No. 804,512. PATENTED NOV. 14, 1905.

G. C. WITT.

MACHINE FOR CORRUGATING METAL SHEETS.

APPLICATION FILED JUNE 14, 1905.

FIG. 1.

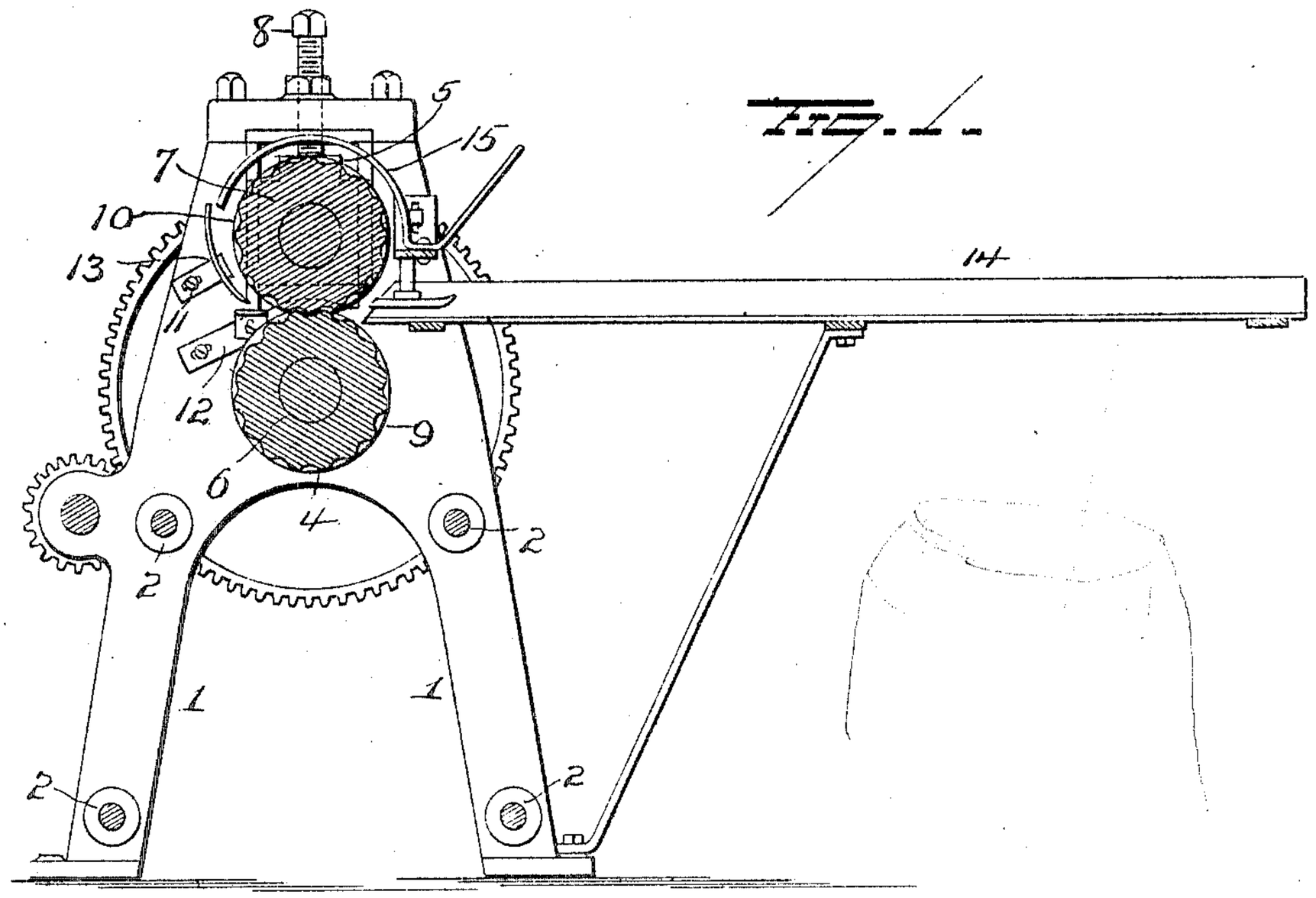
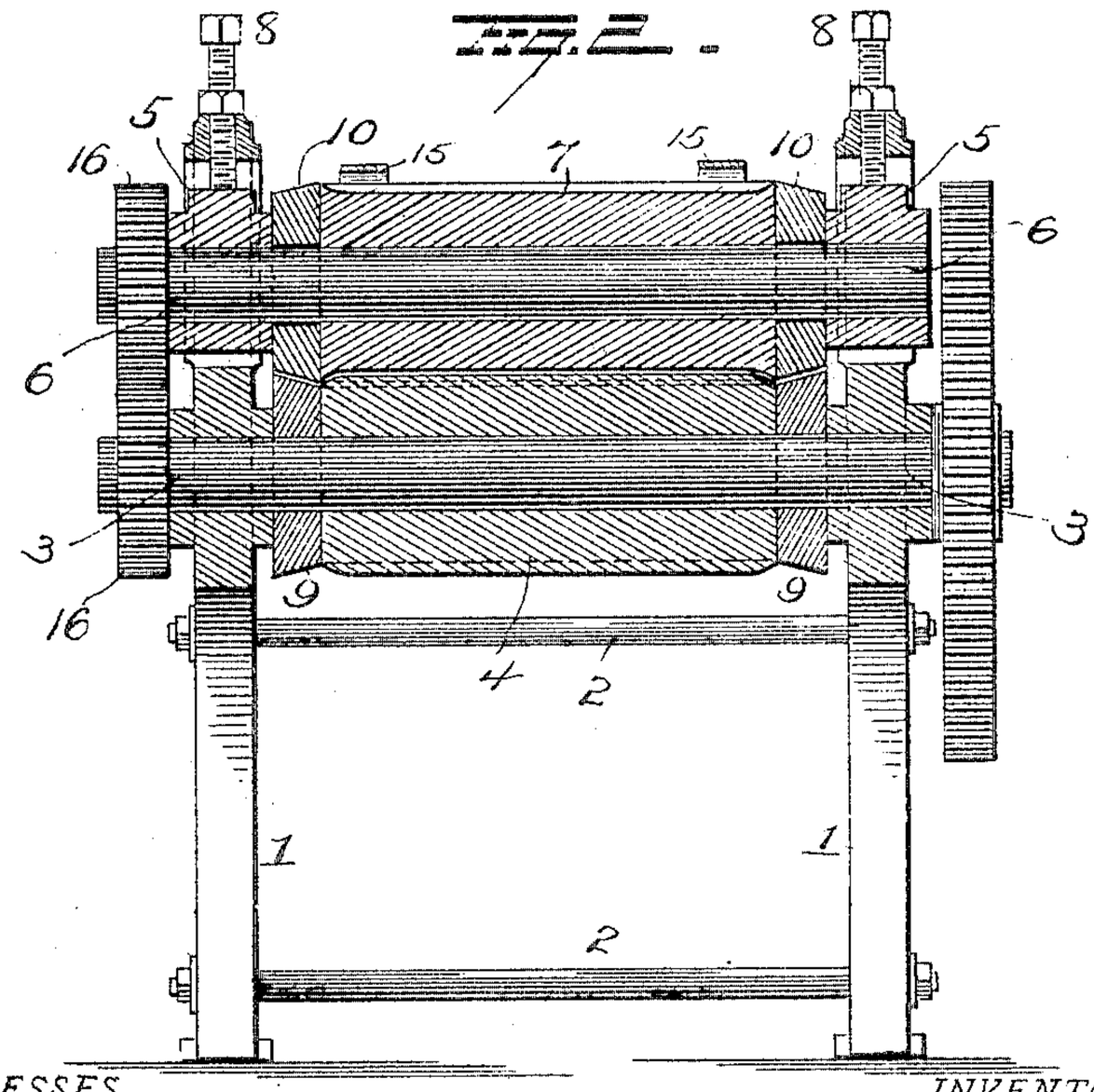


FIG. 2.



WITNESSES

E. Nottingham

G. F. Downing.

INVENTOR.

G. C. Witt

By A. G. Seymour

Attorney

UNITED STATES PATENT OFFICE.

GEORGE C. WITT, OF CINCINNATI, OHIO.

MACHINE FOR CORRUGATING METAL SHEETS.

No. 804,512. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed June 14, 1905. Serial No. 265,271.

To all whom it may concern:

Be it known that I, GEORGE C. WITT, a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Machines for Corrugating Metal Sheets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a machine for corrugating metal sheets, more particularly for use in constructing cylindrical cans, the object of the invention being to provide an improved apparatus which will give to a metal sheet its longitudinal corrugations intermediate of its ends and also curve the sheet into cylindrical form and provide means for varying the diameter of the cylindrical formation and provide an improved construction of roll to prevent the tendency of the edges of the sheet to flare outward.

With these and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in cross-section, illustrating my improvements; and Fig. 2 is a view in longitudinal section.

1 1 represent standards connected by brace-rods 2 and forming the supporting-framework of my improved machine. The standards are made with alined openings or bearings to receive the trunnions 3 of the lower roll 4 and have slots above said bearings to receive sliding boxes 5, in which the trunnions 6 of upper roll 7 are mounted, and set-screws 8 are provided in the standards to engage the boxes 5 and regulate the pressure of the rolls.

The rolls 4 and 7 are both made with longitudinal corrugations—that is to say, they have longitudinal grooves—with longitudinal flanges or webs between them, both of the same outline in cross-section, converging one into the other, the web of one roll fitting in the groove of the other, and the grooves and webs at the ends of the roll converge into substantially cylindrical form. On the ends of the rolls 4 and 7 beveled collars or rings 9 and 10, respectively, are located, the beveled collars or rings 10 on upper roll 7 being of greatest diameter adjacent to the roll and diminishing in diameter outward, while the lower collars or rings 9 are of the exact reverse shape, being of least diameter adjacent to the roll and increasing in diameter outward, and the bevel of all collars or rings is exactly proportionate to the distance from the bottom of the grooves of the rolls to the top of the webs thereof. The purpose of thus beveling the collars or rings is to prevent flaring of the cylinder ends, as it will be readily seen that by reason of the corrugations in the metal plate it is made shorter than the ends, and the beveled collars prevent the outward flare to the ends, which would otherwise occur.

Adjustably secured to the standards 1 by set-screws 11 are my improved guides 12 and 13, the former adapted to be engaged by the corrugated sheet as it emerges from between the rolls and curve the same upward around guide 13, and it will be seen that the nearer to the rolls these guides are placed the less will be the diameter of the cylinder formed, as the curve will be earlier started, and hence by adjusting these guides just the proper bend is given the sheet to form the cylinder of proper diameter.

A suitable guide-table 14 is provided to direct the sheets between the rolls, and curved arms 15 are supported above the upper roll 7 to receive the corrugated plate and prevent its reëntrance between the rolls. The trunnions of the rolls at one end have intermeshing gears 16, and power is transmitted to a gear at the opposite end of the lower roll by any desired mechanism.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the character described, the combination of two longitudinally-corrugated rolls, collars or rings at the ends thereof having opposite bevels and means for curving the corrugated sheet as it passes from between the rolls for forming it into a cylindrical can-body.

2. In a machine of the character described, the combination of two longitudinally-corrugated rolls having their corrugations at the ends converging into a curved line, beveled collars at the ends of said rolls, and means for curving the corrugated sheets into a cylindrical can-body.

3. In a machine of the character described, the combination of two rolls having similar longitudinal corrugations, a guide in proximity to one of said rolls a second guide to receive the sheet as it passes from between the

rolls and curve it over the first-mentioned guide to form a cylindrical, corrugated can-body, and means to adjust said guide mechanism to make can-bodies of different diameters.

4. In a machine of the character described, the combination of two corrugated rolls, collars or rings loose on the roll-trunnions, having opposite bevels and the bevels equal to the corrugations of the rolls, guides for regulating the curve of the sheet corrugated by the rolls, and means for securing said guides at various adjustments.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE C. WITT.

Witnesses:
S. W. FOSTER,
EDITH GETZENDARMER.