

CABLING CONTINUOUS DEPLOYMENT SYSTEM AND TOOL

Related Applications

This application claims priority to U.S. Provisional Application 60/620,664 filed on October 22, 2004, the disclosure of which is wholly incorporated herein.

Background of the Invention

The present invention concerns a system for the continuous deployment of cabling and a tool associated therewith that removes, or at least reduces, cable reel memory (reel set) in deployed structured cable and with efficiencies to save labor hours, material costs, and reduce errors as compared to prior art tools. The tool is advantageously used with structured cable but is not so limited and may be used with electrical cable and other cable such a security cable.

Summary of the Invention

A first aspect of the present invention concerns a structured cabling system and tool that assists craftsmen with the continuous deployment of structured cabling over long distances to multiple locations so as to enhance the effectiveness of the craftsman in dealing with a large number of cables, while concurrently removing (or reducing) cable reel memory of cable coming off reels or out of cable boxes. Removing cable reel memory advantageously allows the pulled cable to lay flatter in an overhead horizontal run and reduces the length of cable necessary in making a lengthy cable run, making the cable pulling easier and increasing the effective length of the pulled cable.

Another aspect of the present invention concerns a cabling system and tool having a construction providing for craftsmen to systematically organize, measure, identify, and install multiple cables to multiple locations through the co-ordination and identification of numerous, varied cabling types using a tape system that assists in identifying individual cables being used. The labeling and organizing of cables right off the cabling tool avoids errors and improves efficiency.

Yet another aspect of the present invention concerns a cabling system and tool constructed for ease of transportation and assemble at a final job site.

A further aspect of the present invention concerns a cabling system and tool that handles all major types and sizes of structured cabling packaging including multiple size reels and boxes. Improved mounting of the cable reels reduces effort required to pull the cable bundles.

A still further aspect of the invention is system and tool scalable by providing a design allowing cabling tools of various sizes to afford portable tool solutions scaled to the task at hand. The scalable aspect allows for both a smaller hand-carried unit suitable for a "change and reconfigure" job and other small installations, and a larger model suitable for major installation jobs, where both can compact (e.g., folded) into a compact unit suitable for easy transport.

Particular structures that achieve these aspects of the invention are disclosed below. These above noted aspects of the invention are examples and not intended to be limiting, as one of skill will appreciate other advantages of the invention from the following disclosure and the drawing figures.

Brief Description of the Drawings

Figure 1 illustrates an embodiment of the inventive structured cabling tool in a partially assembled condition and near ready use.

Figure 2 illustrates an embodiment of the inventive structured cabling tool in a ready to transport condition.

Figure 3 illustrates another embodiment of the tool frame in the ready to transport condition.

Figure 4-5 illustrate two views of the inner frame arms and cable sorting threader with enlarged details of the cable sorting threader connecting to the inner frame arms.

Figure 6 illustrates a revolvable tape segmenting spindle.

Figure 7 illustrates a tape rolls support rod.

Figure 8 illustrates the out disk assembly of the tape segmenting spindle.

Figure 9 illustrates the tool in the in ready for use condition with plural cable axles being supported.

Figure 10 illustrates an exemplary element-inside-element arrangement.

Description of the Preferred Embodiments

The following disclosure applies to the drawing figures generally. Specific references to any individual drawing figure is intended to clarify the related disclosure and is not intended to be limiting.

The tool 10 is reconfigurable between two primary conditions: i) ready for use (use condition) and ii) ready for transport (transport condition). In the ready for transport condition the tool is compacted to fit through a building doorway. Figure 1 illustrates a near ready for use condition, Figures 2-3 illustrate a ready to transport condition, and Figure 9 illustrates a ready for use condition. The ready for use condition may also serve as a limited space use condition. Thus, the below discussed conditions are not limiting as the flexible use of the invention will be clear to those of skill in the art.

The tool 10 comprises an overall outer frame 20 which serves as a tool base when the tool 10 is in the ready for use condition. The outer frame 20 supports a pair of pivotable inner frame arms 30 (although pivoting is not essential). See Figure 9 showing the tool 10 with the outer frame 20 flat on a floor surface.

A pair of pivots 31 is attached to the outer frame 20. The pair of pivotable inner frame arms 30 is

shown in Figure 1 being pivotally mounted within the outer frame 20 at the pair of pivots 31.

The pair of inner frame arms 30 is shown in Figure 1 being upright, e.g., orthogonal, to the outer frame 20. The pair of inner frame arms 30 is shown in Figure 2 being side-by-side coextensive with the outer frame 20 in the ready for transport condition.

The pair of inner frame arms 30 support a cable sorting threader 50 between the individual inner frame arms 30 (also referred to as a cable sorting threader workstation 50). The cable sorting threader 50 may be L-shaped in cross section with a vertical section joined to a horizontal section. See Figures 1, and 4-5. The L shape provides extra rigidity at the top of the inner frame arms 30 as well as providing a supporting/guiding surface for cable meter 80.

The cable sorting threader 50 also includes a fin retaining plate 53 and a retaining element 54 to press the plate 53 against the vertical section, e.g., a clamp.

Below the cable sorting threader 50, the pair of inner frame arms 30 also supports a revoluble tape segmenting spindle 40 and a tape rolls support rod 60. Figure 6 shows the revoluble tape segmenting spindle 40 in more detail.

Figure 7 shows the tape rolls support rod 60 in more detail. The tape rolls support rod 60 may include separating elements 61 which space apart adjacent tape rolls.

The outer frame 20 comprises a longitudinal first outside channel element 21 connected at a first end, by a base channel element 23, to a first end of a longitudinal second outside channel element 22.

A second end of the first outside channel element 21 is connected, by a hinge 26, to a first end of a longitudinal first inside channel element 24. A second end of the second outside channel element 22 is connected, by another hinge 26, to a first end of a longitudinal second inside channel element 25. The inside channel elements serve as outer frame re-locatable side panels that extend by relocation from an inner position to an extended outer position. Compare Figure 1 to Figure 9.

As indicated by arrows A and B in Figure 1, the first and second inside channel elements extend by pivoting open to an extended position with the inside and outside channel elements being in-line (lengthwise) longitudinally aligned. The extended position increases the longitudinally length of the tool base which provides

additional stability and mounting length to support cable axles with mounted cable reels.

The pair of outside channel elements 21, 22 are pivotally connected to the pair of inside elements 24, 25 by the hinges 26, the pair of inside channel elements 24, 25 are thus pivotable to from i) a compacted (e.g., folded) position (Figure 1) to an ii) extended position (Figure 9). In the compacted position (Figure 1) the length of each of the inside elements 24, 25 is parallel adjacent to the corresponding length of each of the outside channel elements 21, 22. The inside elements 24, 25 may be of any suitable length and need not extend the entire length of the outside elements 21, 22.

This compacted position may serve as a limited-space use configuration for using the tool in cramped (limited) space conditions.

In the extended position (Figure 9) the inside elements 24, 25 are lengthwise longitudinally aligned with the outside elements 21, 22.

The pair of pivots 31 is attached to the pair of the outside elements 21, 22, via spacers 35, as shown in Figure 1.

As shown in Figures 1-3, the first and second outside channel elements 21, 22 and the base channel

element 23 have open web portions of the respective channels facing outward. The tool 10 is, however, not so limited.

The outer frame 20 further comprises a removable staging bar 27. In Figure 1, each end of the staging bar 27 is removably attached to one of the inner and outer channel elements, i.e., to one of elements 21 and 24 at a first end and, to one of elements 22 and 25 at a second end. The staging bar 27 is attached using conventional attachment parts 28, such as wing nuts secured to a threaded post or bolt.

Removal of the staging bar 27 facilitates relocating the inner channel elements 24, 25 from the compacted position into the extended position. Once in the extended position, the staging bar 27 can be reattached to the free ends of the extended inner channel elements 24, 25 as shown in Figure 9. The staging bar 27 may also be comprised of a channel element. When the staging bar 27 is reattached at the ends of the extended inner channel elements 24 25, the upward facing channel serves as a support for resting plural cable reels 91. The thus-rested cable reels are self-aligned and ready to be mounted on a single cable axle 90 (rod).

As shown in Figures 1-3, the first and second inside channel elements 24, 25 have the open web portions of the respective channels facing inward, in the positions illustrated. However, when the inside channel elements 24, 25 are moved into the extended position, the open web portions of the channels face outward. See Figure 9 illustrated inside channel element 24 in the extended position with the open web portion of the channel facing outward. The tool 10, however, is not so limited. Nor is the outer frame limited to use of channel elements. Suitable elements of a non-channel type may be substituted for channel elements.

The holes 29, on the upper face of the inside and outside channels serve as mounting points for axle saddles 34 that cradle the cable axles 90 in turn mounting plural cable reels 91. For clarity, Figure 1 shows only a single saddle 34; however, a saddle 34 is provided for each end of each cable axle. The axle saddles 34 securely support the cable axles so that the cable axles and the cable reels remain in a fixed position during the subsequent cable pulls. The outer frame 20, in the extended position, has sufficient length to support plural cables axles which in turn can support a flexible number of cable reels and boxes. One embodiment supports 48 cable

reels. Thus, in that embodiment, cable pulls can be accommodated where 48 cables can be pulled at one time.

Each of the pair of inner frame arms 30 is attached to the outer frame 20 via the intermediate spacer 35. This allows each of the inner frame arms 30 to locate adjacent one of the inside channel elements 24, 25 when the pair of inner frame arms 30 (as shown in Figure 2) is positioned coextensive with the outer frame 20, i.e., in the ready for transport condition.

The pair of inner frame arms 30 pivot at pivots 31 and are each retained in the position shown in Figure 1 by engagement of a retainer 32 at the position shown. Releasing retainers 32 allows the craftsman to locate the pair of inner frame arms 30 from the in use condition (Figure 1) to the ready for transport condition (Figures 2-3) by pivoting in the direction of arrow C shown in Figure 1. Thus, the retainers 32 engaging the pair of inner frame arms 30 to the outer frame 20 maintains the pair of inner frame arms 30 in a stationary position.

The retainers 32 engages alternative sets of aligned openings 33 in the pair of inner frame arms 30 and in the outer frame 20 to maintain the pair of inner frame arms 30 in a stationary position. In a first set of the aligned openings 33 the engaged retainers 32 maintain the

pair of inner frame arms 30 orthogonal to the outer frame 20 (in the ready for use condition), and in a second set of the aligned openings 33 the engaged retainers 32 maintain the pair of inner frame arms 30 coextensive with the outer frame 20 (in the ready for transport condition).

The retainers 32 are disengaged from the aligned openings to allow pivoting of the pair of inner frame arms 30 from one position to another position.

When the tool 10 is in the ready for transport condition, the retainers 32 engage in aligned openings 33 of the outer frame and the pair of inner frame arms 30 to secure the pair of inner frame arms 30 to the outer frame 20 as shown in Figure 3.

The tool 10, in the ready for transport condition, provides a compacted unit with easy mobility around a job site utilizing the wheels 70. Also, large embodiments of the tool 10, when in the ready for transport condition, continue to be mobile and fit into small spaces such as trucks and elevators. As illustrated, the tool 10 is compact enough to be moved by a single craftsman.

Ideally, when information signal cable (e.g., cat 5, cat 6, copper, and fiber-optic) is pulled, the cable is perfectly flat without any twisting. However, this is not how cable acts when removed from a cable reel or from a

cable box due to the cable retaining the coiled shape memorized from being reeled or boxed. Thus, in the prior art, as cable is pulled from a cable reel or from a cable box, the cable includes cable reel memory (also known as cable set) which has the effect of twisting or coiling the cable.

The present invention removes this cable reel memory. Advantageously much of the cable reel memory is removed, more advantageously; substantially all the cable reel memory is removed.

The cable sorting threader 50 comprises cable reel memory reducing holes 52 provided in the vertical section. Cables 92 are passed through each of the holes 52 of the cable sorting threader 50. See Figures 1 and 9. The cable sorting threader 50 is positioned relative to the cable reels/boxes and these holes 52 are sized to allow the craftsman to pull the cable through the holes and concurrently remove the cable reel memory present in the cable as the cable comes off the reel or out of the box. The craftsman pulling the cable through the cable sorting threader advantageously removes sufficient cable reel memory that the amount of cable required is reduced as compared to not pulling the cable through the cable sorting threader and the cables pulled lay flatter than they

otherwise would. Thus, the holes 52 are sized to passed information signal cable and concurrently remove sufficient cable reel memory present in the cable as the cable comes off a reel or out of a box to increase an effective length of the cable passed through the holes by at least 10% as compared to the same cable pulled from the reel or out of the box but not passed through the holes 52.

In the prior art, pulling cable often resulted in knots and/or kinks within the pulled cable. These knots and kinks narrow and/or weaken the cable jacketing. This is a particular tricky problem as the pulled cable may initially test satisfactory, but may later fail. The later failing results in the cable being unsatisfactory for its intended use. When cable fails, the failed cable must be repaired or replaced.

Pulling the cable through the cable sorting threader eliminates cable with knots and kinks from being placed in service since the holes 52 are sized to block any knot or kink from passing through the holes 52.

Cable meter 80 mounts on the horizontal section of the cable sorting threader 50 and travels along a longitudinal groove(s) 54 of the horizontal section. See Figures 4-5 illustrating the groove(s) and Figure 1 illustrating the meter 80 mounted on the cable sorting

threader 50. Plural meters may also be mounted on the horizontal section.

Tape rolls support rod 60 mounts plural tape rolls, in a side by side manner, across the width of the pair of inner frame arms 30. As shown in Figure 7, the tape rolls support rod 60 may include separating elements 61 (e.g., o-rings) which space apart adjacent tape rolls.

Tape segmenting spindle 40 revolves by user operation of a detachable crank handle 41. The crank handle may act on the segmenting spindle through a ratchet 49 (or alternatively a clutch). Use of the ratchet assures that the spindle is moved forward in a specific direction upon turning the handle and assures that there is no backward movement.

Importantly, the

The tape segmenting spindle 40 is comprised of parallel spaced apart fins 42. The fins 42 run in a longitudinal direction to form a cylindrical shape across the pair of inner frame arms 30. The fins 42 detach from spindle 40 and a detached fin 42 may rest on an uppermost edge of the cable sorting threader 50.

As shown in figure 6, the fins 42 are non-planar and may be L-shaped.

The tape segmenting spindle 40, in large embodiments, also comprises three center disk assemblies 43, 44, i.e., two outer disk assemblies 43 and a middle disk assembly 44. Smaller embodiments may have fewer than three total disk assemblies.

Each of the disk assemblies comprises radial slots 45. Some of the slots 45 include a fin retaining clip 46 fixed adjacent the slot 45 by, e.g., by hardware elements 47, to a substrate disk 48. In some embodiments only slots of the middle disk assembly have the clips.

Each fin 42 is insertable into the aligned slots 45 of the three center disk assemblies 43, 44. The clips 46 of the two outer disk assemblies 43 retain the fin 42 until the craftsman extracts the fin 42 from the slots 45, e.g., after the tape segments have been affixed to the fin 42 and cut to length.

The length of the cut tapes is therefore determined by the fin spacing, the fin spacing being in turn determined by slot spacing on the perimeter of the disks 48.

Figures 1-3 illustrate wheels 70 attached to the outer frame 20 in two alternative locations. Casters can substitute for the wheels 70. The wheel bracket 71 is secured to the base channel element 33 by hardware 72 that

may include wing nuts. This allows the wheel bracket 71 to be user detachable from the base channel element 23.

One embodiment of the inventive structured cabling tool 10 includes the outer frame 20 (as shown in Figure 9) extended in the ready for use condition and (as shown in Figure 2) compacted (here folded) in the ready for transport condition.

As illustrated by Figure 1, the inner frame arms 30 are pivotably supported within the outer frame 20. As discussed above, the inner frame arms 20 are fixable in a first position upright orthogonal to the extended outer frame (i.e., when in the ready for use condition as shown in Figure 9 and as shown in Figure 1) and a second position compacted coextensive with the folded outer frame (i.e., in the ready for transport condition as shown in Figure 2).

As shown in Figure 1, a cable sorting threader 50 is supported between the inner frame arms 30. A revoluble tape segmenting spindle 40 is also supported by the inner frame arms 30 and is located below the cable sorting threader 50.

The outer frame 20 has been illustrated above with the outside channel members being hinged to the inside channel members, but the invention is not so limited. The

outer frame is reconfigurable from/to a compacted position to/from an extended position.

Alternative constructions of the outer frame which accomplish this reconfiguration are within the scope of the invention. For example, Figure 10 illustrates an element-inside-element alternative. This construction is useful for both the outer frame and for the saddles 34.

In the case of the saddles 34, an element-inside-element construction allows the saddles to be raised from the outer frame and thus to position the cable axles 90 higher off the floor. This increases the usefulness of the tool in that larger size reels may be accommodated.

In the case of the outer frame 20, the outside channel members 21, 22 house the inside channel members 24, 25 in the compacted position (with the members being one inside another coextensive) whereas in the extended position, the inside members extend from the outside members (with the members being in-line longitudinally aligned).

Use of the Tool

The tool 10 is transported to the job location and placed with the outer frame 20 flat against the floor.

The staging bar 27 is removed and the outer frame changed from the folded position to the extended position, i.e., from that shown in Figure 1 to that shown in Figure 9.

The staging bar 27 is attached to the end of extended outer frame 20 (see Figure 9). Plural cable reels are placed on staging bar 27 to accept a single cable axle. Each thus-configured cable axle, with mounted cable reels, is then repositioned to be supported by a pair of opposing axle saddles 34 attached on the outer frame 20. In one embodiment, sufficient cable axles are thus supported on the outer frame 20 that up to 48 cable reels can be supported for simultaneous pulling of the 48 cables. Cable can also be pulled directly from cable boxes placed proximity the outer frame 20 and routed through the cable sorting threader 50.

Cables to be pulled are individually inserted into individual ones of the holes 52 of the cable sorting threader 50 (See Figure 8). At the start of each cable pull, the individual cables are grouped and banded together.

Rolls of color-coded tape are mounted on the tape rolls support rod 60 and the tape rolls support rod 60 attached to the inner frame arms 30. The tape rolls,

supported on the tape rolls support rod 60, are thus positioned directly above the tape segmenting spindle 40 and below the holes 52. Tape pulled from each tape roll is pressed against a common one of the fins 42. The tape rolls support rod 60 holds sufficient tape rolls to allow for two pieces of tape to be cut in a single operation during most cable pulls.

The vertical alignment of the holes 52, the tape rolls, and the fins 42 provide that after cutting the tape and relocating the fin, to be secured within the fin retaining plate 53 by retaining element 54, the cut pieces of tape are aligned over the holes corresponding to the appropriate cables for those cut pieces of tape.

Turning crank handle 41 further deploys tape onto the fins 42 of the tape segmenting spindle 40. The direction and amount of rotational movement is set by the ratchet 49. Advantageously, the number of positions of rotation set by the ratchet equals the number of fins on the spindle 40.

When the spindle 40 has been operated to complete acceptance of appropriate lengths of tape as transferred tape segments on plural ones of the fins 42, the tape segments can be easily cut to uniform lengths by using an edge of each fin 42 as a cutting guide. Thereafter, a

first fin 42 is detached from the retaining clips 46 and secured on the uppermost edge of the cable sorting threader 50 by fitting the fin between the fin retaining plate 53 and the vertical section of the threader. Operation of the retaining element 54 presses the plate 53 against the vertical section to secure the fin.

This positions the first fin 42 (with the two cut tape segments per hole) such that the craftsman using the tool 10 can quickly write an identification code on each of the tape segments without moving from the work area and without risk of misidentifying the cabling. The thus-marked tape segments serve as beginning-of-pull and end-of-pull tape segments and can be correctly transferred to the beginning and terminal ends of the individual cables being pulled. In this way, both the beginning and terminal ends of the cables are assured to be correctly identified.

At the end of a first cable pull, a next second fin 42 can be used to form tape segments for a second cable pull. After transferring the second fin 42 to the uppermost edge of the cable sorting threader 50, these new tape segments can be transferred to the second cables being pulled. In this way, the labels are consistent as to length and appearance from the first cable set being pulled to the second cable set pulled to further cable sets

pulled. Also, as noted above, the vertical alignment of the holes 52, the tape rolls, and the fins 42 provide that after cutting the tape and relocating the fin, to be secured within the fin retaining plate 53 by retaining element 54, the cut pieces of tape (labels) are aligned over the holes corresponding to the appropriate cables for those labels. This promotes accuracy and avoids errors.

The cable meter 80 is mounted into place on cable sorting threader 50 to provide point of use, real time measurement of cable useage as cable is pulled from the tool 10. This point of use measurement assures cables are cut to the exact length needed and waste is avoided. Even when staggered lengths are quickly measured out and cut, the cable meter 80 provides accurate measurement. As noted above, plural cable meters may be mounted to the threader 50 when desired.

The above embodiments are provided as examples of the invention and are not extended to be exclusive applications of the invention. As noted, the invention has application to a variety of cable uses and is easily reconfigurable for different work and space conditions.

Claims

1. A cabling tool (10), comprising:

an overall outer frame (20) comprising i) a staging bar, ii) a pair of outside elements (21, 22), and iii) a pair of inside elements,

the pair of outside elements connected to the pair of inside elements, the pair of inside elements relocatable from i) a compacted position with a length of each of the inside elements parallel adjacent to a corresponding length of each of the outside elements to ii) an extended position with the inside elements lengthwise longitudinally aligned with the outside elements;

a pair of inner frame arms (30) mounted within the outer frame,

the pair of inner frame arms being upright with respect to the outer frame in a ready for use condition,

the pair of inner frame arms being coextensive with the outer frame in a ready for transport condition,

the staging bar connected, at a first position, to the pair of outside elements in the ready for transport condition,

the staging bar connected, at a second position, to the pair of inside elements in the ready for use condition with the outer frame configured to support plural

cable axles with each of the plural cable axles adjacently mounting plural cable reels; and

a cable sorting threader (50) fixed intermediate each of the pair of inner frame arms,

wherein the tool is reconfigurable from the ready for transport condition to the ready for use condition by i) relocation of the staging bar from the first position to the second position, ii) relocation of said inner elements from the compacted position to the extended position, and iii) moving the pair of inner frame arms from being coextensive with the outer frame to being orthogonal to the outer frame.

2. The tool of claim 1, wherein,

the cable sorting threader is at a top end of pair of inner frame arms,

the cable sorting threader is L-shaped in cross section with a vertical section joined to a horizontal section, and

the vertical section comprises holes (52) sized to pass individual cables through respective ones of the holes provided in the vertical section.

3. The tool of claim 2, further comprising:

a removable tape rolls support rod (60) supported by the pair of inner frame arms and located below the cable sorting threader, the tape rolls support rod for adjacently mounting plural tape rolls; and

a revolvable tape segmenting spindle (40) supported by the pair of inner frame arms and located below the tape rolls support rod.

4. The tool of claim 3, wherein,

the tape rolls support rod comprises separating elements (61) to space apart the adjacent tape rolls.

5. The tool of claim 1, wherein,

the staging bar is a channel element,

the pair of outside elements and the pair of inside elements are outside channel elements and inside channel elements respectively,

a first of the outside channel elements is connected at a first end, by a base channel element (23), to a first end of a second of the outside channel elements,

a second end of the first outside channel element is pivotally connected by a first hinge (26) to a first end of a first of the inside channel elements,

a second end of the second outside channel element is pivotally connected by a second hinge (26) to a first end of a second of the inside channel elements, and

the inside channel elements, via the first and second hinges, are relocateable from the folded position to the extended position with the inside channel elements lengthwise longitudinally aligned with the outside channel elements.

6. The tool of claim 5, wherein,

the first and second outside channel elements have open web portions of the respective channels facing outward, and

the staging bar, connected at a second position, includes an upwardly facing web portion sized to vertically support plural cable reels self-aligned and ready to be mounted on a single cable axle.

7. The tool of claim 6, wherein,

in the folded position, the first and second inside channel elements have open web portions facing inward toward each other, and

in the extended position, the open web portions of the inside channel elements face outward.

8. The tool of claim 1, wherein,

an upper face of the inside and outside elements comprise axle mounting areas for accepting axle mounts to fixedly support the cable axles, the axle mounts securely supporting the cable axles so that the cable axles and the mounted cable reels remain in fixed positions during cable pulls.

9. The tool of claim 8, wherein,

the axle mounts comprise vertically extendable saddles (34), and

each saddle cradles an end of a corresponding cable axle.

10. The tool of claim 9, wherein,

the upper face of the inside and outside elements comprise mounting holes (29), and

each saddle is mounted to a pair of the mounting holes.

11. The tool of claim 1, further comprising:

spacers (35) intermediate the pair of inner frame arms and the outer frame;

a pivot (31) located at each spacer,

each of the pair of inner frame arms are pivotedly attached to the outer frame via one of the spacers and a corresponding pivot; and

a retainer (32) engaging alternative sets of aligned openings (33) in the pair of inner frame arms and in the outer frame to maintain the pair of inner frame arms in a stationary position,

in a first set of the aligned openings the engaged retainer maintaining the pair of inner frame arms orthogonal to the outer frame in the ready for use condition, and in a second set of the aligned openings the engaged retainer maintaining the pair of inner frame arms coextensive with the outer frame in the ready for transport condition, and

the retainer being disengaged from the aligned openings to allow pivoting of the pair of inner frame arms from one position to another position.

12. The tool of claim 5, further comprising:

wheels (70) attached to the base channel element;

and

a cable meter (80) snap mounted on the horizontal section of the cable sorting threader and movable along a longitudinal groove of the horizontal section.

13. The tool of claim 3, further comprising:

a handle (41) removably engaging the tape segmenting spindle, user operation of the handle moving the tape segmenting spindle,

the tape segmenting spindle comprising parallel spaced apart fins (42), the fins running in a longitudinal direction to form a cylindrical shape across the pair of inner frame arms, and

the fins detaching from the tape segmenting spindle to rest on an uppermost edge of the cable sorting threader.

14. The tool of claim 13, wherein,

the fins are L-shaped, and

the tape segmenting spindle further comprises plural disk assemblies (43, 44),

the disk assemblies each comprise a substrate disk (48) with radial slots (45), some slots including a fin retaining clip (46), and

each fin is insertable into aligned slots of the disk assemblies with the clips retaining the inserted fin.

15. A cabling tool (10), comprising:

a cable sorting threader (50) with a vertical section adjoined to a horizontal section, and having cable reel memory reducing holes (52) spaced apart on the vertical section, the holes sized to passed information signal cable and concurrently remove sufficient cable reel memory present in the cable as the cable comes off a reel or out of a box to increase an effective length of the cable passed through the holes by at least 10% as compared to the same cable pulled from the reel or out of the box but not passed through the holes.

16. The tool of claim 15, further comprising:

inner frame arms, the cable sorting threader being supported between the inner frame arms; and

a revolvable tape segmenting spindle (40) supported by the inner frame arms and located below the cable sorting threader.

17. The tool of claim 16, further comprising:

a base (20) reconfigurable between an extended ready-for-use condition and a compacted ready-for-transport condition,

the inner frame arms (30) supported by the base;
and

the pair of inner frame arms fixable orthogonal to the outer frame in the ready-for-use condition and fixable coextensive with the outer frame in the ready-for-transport condition.

18. The tool of claim 17, wherein,

the base comprise an outer frame,

the outer frame comprises a longitudinal first outside channel element (21) connected at a first end, by a base channel element (23), to a first end of a longitudinal second outside channel element (22),

a second end of the first outside channel element (21) is connected, by a hinge (26), to a first end of a longitudinal first inside channel element (24), and a second end of the second outside channel element (22) is connected, by another hinge (26), to a first end of a longitudinal second inside channel element (25),

the first and second inside channel elements extendable by pivoting open from a folded position to an

extended position with the inside and outside channel elements being longitudinally aligned, the extended position increasing a longitudinally length of the tool base, and

the first and second outside channel elements and the base channel element have open web portions facing outward.

19. The tool of claim 18, further comprising:

axle saddles, attached to an upper face of the inside and outside channel elements, serving as mounting points that cradle cable axles mounting plural cable reels.

20. The tool of claim 18, wherein,

the tape rolls support rod mounts plural tape rolls, in a side by side manner, across the width of the pair of inner frame arms, and

the tape segmenting spindle comprises parallel spaced apart fins (42) forming a cylindrical shape, the fins detachable from the spindle, a detached fin sized to rest on an uppermost edge of the cable sorting threader,

the fins are non-planar in cross section, and

the tape segmenting spindle further comprises plural disk assemblies, each disk assembly comprising

radial slots (45), some slots having an adjacent fin retaining clip (46) for friction securing a fin inserted within the slot.