

Making cords with the Drill-powered Cord Maker:

An Example

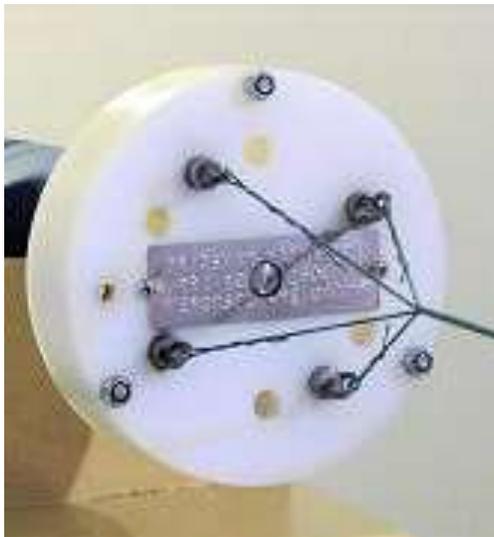
Drill-powered cord makers are versatile and efficient. The Bradshaw 4-Hook Cordmaker is perfectly suited for twisting ply-split braiding cords. There are many variations in the use of these devices depending on the materials to be used, the intended use and the user's imagination. Rather than explore all the options, we present one example of its use and leave it to you to explore your own needs.

This example shows one way we make a specific type of cord, namely a 4-ply cord made of 10/2 pearl cotton with 4 threads per ply. Please consider this as a starting point and explore other methods on your own.

Whatever method you use, please remember that there are moving parts and power tools. Take care that fingers and clothes are not entwined. Keep children away from the cord maker.

The Parts

1. Cord Maker



2. Electric drill with variable speed and a 3/8 inch chuck.
3. A holder for the drill and cord maker. (Optional).

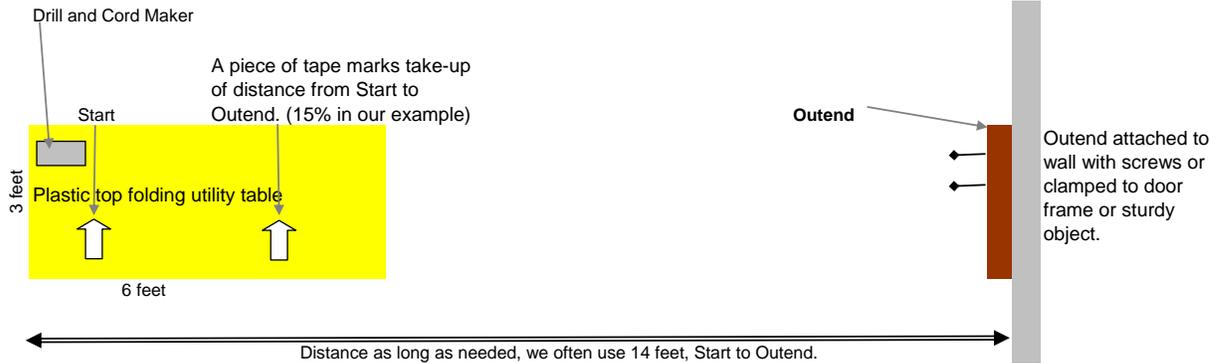


See http://louisefrench.com/drill-powered_cordmaker_holders.pdf

4. An "Outend" which consists of a small board with 4 cup hooks screwed to it.
5. Clamps as needed; bar clamp style clamps are very handy, but C-clamps are sometimes used.



Cord making setup diagram



Setup

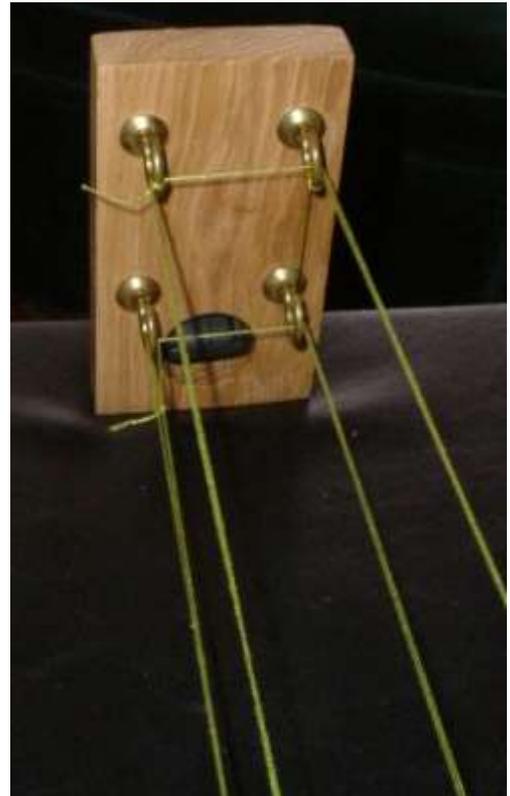
1. We use a room or hallway with a long straight path for the cord making. Even outdoors will do on a fine day. Make sure there is room to walk beside the cord and that electrical power is available. The cord making setup diagram shows our layout.
2. For this 4-thread-per-ply, 4-ply cord, we tie yarn to a lower hook on the outend and string the yarn, with even tension, from the first outend hook to the corresponding cordmaker hook and back again, and repeat once more for 4 threads. We repeat for each of the four hooks and tie off the last thread at the outend.

If making cords with more or fewer threads, remember to only move the yarn to the next hook at the outend; hook-to-hook threads on the Cord Maker head end will break and lead to a failure.

3. A yarn guide or warping wand fastened near the outend helps payout the yarn from the cone below it while

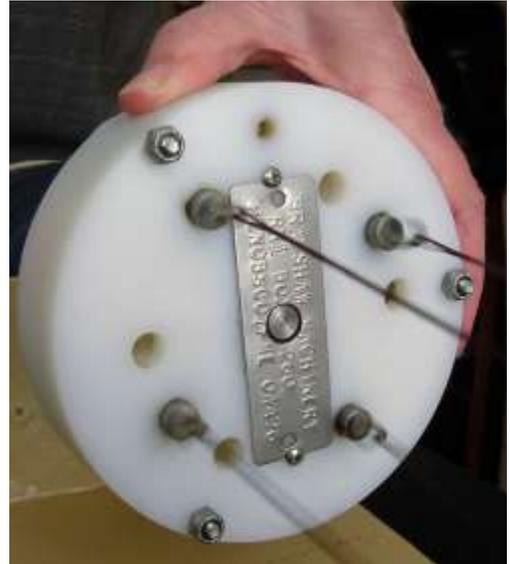


setting up the cord making.



Initial Over Twist

1. For S-twist cord use the drill set to turn “forward”, and for Z-twist cord use the drill set to “reverse”. Always use the same drill direction for both Initial Over Twist and Controlled Counter Twists. For this example, we made Z-twist cord with the drill in “reverse” for both the Initial Over Twist (S) and the Controlled Counter Twist (Z).
2. We hold the head from turning by hand or with the rod that comes with the cord maker so that only the hooks turn.
3. A steady tension on the cords is maintained as they twist and advance the drill and head toward the outend as needed to keep the same tension. We use a drill holder and allow it to slide along the table while we maintain tension with the hand holding the drill trigger.
4. For this cord, a 15% take-up works well, so we twist until the drill and cordmaker advance under hand-applied tension to the 15% mark on the table. Other materials and applications require different percentages.



Controlled Counter Twist

1. With the drill in the same “forward” or “reverse” mode as for the Initial Over Twist, we let go of the head and allow the whole head to rotate. We maintain tension as before. The head first moves back away from the outend then advances toward it again.
2. We allow this advance until the head reaches the same 15% mark.



3. We then tape the cord at each end the tape with a small piece of sticky packing tape to form an aglet.

