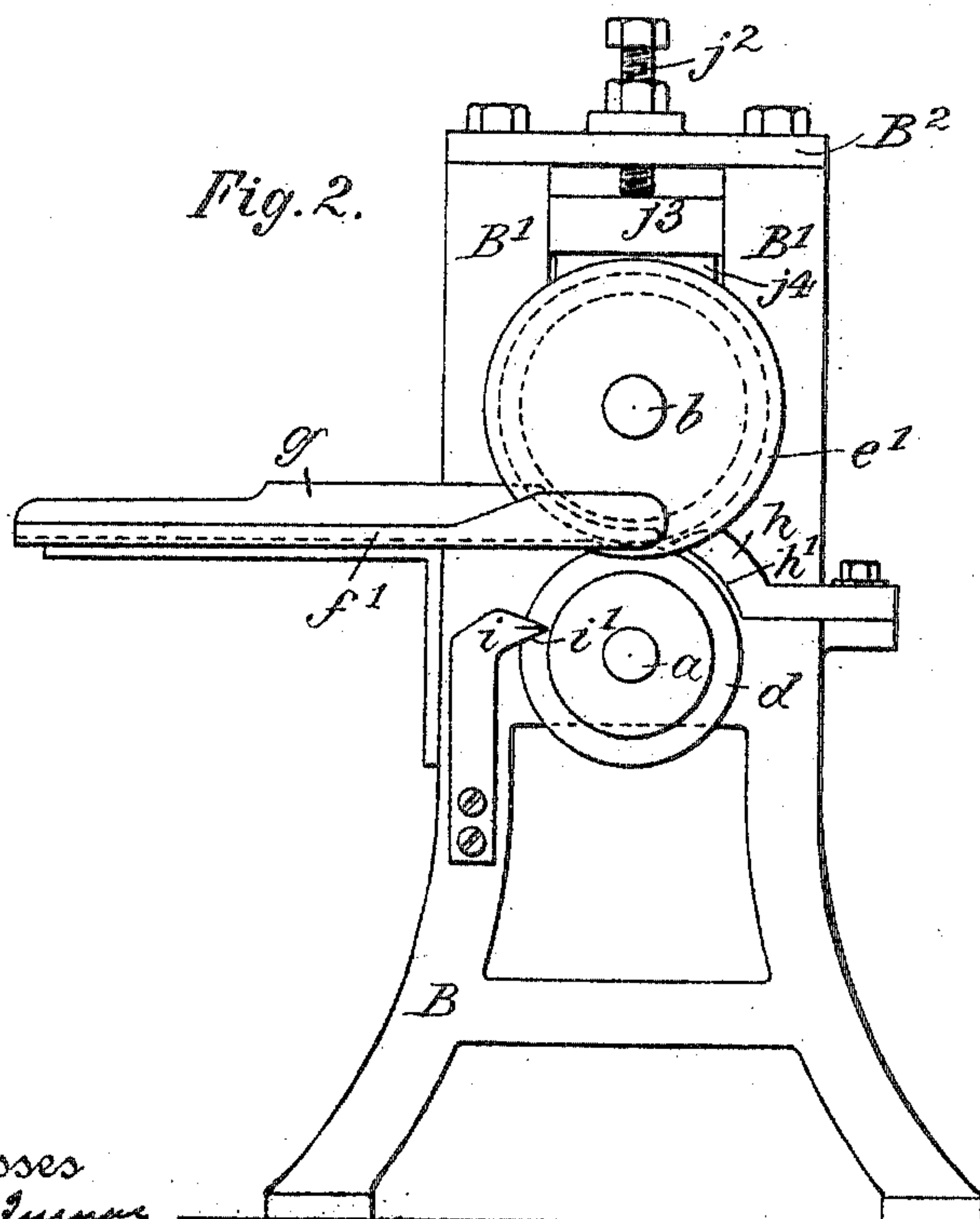
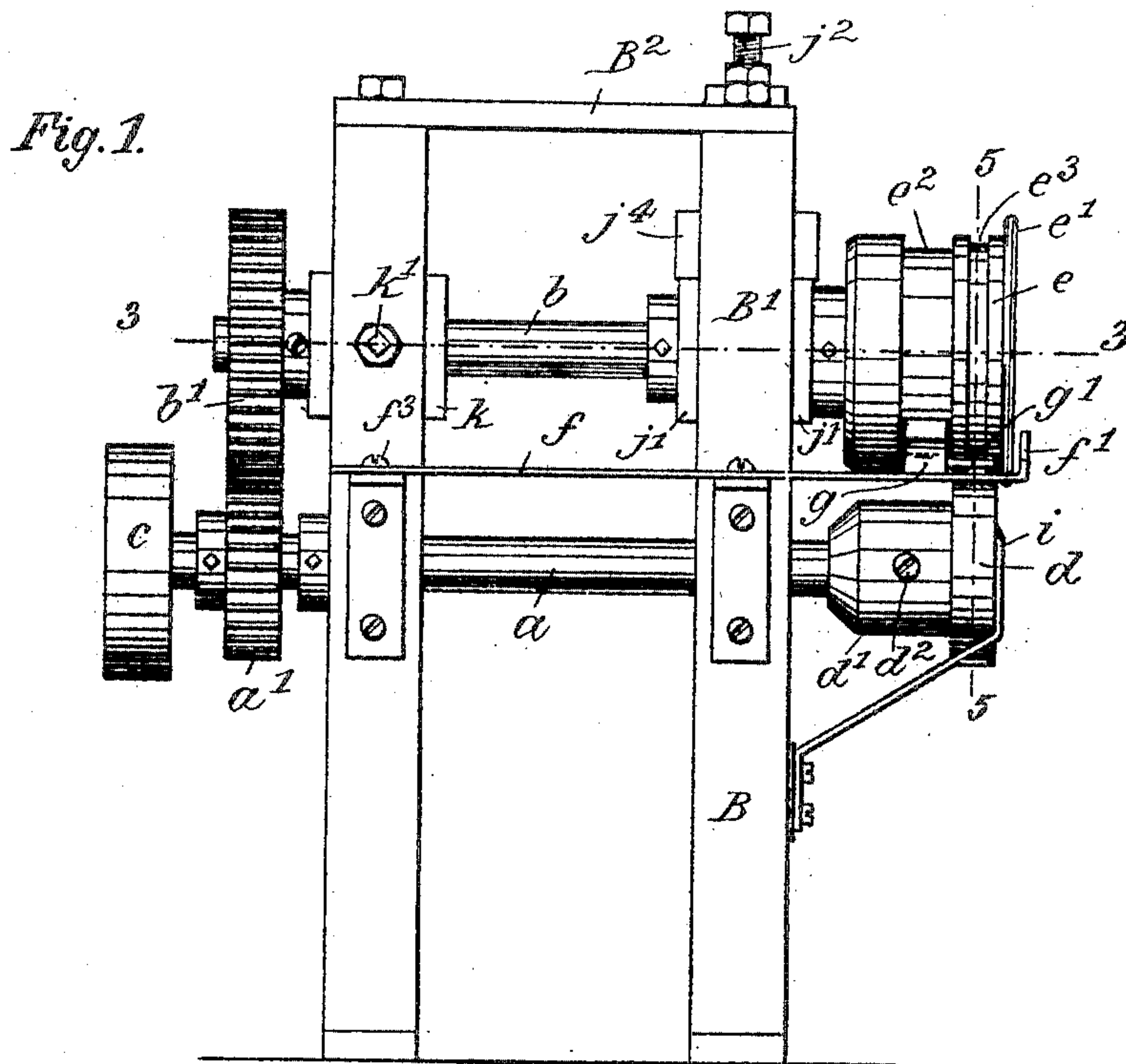


J. BRENZINGER.  
MACHINE FOR SHAPING CAP BANDS.

APPLICATION FILED MAY 6, 1905.

2 SHEETS—SHEET 1.



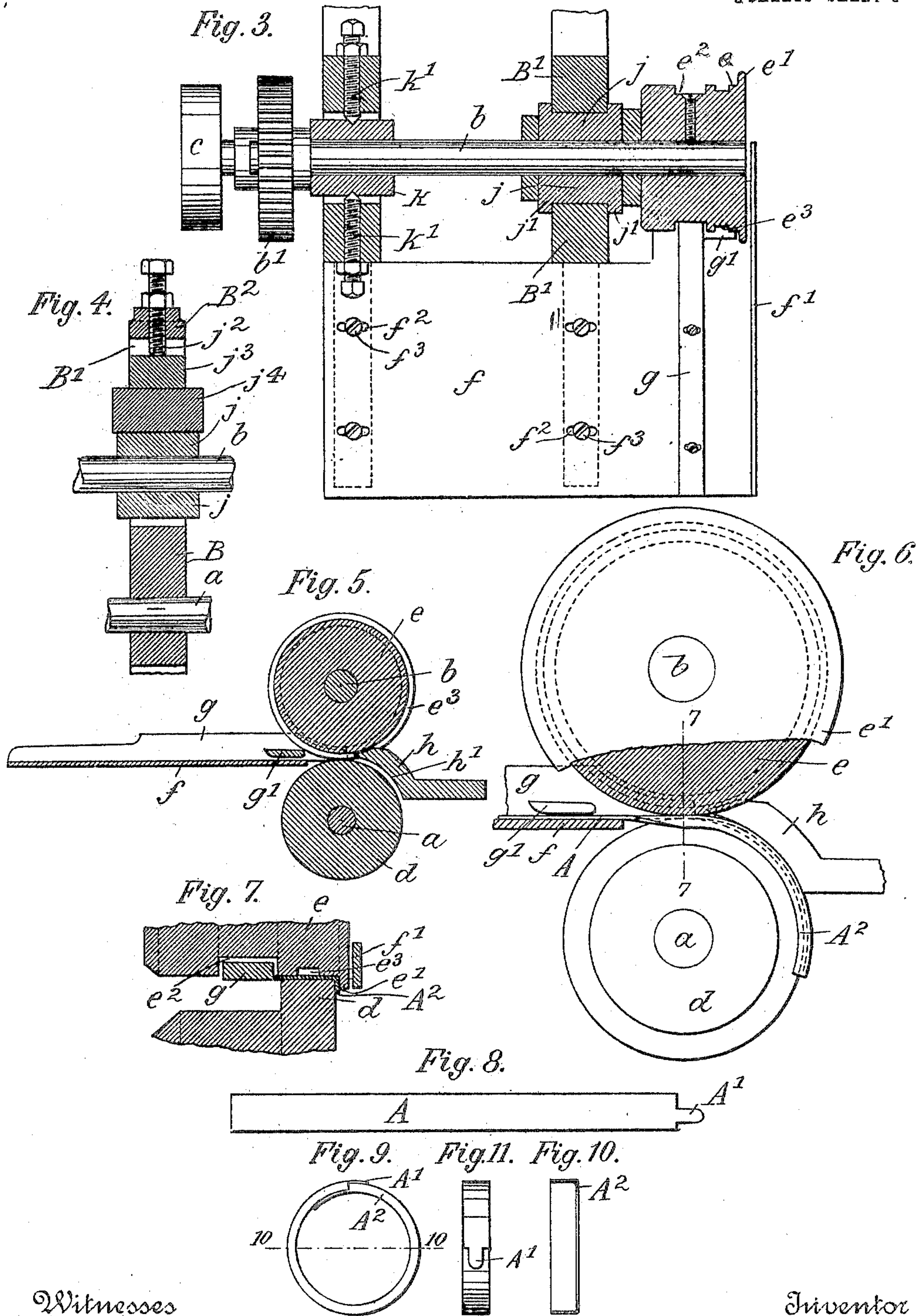
Witnesses  
Arthur Jumper  
Fred. Licht

Inventor  
Julius Brenzinger  
By his Attorney  
Franklin

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2 SHEETS—SHEET 2



Witnesses  
Arthur Zenger.  
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# UNITED STATES PATENT OFFICE.

JULIUS BRENZINGER, OF MOUNT VERNON, NEW YORK, ASSIGNOR  
TO THE MAX AMS MACHINE COMPANY, OF MOUNT VERNON,  
NEW YORK, A CORPORATION OF NEW YORK.

## MACHINE FOR SHAPING CAP-BANDS.

No. 797,716.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed May 6, 1905. Serial No. 259,080.

*To all whom it may concern:*

Be it known that I, JULIUS BRENZINGER, a citizen of the United States, residing at Mount Vernon, Westchester county, State of New York, have invented new and useful Improvements in Machines for Shaping Cap-Bands, of which the following is a specification.

This invention relates to a machine for providing a straight flat strip of metal with a flange along one edge and for bending the strip into a curved shape. The band thus formed constitutes the means for securing a cover to a bottle, jar, or other receptacle by encircling the bottle-head in such a way that its flange engages beneath the head while its upwardly-extending flangeless portion is upset against the cover. In this way the band and cover collectively form a cap which by the upsetting operation is securely locked to the bottle.

In the accompanying drawings, Figure 1 is a front elevation of my improved machine for shaping cap-bands; Fig. 2, a side elevation thereof; Fig. 3, a horizontal section on line 3 3, Fig. 1; Fig. 4, a detail of the shaft-bearing; Fig. 5, a section on line 5 5, Fig. 1; Fig. 6, an enlarged end view, partly broken away, of the shaping means; Fig. 7, a section on line 7 7, Fig. 6. Fig. 8 illustrates the blank to be shaped by the machine; Fig. 9, a side view of the finished band; Fig. 10, a section on line 10 10, Fig. 9; and Fig. 11, a plan of Fig. 9.

The blank A, Fig. 8, having a finger-piece A', is by the machine upset along its upper edge to form flange A<sup>2</sup> and is also bent into a circular shape with overlapping ends, as shown in Figs. 9 to 11.

To the frame B of the machine are journaled a lower shaft *a* and an upper shaft *b*, such shafts being driven in opposite directions by pulley *c* and gear-wheels *a'* *b'*. Upon shaft *a* is mounted a cylindrical roller *d*, the hub *d'* of which is clamped to the shaft at *d*<sup>2</sup>. Above roller *d* there is mounted on shaft *b* a cooperating roller *e*, which is held yieldingly against roller *d* in manner hereinafter described. Roller *e* is provided with an outer circumferential flange *e'*, that projects slightly beyond the face of roller *d*, Fig. 7, the distance between the flange and the roller corresponding substantially to the thickness of blank A.

In order to present the blank to the rollers,

a feed-table *f* is arranged in front thereof and at an elevation corresponding substantially to the top of roller *d*, Fig. 5. The blank is guided along table *f* to the roller-pass by an outer flange *f'* and an inner adjustable rail *g*, which extends with its end into a circumferential groove *e*<sup>2</sup> of roller *e*. The blank is held against the surface of table *f* by a transverse keeper *g'* on rail *g*, beneath which the blank is inserted. The distance between flange *f'* and the inner face of flange *e'* determines the width of the flange A<sup>2</sup>. In order to set the machine to form flanges of different widths, the table is laterally adjustable by means of slots *f*<sup>2</sup>, accommodating clamp-screws *f*<sup>3</sup>.

By the means described the blank A when passed between the rollers *d* and *e* will be provided along its outer edge with a flange A<sup>2</sup>, Fig. 7. To bend the band thus flanged into a circular form, there is arranged back of roller *d* a curved deflector *h*, the inner working face *h'* of which is concentric to roller *d*. The deflector *h* projects above the roller-pass to grasp the front of band A and passes with its upper end into a circumferential groove *e*<sup>3</sup> of roller *e*.

As the band emerges from the pass it will by deflector *h* be bent concentric to roller *d* and will thus be taken along and wound upon the same, Fig. 6. A stripper *i*, having a pointed and beveled working edge *i'*, that projects across the end of roller *d*, is encountered by the flange A<sup>2</sup> of band A when the latter has partly encompassed roller *d*. In this way the band properly flanged and bent is thrown laterally off the roller and into a suitable receptacle. (Not shown.)

The rollers *d* and *e* should be driven with the same circumferential speed, to which effect the diameters of gear-wheels *a'* *b'* correspond to those of rollers *d* *e*, respectively.

The roller *e*, as has already been stated, is held yieldingly against roller *d*, so that the blank is taken along by frictional contact with the rollers. To effect this result, one of the shafts is journaled in yielding bearings, the drawings showing the shaft *b* to be so journaled. As represented, the shaft *b* turns in bearings *j* and *k*. The bearing *j* is flanged, as at *j'*, and is slidable between upright rails B' of frame B. A set-screw *j*<sup>2</sup>, tapped into a fixed cross-piece B<sup>2</sup>, bears against a plate *j*<sup>3</sup>, between which and bearing *j* a cushion *j*<sup>4</sup> is

interposed. The screw  $j^2$  is so set as to force the roller  $e$  tightly against roller  $d$ . To permit this adjustment, the bearing  $k$  is free to tilt, being engaged by a pair of pointed set-screws  $k'$ , the play of shaft  $b$  being, however, so slight that the wheels  $a' b'$  will always properly intermesh.

What I claim is—

1. A machine for shaping cap-bands provided with a cylindrical roller, a cooperating flanged roller, a deflector, and a stripper that projects across the end of the cylindrical roller, substantially as specified.

2. A machine for shaping cap-bands provided with a cylindrical roller, a cooperating flanged roller, a deflector, and a stripper having a pointed and beveled working edge projecting across the end of the cylindrical roller, substantially as specified.

Signed by me at New York city, Manhattan, New York, this 5th day of May, 1905.

JULIUS BRENZINGER.

Witnesses:

ARTHUR ZUMPE,

FRANK V. BRIESEN.