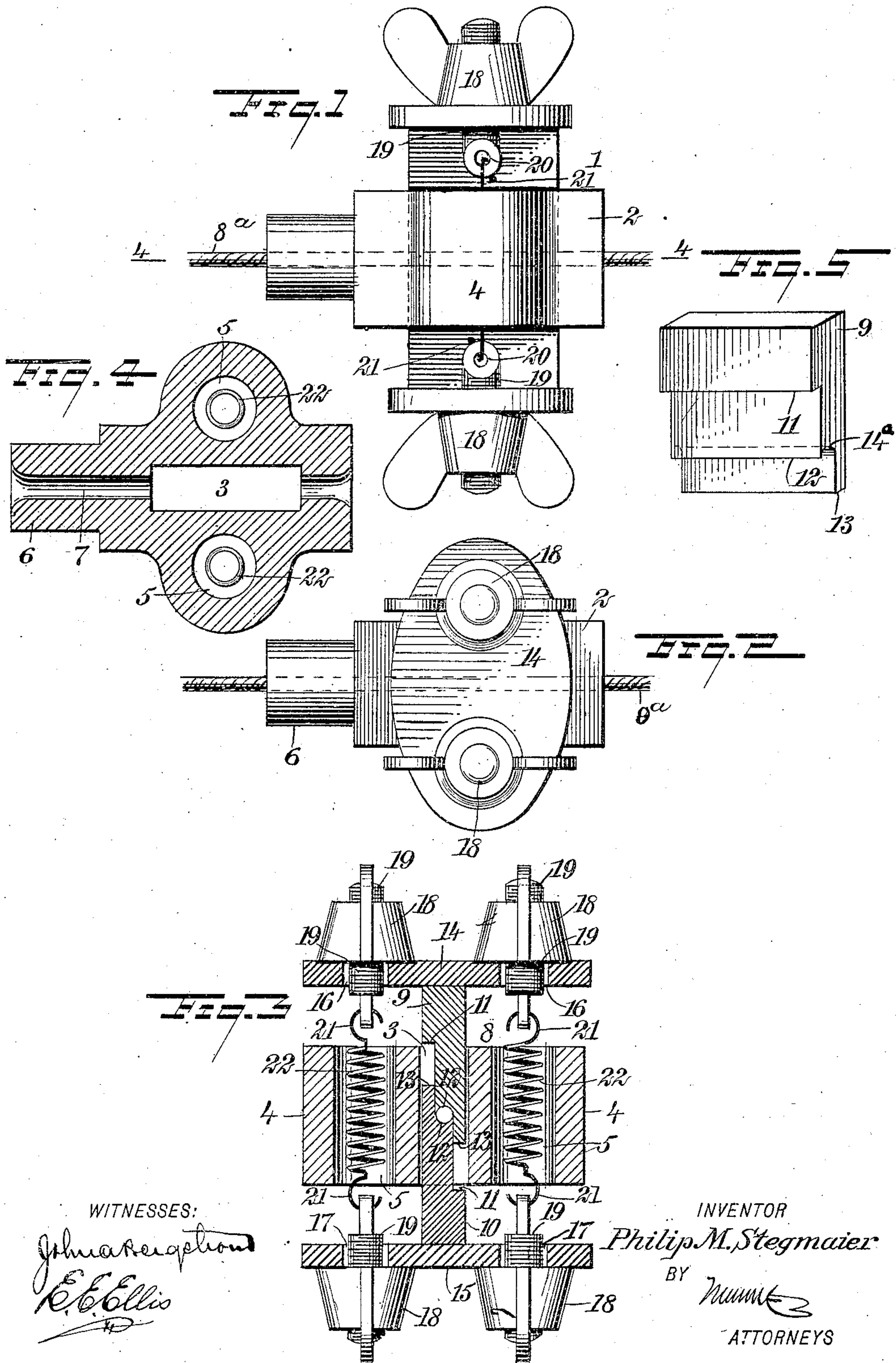


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PATENTED FEB. 19, 1907.

P. M. STEGMAIER.
APPLIANCE FOR CORD AND ROPE MACHINES.

APPLICATION FILED OCT. 30, 1905.



UNITED STATES PATENT OFFICE.

PHILIP M. STEGMAIER, OF PLYMOUTH, MASSACHUSETTS.

APPLIANCE FOR CORD AND ROPE MACHINES.

No. 844,971.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed October 30, 1905. Serial No. 285,213.

To all whom it may concern:

Be it known that I, PHILIP M. STEGMAIER, a citizen of the United States, and a resident of Plymouth, in the county of Plymouth and State of Massachusetts, have invented a new and Improved Appliance for Cord and Rope Machines, of which the following is a full, clear, and exact description.

This invention relates to appliances for cord and rope machines; and it consists substantially in the details of construction and combinations of parts hereinafter more particularly described, and pointed out in the claims.

The invention has reference more especially to appliances of the kind employed in cord and rope machines for the purpose of smoothing and rendering uniform and compact the lay or twists of the strands of cord or rope as the latter leaves the forming devices therefor.

One of the principal objects of the invention is to provide an appliance of the character referred to of an embodiment to overcome numerous disadvantages and objections encountered in the use of many others of the kind hitherto devised.

A further object is to provide an appliance of this kind which is simple in construction and comparatively inexpensive to manufacture or install, besides being thoroughly effective and reliable in operation and possessing the capacity for long and repeated service.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my improved appliance. Fig. 2 is a plan view. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a horizontal longitudinal sectional view substantially in the plane of the line 4 4 in Fig. 1, and Fig. 5 is a view in perspective of one of the sections of the die employed for finishing the lay of the strands of the cord or rope operated upon.

Before proceeding with a more detailed description it may be stated that in the form of my improvements herein shown I employ a case or frame of special construction, working within which is a die of special construction comprising sections, and through which the cord or rope operated upon is drawn or caused to pass in the operation of the machine with which my improved appliance may be employed. Coöperatively associated

with the case or frame and the die is a pressure device for the die of special construction and organization and which is adjustable, by which to enable the sections of the die to be moved or carried nearer together either for the purpose of varying the size of the opening in the die in accordance with cords of different sizes operated upon or else to compensate for wear of the operative surfaces of the die when operating upon cords or ropes of the same size. The said pressure device is also yieldable in character, in consequence of which the sections of the die are permitted to move outwardly upon each other in conformity with enlargements or variations of the size of the cord or rope operated upon, and it may be stated that the principal elements of my improved appliance are practically automatic in operation.

While I have herein represented my improvements in a certain preferred embodiment, it will be understood that I am not limited thereto in precise detail, since immaterial changes therein may be made coming within the scope of my invention.

The appliance is adapted for all the purposes of what are known as "fore-turn tubes" and "after-turn tubes" and may be disposed in either horizontal or vertical position, according to the particular character of the forming or laying devices of the cord or rope machine on which the same may be applied.

Reference being had to the drawings by the designating characters thereon, 1 represents my improved appliance in entirety, the same comprising a case or frame 2, formed all the way through the same between two of its sides with an opening 3, the walls of which are rectangular, as shown, and said case or frame being provided with lateral extensions 4, through which are formed openings 5, the walls of which are circular, as shown, and extend in the same direction as the walls of the said opening 3. The case or frame may be of any desired dimensions, preferably having an extension 6 at one end thereof and formed all the way through the same with a longitudinal opening 7, the inner terminations of which are in communication with the said opening 3, as shown in Fig. 4.

Working within the opening 3 of the case or frame 2 is the die 8, which I employ for finishing the cord or rope 8^a operated upon, said die being rectangular in form and com-

prising two sections 9 and 10, the adjacent or opposite faces of which are formed with reversely-disposed ledges or rabbets 11, 12, and 13, respectively, the ledges or rabbets 12 being directly opposite to each other and each having therein for its length a semi-circular groove 14^a, (see Fig. 5,) so that in the operative relation of the said sections of the die a circular hole or opening is formed through the die for the passage of the cord or rope being operated upon. It will be observed that the distance between the ledges or rabbets 11 and 12 of each section of the die is considerably greater than the distance between the ledges 12 and 13 of the section, so that when the sections are properly associated together in operation a suitable range is provided for the adjustment of the sections with reference to each other from time to time for the purpose of compensating for the wear of the ledges 12 by constant frictional contact with the cord or rope as it is drawn through the die.

The body or outer portions of the sections of the die extend beyond the case or frame 2, in which the die is located, as shown in Fig. 3, and associated with the outer faces of said portions are plates 14 and 15, having corresponding openings 16 and 17 therethrough, which coincide with the hereinbefore-mentioned openings 5 in the lateral extensions 4 of the case or frame, the said plates 14 and 15 each having applied to the outer face thereof a set of thumb or butterfly nuts 18, carried by screws 19, extending through the said openings 16 and 17 through the plates and having eyes 20 at the inner ends thereof, in which are received the hooked terminals 21 of spiral springs 22, said springs thereby connecting together corresponding ones of the said screws. In this way a pressure device is provided for the sections of the die, the same being yieldable, as is apparent, to permit the sections to move outwardly with respect to each other in conformity with enlargements in the cord or rope operated upon, and it is also apparent that by proper turning of the nuts 18 on the said screws 19 the desired adjustments of the sections may be effected for the purpose of varying the size of the hole or opening produced by the curved formation of the ledges or rabbets 12 of the sections, accordingly as it may be desired to finish cords or ropes of different diameters or sizes and also for the purpose of compensating for any wear of the surfaces of said ledges 12.

It will be seen that inasmuch as the die and pressure device therefor are independent of the case the alinement between the die and case is maintained automatically, and irrespective of the particular adjustments of the nuts 18 the pressure upon each section of the die is always the same.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed ledges, a ledge of each section being grooved to form a hole for passage of the object operated upon, and a pressure device for the die.

2. An appliance of the character specified, comprising a die constructed of reversely-disposed duplicate sections, the adjacent surfaces of which are provided with oppositely-disposed ledges, one of the ledges of each section being grooved to form a hole for passage of the object operated upon when the said ledges are in coöperation, and a pressure device for the die.

3. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed triplicate ledges, the co-operating surfaces of the intermediate ledges being grooved to form a hole for passage of the object operated upon, and a pressure device for the die.

4. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed triplicate ledges, the co-operating surfaces of the intermediate ledges being grooved to form a hole for passage of the object operated upon, and a pressure device for the die, the distance between the outermost ledge and grooved ledge of each section being greater than the distance between said grooved ledge and the innermost ledge of the section.

5. An appliance of the character specified, comprising a case having a rectangular opening therethrough, and provided with lateral extensions having circular openings therethrough, a die constructed of sections working in said rectangular opening, and a pressure device for the die, embodying plates having openings therethrough, corresponding to said circular openings, nuts applied to the plates, screws working therein and extending through the openings in the plates, the said screws having eyes at their inner ends, and spiral springs extending through said circular openings of the case, and having hook terminals for engaging said eyes and connecting the inner ends of the screws, said case having longitudinal openings therein communicating with the rectangular opening, for passage of the object operated upon.

6. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed ledges, one of the ledges of a section having a grooved surface coöperating with a similar grooved surface on a ledge of the other section to form a hole for passage of the object operated upon, a pres-

sure device for the die, embodying plates applied to said sections, screws and nuts carried by the plates, and springs connecting the opposite screws.

- 5 7. An appliance of the character specified, comprising a case having a rectangular opening therethrough, and provided with integral lateral extensions having circular openings therethrough, at opposite sides of the rectangular opening, the case being further provided with longitudinal openings communicating with the rectangular opening, a die constructed of sections working in said rectangular opening, each section of the die having a portion extending beyond the case, and
10 a pressure device for the die consisting of plates resting on the outer faces of the pro-

jecting portions of the sections of the die, and provided with openings corresponding to the circular openings in the lateral extensions of the case, screws extending through
20 the openings in the plates, nuts carried by said screws and engaging the outer faces of the plates, and springs extending through the circular openings of the case and connecting the inner ends of opposite screws.
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In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PHILIP M. STEGMAIER.

Witnesses:

E. W. BRADFORD, Jr.,
D. H. CRAIG.