Feb. 26, 1924. 1,485,328

W. M. BROOKS

METHOD AND MEANS FOR SEALING

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Fig. 1.

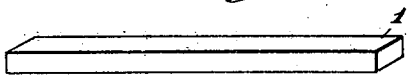


Fig. 2.

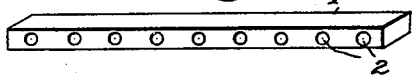


Fig. 4.



Fig. 3.

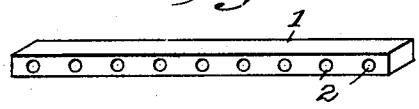


Fig. 5.

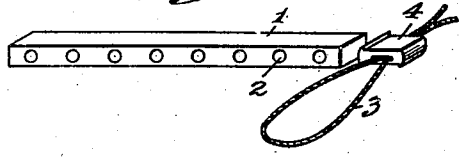
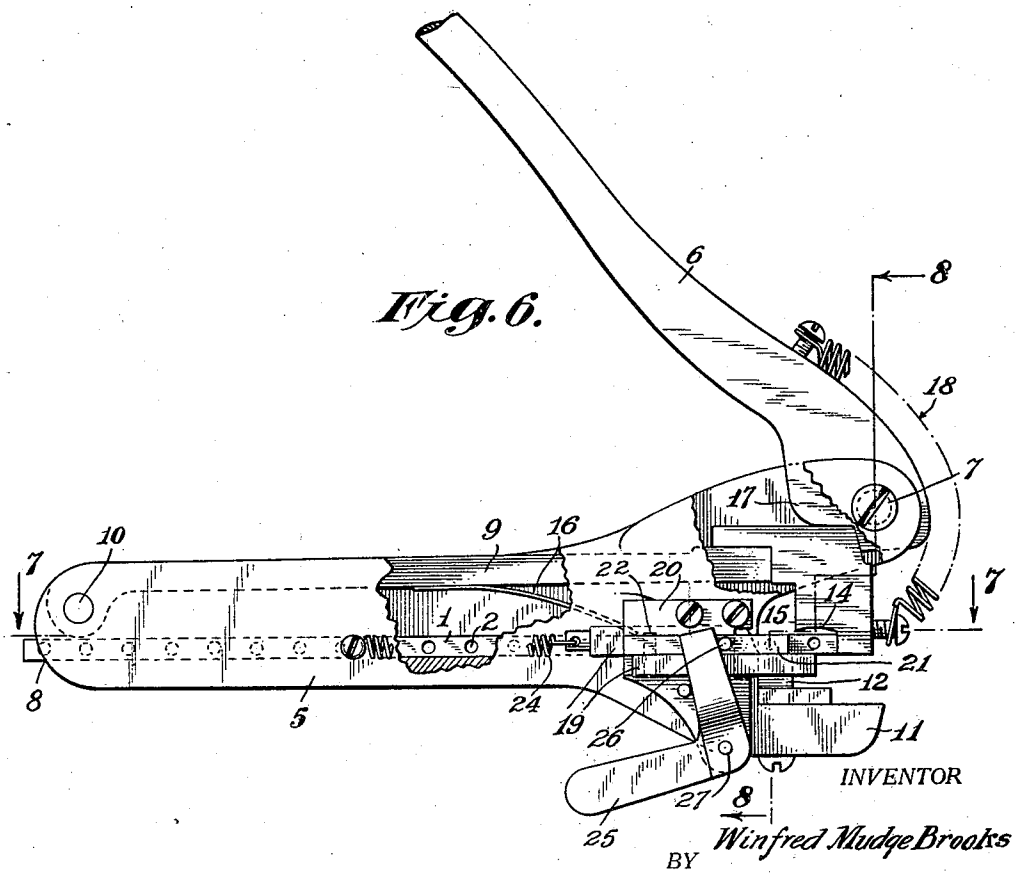


Fig. 6.



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Fig. 7.

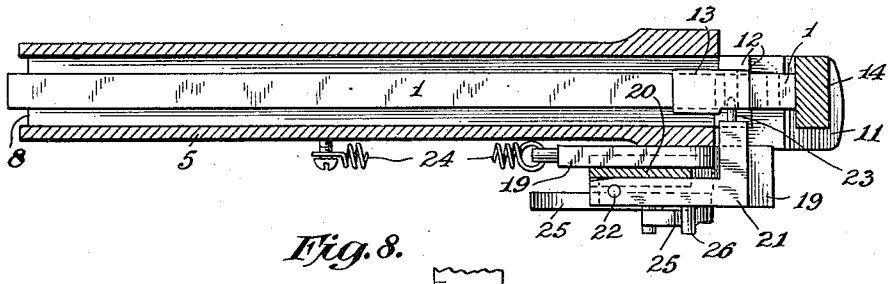


Fig. 8.

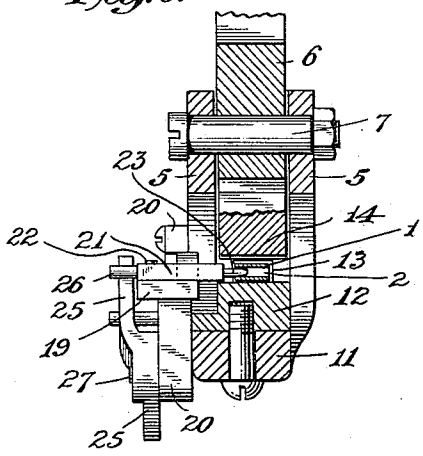
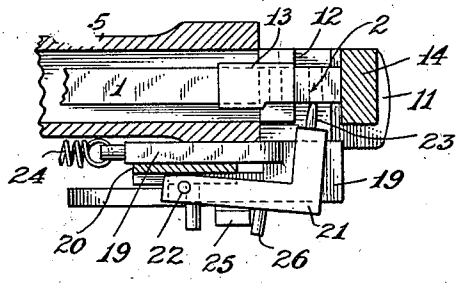


Fig. 9.



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UNITED STATES PATENT OFFICE.

WINFRED M. BROOKS, OF SOUTH ORANGE, NEW JERSEY.

METHOD AND MEANS FOR SEALING.

Application filed June. 12, 1923. Serial No. 644,829.

To all whom it may concern:

Be it known that I, WINFRED M. BROOKS, a citizen of the United States, and a resident of South Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Methods and Means for Sealing, of which the following is a specification.

This invention relates to a method and means for sealing.

In the art of sealing, as heretobefore practiced, it has been customary to mold or cast individual seals of compressible material having one or more openings for the reception of an element to be sealed such as a cord of metallic or fibrous material and then to seal such element by compressing the seal.

It will be understood that the casting or molding of a great number of individual seals necessarily is a tedious and expensive process requiring a considerable number of employees, and it is the main object and feature of this invention to obviate the necessity of molding individual seals thereby reducing the cost of manufacture to a considerable extent.

The invention can best be understood in connection with the accompanying drawings, in which:

Figs. 1 to 5 inclusive are more or less diagrammatic views showing the bar from which the seals are produced and illustrating the process of producing the seal.

Fig. 6 is a view in side elevation with parts broken away and in section of an instrumentality for carrying on the sealing process.

Fig. 7 is a horizontal sectional view on the plane of line 7—7 of Fig. 6.

Fig. 8 is a vertical sectional view on the plane of the irregular line 8—8 of Fig. 6.

Fig. 9 is a view substantially like the right hand end of Fig. 7 but showing the parts in a different position.

1 indicates a bar of compressible material such as lead which is provided with openings 2. This bar may be produced in various ways such as by casting it in plain form as shown in Fig. 1 after which openings 2 may be drilled or otherwise produced in it, but preferably the bar shown in Fig. 2 is cast with the openings initially formed in it. In the preferred form these openings are transversely extending and run all the way through the material. Into the outermost opening, as shown in Fig. 4, is introduced an element to be sealed such as cord 3. Then as shown in Fig. 5 a seal length 4, containing the element to be sealed is sheared off the end of the bar and compressed as shown. Openings 2 are so spaced that at least one opening is contained in each seal length.

Any suitable instrumentality may be used for carrying out the above process, but preferably in adapting the process to practical mechanical means the step of feeding the bar forward intervenes between successive insertions of the element to be sealed and occurs after each shearing and punching operation. The feeding step is indicated in Fig. 3 where the bar is shown advanced slightly over the position shown in Fig. 2.

In Figs. 6 to 8 inclusive is shown one means for carrying out the process. As there indicated 5 and 6 denote two handle members pivotally connected at 7, one of said members 5 being hollow to afford space for bar 1. The bar may be introduced from end 8 or member 5 may have a lever 9 pivoted at 10 acting as a cover. Carried at the forward end of handle member 5 is an anvil 11 having a shearing edge 12 above the plane of the anvil. Adjacent this shearing edge is a guide 13 through which the bar is fed so as to bring its leading end in position above the plane of the anvil. 14 is a punch having a shearing edge 15 here conveniently mounted on the end of lever 9. A spring 16 normally tends to keep lever 9 in its elevated position and also tends to keep bar 1 in its proper place. Handle member 6 carries a cam 17 that engages the shearing and punching member or the outer end of lever 9, so that when the handle members are compressed, lever 9 and consequently the shearing and punching member will descend, will shear the end off the bar and thereafter compress it. A spring 18 tends to keep handle members 5 and 6 separated. Any suitable means may be used to feed the bar forward. As here shown 19 is a reciprocatory member sliding in guide 20 of handle 5. Mounted on this reciprocatory member is an oscillatory member 21 pivotally supported at 22 and having a finger 23 that extends into one of the openings 2 of bar 1. A spring 24 extends between handle 5 and reciprocatory member 19 and normally keeps the latter in its retracted position. A bell crank 25 pivoted at 26 on handle 5 and engaging pin 27 on the

oscillatory member is used to manipulate the feeding device. It will be understood that by pressing the underside of the lower arm of the bell crank the reciprocatory member will be moved forward against the tension of spring 24 and that finger 23 being in one of the openings will move the bar forward one step. When pressure on the bell crank is released spring 24 will move the reciprocatory member back, but in order to do so the oscillatory member will swing on its pivot 22 as indicated in Fig. 8 and will swing in again when it comes opposite to the next opening.

The operation is as follows:

A bar is placed within member 5 and is advanced until its leading end projects above the anvil. The element to be sealed is now introduced into the exposed opening of the bar. Handles 5 and 6 are then compressed thereby shearing off the end of the bar and the seal length thus produced is then compressed.

The bar with the openings is not claimed in this application but forms the subject matter of application Ser. No. 644,830, filed June 12, 1923.

I claim:

1. The method of producing seals which consists in providing a bar of compressible material with openings, then introducing an element to be sealed into one of said openings, then severing a seal length, containing the element to be sealed, from the bar and then compressing the seal.

2. The method of producing seals which consists in providing a bar of compressible material with transverse openings, then introducing an element to be sealed into one of said openings, then severing a seal length, containing the element to be sealed, from the bar, and then compressing the seal.

3. The method of producing seals which consists in providing a bar of compressible material with openings extending clear through the compressible material, then introducing an element to be sealed into one of said openings, then severing a seal length, containing the element to be sealed, from the bar, and then compressing the seal.

4. The method of producing seals which consists in providing a bar of compressible material with transverse openings extending through the material from side to side, then introducing an element to be sealed into one of said openings, then severing a seal length, containing the element to be sealed, from the bar, and then compressing the seal.

5. The method of producing seals which consists in introducing an element to be sealed into an opening of a bar of compressible material, then severing a seal length, containing the element to be sealed, from the bar, and then compressing the seal.

6. The method of producing seals which consists in providing a bar of compressible material with openings, feeding said bar forward step by step, introducing an element to be sealed into one of said openings between the feeding steps, severing a seal length, containing the element to be sealed, from said bar after each step, and then compressing the seal.

7. The method of producing seals which consists in providing a bar of compressible material with transverse openings, feeding said bar forward step by step, introducing an element to be sealed into one of said openings, between the feeding steps, severing a seal length, containing the element to be sealed, from said bar after each step, and then compressing the seal.

8. The method of producing seals which consists in providing a bar of compressible material with openings extending clear through the compressible material, introducing an element to be sealed into one of said openings between the feeding steps, severing a seal length, containing the element to be sealed, from said bar after each step, and then compressing the seal.

9. The method of producing seals which consists in providing a bar of compressible material with transverse openings extending through the material from side to side, feeding said bar forward step by step, introducing an element to be sealed into one of said openings between the feeding steps, severing a seal length, containing the element to be sealed, from said bar after each step, and then compressing the seal.

10. The method of producing seals which consists in feeding a bar of compressible material having openings forward step by step, introducing an element to be sealed into one of said openings, then severing a seal length, containing the element to be sealed, from the bar, and then compressing the seal.

11. A cutting and sealing press comprising: an anvil, a shearing edge in a plane above the anvil, means for feeding a bar of compressible material over the shearing edge so that its leading end comes into position above the anvil and in spaced relation thereto, and a shearing member and punch moving substantially at right angles to the feeding movement of the bar to shear off the leading end of said bar into a seal length and to compress said seal length against the anvil.

12. A cutting and sealing press comprising: a pair of handle members pivotally connected and one of which is hollow to afford space for a bar of compressible material, an anvil carried at the operative end of the hollow member, a shearing member and a punch to cooperate with the anvil, and means for actuating the shearing member and punch by bringing the handles together.

13. A cutting and sealing press comprising: a pair of handle members pivotally connected and one of which is hollow to afford space for a bar of compressible material, an anvil carried at the operative end of the hollow member, a shearing member and a punch to cooperate with the anvil, means for actuating the shearing member and punch by bringing the handles together and means independent of the closing movement of the handles for feeding the bar through the hollow member.

14. In a sealing press, a hollow member to receive a bar of compressible material having openings, a reciprocatory member mounted on the hollow member, an oscillatory member, pivotally supported on the reciprocatory member, having a finger to engage an opening of the bar to feed the latter forward during the movement of the reciprocatory member in one direction and to move outwardly away from the opening during the movement of said reciprocatory member in the other direction to thereby engage the next opening in the bar.

Signed at New York city, in the borough of Manhattan, county and State of New York, this — day of June, 1923.

WINFRED M. BROOKS.