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PROCESS OF EMBODYING CHAPLETS WITH BEADS MADE OF COCONUT HUSK MATERIAL OR THE LIKE FIXED ON A CONTINUOUS CHAIN

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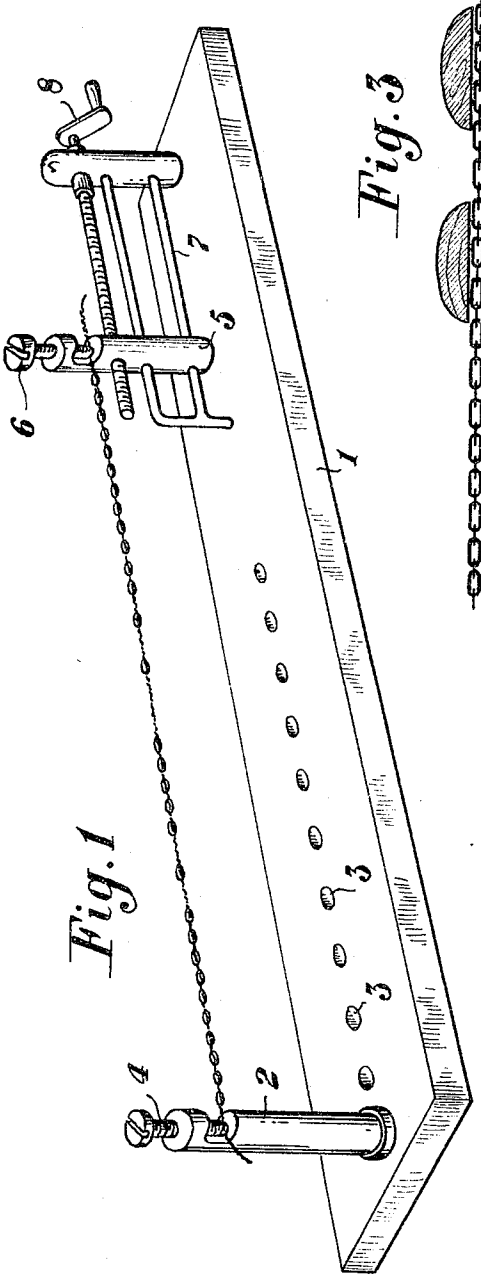

Fig. 1

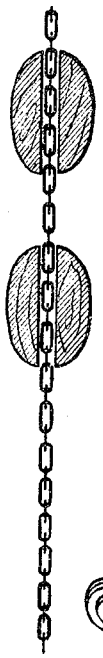

Fig. 3

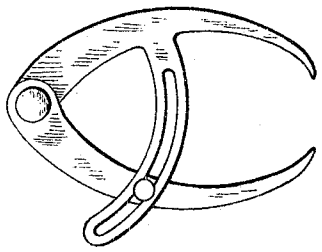

Fig. 5

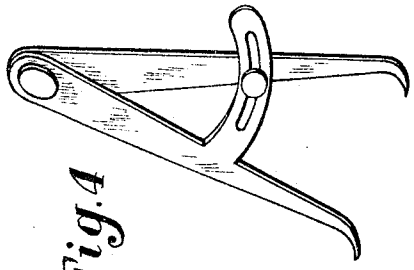

Fig. 4

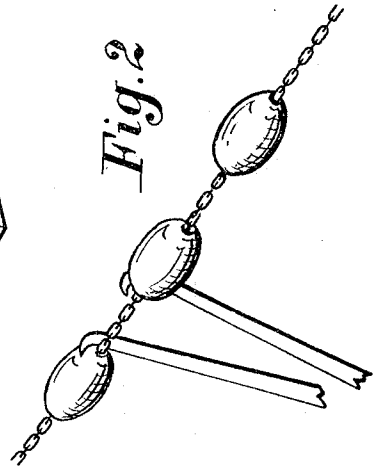

Fig. 2

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PROCESS OF EMBODYING CHAPLETS WITH BEADS MADE OF COCONUT HUSK MATERIAL OR THE LIKE FIXED ON A CONTINUOUS CHAIN

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The present invention relates to a process for embodying chaplets with beads made of either coconut husk or similar material, fixed on a continuous chain.

The purpose of this invention is that of providing a process suitable to embody chaplets in a manner far quicker and more precise than by the methods used up to now and having a greater strength.

According to this invention a process is provided including the steps of softening the beads by a cold or hot soaking, perforating the beads while in softened state, causing the beads to glide on the chain, arranging them at their desired positions, and submitting then the obtained article to a drying stage so that the beads, by shrinking, will remain steadily fastened to the chain.

This invention will be now described with reference to the attached drawings showing only by way of non-limitative example, one preferred embodiment of the invention itself.

In the drawings:

FIG. 1 is a perspective view showing the device for mounting the beads on the chain;

FIG. 2 shows diagrammatically the use of a spacing caliper;

FIG. 3 is an enlarged sectional detail view showing the mounting of the beads on the chain;

FIGS. 4 and 5 show two different kind of spacing calipers.

The initial step of the process consists in softening the beads by a cold or hot soaking. The cold soaking consists in immersing the beads, largely covered by water, into a glass container, very clean and non-hermetically sealed. The duration of the soaking stage depends upon the size of the beads: from two to three days, up to four days and more. When a bead is extracted from the soaking bath, by means of pincers, said bead must feel soft and in this case it is ready for being perforated. The hot soaking is carried out in a zinc container, with water and a cover as aforesaid, which is caused to boil in a water bath through about two hours (or more according to the size of the beads); the softened state of the beads must be checked as aforesaid; when duly softened, the beads must be removed from the boiling water bath and left in water until cooled.

At this stage of the process the bits must be prepared for boring the beads. Said boring bits are made of special steel and must be very precise since the good bore depends upon them. Said bits are arrow shaped with a sharply cutting point; said bits must be about 3½ mm. larger than the chain. Preliminary to the boring operation a little test on some beads taken out from the soaking bath will be suitable; said beads will be bored by a bit presumably adapted to the chain and said beads are immediately threaded on the chain. If the beads glide thereon, this means that the boring bit is too large; if on the contrary said beads are steady on the chain but they are broken, this means that the perforating bit is too little. The good result will be obtained when the beads tested on the chain and left thereon until entirely dry will remain steadily fastened without breaking.

The ready bit, well sized, will be tempered as follows:

the bit will be heated in a flame up to red color, and then immersed into a little container filled with machine oil, and left therein until completely cold. In order to bore the beads, the suitable bit will be inserted into a rotating chuck, taking care to avoid any vibration thereof when rotating, in order not to damage the exactness of the bores; also the pressure of the hand pushing the beads must be always equal in order to obtain equal bores. The beads are to be bored only when they have been softened as required; said beads are removed from the soaking bath and placed into a fabric bag in order to squeeze them strongly for causing all water to outflow from the bores of the beads while the latter remain moist. Thus the beads are then bored, and the perforated beads are collected. After the boring operation, the beads are sieved with 2 mm. holes, in order to remove all powder from the bores; then the beads are put into a clean glass container.

The bored beads are then threaded on a nickel silver wire having a sufficient length to contain all beads necessary for the chaplet, plus, if the case may be, a pair of beads in order to replace the possible broken beads. The wire must be, further, 10 or 20 centimetres or longer for the need of the work. It is to be understood that when working on a large number of chaplets the beads of more chaplets will be threaded, taking care of completing the chaplets. When all beads have been threaded, the wire is wound, then fastened by a string in order to prevent the wire from unwinding, and put again in the soaking bath, according to the cold process, in a zinc container as aforesaid. This bath will be more or less prolonged according to the time elapsed from the first bath, so that the beads are more or less dry. The important factor is that the beads will reach again the same degree of softness.

The nickel silver wire with the threaded beads is then fixed to one end of the chain prepared at the desired length and the unit will be anchored to a stretching support as shown in FIG. 1. Said device includes a base **1** with a stand **2** which can be moved to various positions **3** and provided with a screw clamp **4**. At the other end of the base **1**, a movable support **5** is mounted, provided with a screw clamp **6** and movable along the guide members **7** by means of the handle control **8** in order to adjust the stretch of the chain. When the chain and the wire have been arranged in alignment, the chain will be waxed, and the beads are caused to glide from the wire to the chain (FIG. 3) and located according to the various desired distances. When one half of the chaplet has been prepared, the wire will be detached from the chain, and the other end of the chain will be connected to said wire in order to avoid having all beads gliding along the same portion of chain, since this would cause an excessive stretch of the chain or crushing of the chain.

In the continuous work, the distance between the various beads, the length of an entire decade and the interval between the end of the decade beads and the bead termed "Pater" are adjusted once by means of the calipers shown in FIGS. 4 and 5. Said calipers are used as shown in FIG. 2 and there are four kinds of calipers.

(a) Calipers for the distance between two subsequent beads;

(b) Calipers for the distance from the end of a decade to the bead termed "Pater";

(c) Calipers for the distance double of that of the calipers *b*, plus one mesh of the chain, necessary for the cutting operation as it is said later on;

(d) Calipers for the length of an entire decade of aves.

After the chain has been put on the stretching device, by the caliper *b* the first portion of chain will be metered, destined to be confined between the connection medal and the first decade of aves, then the beads are located in the

first decade of aves by the caliper *a* and then by the caliper *b* the distance is metered from the end of the decade of aves up to the bead termed "Pater," and therefrom to the second decade of aves; then the caliper *a* will be used again; after the beads of the second decade have been located, the length thereof is checked by the caliper *d* adjusted according to the length of the first decade. This process is continued up to the completion of the entire chaplet.

For drying and finishing the chaplet, the process is as follows: the chaplet is laid down throughout its length on a wood board in a warm and dry room, protected against sun and the air streams. When the rosary will be entirely dry, it will be rubbed with a cloth so that all beads will be well polished; the beads are carefully checked and the possible defective beads (broken or non steadily fastened) will be replaced by one of the spare beads submitted to the same working: by cutting the chain by means of a cutting device, replacing the bead and welding the chain by a welder so that the repair will be invisible; the sole further work to be carried out will be that of cutting the chain in order to insert the connection medal, fastening said medal and the Crucifix and the chaplet will be finished.

The drying in case of mass production can be carried out in an electric oven provided with sieve shelves, and provided with a thermostat.

The sieves are removed from the oven and the chaplets are laid gently down thereon, side by side, as they are removed from the wire after the beads have been located. When the sieves have been filled they are located into the oven which will be closed.

After the oven has been closed, the thermostat is adjusted at 30°, the oven is started operating and this temperature is maintained for three hours, then 40° for one hour and finally 70° for a further hour. Then the obtained articles will be checked by gauging a "normal" bead which never has been placed in a soaking bath and having the same size and the same composition as the beads of the beads submitted to the drying process. A chaplet is taken out from the oven and the beads are checked if equal to the "normal" bead; in contrary case the drying stage is continued and the checking is repeated until also

the last trace of moisture has been removed and the beads have reached their normal size. Then the oven operation is discontinued, the chaplets are removed and are left to cool, and then said chaplets will be supervised and completed as aforesaid.

The present invention has been described in one preferred embodiment, being however understood that executive changes might be practically adopted without departing from the scope of the present industrial privilege.

I claim:

1. A process for making chaplets of coconut husk or the like beads fastened on a continuous chain, characterized in: softening the beads by soaking in water, boring the beads when in their softened state, gliding the beads on the chain so as to locate said beads at their desired positions and submitting the unit to a drying treatment so that the beads by shrinking will be steadily fastened to the chain.

2. A process as claimed in claim 1, characterized in that the soaking treatment is a cold treatment, carried out by immersing the beads in a non hermetically sealed glass container, for a duration proportional to the size of the beads.

3. A process as claimed in claim 1, characterized in that the soaking treatment is carried out by boiling in a water bath, in a zinc container for about two hours.

4. A process as claimed in claim 1, characterized in that the beads are bored by a special steel, arrow shaped, bit tempered in oil and mounted in a power operated chuck.

5. A process as claimed in claim 1, characterized in that the location of the bored and softened beads on the chain is carried out by threading one half of the total number of beads from one end of the chain and the other half from the other end.

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