Nov. 26, 1929. M. M. CODY 1,736,770

MACHINE FOR FORMING GASKETS

Filed Dec. 13, 1928 2 Sheets-Sheet 1

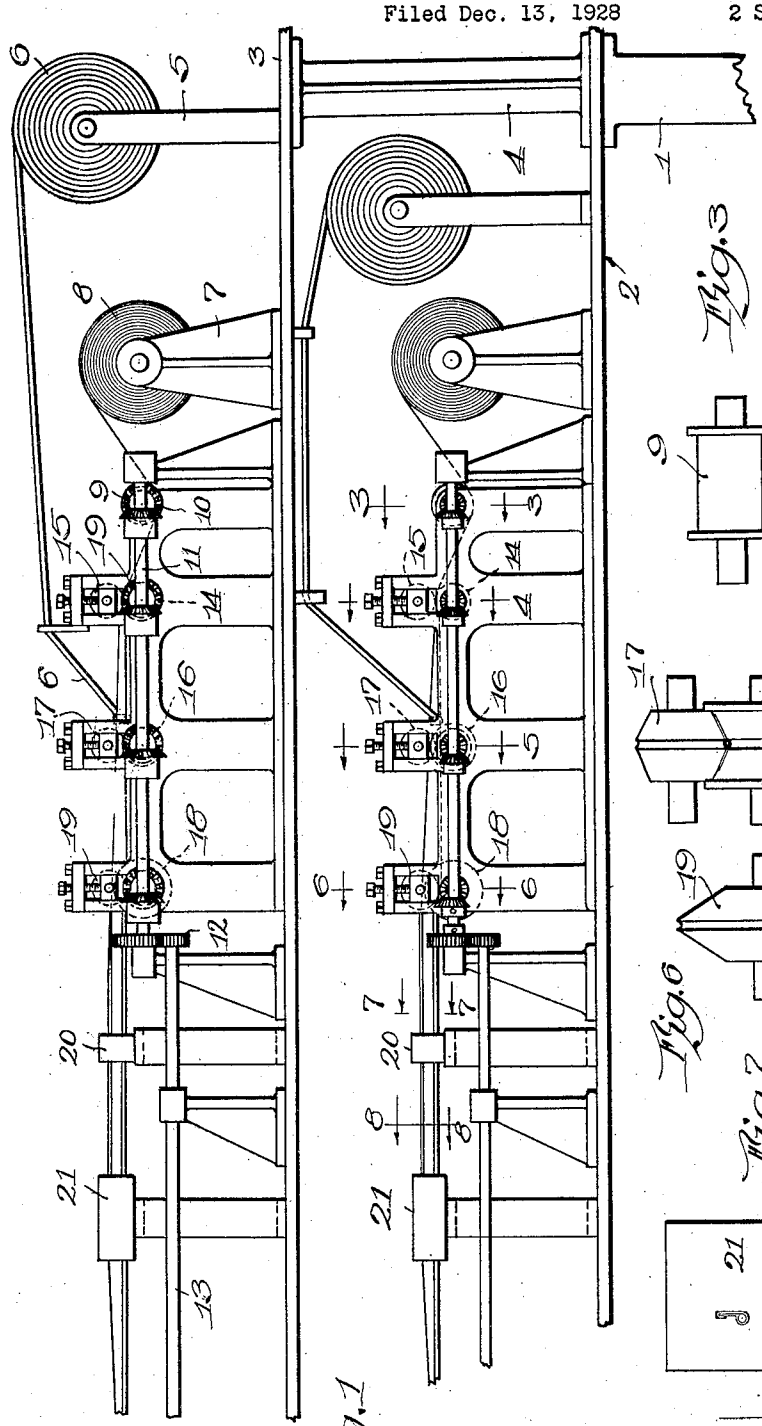


Fig. 1

Fig. 3

Fig. 4

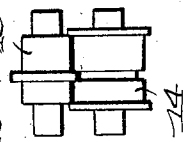


Fig. 5

Fig. 6

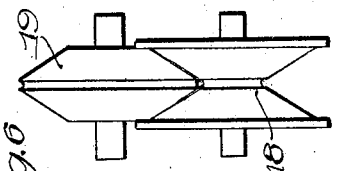


Fig. 7

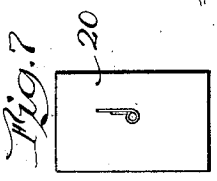


Fig. 8

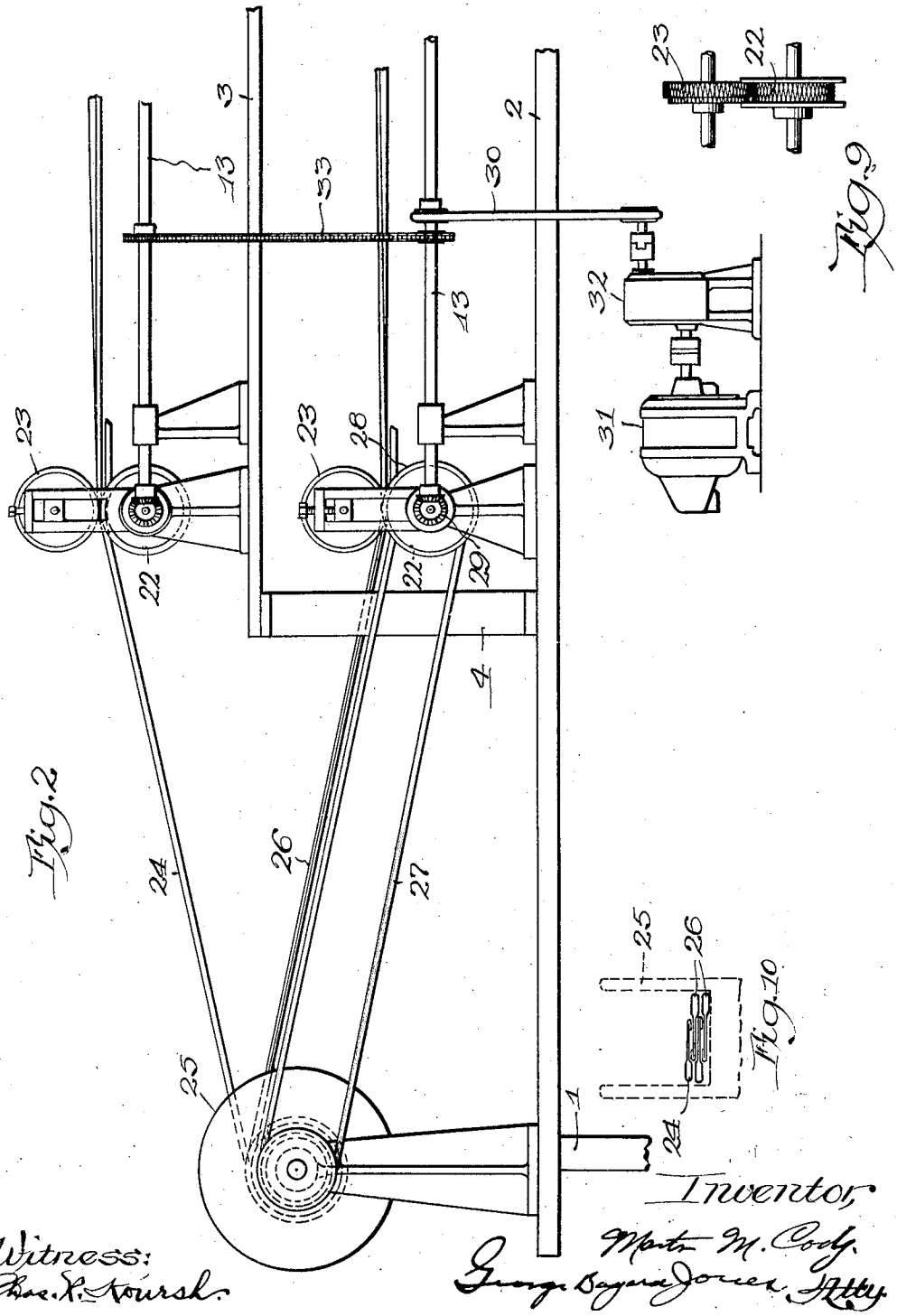
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Nov. 26, 1929. M. M. CODY 1,736,770

MACHINE FOR FORMING GASKETS

Filed Dec. 13, 1928 2 Sheets-Sheet 2



Patented Nov. 26, 1929 1,736,770

UNITED STATES PATENT OFFICE

MARTIN M. CODY, OF CHICAGO, ILLINOIS, ASSIGNOR TO CRANE PACKING COMPANY, A CORPORATION OF ILLINOIS

MACHINE FOR FORMING GASKETS

Application filed December 13, 1928. Serial No. 325,856.

My invention relates to improvements in machines for forming gaskets, more particularly gaskets of the type shown in the copending application of Frank E. Payne, Serial No. 317,536, filed November 6, 1928.

The object of the invention is to provide an improved machine for forming a flexible metal gasket strip in long lengths, which may be stored on a reel and cut off as needed.

In the accompanying drawings I have illustrated one embodiment of my invention.

Fig. 1 is an elevation of one-half of the machine,

Fig. 2 is an elevation of the remaining half,

Fig. 3 is an elevation of one of the rollers, shown on the line 3—3 of Fig. 1,

Figs. 4, 5, 6 are elevations of further rollers on the lines 4—4; 5—5; and 6—6 of Fig. 1 respectively,

Fig. 7 is a section on the line 7—7 of Fig. 1,

Fig. 8 is a section on the line 8—8 of Fig. 1,

Fig. 9 is an enlarged elevation of the knurling rollers, and

Fig. 10 is an enlarged section of a reel showing the finished product being wound thereon.

The machine is supported by suitable standards 1 which carry a table or bench 2, and the superimposed table or bench 3, the latter being supported above the former on standards 4. A support 5 carries a reel 6 of braided cotton cord, or other flexible material, preferably fibrous in character. A lower support 7 carries a reel 8 of soft metal foil which latter passes under a roller 9, supported on the standard 10. The roller 9 may be an idler, although it is preferably driven by bevelled gears 10 from a shaft 11, the latter being driven in turn by a pinion 12 on the shaft 13.

The foil, after passing under the roller 9, passes between rollers 14 and 15 which press a groove in it, near, but slightly to one side of the center, after which the flexible cord 6 is fed down against the strip of foil and pressed into the groove, as the strip passes between rollers 16 and 17. These rollers also bend the foil, as the first step in a folding operation. The foil is then bent further around the core, in passing between rollers 18 and 19, after which it passes through a die 20 which brings the two margins together side by side, as shown in Fig. 7, one of said margins being wider than the other. In passing through the next die 21, the wider margin is folded over the narrower one, as shown in Fig. 8, thus forming a flexible metallic gasket having a compressible bead at one side with the margins at the other side folded over to secure them against separation. The packing as it leaves the die 21 is twisted a quarter turn, and passes between knurling rollers 22 and 23, preferably in horizontal position, said rollers knurling the entire packing, and the bead more particularly, to render the finished article more flexible, whereby it may be readily rolled on a reel, and when unwound from said reel, straightened out, without objectionable creases or bends therein. The knurling rollers also compress the bead to a uniform thickness.

The finished product 24, after issuing from the knurling rollers, is wound on a reel 25 together with a similar gasket strip 26 which is formed by a duplicate series of rollers and dies on the bench 2 beneath the first set described. This other gasket strip is preferably formed with the bead on the opposite side, so that the two strips when superimposed on each other and wound on the reel 25 will wind smoothly with the same radius at one side as at the other, as shown in Fig. 10. Otherwise the bead at one side being thicker than the folded over margins at the other side would prevent smooth winding and unwinding.

The same reference characters have been applied to the corresponding duplicate rollers and dies in the equipment mounted below the mechanism just described.

Reel 25 is driven by a belt or cord 27 from a pulley 28, the latter being driven by suitable bevelled gears 29 on the lower one of the two shafts 13, the latter being driven by a cord or belt 30 from a motor 31 through suitable reduction gearing 32. The upper shaft 13 is driven from the lower one by a chain 33.

I claim as my invention:

1. A machine for forming gaskets comprising means for supporting a reel of soft

metal ribbon, means for bending said ribbon about a longitudinal axis to form a trough, means for supporting a flexible core, means for delivering said core into said trough and means for pressing the margins of said foil together with said core enclosed within the same and at one side thereof.

2. A machine for forming gaskets comprising a support for a reel of soft metal ribbon, a support for a reel of flexible cord, means for pressing a groove in said ribbon, a pair of rollers for pressing said cord into said groove, an additional pair of rollers for bending the margins of said metal ribbon toward each other and a die for completing the folding operation.

3. A machine for forming gaskets comprising a support for a reel of soft metal ribbon, a support for a reel of flexible cord, means for partially folding said ribbon to form a trough therein, a pair of rollers for pressing said cord into said trough, an additional pair of rollers for bending the margins of said metal ribbon toward each other and a die for completing the folding operation.

4. A machine for forming gaskets comprising a support for a reel of soft metal ribbon, a support for a reel of flexible cord, means for partially folding said ribbon to form a trough therein with one side wider than the other, a pair of rollers for pressing said cord into said trough, an additional pair of rollers for bending the margins of said metal ribbon toward each other, a die for completing the folding operation and a second die for folding one of said margins over the other.

5. A machine for forming gaskets comprising a support for a reel of soft metal ribbon, a support for a reel of flexible cord, means for partially folding said ribbon to form a trough therein with one side wider than the other, a pair of rollers for pressing said cord into said trough, an additional pair of rollers for bending the margins of said metal ribbon toward each other, a die for completing the folding operation, a second die for folding one of said margins over the other and knurling rollers between which the product passes.

In testimony whereof, I have subscribed my name.

MARTIN M. CODY.