

Tying the Gripper Hitch

by Warren D. Messer - Seattle, Washington - USA

After a while I get tired of designing, building, and writing about boats and need to take a break from it all. A normal day is a 4 mile walk, watch the birds at my numerous feeders, BS with other retiree's at the local woodworkers store over free coffee, cruise the Internet at the library (free high speed), listen to audio books on my mp3 player, and try to keep up on what's happening in the world of circumnavigating cruisers. Cruising Magazine is one of my monthly reads at the library, and if you take out all the items about the "exciting" new boats (that can seat 10 for dinner, but with only room for one arm in the engine compartment) I don't want or can't afford; there's not too much left to read but the stories from the world cruisers actually out there living the life.

One of the stories that interested me (forgot what issue) was submitted by Beth Leonard www.bethandevans.com about using drogues in heavy weather. The story went into the different types of drogues and the rope bridals used to center and adjust them to keep the boat in the correct position in relation to the direction of the seas. It was a good story and added to the information that I already had in their use and deployment. The story also had a photo of the hitch they used to bind a second large line to the one that the drogue was attached at the end of. They had used an "**Icicle Hitch**" to attach this second line to the main line. That way they could use their two big primary winches to adjust the orientation of the hull to the following seas by taking in or letting out each line.

I love to play around with plain and fancy knots, and always like to learn how to tie new ones. As I sat on my couch with a couple of lines and the magazine photo as a guide, I tried to figure out how the "hitch" was made. I tried to match the loops and twists shown in the photo, but something was not right with the hitch I made, and it didn't have the holding (no sliding) power that was highly claimed in the story. Something important in tying the hitch was hiding on the opposite side, and out of view in the photo.

The "boat show, the boat show, the BIG Seattle boat show" (the jingle is forever burnt in my memory) was coming to the exhibition hall in the Seattle SeaHawks stadium in a couple of weeks, and I could always ask Brion Toss (www.briontoss.com) what I was doing wrong. Brion is an institution in the Pacific Northwest and beyond, on all aspects of rigging and other salty things, and the author of ***Knots for Boaters***, and ***The Complete Riggers Apprentice***. If anyone could show me how to correctly tie the Icicle Hitch, it would be him.

I waited until he was finished with what must be his millionth demonstration on how to make an eye splice; to button hole him on tying the Icicle Hitch. I told him about the article in Cruising World

Magazine by Beth Leonard and the use of the Icicle Hitch, but that the secret was hidden in the photo. He knew Beth and was glad that such a story had been written, and yes, he could show me how to tie the hitch. I told him that my efforts never produced a hitch that didn't slide along the main line. He assured me that the Icicle grips on anything and tied the hitch on a piece of chromed pipe. It slipped. He retied the hitch, and it slipped again. Brion finally gutted the inner weave of a double braided line and used the flattened outer sheath to make the hitch and it held. I learned how to do the Icicle, but was still not that impressed with it.

A few days later, I tried tying the hitch again, and promptly realized I had forgotten how. Mind like a sieve. I went to the library (600 foot walk) and checked out a book on tying knots. The book, *The Complete Book of Knots* by Geoffrey Budworth, had lots of knots I knew and a lot more I didn't. It had a multi drawing breakdown of tying the Icicle Hitch and I relearned what to do. I was using some high quality ¼" double braid on my handy chunk of painted broom handle to test my abilities with the hitch. It always slipped when pulled hard. Some hitch.

Time for a side bar here. There was a story on the history of the Icicle Hitch in the book of knots that I was reading. If I remember the story correctly, the "International Guild of Knot Tyers" (English origins) was having one of their meetings when the members entered one of the training rooms. There in front of them was a man hanging (by his hands) on the end of a line that was "attached" to a marlin spike (point down) fixed to the ceiling by the large end. Alas the name of the hitch.

The more I tied the hitch, the more I thought that the emperor had no clothes. Oh well, there were lots more knots in the book to study and learn. One of the hitches was called the Kleimheist Hitch. Something that was developed and used by mountain climbers in the alps, to tie on to a main line, to hang things on, or use as an ascender knot. It's basically a loop with the ends done in a figure eight knot, and then the looped end is wrapped around another line. The knotted end is then pulled through its own loop and tightened. I tried it on my painted broom handle and it never slipped no matter how hard I pulled. The broom handle slipped out of my hand a couple of times and whacked me upside the head as I was pulling the working end. Hummmmm?

I went back and forth between the Icicle and Kleimheist hitches on my painted broom handle. The Icicle always slipped and the Kleimheist always tried to break my eye glasses if the broom handle slipped in my hand. More Hummmmm?

Was there a way to tie the Kleimheist hitch by just weaving one end of the line down and back up the main working line? It could be done, but there was no "usable" long end to work with that could be

taken back and used to tie off on a cleat or winch; so you could adjust the working length of it. Hummmm?

What was I trying to accomplish with the hitch I wanted to create? One, it could not slip. Two, one end of the line had to have an adjustable (long) working length. Three, it had to be able to be tied anywhere, and tied in both directions to work with a strain from astern, on the Port or Starboard sides of the boat. With that in mind, I started wrapping my length of ¼" line around the broom stick every moment I wasn't busy with something else. You can tell I'm single and retired.

After "supper" one night (a Kansas farm boy, and I used to wash my car too), I was sitting on the couch, playing with the line and stick, and something formed in my hands. Hummm, what is this? It was a simple wrap, but it seemed to work! What did I do? After a good hard look up and down, and all around to see what I had done, I crossed my fingers and took it apart. I wrapped the line around the broom handle again, and it was back. Point number two was satisfied, it would have an adjustable working end. It looked like point number three was satisfied also, but I didn't want to try to figure out the new hitch in the reverse direction yet. Will this satisfy item one; will not slip? Taking my glasses off, (mom didn't raise a complete fool) I pulled on the working end of the line as I gripped the broom handle. NO SLIP! Around the fourth or fifth hard test pull, the broom handle slipped out of my hand and I whacked my head again, but I was smiling.

I had the hitch and I could retie it at will. Now I needed to figure out how to finish off the "tying end" of the line so it wouldn't come undone and let the hitch unravel which was a possibility with the Icicle Hitch. After trying a couple of different methods, I settled on the way shown in the photos with this story. It makes a snug and clean finish to the hitch, and unless the hitch completely abrades away rubbing on something, will hold tight until untied.

I then went about using the hitch on different sizes of line on line, and line on chain. Using the hitch on chain reduces it's chance of slipping to nil, as the coils of the hitch rest in the low spots of the alternating links and resist riding over them. Should work great with line used as a "Snubber" on anchor chain. I tried the hitch with two pieces of ½" three strand nylon line.

Note: With heavier and stiffer line, you have to work the hitch coils around the main line with your hands to chase the slack to the two ends before pulling the hitch tight.

One end of the "main" line was attached to a 24" fir tree, and the working end of the hitch to a 5:1 block and tackle attached to another 24" fir tree. I pulled and pulled on the block's working line and the hitch never slipped. I was worried that the compression from

the tension on the hitch would bind it up and make it impossible to undo. After slacking off the block and tackle, the hitch was still very tight around the other line, but I only had to pull on the part of the "working line" as it crosses over the top of the coils from the start to the "reverse back loop". I was then able to uncoil the hitch from the slack. With much higher loads, a marlin spike inserted in the same spot as the stick in the photo, will produce enough slack to undo the hitch.



Now that I had my hitch and was satisfied that it would work as I had outlined, it was time to see if this was something new, or something forgotten. I went back to the library and goggled the International Guild of Knot Tyers listed in *The Complete Book of Knots*, to see if it was still in existence, or if the book gave me out of date information. They were still there and had a website at www.igkt.net. I emailed them to ask what I had to do to see if this was something new or knot. After a few, hello is anyone there e-mails, I got a response (my inquiry had been forwarded to someone else, and they were away). I sent them some information and photos on the new hitch and they said they would get back to me. I finally got a vague response that was neither yes, nor no. Visiting the Guild's website again, I found a North American branch at www.igktnab.org ; and Brion Toss was listed as a member. Great, I would send him some photos and a description of how to tie the hitch. It was spring/summer here and riggers are busy hanging on masts and such. A couple of e-mails and a phone call didn't get me much either. I thought I would see him at the Port Townsend WBF in the fall of 2006, but I had a boat show close to home that I had promised to bring my new design, the Laura Bay to.

Time and life have a way of cooling off hot irons, so the hitch on a stick was left sitting on my kitchen counter until it got in the way, and then I set it in the other chair I have at the kitchen counter. Since I am not a big socializer, there was never a need to move it from under the pile of cardboard prototype models I am always working on. Which later become the PDF models you see at Duckworks Magazine.

So it sat out of site and out of mind. Then the TV and Radio started up again with "the boat show, the boat show, the big Seattle boat

show". Time to go see Brion Toss again, and wait for him to finish his by then, two millionth eye splice demonstration so I could talk to him. He takes a well deserved breather and lets me show him my "Gripper Hitch". I tell him I wanted to call it the "Death Grip Hitch", because that's what it does, but have settled on just the plain version. He watches me do the wraps down and back up again, and the final tie off. I give him the finished hitch to study what I have just done. He smiles and turns it around in his hands as he looks it over from all sides. I know that this must be something that he has never seen before by the way he acts and the questions he has. He had to go back to boat show mode to answer some rigging questions from some potential customers. But before he does, he cuts off all the the excess from the two lines used to make the finished Gripper Hitch. He wants to take the finish hitch and study it later at his leisure. He said he wanted to have the hitch tested in a stress machine that continually tensions and relaxes the knot and line for strength and wear from chafe. His wife looked on in wonder and tells me she has never seen him do that before. I too was amazed while standing there watching him cut off the excess. Watching how much good line was turned into short pieces in the process.

When I called Brion recently for an update on this story, he hadn't sent the hitch information to any of the major rope company's yet, but said he would and to one of the big three; Samson, New England, or Yale for the testing work. He did say that the hitch worked as advertised, and that made my day.

Now it's time for Gripper Hitch tying 101. Choose the lines, or line and broom handle of your choice. As a side note, I had to retake all the photos for the story after I discovered that I had tied the hitch wrong while doing a check of the photo cropping and compression.

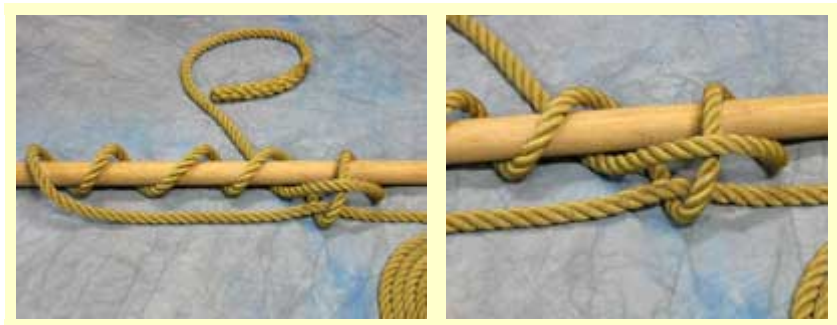
- 1. We will make one the "main line" (wooden rod), which is the line the drogue is attached to. In the photos, the drogue is attached to the end of this line (wooden rod) on your left, and the other end is wrapped around one of the primary winches to your right.
- 2. The other line is the "hitch line". The main part of the hitch line; the part that goes to the other primary winch, is laying at your feet (coiled in the photos). Using say ¼" line for this demonstration, take about two feet (length will vary with the size of the line you are using) of the short, or "tying end", and loop it over the top of the "main line" and away from you. Starting from left to right. Pull the end back to you from underneath and over the top of the "main line" again. Do this 4 times.



- 3. Before making a coil for the 5th time over the top; take the longer part of the "winch line end" (the coiled end) laying at your feet or on your lap and move it to the right side of the hitch as shown in the photo below.



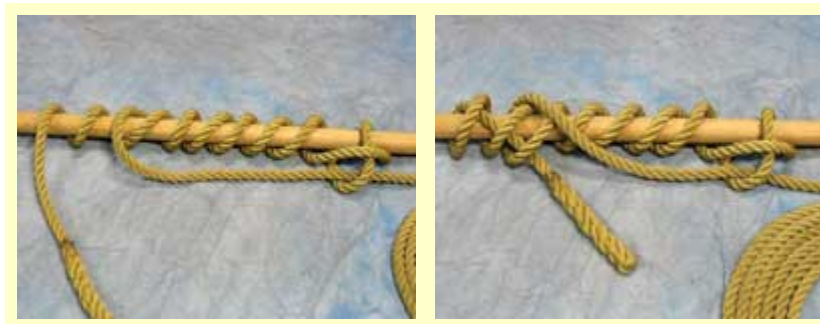
- 4. Now make the 5th coil over the top, but this time bring the "tying end" up and between the "main drogue line" and the "winch line end" that you have just moved to the right. The "tying end" acts like a rabbit, and jumps over the top of the last (5th) coil and back down on "your" side, between the moved "winch line end" and the "main drogue line". This is the trick of the hitch and you have to get this part right.



- 5. Now take the "tying end" and coil it around the "main drogue line" in the reverse direction. The end now comes to you over the top from behind, down between the "winch and main lines" and away from you again. The "tying end" lays in between the coils you made from left to right as you reverse the coils now from right to left.



- 6. Keep coiling the "tying end" between the left to right coils, until you have to go under the "winch line" on the left side of the hitch. Go under the "winch line" and around two more times to the left of the 1st coil of the "winch line". At the top of the 2nd wrap, run the "tying end" under the last two coils you made, AND the first loop of the "winch line".



- 7. Work out any slack in the coils in both directions and snug tight. You are done. After some practice tying the knot this way; try starting the coils in the opposite direction, (from right to left) to learn that the hitch can be reversed. The finished hitch will not slip when pulled by the "winch line end", but can be moved the other direction on the "Main line" by pushing that direction at the 5th coil end of the hitch. It will act like an ascender knot. If used as a snubber on an anchor line, the Gripper Hitch (with no tension on the "winch line") can be slid in either direction if the anchor line needs to be let out or taken in because of chafe. Tension reapplied to the "winch line" will reset the death grip on the anchor/drogue line.



- 8. I have added the next two photos so you can see the lay of the coils on the side and back of the hitch.



- 9. The next photos are what the Gripper Hitch looks like with line on line in the bridal "Y", with the main and hitch lines going to the port and starboard primary winches on the right. Also a photo of the back side.



- 10. Give the Gripper Hitch a good pull to test it. If you practice tying the hitch using a line on a broom stick, take off your glasses if you wear them, and put on a helmet. I don't want anyone to repeat my mistakes. ;)



I hope you have found this story interesting and was worth your time to read. I still haven't hear back from the International Guild of Knot Tyers about the uniqueness of this hitch yet, so I don't know if this is something new or knot. Maybe this story will bring out the, "we were using this back in" folks; and set me straight. ;) Thanks again for reading my stories and the comments you take the time to make.

Warren Messer
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