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J. C. YORDON

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SHIM AND SHIM PACK

Filed Aug. 27, 1925

Fig. 2.

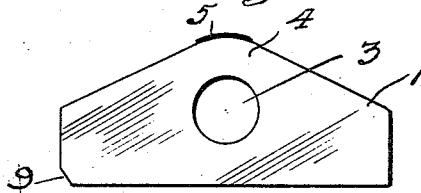


Fig. 3.

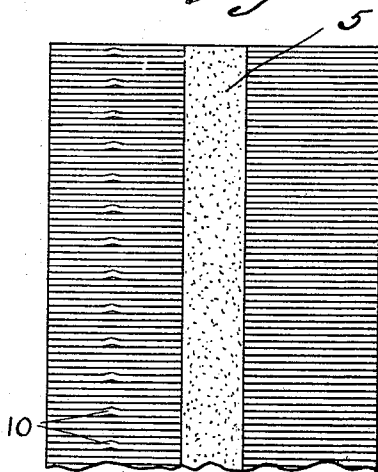


Fig. 1.

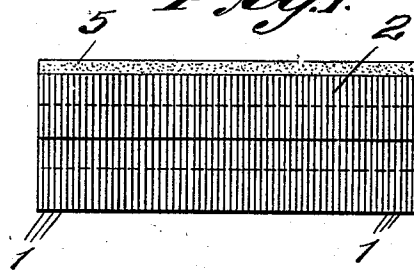


Fig. 5.

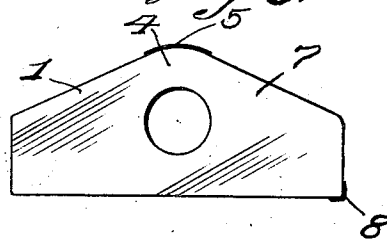
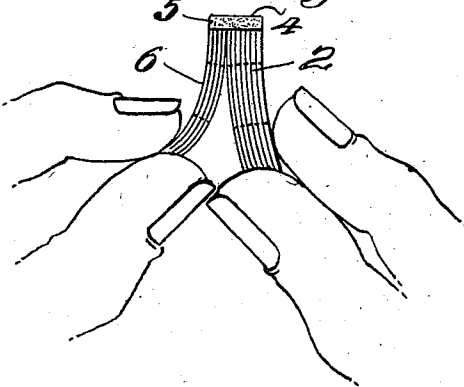


Fig. 4.



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SHIM AND SHIM PACK

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This invention relates to an improvement in shims for motor bearings and other uses, and to the methods of producing, marketing and using the same.

5 It is an object of the invention to provide a shim pack and method of marketing the same which will facilitate the use of the shims, prevent loss and damage to the individual shim and provide shims of varying
10 thickness to meet various needs.

Another object of the invention is to provide a pack comprising a large number of shim laminations, detachably secured together so as to permit removal of any desired
15 number of laminations as one unit, without separating or loosening any other of the laminations from the pack.

Various other objects and advantages will appear from the following description of my invention, which, taken with the accompanying
20 drawings, discloses a preferred form of embodiment thereof.

In the drawings:

Fig. 1 is a side view of my improved shim
25 pack.

Fig. 2 is an end view thereof.

Fig. 3 is a plan view.

Fig. 4 is a view showing how any desired number of individual shim laminations may
30 be removed without separating either the individual laminations removed or those remaining in the pack.

Fig. 5 is an end view of a modified form of the invention.

35 In the manufacture and marketing of shims of the type contemplated by this invention, it has heretofore been customary to provide a plurality of thin laminations, .001" to .010" thick or thicker, which are
40 formed to the general shape of the bearing and provided with a hole or recess for receiving the bolt which secures the parts of the bearing together, and to market these shims or laminations in bunches of 1000 or
45 more either loose or secured together by

means of one or more wires passed through the bolt hole and around the outside of the pack.

These bunches or packages are shipped to the motor or engine maker where the shims
50 of proper thickness are assembled between the halves of the motor or other bearing. In the assembly room the wrapping is removed or the tie wires are cut so as to get access to the individual laminations, and these lami-
55 nations being of very thin metal which has a very pronounced tendency to curl at the edges, often become scattered, drop on the floor and are lost or damaged, or curl so as to make the handling and counting of the
60 same very difficult, and retard the assembly of the bearing. To overcome these difficulties, the laminations are often formed into shims of standard thickness and permanently secured together by means of solder be-
65 tween their adjacent faces or along the edges or by other means. This, however, greatly increases the cost of each shim the laminations of which are thus separately assembled and secured together, and where a shim
70 which is not of standard size or where only one lamination is desired, the standard size shim must be reduced in thickness before it can be applied to the bearing, thus increasing the assembly costs.

75 My invention admirably overcomes these objections and disadvantages, and at the same time provides a convenient supply of shims of either standard or odd sizes.

In the manufacture of my improved shim
80 or shim pack, I provide a plurality of individual laminations 1, preferably in lots of a thousand or more, and assemble them into a pack 2 with the edges thereof and the hole
85 3 for the bearing bolt in alignment. I then clamp or hold this pack in assembled or stacked relation, paint an acid or soldering flux along one edge thereof, preferably the back 4, and dip this edge into a molten solder bath, permitting the solder to penetrate a
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short distance between the laminations, after which the edge is removed from the solder bath, the surplus solder wiped off if desired, and after the solder has hardened, the clamp is released, leaving the laminations held together by the solder along one edge as illustrated in Figs. 1 to 3. The pack may, of course, be soldered together in the usual manner with an iron.

10 In this condition the pack may be shipped intact and when desired individual or a plurality of laminations may be removed without scattering or disturbing the other laminations in the pack, and various other advantages are realized.

15 Instead of having to pick up and count a bunch of individual laminations, many of which will be curled along the edges, and flatten and hold them together until inserted in the bearing, the person doing the assembly work can count off the desired number of shims 6, as illustrated in Fig. 4, pull then away from the pack 2 by breaking the solder along the back, without separating other shims from the pack, and without separating the individual shims in the bunch 6, and with the laminations in the bunch 6 held together by the solder 5 along one edge, he can easily and quickly insert the shim as a unit in the bearings.

20 Since the shims or laminations 1 are secured together along one edge like the leaves of a book, they may be very easily counted in a manner similar to thumbing through the leaves of a book.

25 The counting of the laminations may be facilitated by cutting away a corner of every fifth or so shim, as indicated at 9 in Fig. 2 or by forming every fifth or so shim with a bump or irregularity 10, as indicated in Fig. 3.

30 Fig. 5 shows a pack 7 consisting of a plurality of laminations 1 secured together along one corner 8 and along the back 4. This leaves one corner of the shims free for counting and holds the shims in such a way as to greatly reduce curling thereof. Instead of soldering, the shims may be secured together by brazing, spot welding, or the like.

35 It will be readily seen that my invention provides a new and economical way of marketing and assembling shims which reduces the loss thereof and permits great economy in the time of handling the same.

40 Various modifications and changes may be made in my invention, and parts thereof may be used without others without departing from the spirit of the invention or the scope of the appended claim.

I claim:

45 As an article of manufacture, a shim pack solely comprising a plurality of identical shim laminae sufficient for a plurality of bear-

ing shims, and solder on only a small portion of the edge surface adapted to retain the shim laminae together while permitting ready removal of any quantity of laminae, certain of said being irregularly formed to facilitate counting thereof.

In testimony whereof I have affixed my signature to this specification.

JOHN CLIFFORD YORDON.

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