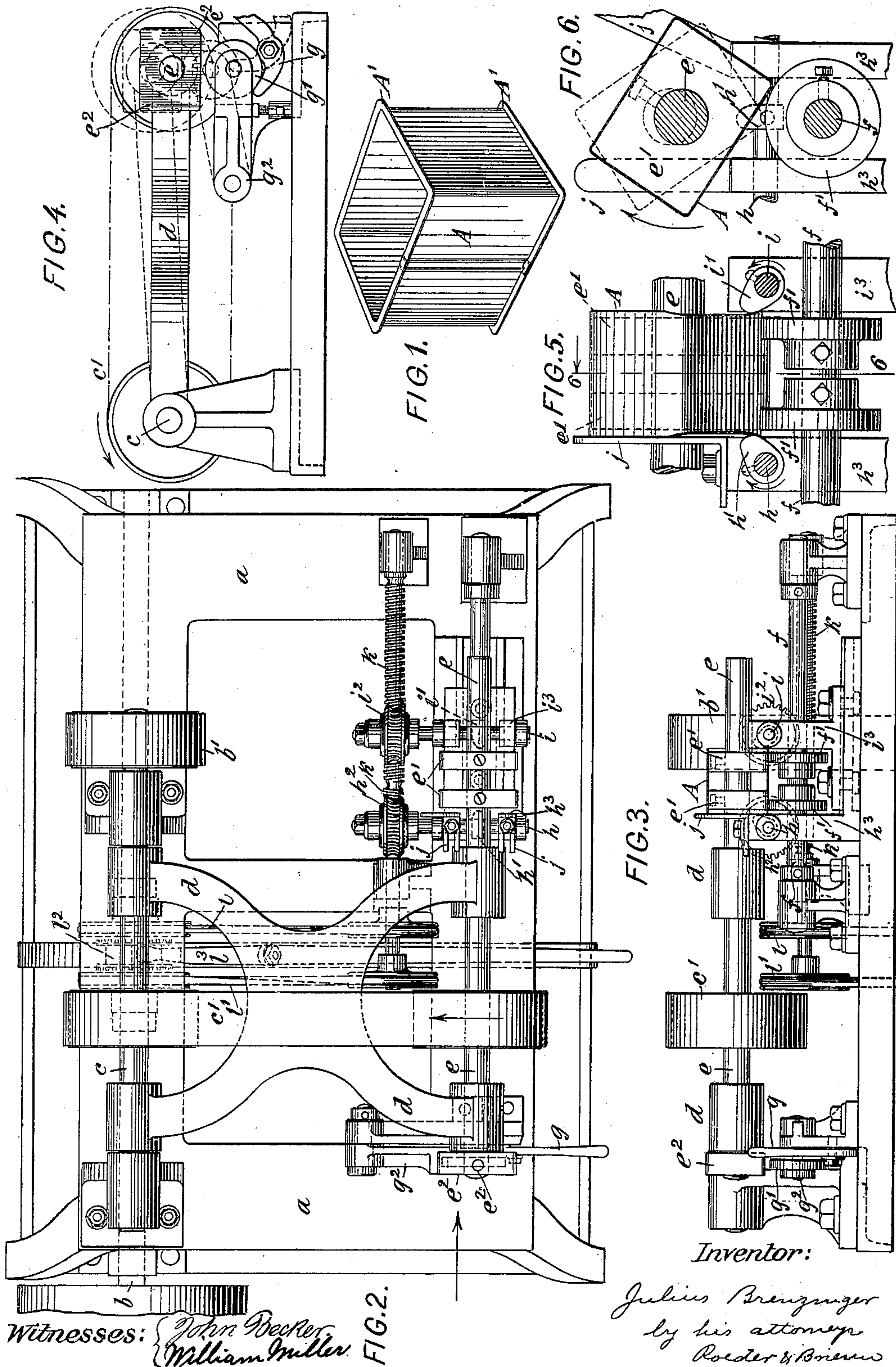
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(Application filed Mar. 29, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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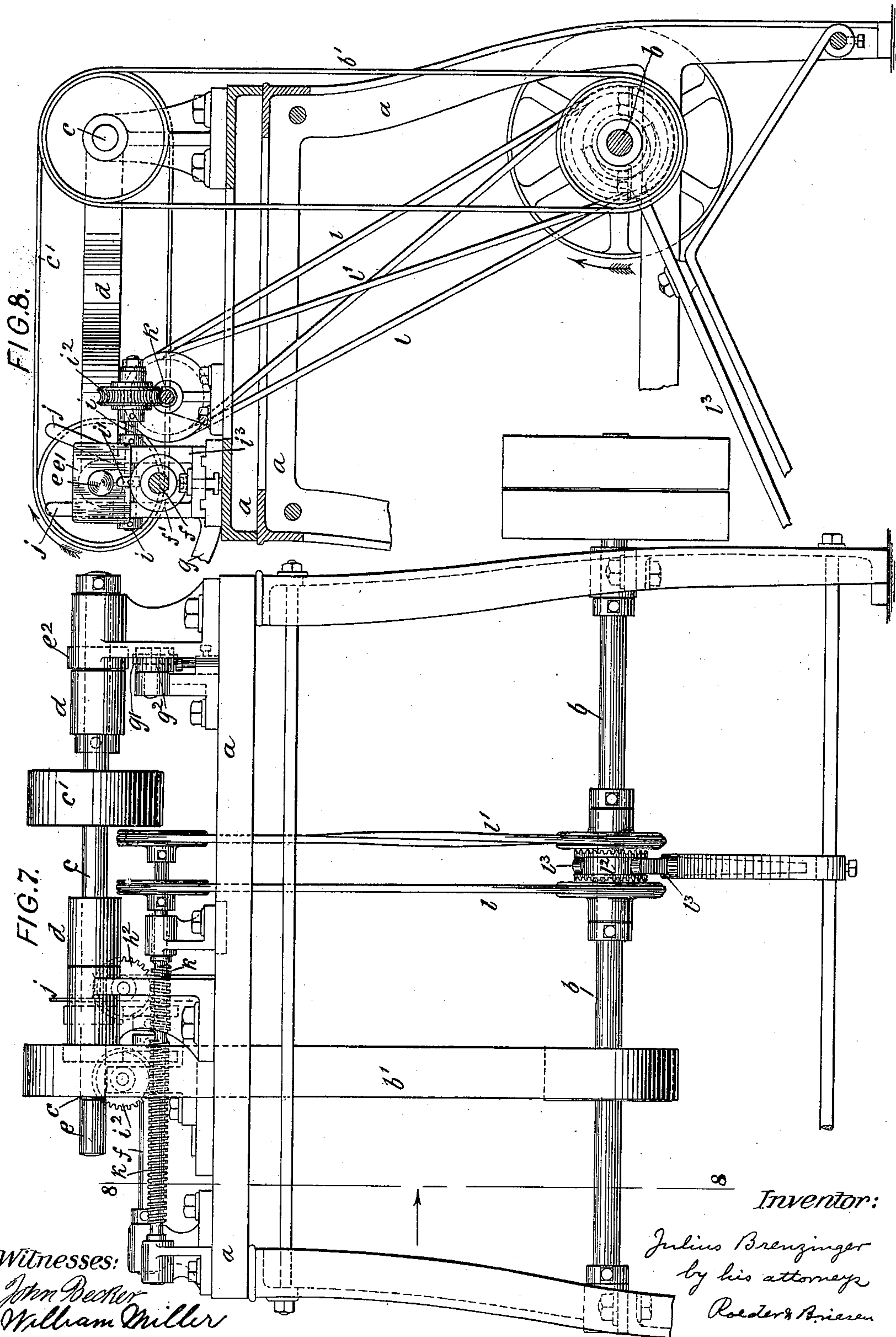
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(No Model.)

(Application filed Mar. 29, 1899.)

2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

JULIUS BRENZINGER, OF NEW YORK, N. Y., ASSIGNOR TO MAX AMS, OF
SAME PLACE.

MACHINE FOR FLANGING SHEET-METAL CAN-BODIES.

SPECIFICATION forming part of Letters Patent No. 629,650, dated July 25, 1899.

Application filed March 29, 1899. Serial No. 710,862. (No model.)

To all whom it may concern:

Be it known that I, JULIUS BRENZINGER, a citizen of Germany, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Machines for Flanging Sheet-Metal Can-Bodies, of which the following is a specification.

This invention relates to a machine for flanging the ends of sheet-metal can-bodies preparatory to attaching the can-heads. The machine turns down the flanges by means of upsetting-thumbs which enter the ends of the rotating can-body and gradually swing down at right angles, so that the metal is not strained during the bending operation.

In the accompanying drawings, Figure 1 is a perspective view of a can-body flanged by my machine. Fig. 2 is a plan of the machine; Fig. 3, a front elevation of the upper part thereof; Fig. 4, a side view of the lifting attachment; Fig. 5, a detail of the flanging-thumbs and supporting-rollers; Fig. 6, a section on line 6 6, Fig. 5; Fig. 7, a rear elevation of the machine; and Fig. 8, a section on line 8 8, Fig. 7.

The letter *a* represents the frame of the machine, in which is hung the power-shaft *b*, that transmits motion by belt *b'* to counter-shaft *c*. This counter-shaft is loosely embraced by one end of a swinging bearing *d*, in the other or free end of which turns a shaft *e*, which may thus be raised and lowered. The shaft *e* receives motion from shaft *c* by belt *c'*. Upon the shaft *e* are secured a pair of adjustable and removable heads *e'*, upon which the can-body *A* to be flanged is adapted to be seated. The drawings show rectangular heads adapted to receive a rectangular can-body; but it is obvious that they may be replaced by round, oval, or polygonal heads. The heads *e'* are supported upon a pair of rollers *f'*, mounted on shaft *f*, which is hung loosely beneath shaft *e*, and which rollers thus also serve to support the shaft *e* and the free end of the swinging bearing *d*.

In order to seat the can-body upon the heads *e'*, the shaft *e* must be raised so that the heads *e'* clear the rollers *f'*. This may be effected by a lever *g*, which when swung down forces a roller *g'*, hung in pivoted bearing *g²*,

against a collar *e²* of shaft *e*, Fig. 4. At right angles to shaft *e* extend on opposite sides of heads *e'* a pair of transverse rock-shafts *h i*, to which the upsetting-thumbs *h' i'*, Fig. 5, are secured, such thumbs being preferably made of oval form, as shown. The shafts *h i* are supported by the bearings *h³ i³*, of which the bearing *i³* should be adjustable, so as to adapt the machine to can-bodies of different lengths. To the bearing *h³* are secured adjustable gages *j*, against which one end of the can-body is adapted to be set.

The shafts *h i* are so constructed that they turn simultaneously in opposite directions—*i. e.*, that they both turn either simultaneously inward or simultaneously outward. This motion is shown to be imparted to the shafts by a right-and-left worm *k* engaging the worm-wheels *h² i²* of the shafts. The worm may be rotated alternately in opposite directions from the power-shaft by straight belt *l*, crossed belt *l'*, clutch *l²*, and shifting lever *l³*, as will be readily understood.

The machine is so set that the thumbs *h' i'* will enter the ends of the can-body to an extent equal to the width of the flange to be formed, and the rollers *f'* are so set as to be cleared by the thumbs when the latter are swung inward, Fig. 5. Motion is imparted to the shaft *b* to rotate shaft *e* by belt *b'*, counter-shaft *c*, and belt *c'*. The bearing *d* is swung upward by lever *g*, the can-body *A* is drawn over heads *e'* to abut against gage *j*, and the shaft *e* is lowered to rotate the can-body by the heads *e'* upon the rollers *f'*. Next the worm *k* is by shifting lever *l³* so coupled to the power-shaft that it will cause the two shafts *h i* to swing inward. Thus the thumbs *h' i'* will enter and engage the ends of the can-body and will gradually oscillate or swing down at or about right angles to form the flanges *A'*. When the flanges have been formed, the motion of the worm is reversed to cause the thumbs to swing outward, after which the shaft *e* is raised and the finished can is drawn off and replaced by a fresh one.

What I claim is—

1. A can-flanging machine composed of a rotatable shaft having a head adapted to receive a can-body, a supporting-roller arranged below said head, a thumb adapted to engage

the end of the can-body, means for oscillating said thumb, and means for varying the distance between the head and roller, substantially as specified.

5 2. A can-flanging machine composed of a rotatable and vertically-movable shaft having a head adapted to receive a can-body, rollers arranged below said head, a pair of thumbs adapted to engage the ends of the
10 can-body, and means for oscillating said thumbssimultaneously in opposite directions, substantially as specified.

3. A can-flanging machine composed of a swinging bearing, a rotatable shaft journaled
15 in the free end of such bearing, and having a head adapted to receive a can-body, means for raising and lowering said shaft, means for supporting the shaft, a thumb adapted to engage the end of the can-body, and means for

oscillating said thumb, substantially as specified. 20
fied.

4. A can-flanging machine composed of a swinging bearing, a rotatable shaft journaled in the free end of such bearing, and having
25 a head adapted to receive a can-body, means for raising and lowering said shaft, means for supporting the shaft, a pair of transverse shafts, thumbs and worm-wheels mounted thereon, and a reversible right-and-left worm adapted to engage said wheels, substantially
30 as specified.

Signed by me, at New York city, county and State of New York, this 28th day of March, 1899.

JULIUS BRENZINGER.

Witnesses:

WILLIAM SCHULZ,
F. V. BRIESEN.