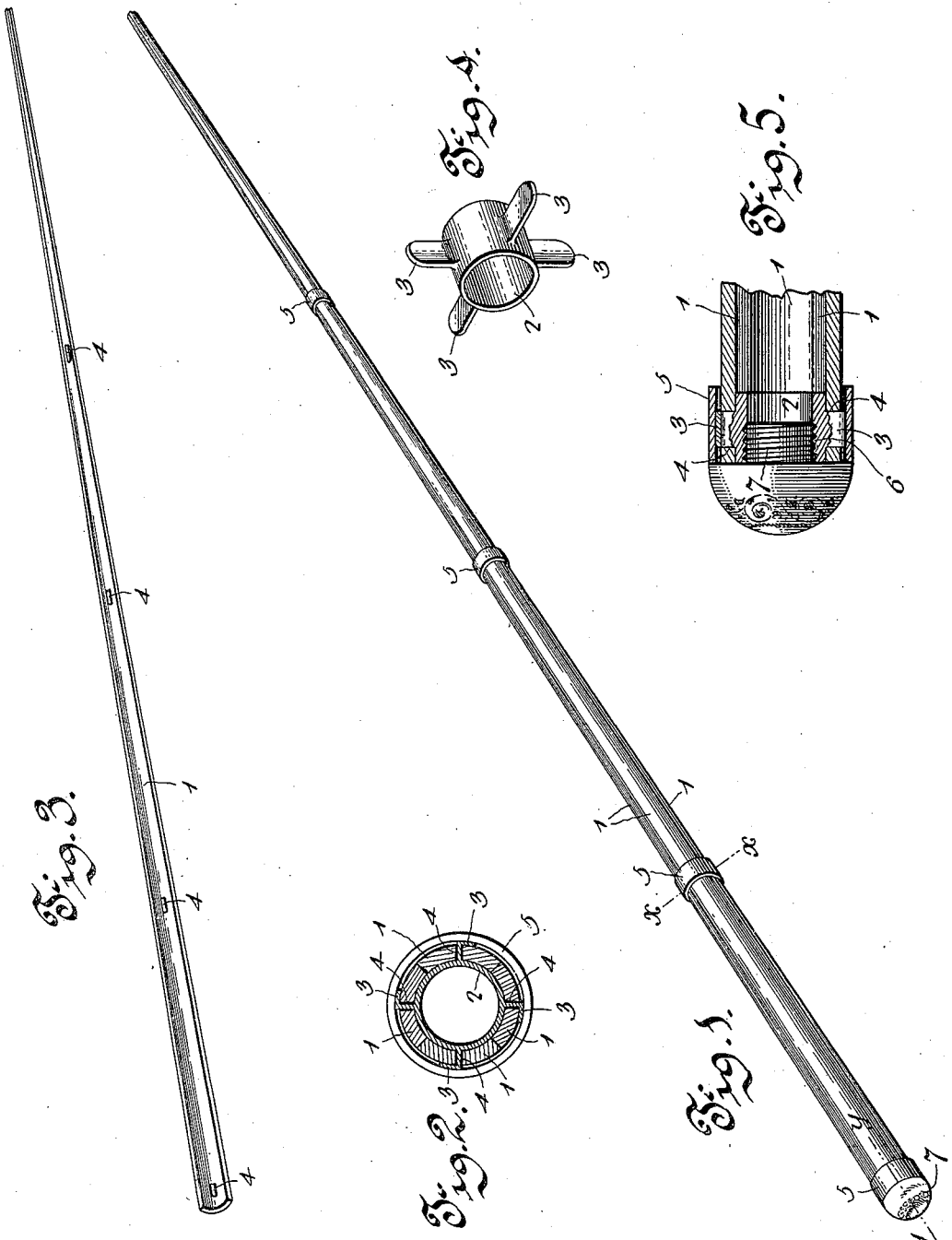
No. 648,107. Patented Apr. 24, 1900.

J. S. HICKMAN.

WHIP.

(Application filed Aug. 14, 1899.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses
J. Frank Culverwell.
Chas. S. Hoyer.

James S. Hickman, Inventor.
By his Attorneys,
C. A. Snow & Co.

No. 648,107. Patented Apr. 24, 1900.

J. S. HICKMAN.

WHIP.

(Application filed Aug. 14, 1899.)

(No Model.) 2 Sheets—Sheet 2.

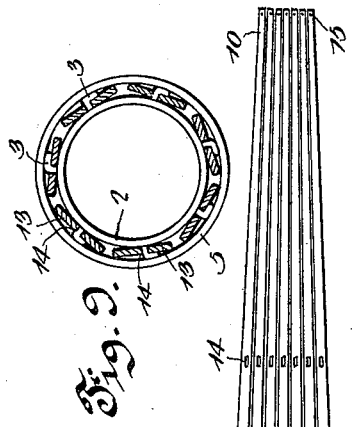


Fig. 5.

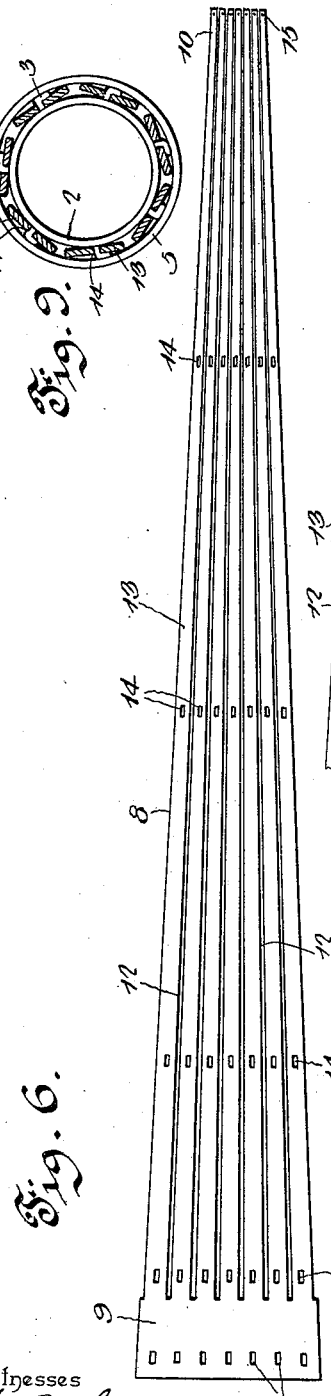


Fig. 6.

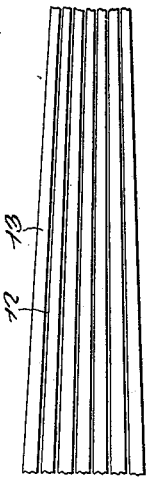


Fig. 10.

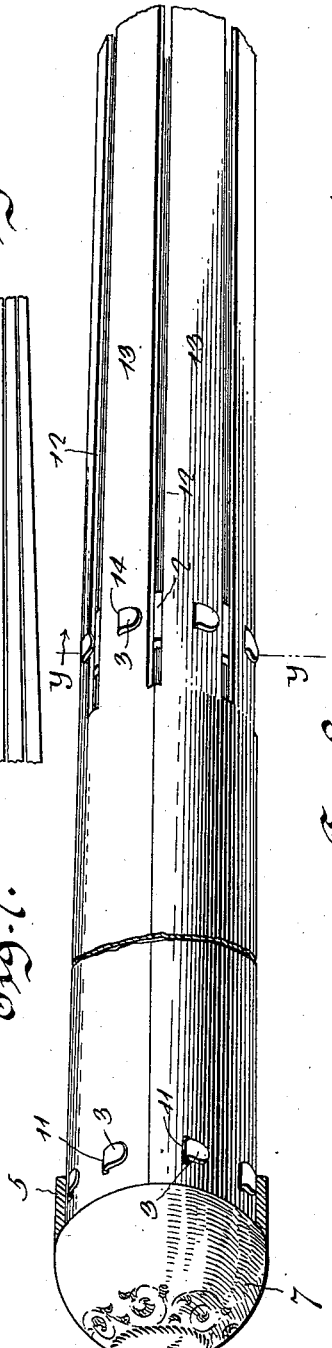


Fig. 7.

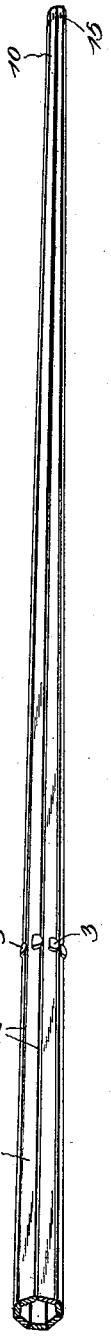


Fig. 8.

Witnesses
J. Frank Culverwell.
Chas. S. Hoyer.

James S. Hickman, Inventor.
By his Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JAMES S. HICKMAN, OF FAIRFIELD, ILLINOIS.

WHIP.

SPECIFICATION forming part of Letters Patent No. 648,107, dated April 24, 1900.

Application filed August 14, 1899. Serial No. 727,212. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. HICKMAN, a citizen of the United States, residing at Fairfield, in the county of Wayne and State of Illinois, have invented a new and useful Whip, of which the following is a specification.

This invention relates to whips, and the intent and purpose of the same is to simplify the general construction of such devices and render them more strong and durable by utilizing a series of intimately-connected elements of suitable material which are reinforced at regular intervals by shape-preserving devices and wherein a sufficient yield also exists to practically adapt the device for use.

Other objects and advantages will be disclosed in the subjoined description and the novelty pointed out in the claims, preferred embodiments of the improvement being illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a whip constructed in accordance with the invention and in the condition it will appear before the application of the external winding or cover. Fig. 2 is an enlarged transverse vertical section on the line *x x* of Fig. 1. Fig. 3 is a detail perspective view of one of the sections of which the whip is composed. Fig. 4 is a detail perspective view of one of the securing-thimbles. Fig. 5 is a longitudinal sectional view on the line *y y* of Fig. 1. Fig. 6 is a plan view of a blank from which a different form of the device is made. Fig. 7 is a perspective view of a part of the improved device formed from the blank shown by Fig. 6. Fig. 8 is a similar view showing a reduced end portion for said part shown by Fig. 7. Fig. 9 is a transverse vertical section on the line *y y* of Fig. 7. Fig. 10 is a detail plan view of a portion of the blank shown by Fig. 6, illustrating a change in the construction.

The invention is susceptible of a wide range of modification completely within the purview of the same, and such changes as are necessary in the form, proportions, size, and the minor details will be made to vary the device for different uses, and it is also desired that any kind of material adapted for the purpose be used in the structure of the several parts. Various modes of building up or assembling the parts of the whip can be adopted, and it is intended that there be no limitation to any one exact method of procedure.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1, Figs. 1, 2, 3, and 5, designates a series of sections, which may be increased or decreased in accordance with the choice of the manufacturer or the demands of the particular form or size of whip constructed. These sections are concavo-convex and in the form of whip shown have their longitudinal edges tapered gradually from the butt to the tip end of the whip. To support these sections 1, a series of thimbles 2 are employed and arranged at regular predetermined intervals within the series of sections and have radiating spurs or locking projections 3, which are extended through openings or slots 4 in the sections and exteriorly upset, being made, primarily, long enough for this purpose. Over the upset ends of the spurs or locking projections 3 of the several thimbles sleeves 5 are adapted to be fitted to conceal the said upset portions of the spurs or projections and also prevent them from working loose, and thereby serving as a protective means. The sleeves 5 also strengthen the several united sections and, if desired, may be made thick enough to project beyond the covering or wrapping of the whip-frame, which might be disposed regularly on the said sections in the intervals between the several sleeves.

The thimble 2, located within the butt portions of the sections 1, is interiorly screw-threaded, as at 6, to receive a filling-plug 7, which is also exteriorly screw-threaded and closes the whip-frame to prevent entrance thereinto and accumulation of dirt or other material, and in the construction of this plug it will be given a finish or ornamental appearance to add to the general advantages of the whip.

As before indicated, the several sections may be made of any suitable material; but as lightness, durability, and a certain amount of resiliency are necessary characteristics of a whip it is preferred that aluminium be used for the said sections and at times also in the formation of the thimbles and sleeves, as well as the plug. It will be understood, however,

that composite metals or materials or other materials alone can be equally well used.

In assembling the parts of the whip the preferred method is to employ a mandrel (not shown) having relative proportions and on which are arranged at regular intervals the thimbles 2. The several sections 1 are then applied to the said thimbles in such manner that the spurs or locking projections 3 of the latter will be exteriorly exposed through the slots or openings 4, so that they may be upset closely against the outer surfaces of the said sections and the latter be thereby drawn closely against the several thimbles. In applying the sections 1 the opposite longitudinal edges are caused to coincide and snugly join, and after all the sections have been connected to the thimble the sleeves 5, which will have differing sizes, will be slipped over the said sections from their reduced end toward the butt of the whip-frame and be tightly held by frictional contact. After this assemblage has been completed the plug 7 is inserted in the butt-thimble, it being understood, of course, that the mandrel is first withdrawn. The whip-frame is now in condition for application thereto of an exterior covering—such, for instance, as a thread-winding—which may extend over the entire surface of the whip, and at times the intervals between the sleeves 5 might be provided with a suitable filling of other material before the thread-winding or covering is applied. By using such filling a flush surface will ensue and a uniformity in the external appearance of the completed whip would result after the application of the covering. The covering may also be of other characters and, as before indicated, the sleeves may serve the purpose of interval ornamentations and have the covering confined between them. The manner of wrapping and the mode of applying the filling are not shown, because both are well known in the art to which this invention pertains and therefore are obvious expedients. The sleeves might be made at times of fine metal, such as gold or silver, and at other times be formed of baser metal and embellished with pleasing designs or plated when it is desired to externally expose them. The lash or cracker of the whip may be applied in any suitable manner and be of any desired length, and the frame, as described, might serve solely the purpose of a whiphandle or a part of a long flexible whip.

Figs. 6, 7, 8, and 9 embody a slightly-different form of the device, wherein are included the salient features of the invention. A piece of suitable metal is cut to form the blank 8 (shown by Fig. 6) and converges from a widened end 9 to an opposite reduced extremity 10. The widened end 9 is virtually continuous or unbroken, with the exception of slots 11, adjacent the terminal edge thereof and surrounding the thimble at the butt-end similar to the device heretofore described. From the said widened end 9 the blank is longitudinally slotted, as at 12, to provide a series of separated elements 13, which are also wider adjacent the end 9 than at the extremity 10. Each of the separated elements has slots 14 cut therethrough at predetermined intervals, and all of the slots are in alinement transversely of the blank. The said slots 14 are similar to the slots 11, and in this instance also the thimbles 2, having the spurs or locking projections 3, are employed, and thereover is adapted to be fitted a sleeve 5, similar to that heretofore described. In assembling this form of the device a mandrel or other analogous support may be used and have arranged thereon the thimbles 2 at predetermined intervals apart and around which the blank shown by Fig. 6 is regularly bent by any suitable means and the spurs or locking projections 3 caused to register with the slots 11 and 14. It will be observed that the blank will be held in the shape shown by Figs. 7 and 8 by upsetting the exteriorly-projected portions of the spurs or locking projections 3, and after such operation the sleeves 5 may be regularly applied, as well as the plug 7, similar to that heretofore described, which is applied, preferably, as shown in Fig. 5 and after the mandrel or other device is withdrawn. The thread-winding or fabric or any other covering may be applied to the form of device just described in a manner similar to the application of such covering to ordinary whips, and when thread-windings are used they may be firmly connected by having the individual strands passed through a series of openings 15, formed in the reduced ends of the elements 13. When the blank 8 is applied to the thimble in the manner specified, the several elements 13 stand apart, and by such arrangement considerable resiliency or flexibility is given to the whip and which is a necessary characteristic. This yielding feature, however, will not be so slack as to cause the whip to become misshapen, and the thimble will supply reinforcements at regular intervals to avoid this disadvantageous feature now commonly found in ordinary whips. By making up the whip or stock from a blank constructed as set forth a great deal of time and labor is saved in the manufacture of the same, as well as inconvenience and annoyance.

In Fig. 10 the blank is shown without the slots, and when applied around the thimbles the spurs or projections of the latter extend through the spaces between the elements and are upset. This may be a desirable arrangement and will produce at times a stronger construction. It is also intended that the sleeves be dispensed with and the covering or winding be applied directly over the upset ends of the spurs or projections of the thimbles. These sleeves are not absolutely necessary in the practical production of the improved form of whip, and when used serve simply as an auxiliary reinforcement, adapted to be employed also at times as ornamental devices.

Both forms of the device embody the same

important features and which are principally a series of separated or individual elements connected to thimbles inclosed thereby and providing means for retaining the shape.

Changes in the form, size, and proportions, as well as the minor details of construction, can be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new is—

1. A whip composed of a series of longitudinally-extending elements and thimbles arranged at regular intervals around which said elements are placed and secured.

2. A whip having a series of longitudinally-separated elements, and thimbles inclosed thereby and secured thereto.

3. A whip having a series of longitudinally-separated elements gradually converged toward one end and thimbles of varying diameter inclosed by and secured by said elements.

4. A whip comprising a series of separate longitudinally-extending elements having slots therein at regular intervals, and a series of thimbles adapted to be inclosed by the said elements and provided with projections which pass through the slots and upset exteriorly.

5. A whip comprising a series of elements continuous from end to end and gradually tapered, a series of thimbles inclosed by said elements having projections to lock the latter, and sleeves fitted over the united elements exteriorly of the location of the thimbles.

6. A whip comprising a blank having a series of longitudinally-separated elements converged toward one end, and a series of thimbles having locking projections around which said blank is fastened.

7. A whip having a series of longitudinally-extending elements with slots therein at regular intervals, said slots being at equal distances apart in the several elements and adapted to be arranged in circular alinement, and a series of thimbles inclosed by the said elements and having locking projections to extend through the slots and be exteriorly upset.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES S. HICKMAN.

Witnesses:
J. ROSS COLHOUN,
THEODORE DALTON.