P. KRUSE.

MACHINE FOR SEAMING HEADS OR ENDS ON CANS.

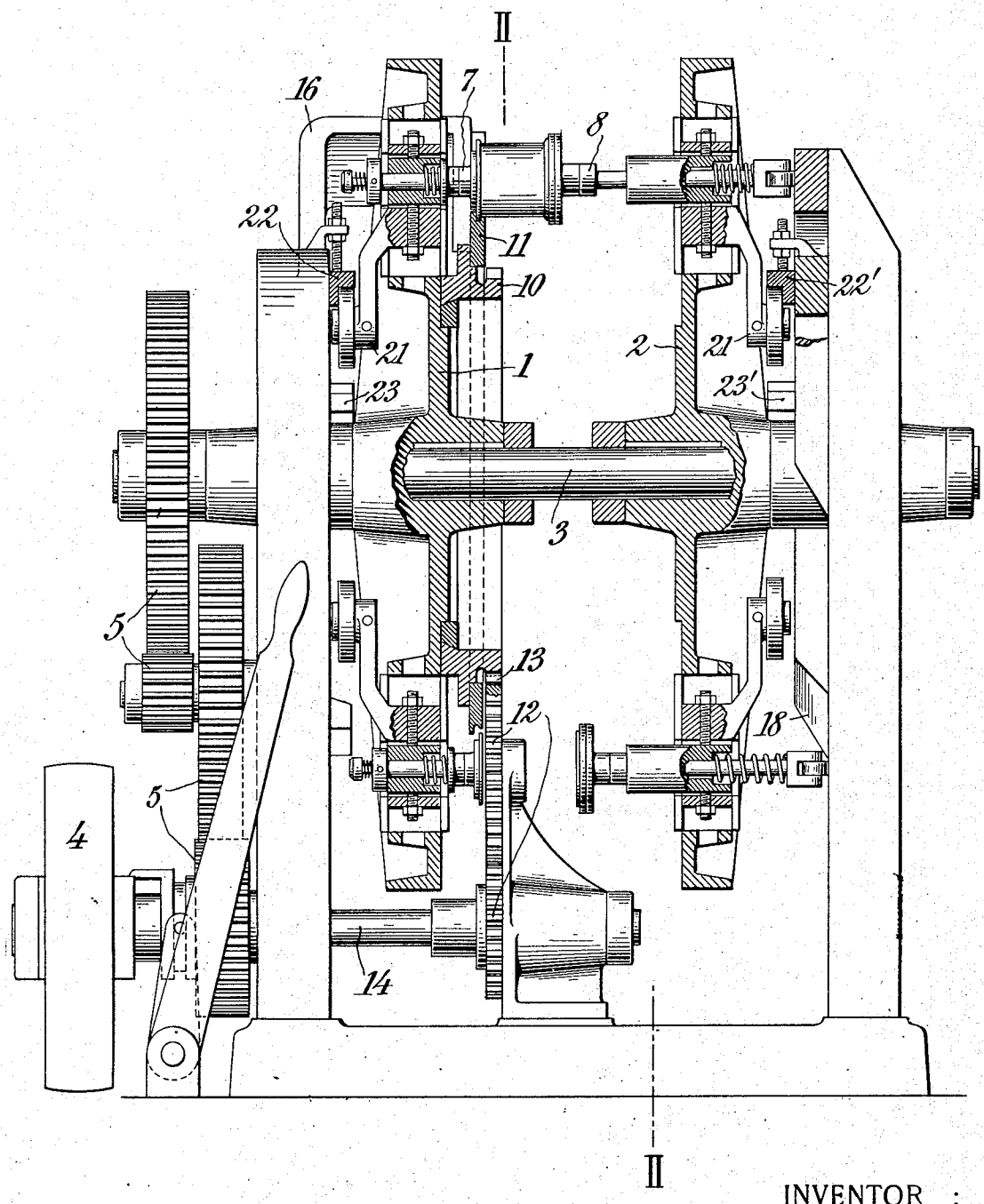
APPLICATION FILED DEC. 18, 1916.

1,278,941.

Patented Sept. 17, 1918.

2 SHEETS—SHEET 1.

Fig. 1.



INVENTOR :

Peter Kruse

By Attorneys,

Fraser, Durk & Myers

WITNESSES:

René Pruine

Gustave C. Thompson

P. KRUSE.

MACHINE FOR SEAMING HEADS OR ENDS ON CANS.

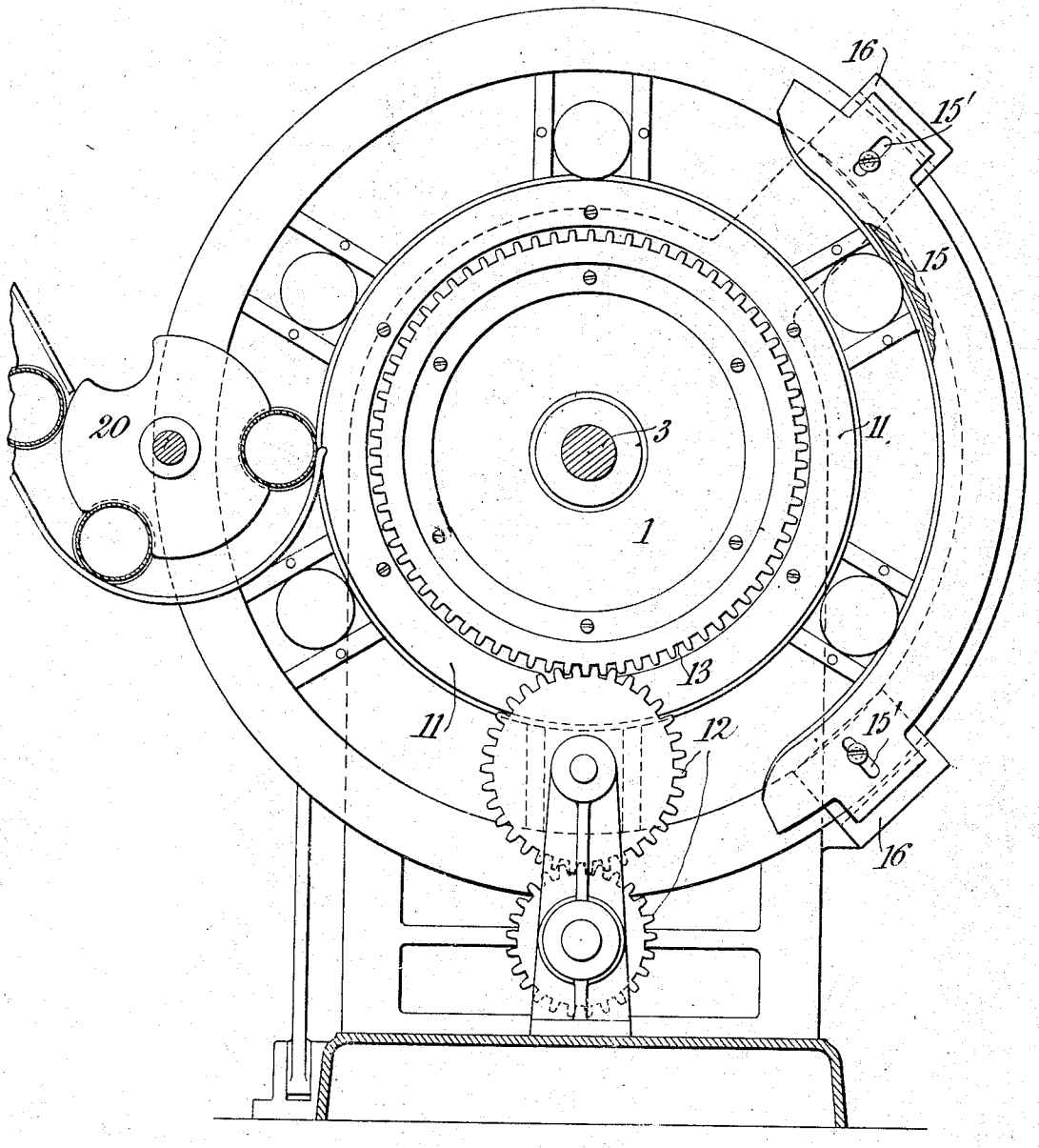
APPLICATION FILED DEC. 18, 1916.

1,278,941.

Patented Sept. 17, 1918.

2 SHEETS—SHEET 2.

Fig. 2.



INVENTOR :

Peter Kruse

By Attorneys,

Fraser, Dunlop & Myers

WITNESSES:

René Bruine

Gustave C. Thompson

UNITED STATES PATENT OFFICE.

PETER KRUSE, OF BROOKLYN, NEW YORK, ASSIGNOR TO E. W. BLISS COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF WEST VIRGINIA.

MACHINE FOR SEAMING HEADS OR ENDS ON CANS.

1,278,941. Specification of Letters Patent. Patented Sept. 17, 1918.

Application filed December 18, 1916. Serial No. 137,634.

To all whom it may concern:

Be it known that I, PETER KRUSE, a citizen of the United States of America, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Machines for Seaming Heads or Ends on Cans, of which the following is a specification.

This invention relates to machines for seaming heads or ends on cans or can bodies, and aims to provide improvements therein.

The general characteristics of the present invention resemble those set forth in my United States Patent No. 1,143,976, granted June 22, 1915.

The present invention provides a machine which is readily adapted for seaming heads or ends upon cans or can bodies of various diameters.

The embodiment of the invention is illustrated in the accompanying drawings,—

Figure 1 being a view in side elevation and parts in section of said embodiment; and

Fig. 2 being a transverse sectional view on the line II—II of Fig. 1.

11 designates a seaming ring, and 15 an opposite seaming sector. One of these parts performs the first seaming operation and the other the second. One or both of these seamers is preferably rotatable.

The can bodies and ends are supported by suitable means, as chucks 7 and 8, these means or chucks being displaceable to move the can bodies and ends into successive operation with the seamers. The chucks 7 and 8 are also preferably mounted upon a rotatable carrier, as the plates 1 and 2, the carrier acting to move the cans and ends from a receiving position to a discharge position. The plates 1 and 2 may be conveniently fixed upon a shaft 3 rotated by a suitable pulley 4 and a train of gears 5. As stated, one of the seamers, as the seamer 11, is rotatable, and to this end one of the carriers, as the carrier 1, serves as a convenient support for the support 10 which carries the said seamer 11. The support 10 and seaming ring 11 are rotated upon the carrier 1 by suitable gearing 12 and rack 13, the gearing 12 being actuated from the drive shaft 14. The rotation of the seamer 11 is ordinarily in the same direction as, and faster than that of the carriers 1, 2 on which the chucks 7, 8 are carried, the can and assembled head being thereby given a rotation in the same direction as it subsequently rolls on the seaming sector 15 about to be described.

In my Patent 1,143,976 the seamer corresponding to the segment 15 herein is shown as rotatably mounted upon the carrier corresponding to the carrier 1 herein. The seaming sector 15 might be similarly arranged. Preferably, however, the seaming sector 15 is carried upon brackets 16 projecting from the frame of the machine. The seaming sector 15 is preferably removably and adjustably mounted upon the brackets, and to this end is provided with slots 15′ through which the fastening bolts pass.

Operation: The seaming of heads or ends on cans is usually effected in two operations, called the first seaming operation and the second seaming operation. As here shown, the seaming ring 11 is adapted to perform the first seaming operation. Can bodies and ends are fed to the machine by a suitable feed means 20, the bodies and ends being received and held together by a pair of chucks 7 and 8 upon the carriers 1 and 2, one of the chucks being moved axially by a suitable cam 18. Attached to each of the chucks is a roller 21 adapted to contact at an appropriate time with cam rails 22, 22′, fixed upon the frame of the machine. The cam rails 22, 22′ act to bring the chucks, and the can bodies and ends held between the chucks, into working contact with the seaming ring 11, which, as heretofore explained, is rotated by suitable driving means upon the carrier 1. As the carriers 1 and 2 carry the can forward the first seaming operation is performed. When this first seaming operation is completed the rollers 21 come into contact with other cam rails 23, 23′, upon the frame, which shift the chucks and can bodies held thereby to bring the can bodies and partially seamed ends thereon into operative contact with the seaming sector 15. The seaming sector 15 then acts to perform the second seaming operation and complete the seaming of the head upon the can body. It will be understood that the chucks are rotatably mounted in their supports and hence allow the can bodies and ends to turn when they are in contact with the seaming ring 11 and seaming sector 15.

With a can body of small diameter there would be considerable movement of the chucks and can bodies in carrying the can body from the seaming ring 11 to the seaming sector 15. In effecting this shift there is likely to be shock. In order to eliminate or minimize this shock the seaming sector 15 may be adjusted toward the seaming ring 11, slots 15′ herein provided for this purpose, or the sector 15 may be replaced by another in which the seaming face is closer to the seaming face of the ring 11. By this means it is not necessary to shift the can bodies to an objectionable extent, shocks are eliminated or minimized, and the action of the machine in forming a good seam is improved. The seamer 15 is preferably in the shape of an arc less than a complete circle, to facilitate its removal and replacement over the shaft 3.

What I claim is:—

1. A machine of the character described, comprising an annular seamer and a radially opposite seamer in the shape of an arc less than a complete circle substantially parallel to said annular seamer, means for bringing a can into position to be operated upon first by one seamer and then by the other, and means for producing relative movement between said seamers and can.

2. A machine of the character described, comprising an annular seamer and a radially opposite seamer in the shape of an arc less than a complete circle substantially parallel to said annular seamer, means for bringing a can into position to be operated upon first by one seamer and then by the other, and means for producing relative movement between said seamers and can, a shaft coaxial with the center of said annular seamer, said opposite seamer being detachable and replaceable over said shaft.

3. A machine of the character described, comprising an annular seamer and a radially opposite seamer in the shape of an arc less than a complete circle substantially parallel to said annular seamer, means for bringing a can into position to be operated upon first by one seamer and then by the other, and means for producing relative movement between said seamers and can, said opposite seamer being adjustable toward and from the circumference of said annular seamer.

4. A machine of the character described, comprising an annular seamer and a fixed radially opposite seamer substantially parallel to said annular seamer through a part of the circumference of said annular seamer, means for rotating said annular seamer, means for bringing a can into position to be operated upon by said annular seamer at one time, and to be operated upon by said opposite seamer at another time, and means for producing relative movement between said opposite seamer and can.

5. A machine of the character described, comprising an annular seamer and a radially opposite seamer in the shape of an arc less than a complete circle substantially parallel to said annular seamer, means including a rotatable chuck adapted to bring a can into position to be operated upon first by one seamer and then by the other, and means for producing relative movement between said seamers and can.

6. A machine of the character described, comprising an annular seamer and a radially opposite seamer in the shape of an arc less than a complete circle substantially parallel to said annular seamer, revoluble means including a rotatable chuck adapted to bring a can into position to be operated upon first by one seamer and then by the other, and means for producing relative movement between said seamers and can.

7. A machine of the character described, comprising a rotatable annular seamer and a radially opposite seamer in the shape of an arc less than a complete circle substantially parallel to said annular seamer, a can-supporting chuck adapted to support a can and end between said seamers, means for moving said chuck to bring the can and end into seaming contact with said rotatable annular seamer, said seamer imparting rotation to the chuck by its contact with the can and end, and means for shifting said chuck to bring said can and end into contact with said opposite seamer, said chuck continuing to rotate under the momentum imparted thereto by the annular seamer as it moves into contact with said arc-shaped seamer, and means for moving said chuck and can and end thereon circumferentially of the seamers.

In witness whereof, I have hereunto signed my name.

PETER KRUSE.

Witnesses:
CULVER S. SNIFFEN,
CHAS. J. ELLSWORTH.