J. W. NICHOLS.

CAN SEAMING MACHINE.

APPLICATION FILED MAR. 21, 1912.

1,115,008.

Patented Oct. 27, 1914.

2 SHEETS—SHEET 1.

Fig. 1

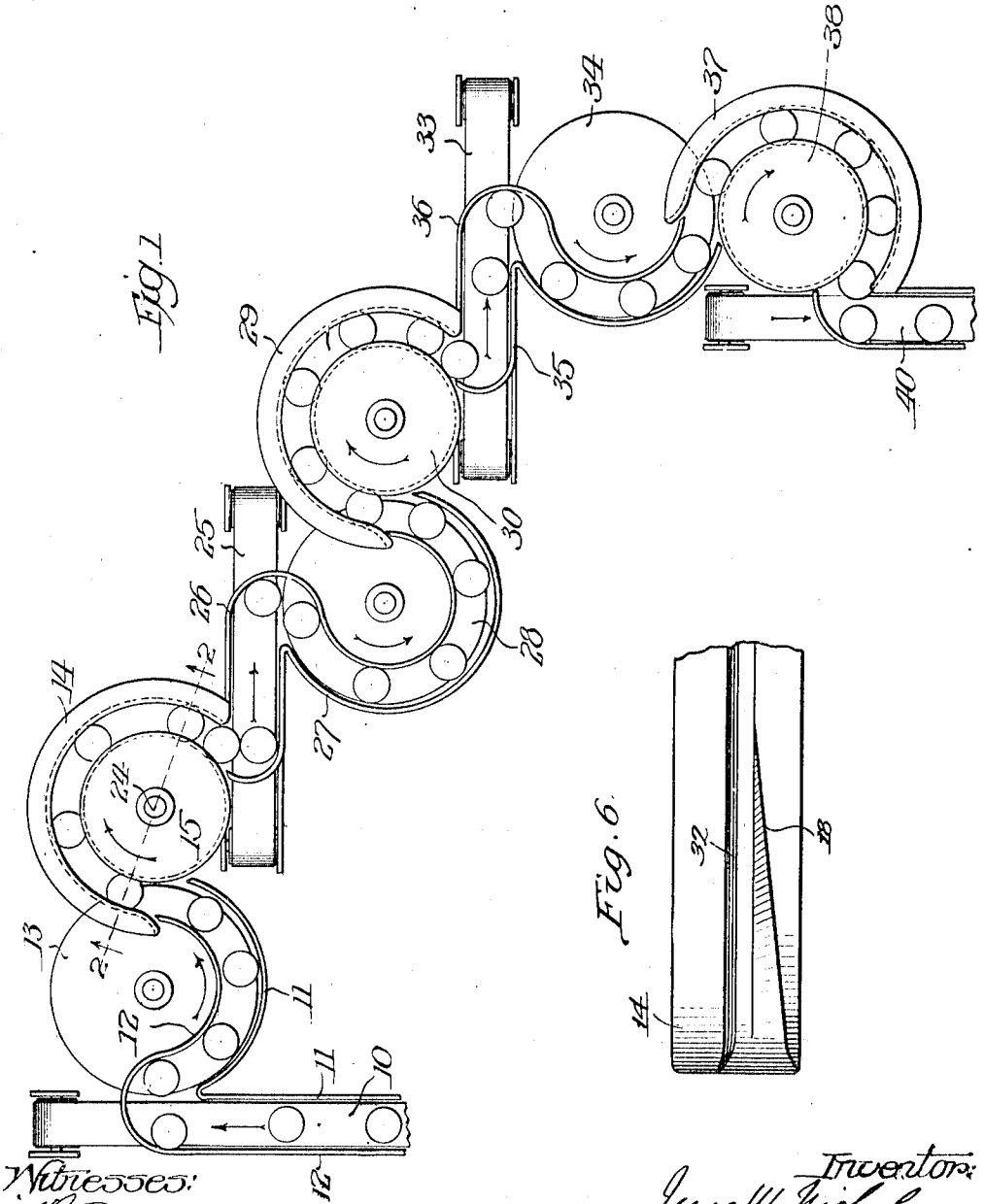


Fig. 6.

Witnesses:

H. C. Barnes

Henry M. Murphy

Inventor:

Jesse W. Nichols,

by Smith, Bell & Fuller

Attys

J. W. NICHOLS.

CAN SEAMING MACHINE.

APPLICATION FILED MAR. 21, 1912.

1,115,008.

Patented Oct. 27, 1914.

2 SHEETS—SHEET 2.

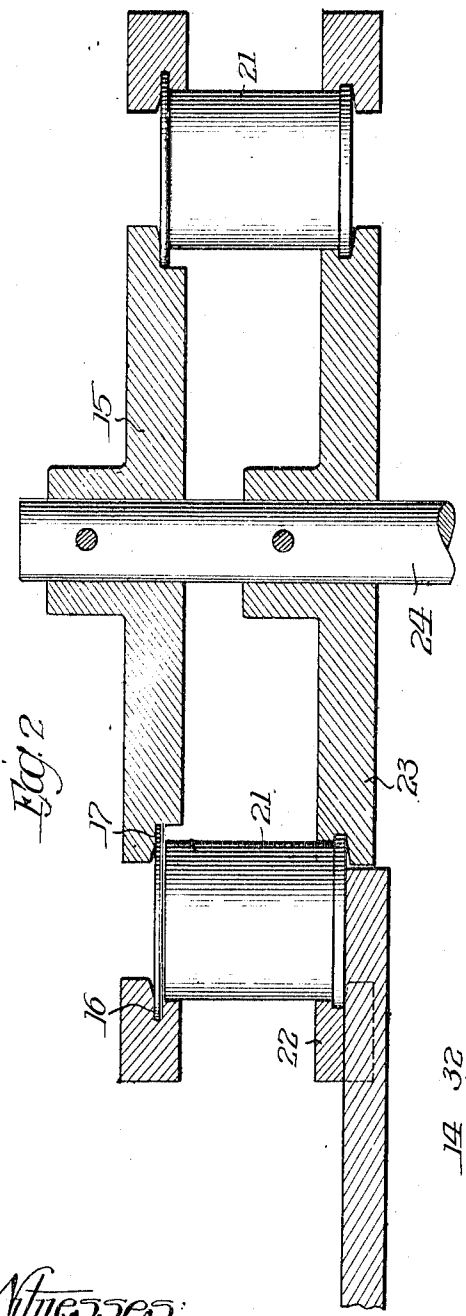


Fig. 2

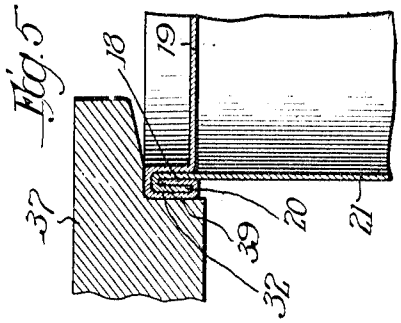


Fig. 5

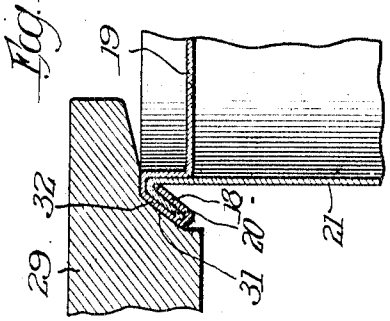


Fig. 4

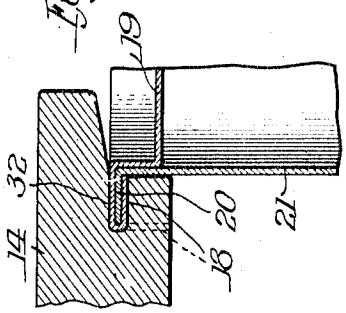


Fig. 3

Witnesses:

H. G. Barnett

E. C. Shepard

Inventor

Jesse W. Nichols,

by Smith, Brown, Bell & Fuller.

Attys.

UNITED STATES PATENT OFFICE.

JESSE W. NICHOLS, OF CHICAGO, ILLINOIS.

CAN-SEAMING MACHINE.

1,115,008. Specification of Letters Patent. Patented Oct. 27, 1914.

Application filed March 21, 1912. Serial No. 685,333.

To all whom it may concern:

Be it known that I, JESSE W. NICHOLS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Can-Seaming Machines, of which the following is a specification.

My invention relates to machines for fastening caps to metallic cans, and refers particularly, although not exclusively, to machines which will so fold the edges of the caps and cans that a tight seal is thereby effected.

It is the object of my invention to provide a machine which is simple in operation and which quickly and effectively performs the desired operation of securely fastening the caps to the cans. I accomplish this result by first placing the metallic caps on the cans and then feeding the cans through the can seaming machine, which consists of a series of coöperating dies, these dies preferably being arranged in pairs and each pair having one stationary die and one movable die. The movable die causes the can to be advanced, and at the same time rotates the latter so that the cap is automatically folded into the proper position with relation to the edge of the side of the can. As the cans pass through the various pairs of seaming dies additional steps in the folding or seaming operation are performed. Suitable conveyers, which will be described in detail hereafter, are used between the pairs of seaming dies. These and other advantages of my invention will be more readily understood by reference to the accompanying drawings, which represent a preferred embodiment of my invention, and in which:

Figure 1 is a diagrammatic plan of my improved can seaming machine; Fig. 2 is an enlarged fragmentary vertical section taken on the line 2—2 of Fig. 1; Fig. 3 is an enlarged fragmentary section through a portion of the can and one of the seaming dies which perform the first seaming or folding operation; Fig. 4 is an enlarged fragmentary section similar to Fig. 3 except that the die is shown which performs the second folding operation; and, Fig. 5 is a section similar to Figs. 3 and 4 except that the die is shown which performs the third, and, in this case, the final seaming operation. Fig. 6 is an enlarged fragmentary section of the forward end of the first seaming die showing a beveled surface adapted to turn inward the depending edge of the can top.

The cans which are to be seamed are first placed on the conveyer belt 10, which is provided with the guides 11 and 12. These guides are suitably bent to direct the cans from the conveyer 10 onto the conveyer disk 13, which rotates in the direction of the arrow. Immediately adjacent the end of the guide 12 is the curved seaming die 14, within which is rotated the seaming disk 15. As most clearly shown in Figs. 2 and 3, the stationary seaming die 14 and the rotary seaming disk 15 are provided with grooves 16 and 17, respectively, which serve to fold the portion 18 of the can cap 19 into a position where it is brought into contact with the flange 20 of the can 21. The lower portion of each of the cans 21 is supported by the stationary guide member 22 and the disk 23, the latter being mounted on the shaft 24, on which the seaming disk 15 is also mounted.

After the cans have been carried between the seaming die 14 and the seaming disk 15 so that the portions 18 of the can caps are folded into the position indicated in Fig. 3, the cans are next delivered to the conveyer 25, from which, through the instrumentality of the guides 26 and 27, they then pass onto the disk conveyer 28 and from this conveyer the cans are brought into engagement with the seaming die 29 and the seaming disk 30, which are constructed in a similar manner to the seaming die 14 and seaming disk 15 except that, as shown in Fig. 4, the surfaces 31 of the seaming die 29 and the seaming disk 30 are cut in such manner that the flange 20 of the can 21 and the portions 18 and 32 of the cap 19 are bent into a downwardly extending oblique position. The cans thence pass to the conveyer 33, and from this conveyer are carried onto the disk conveyer 34 by the guides 35 and 36. From the disk conveyer 34 the cans pass between the seaming guide 37 and the seaming disk 38, which have surfaces 39 (as shown in Fig. 5), these surfaces serving to bend the flange 20 of the can 21 and the portions 18 and 32 of the cap 19 until the portion 18 of the cap 19 engages the side of the can 21. The seaming operation is thus completed, and the cans next pass to the conveyer 40 from which the cans may be removed as desired.

It will be apparent to those skilled in the

art that many changes could be made in the detailed construction of the seaming apparatus or machine which I have described without departing from the spirit or scope of my invention.

What I claim is:

1. In a can seaming machine, the combination of a plurality of pairs of relatively movable seaming members, each of said pairs of members adapted to bend a can cap into a predetermined position, and means for successively conveying a can from one to another of said pairs of seaming members, substantially as described.

2. In a can seaming machine, the combination of a series of seaming devices, each device comprising a rotary seaming disk and a stationary seaming die parallel to the periphery of said disk, a disk conveyer associated with each of said seaming devices, whereby a succession of cans will be automatically moved from said conveyer disks to said seaming devices, and means for conveying said cans from each of said seaming devices, whereby by passing through the series of seaming devices the caps of said cans are gradually bent into predetermined positions, substantially as described.

JESSE W. NICHOLS.

Witnesses:

ABRAM B. STRATTON,

T. F. PARKER.