To all whom it may concern:

Be it known that we, Ray K. Chapman and Ernest G. Messer, citizens of the United States, residing at Elma, in the county of Grays Harbor and State of Washington, have invented certain new and useful Improvements in Suspended Cable Carriers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to suspended cable carriers and carriages therefor. An important object of the invention is to provide in a suspended cable carrier a construction such that the weight of the cable is employed to lock together sections preventing the spreading of the carrier proper.

A further object of the invention is to provide in combination with a cable carrier of this character, a carriage of such construction that it initially removes the weight of the cable from the lock and subsequently unlocks the same during its passage through the cable carrier.

A still further object of the invention is to provide a device of this character which may be cheaply and simply produced and which is durable and efficient in service and a general improvement in the art. These and other objects I attain by the construction and arrangement shown in the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of our invention and wherein:

Figure 1 is a side elevation showing a cable carrier and carriage constructed in accordance with our invention;

Figure 2 is an enlarged side elevation of the cable carrier;

Figure 3 is an end elevation thereof;

Figure 4 is a further enlarged detailed sectional view on the line 4—4 of Figure 2;

Figure 5 is a section on the line 5—5 of Figure 7;

Figure 6 is a section on the line 6—6 of Figure 5;

Figure 7 is an end elevation of the cable carrier;

Figure 8 is a section on the line 8—8 of Figure 5 and

Figure 9 is an enlarged section on the line 9—9 of Figure 8.

Referring now more particularly to the drawings, the cable carrier 10 consists of a block or supporting section 11 and sides 12 detachably secured to said block or supporting section 11. This block has means as at 13 whereby it may be mounted from any suitable support such as a tower or the like not herein disclosed. The sides 12 are each provided upon the outer surfaces adjacent the ends thereof with hooks 14 for the reception of sides 15 to hold the carrier against swaying. Each side is formed on its interior face with a track 16 in the form of a shoulder projecting inwardly from such inner face, these tracks having a central flattened portion 17 and downwardly curved end portions 18.

Projecting outwardly from the outer faces of the sides 12 are housings 19 forming guides for locking members 20 and 21. The locking members 20 and 21 are movable through openings 22 formed in the side walls in alignment with the guides 19, the openings of the side walls being opposed, the locking member 20 operating through one of the openings while the locking member 21 operates through the opposed opening. The guides 19 have projected inwardly from the side walls thereof, lugs 24 which engage in grooves 25 are formed in the sides of the locking members 20 and 21, the grooves of the locking members being of greater width than the lugs for a purpose presently to appear. Between the end wall 26 of each guide 19 and the associated locking member 20 or 21, a guided spring 27 is disposed which tends to force the locking member through the opening 22 and into the space between the adjacent faces of the side members 12.

The locking member 20 has extending outwardly therefrom a lug 28, the upper surface of which inclines upwardly from its point of juncture with the locking member and then downwardly toward the end thereof. The locking member 21 has extending outwardly therefrom a lug 29, the under surface of which is provided with a notch 30 similar in formation to the upper surface of the lug 28. Above the lug 29 the locking member 21 is provided with a cable supporting roller or shoe 31. Those portions of the locking members 20 and 21 which project into the space between the adjacent faces of side members 12 when the locking members are in locking position, have their upper surfaces beveled downwardly toward a common center as indicated at 32. The locking members are forced forwardly by their springs and come into lock-
ing engagement by reason of the fact that the lug 29 of the locking member 21 will ride over the lug 28 of the locking member 20 until the peak 33 between the inclined faces thereof comes to rest in the notch 30. The slight movement of the locking members 20 and 21 necessary to this accommodation of the peak by the notch is permitted by loose engagement of the lug 34 in the grooves 25. It will be obvious that when the locking members are in locking position and the weight of a cable 34 is imposed thereon, separation of the locking members will be prevented since these locking members have flattened under surfaces resting upon similar surfaces upon the side members. It will be obvious further that there is no tendency whatever of these side members to separate to the weight of the cable and of loads carried thereby.

In conjunction with the cable carrier just described it will be obvious that some means must be provided for relieving the locking members 20 and 21 of the weight of the cable so that the same may move to unlocked position against the action of the spring 27 and permit the passage of the carriage 35. We accordingly provide a carriage having a body portion 36, the ends of which taper to a point 37 to form wedges which engaging between the wedge shaped adjacent face 38 of the locking members 20 and 21 will tend to separate the same. This body portion is provided with a keel 39, from the lower end of which as at 40, the load may be suspended through means of cables 41. From the sides of this keel as at 41 the drag line 42 and return line 43 project upwardly.

Projecting upwardly from the body portion is a web or flange 44 to the sides of which is secured supports 45 between which are journaled pairs of rollers 46. Between these pairs of rollers the supporting cable 34 is adapted to pass and the arrangement of these rollers is such that when the leading end of the body portion 36 is about to enter between a pair of guides and the body portion is supported from the tracks 18, the cable is elevated by the lower rollers 46 to such a point that the roller 31 of the locking member 31 is relieved of the weight of the cable and accordingly when the engagement actually takes place there is no weight upon these locking members to prevent their separation. Conversely in leaving the locking members the rollers 46 support the cable until the locking members have come into locking engagement when the cable is dropped upon the roller 31 to be supported thereby and to thereby lock the locking members 20 and 21 against separation.

From the foregoing it will be seen that by the use of a cable carrier and carriage constructed in accordance with our invention the spreading and consequent destruction of the parts of the support will be prevented, the two parts being locked against separation at all times save during actual separation of a carrier through the support. It will furthermore be obvious that such devices may be very ruggedly constructed and will accordingly be able to withstand the wear and tear to which they will be subjected in practice. Many changes being possible in the specific construction hereinbefore set forth without materially departing from the spirit of our invention, we do not limit ourselves to such specific structure except as hereinafter claimed.

What is claimed is:

1. In a cable carrier system, a cable carrier including spaced side members, cable supports slidably mounted in said side members and shiftable toward and away from one another, means normally holding the cable supports in engaged relation, means locking the cable supports against separation when the weight of a cable is superimposed thereon and a cable carriage adapted to travel upon the cable and to elevate the cable from the supports to thereby permit unlocking and separation of the cable supports during passage of the carriage.

2. In a cable carrier system, a cable carrier including spaced side members, cable supports comprising opposed separable sections slidably mounted in said side members and shiftable toward and away from one another, means normally holding the cable supports in engaged relation, said sections having interlocking parts inseparable when the weight of a cable is superimposed thereon, and a cable carriage adapted to travel upon the cable and elevate the cable from the supports to thereby permit unlocking and separation of the cable supports during passage of the carriage.

3. In a cable carrier system, a cable carrier including spaced side members, cable supports comprising opposed separable sections slidably mounted in said side members and shiftable toward and away from one another, means normally holding the cable supports in engaged relation, said sections having interlocking parts inseparable when the weight of a cable is superimposed thereon, and a cable carriage adapted to travel upon the cable and elevate the cable from the supports to thereby permit unlocking and separation of the cable supports during passage of the carriage, one of said sections including a roller normally forming a support for the cable.

4. In a cable carrier system, a cable including spaced side members, cable supports slidably mounted in said side members and shiftable toward and away from one an-
other, means normally holding the cable supports in engaged relation, means locking the cable supports against separation when the weight of a cable is superimposed thereon, and a cable carriage adapted to travel upon the cable and to elevate the cable from the supports to thereby permit unlocking and separation of the cable supports during passage of the carriage, said side members including tracks to support the cable carriage during its passage through the cable carrier.

5. In a cable carrier system, a cable carrier including spaced side members provided upon adjacent side faces thereof with tracks, cable supports slidably mounted in said side members and shiftable toward and away from one another, means normally holding the cable supports in engaged relation, means locking the cable supports against separation when the weight of a cable is superimposed thereon, and a cable carriage adapted to travel upon the cable and supported by said tracks during its passage through the carrier, said cable carriage including guide rollers elevating and supporting the cable during the passage of the carriage through the carrier to thereby permit unlocking and separation of the cable supports during passage of the carriage, the ends of said cable being wedge-shaped and adapted to enter between the cable supports to separate the same.

6. In a cable carrier system, a cable carrier, a cable support shiftably mounted upon the carrier, locking means normally holding the cable support in one position and un releasable when the weight of a cable is superimposed thereon, and a cable carriage adapted to travel upon the cable and elevate the cable from the support during its passage of the carrier to thereby permit unlocking and shifting of the cable support upon the carrier to permit passage of the carriage.

7. In a cable carrier system, a cable carrier, a cable support shiftably mounted upon the carrier, locking means normally holding the cable support in one position and unreleasable when the weight of a cable is superimposed thereon, a cable carriage adapted to travel upon the cable and elevate the cable from the support during its passage of the carrier to thereby permit unlocking and shifting of the cable support upon the carrier to permit passage of the carriage, and means upon the carrier supporting the carriage during the period of passage of the carriage by the carrier.

In testimony whereof we hereunto affix our signatures.

RAY K. CHAPMAN.
ERNEST G. MESSER.