or Footrope knot. Furthermore, here (and only here; see Appendix 1997, pp. *viii – x*) it is where the name **Ashley's bend** comes in handy: the first letter in Ashley is the first letter of the alphabet and the algorithm-form for Ashley's bend begins with 1*o* or 1*u* and the rest of the alternating crossing-movements are in sets of two; the algorithm-form for Hunter's bend begins with 2*o* or 2*u* and the rest of the alternating crossing-movements are as far as possible in sets of two.

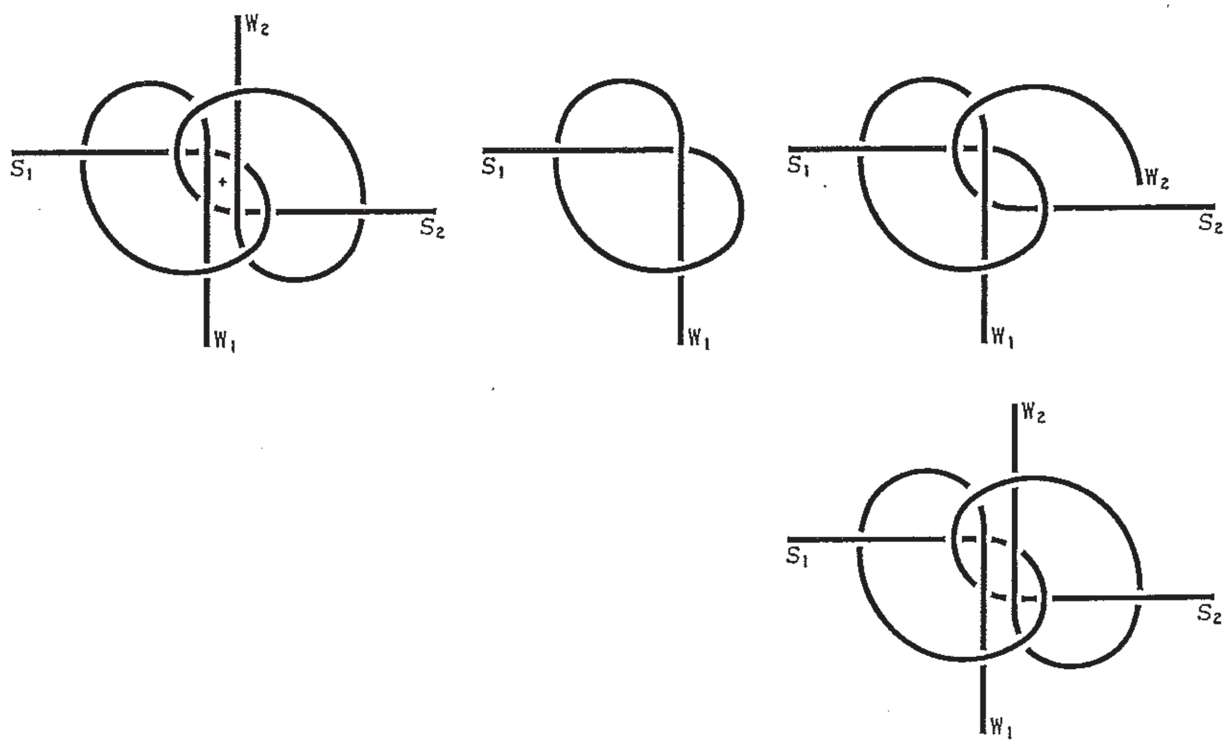

Fig. 2 — The (everted) complementary Hunter's Bend and its construction algorithm.

These tying algorithms may not necessarily be the quickest, but they avoid erroneous tying procedures and are certainly the easiest to remember. That's what counts in practice!!!

Not only was the Hunter's bend rediscovered by Hunter, but from the above it appears logic that also Ashley's bend as such was a rediscovery; logically and hence obviously we may assume that both were known as bends in the distant past.

Names and Terms used in the Braiding World

The average braider doesn't realise that in a knot or braid it is the string-run which is of prime importance and **not** the coding. The coding is independent of the string-run, although we might not be able to superimpose **any** overall coding **pattern** on **any** string-run. Hence the coding is only of minor value, hence of secondary importance only. Sure, in some knots the coding is of more importance than in other knots, but it is in the first place the string-run and **not** the coding which 'classifies' a braid. It should therefore be appreciated that there isn't a knot-name or part of a knot-name that has a 'good definitive meaning', and what is more, there never will be such a thing. Most terms used in the knot-naming game are relative indicators only, nothing more and nothing less. Take for example the term 'Casa' in the name "Casa Knot" :

Tom Hall specifies the 'Casa' Knot as an **over-under coded Regular Knot.** A Regular Knot being a **single string Cylindrical Braid with two parallel circumferential bight-boundaries between which the string-run zigzags.** He couples the term 'Casa' to a **Regular Knot** made from a **single string** which then has an **over-under** coding.

We, on the other hand, did not use such a seemingly more precise and hence much more restrictive coupling procedure, but instead coupled the term 'Casa' to an **over-under coding** instead, hence to the **coding**-form of Tom's 'Casa' Knot. Consequently we could couple the term 'Casa' to an **over-under coded Regular Cylindrical Braid** (referred to as an over-under coded **Regular Knot** if it requires **one essential string** (g.c.d. $(p, b) = 1$), and referred to as a **Semi-Regular Knot** if it requires **more than one essential string** (g.c.d. $(p, b) > 1$)). In fact, we could couple the term 'Casa' to any braidform as long as it had an **over-under coding.**

The seemingly more precise coupling way of Tom Hall is of course, as already mentioned, much more restrictive than ours, and the question arises if such a seemingly more precise way of coupling the term 'Casa' by Tom Hall is of sufficient value to offset its more restrictive nature. The answer, as we shall see, is certainly **no.**

We used the term 'seemingly' above not for nothing, because the term 'Casa' as used by Tom compared to its use by us offers nothing of specific practical value since it still does **not define** the knot used any closer† other than its in practical sense rather irrelevant nature of **having to be constructed with a single string.** In fact, Tom's definition is not only in practical sense but even in theoretical sense a rather irrelevant one since an emphasis is placed on the compulsary **single string** property. Hence if, for example, a 7-parts/4-bights over-under coded Regular Knot is made with a single string, then according to Tom's definition the knot is a 'Casa' Knot, but if it is made with say four strings then it is **not** a 'Casa' Knot. **Note, however, that in either case the knot is still a Regular Knot since it requires only one essential string;** apart from its bight-boundary and string-run conditions, the only important parameter for being a Regular Knot is that the g.c.d. (p, b) is equal to 1 (there is no compulsion to make it from a single string!!!).

In Tom Hall's definition of a 'Casa' Knot we used the term **over-under coded,** but Tom uses the term **one-pass** instead. This brings us to the much used, but in general meaningless term **pass.**

The term **pass** is being used for two different knot 'parameters'.

We find the term **pass** being used for a section of the string-run from **somewhere around one bight to somewhere around the next consecutive bight along the string-run.** Since 'somewhere' can be anywhere, a **pass** is undefined and consequently is totally useless as a parameter. It is really astounding how much it is being used by 'braiders' and obviously their accompanying further description has, with a bit of luck, to make it clear what was meant. A **half-cycle** on the other hand has been clearly defined as a section of string-run from **one bight** to the **next consecutive bight** along the string-run, consequently it is very useful as a parameter.

We find the term **pass** also being used for some overall general coding arrangement. Apart from the term **one-pass** (meaning **over-under coding**), the term n-**pass**, where

† The reader is hereby referred to *The Braider*, Issue No. 21, pp. 471-482, to be published in February 2000.

n is a natural number greater than 1, can only be understood by people familiar with some commonly used braiders jargon accompanying the term. In other words, it is **not** unambiguously defined. If we would unambiguously define an n-pass weaving-pattern as an n over-n under coding along the string-run, then, for example, a 2-pass Standard Herringbone Knot doesn't exist, nor does a 2-pass Standard Herringbone Pineapple Knot exist, but a 2-pass Gaucho Knot and a 2-pass Headhunter's Knot do exist. One might ask: *can we give the term n-pass a definition so that it always clearly, hence unambiguously, defines any so-called n-pass weaving-pattern?* The answer is **no**, we cannot; we can only use the term as a rough indicator.

We use many of such rough indicator terms in the world of braiding. Unfortunately some braiders get a hang-up about one or more of such indicator terms and want to see them as the best thing after sliced bread; they often belong to the old-time pattern-braiders who are rusted solid in their braiding tracks.

A lot of nonsense and claptrap has, and still is, being written about braiding: academic nitwits love to see the hypothetical topological knot theory as being relevant to actual knotting and braiding and hence write volumes of claptrap as far as real knots and braids are concerned, the braiders which are solidly anchored in their tracks write volumes with claptrap too. Some of those still love to use enlargement methods during their actual braiding.†

Sure, nice artistic knot and braid drawings look terrific and often mysterious. It often appears that the more mysterious such drawings look, the better. The trouble is that even the very best drawings, or photographs for that matter, even with their associated construction procedures, cannot readily transmit to the reader a clear encompassing picture of the knot or braid. Only the grid-diagram of the knot or braid can do this, and hence it is of the utmost importance to depict also their grid-diagram. Some braiders have started to do this now, but unfortunately most of them don't understand (or don't want to understand in order to be different) why we depict grid-diagrams in the way we do. They should again thoroughly read and try to fully comprehend the reason for that what has been written in *The Braider*, Issue No. 2, pg. 32 line 32 from the top.

Nested Cylindrical Braids — Hunter's Bend

Refer to *The Braider*, Issue No. 19, August 1999 pp. 415 - 422; Issue No. 20, November 1999 pp. 457 - 458, and Fig. 3 below on pg. *vi*.

The string-run of Hunter's Bend may be derived from the string-run of the Nested Cylindrical Braid (0/2/3){1/112}6. The general string-run at the left and right bight-edges is as depicted in Fig. 4. Consequently, the value of $A_l = 1$ and the value of $A_r = 3$, while $\mathcal{K}_l = 1$ and $\mathcal{K}_r = 2$.

The string-run of (0/2/3){1/112}6 with the ranking-numbers as subscripts attached to the bight-boundary numbers is thus: $(0/2/3)\{1_1/1_1 1_2 2_3\}6$.

† Enlargement methods are now only of theoretical importance and not any longer in the actual production of braidwork; algorithm diagrams offer a much simpler and direct way in the actual production of braidwork.