

Oct. 5, 1926.

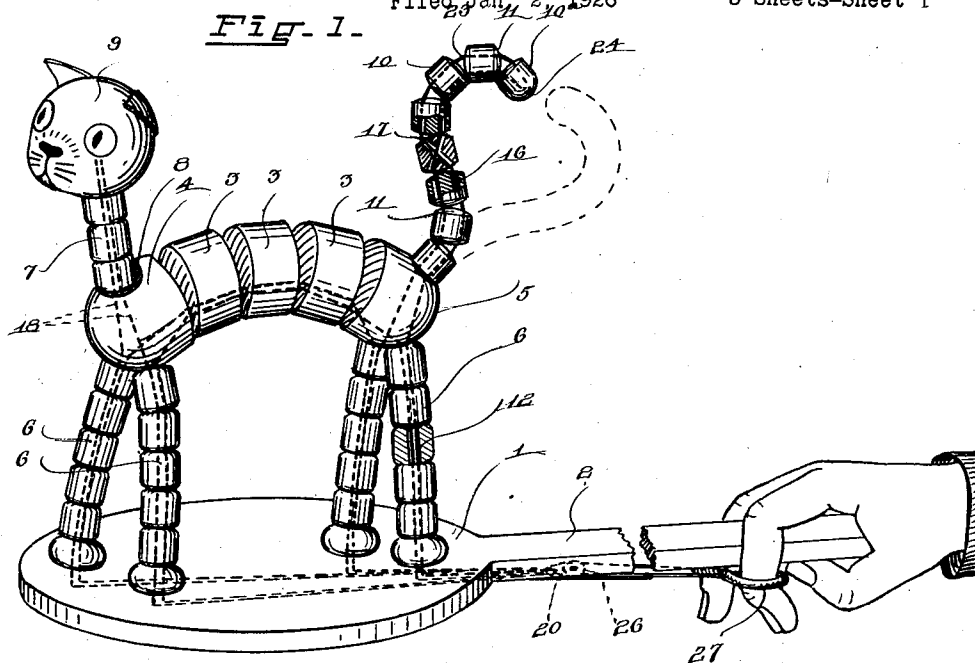
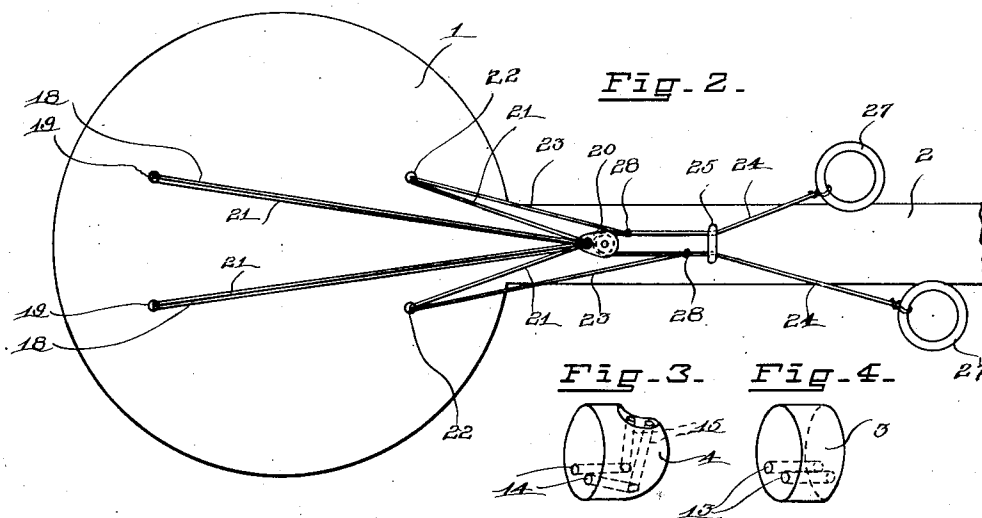
1,601,983

E. S. SAVAGE

TOY

Filed Jan. 2, 1926

3 Sheets-Sheet 1



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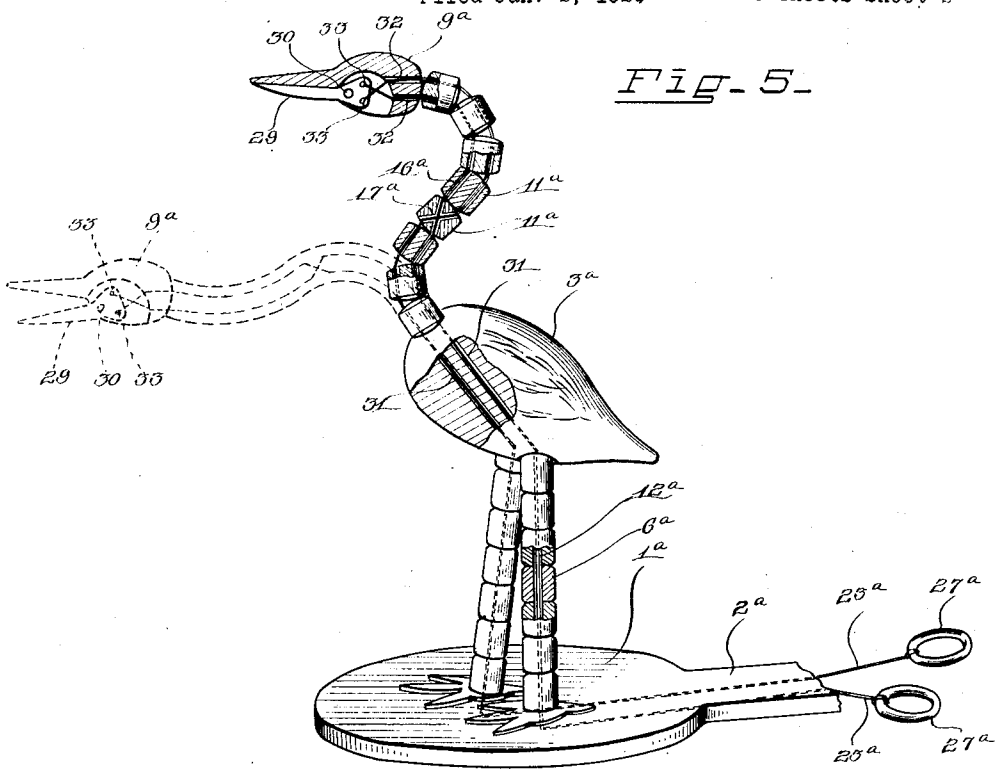
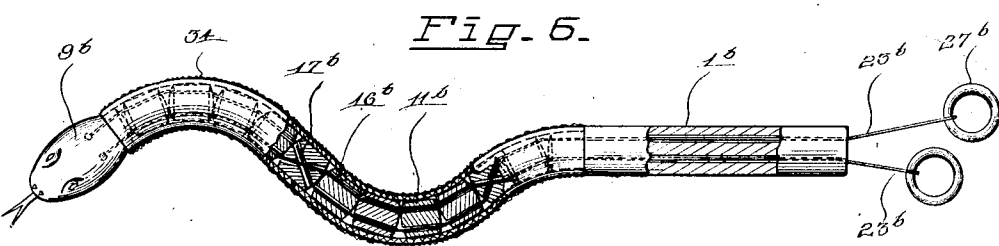
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3 Sheets-Sheet 2



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Patented Oct. 5, 1926.

1,601,983

UNITED STATES PATENT OFFICE.

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TOY.

Application filed January 2, 1926. Serial No. 78,740.

The present invention relates to toys and an object thereof is to provide a toy having one or more collapsible parts embodied therein comprising a plurality of sections 5 connected by flexible means which may be loosened to provide for the collapse of the part or tightened to provide for the stiffening or erection of the part. A further object of the invention is to provide a toy 10 having a part formed of a plurality of sections connected by at least two flexible connections so mounted and arranged that tension on the connections will impart to the sectional part a movement or action.

15 To these and other ends, the invention consists of certain parts or combinations of parts, all of which will be hereinafter described: the novel features being pointed out in the appended claims.

20 In the drawings:

Fig. 1 is a perspective view of one embodiment of the invention with parts in section;

25 Fig. 2 is a bottom view of the embodiment illustrated in Fig. 1;

Figs. 3 and 4 are perspective views of two of the sections employed in the embodiment illustrated in Fig. 1;

30 Fig. 5 is a perspective view of another embodiment of the invention, with parts in section;

Fig. 6 is a plan view of still another embodiment, with parts in section; and

35 Fig. 7 is a perspective view of another embodiment of the invention simulating a dinosaur.

Referring first to the embodiment shown in Figs. 1 to 4, inclusive, 1 indicates a base member or support having a handle 2 extending laterally therefrom. This base 40 member or support sustains a figure toy simulating, in this instance, a cat. The body of the cat as illustrated comprises five sections, three intermediate sections 3 and 45 two end sections 4 and 5. The body is supported by four legs each of which is formed of a plurality of abutting sections 6, the front legs abutting the front body section 4 and the rear legs abutting the rear body 50 section 5, and all of said legs or supports abutting the base member 1. A neck forming part for the toy comprises a plurality of sections 7, the lower one of which seats in a pocket 8 in the forward body section 4 and the upper one of which abuts a head 9. The abutting surfaces on the sections forming the legs and the sections forming the neck are flat while the abutting surfaces on the body sections 3, 4 and 5 are convexed or curved. Connected with the rear section 5 60 of the body section is a tail forming part comprising a plurality of sections 10, the abutting surfaces 11 of which are convex or curved. Each of the sections 6 forming the legs and sections 7 forming the neck are 65 formed with a central opening or passageway indicated at 12. Each of the central body sections 3 have two parallel openings 13, which are arranged to one side of the center of the section. The two end sections 70 4 and 5 are duplicates of each other, each having two openings 14 near the lower side thereof and substantially horizontally arranged and two substantially upright openings 15. The horizontal openings are to 75 one side of the horizontal axis of the body and each communicates at one end with the underside of the body and the lower end of one of the upright openings 15. Most of the tail sections 11 each have two parallel 80 openings 16 arranged on opposite sides of the center of the section. One or more of the sections 11, in this instance only one, and that an intermediate one, is provided with two openings 17 which are arranged at 85 angles to each other preferably intersecting each other so that the end of one opening lies on one side of the axis of the section and the other end lies on the opposite side of the axis of the section. 90

The sections forming the front legs, the neck and head, as well as the front body section 4, are, in this instance, connected by two flexible connections or cords 18 secured to the head section 9 passing downwardly in parallel relation through the central openings of the neck sections 7, then separating and passing through the two vertical openings 15 of the end section 4, 100 issuing from the lower ends of these vertical openings 15 and each passing through the central openings 12 of one of the forward legs, finally issuing through openings 19 in the base member 1 and connected with a common controlling device 20. This common 105 controlling device also has connected thereto two flexible connections 21 which branch therefrom and through two openings 22 in the base member 1 upwardly through the central openings of the rear leg sections 110 6, thence through the substantially horizontally arranged opening 14 of the rear body

section 5, through the parallel horizontal openings 13 of the body sections 3, through the substantially horizontal openings 13 of the front body section 4 downwardly through the central openings of the front leg sections 6, out through the openings 19 in the base plate 1 and back to the common controlling member 20. It is apparent that, as the controlling member 20 is shifted so as to untension the flexible connections, then the leg forming sections, the body forming sections and the neck forming sections will collapse and the figure as a whole will drop upon the base member 1 in a collapsed condition. However, if this common controlling member 20 is moved to place the flexible connections under tension the body as a whole will rise from the base forming member 1 and assume the position shown in Fig. 1. The flexible connections passing through central openings in the leg forming sections and the neck forming sections will cause these two sections to assume a straight or erect condition, but as these flexible connections pass through the body forming sections to one side of the center and as the abutting surfaces on these sections are curved, the body will assume an arched condition as shown in Fig. 1.

The tail forming part operates in a different manner and its sections are connected by two flexible connections 23 both of which are anchored at 24 to the free end section 10^a. These connections pass through the parallel openings 16 of the sections and through the angular openings 17 of the intermediate section. From the inner tail section the connections 23 pass downwardly through the upright openings 15 of the rear body section 5, thence one through each set of sections forming the rear legs outwardly through the openings 22 to connect with a flexible operating member 24 which is bent between its ends to pass through a guide 25 on the underside of the handle 2 and about a pulley 26 on the operating member 20, the two ends of the flexible operating member being provided with finger rings 27 and the flexible connections 23 connecting with the flexible operating member at 28 on opposite sides of the pulley 26.

It is apparent that the tensioning of the flexible operating member 24 will not only pull upon the common controlling member 20 to tension the flexible connections controlling the body, legs and neck, but it will also pull upon the flexible connections 23, controlling the tail forming member. As the flexible connection 24 passes about the pulley 26, it is possible to loosen up on one ring 27 with a finger while pulling on the other ring, and, in this way, relieve tension on one of the flexible connections 23 while applying tension to the other. Due to the fact that the tail forming sections have rock-

ing engagement with each other and the flexible connections 23 cooperate in an intermediate section of the tail forming part, this shortening of one cord in the tail forming part and lengthening of the other tends to impart movement to the sections forming the tail forming part, and, by see-sawing back and forth on the flexible connection 24, it is possible to impart a life-like movement to the tail forming part of the animal thus giving an amusing effect.

In the embodiment of the invention illustrated in Fig. 5, there is employed a support or base member 1^a having a handle 2^a and a body 3^a formed in one piece instead of sections, as in Fig. 1. This body is supported by two legs forming elements comprising sections 6^a each formed with a central opening 12^a, the lower section of each leg forming element resting upon the base 1^a and the upper section being seated in pockets on the underside of the body 3^a. Arranged at the front of the body 3^a is a neck forming element comprising sections 11^a, most of which have two parallel openings 16^a arranged on opposite sides of the axis of the section while one of these sections 11^a has two angularly arranged openings 17^a. The inner section of the neck fits against the body 3^a while the outer section of the neck has rocking engagement with a head 9^a. This toy simulates a crane and the head section 9^a has a movable section 29 pivoted thereto at 30 to simulate the lower bill of the crane. In this embodiment of the invention, only two flexible connections 23^a are provided having two finger rings 27^a secured to their free ends. From the rings these connections extend under the handle 2^a, up through two openings in the base member 1^a, thence each through the two openings of one of the leg forming elements, into and through two parallel openings 31 in a body section 3^a and through the openings in the neck forming section to and through two openings 32 in the head 9^a, the ends being connected at two points 33 to the jaw forming member 29.

It is apparent that in the embodiment shown in Fig. 5, the connections 23^a not only control the collapse and the erection of the figure, but also the movement of the neck and the lower jaw 29, permitting the jaw and the neck to be moved while the legs are erect through the see-sawing on the two connections 23^a.

In the embodiment of the invention illustrated in Fig. 6, the toy simulates a snake. This toy embodies a hand piece 1^b, a head 9^b, and a body formed of abutting sections 11^b, all of which have parallel openings 16^b except two of the sections which have angularly arranged openings 17^b. These two sections make it possible to obtain reverse curves in the body more easily. Two flex-

ible connections 23^b with finger rings 27^b at their free ends pass through parallel openings in the handle 1^a and through parallel openings in the sections 11^b, being connected or anchored in the head 9^b. A flexible tubular covering 34 may surround the sections 11^b and be connected at its ends to the head 9^b and to the handle 1^b. By see-sawing on the connections 23^b, the body of the toy performs an action similar to a snake in moving.

In the embodiment of the invention illustrated in Fig. 7, 1^c indicates a base plate having a handle 2^c broken away to expose the operating means. The body of the animal comprises three intermediate sections 3^c, a forward end section 4^c and a rear end section 5^c. The abutting surfaces of these body sections are convex. The body is supported by leg forming parts comprising sections 6^c which have their abutting surfaces arranged at angles to the longitudinal axes of the sections, so that the legs spread apart and bow. A tail forming part connects with the rear end section 5^c of the body and is formed with a plurality of sections 7^c, whose abutting faces are at different angles so that the tail forming part is curved in the manner shown. The neck-forming part comprises a plurality of abutting sections 10^c, having convex abutting surfaces 11^c, said neck forming part abutting at one end the body forming part 4^c and having a head forming part 9^c in abutment with the opposite end. The head forming part has a jaw 29^c pivoted thereto at 30^c.

The sections of the body forming part have openings therein like the opening in the sections of the embodiment shown in Fig. 1 and the leg forming parts 6^c have central openings like the openings in the leg forming parts of the embodiment shown in Fig. 1. The sections on the neck forming part of this embodiment have openings like the openings of the sections of the neck forming part illustrated in Fig. 5 and the head is substantially the same except that it is made of sheet metal, as the head of the embodiment shown in Fig. 5. The tail forming part of the embodiment shown in Fig. 7 has all of its sections 7^c formed with parallel openings 16^c on opposite sides of the longitudinal axis of each section. The flexible connections 23^c secured in the end section 10^a, pass through these parallel openings of the tail forming sections, through the substantially upright openings of the rear end sections 5^c of the body forming part, down through the central openings of the leg forming sections 6^c and out through the openings in the base member 1^c connecting with the controlling member 20^c. Also leading from the controlling member 20^c are the flexible connections 21^c which pass

from said controlling devices 20^c up through the central openings of the legs 6^c through the openings of the sections of the body forming part, thence downwardly through the forward leg forming parts out through the bottom of the base member 1^c again to the controlling device 20^c.

The controlling device 20^c has the operating flexible connection 24^c passed about the pulley 26^c on the controlling device and is provided with finger rings 27^c at its ends. At 28^c, the two flexible connections 19^c are secured to the flexible operating connection 24^c and lead therefrom through the base member 1^c, through the forward leg forming sections, through the forward section of the body forming part and through the two openings of the neck forming part, connecting at 33^c with the jaw 29^c of the head on opposite sides of the pivot 30^c.

It is apparent that, with this construction, the body, legs, tail and neck forming parts will entirely collapse when tension is relieved on the flexible operating connection 24^c to permit the controlling member 20^c to relieve the tension on the other flexible connections and that, when the operating connection 24^c is tensioned to cause the controlling member 20^c to place the flexible connections under tension, the toy will be erected. When the toy is erected, the body forming part will be arched, the legs will assume an arched or bowed condition due to the form of the cooperating faces between the sections forming these parts, and, at the same time, the tail due to the form of the cooperating faces will have a curved form. It is now possible to make the neck forming part of the toy move and cause the jaw to open and close by see-sawing back and forth on the flexible operating connection 24^c through the finger pieces or rings 27^c.

What I claim as my invention and desire to secure by Letters Patent is:

1. A toy comprising a base member, a body and collapsible supporting means between the body and the base permitting the body to drop or fall and comprising a plurality of supporting elements each formed of a plurality of abutting sections forming the sole supporting means for the body on the base member, and flexible connections passed through said sections, said connections being guided on the base and provided with projecting portions through which the connections may be tensioned and untensioned.

2. A toy comprising a base member, a body and collapsible supporting means between the body and the base embodying a plurality of supporting elements forming the sole supporting means for the body, each of said supporting elements having a jointed connection with the body and with the base,

and flexible connections passed through the several supporting elements guided on the base and having projecting portions through which the flexible connections may be tensioned and untensioned in order to produce the erection and the collapse of the body.

3. A toy comprising a base, a body, collapsible supporting means between the body and the base embodying a plurality of supporting elements, each having a jointed connection with the body and with the base and forming the sole supporting means of the body so that the body may be raised and lowered with reference to the base, an element supported on the body and embodying a plurality of sections jointedly connected together and to the body, and two flexible connections passed through two of the supporting elements, the body and the sections of the element supported on the body, being connected to the outer one of said sections, said flexible connections being guided on the base and having projecting portions through which the flexible connections may be tensioned and untensioned so that the body may be raised or lowered through the collapse of the supporting elements and the element on the body may be stiffened or collapsed.

4. A toy comprising a base member, a body formed of a plurality of jointed sections, two forward supports for the body having a jointed connection with the body and with the base member, two rear supports for the body having jointed connection with the body and with the base member, and two flexible connections, one passing through one of the forward supports, the body and one of the rear supports and the other passing through the other forward support, the body and the other rear support, said flexible connections being loosely guided on the base and having projecting portions through which the flexible connections may be tensioned and untensioned so that the body may be caused to rise and fall in relation to the base member and may also be collapsed or stiffened.

5. A toy comprising a base member, a sectional body, two supports having jointed connection with the body and with the base and a flexible connection extending through both supports and the body, said connection being loosely guided on the base and having projecting portions through which the flexible connections may be tensioned and untensioned in order that the body may be caused to rise and fall in relation to the base member and the body may be simultaneously collapsed or stiffened.

6. A toy comprising an element formed of a plurality of sections each having a plurality of bores extending therethrough and two flexible connections passing through separate bores of each section, said flexible connections being projected beyond said ele-

ment and suitably guided so as to be tensioned and untensioned whereby the sectional element may be collapsed or stiffened, the two separate bores and two separate flexible connections serving to maintain a desired relationship between the sections when the connections are tensioned.

7. A toy comprising a base member, a body, a pair of front supports jointedly connected to the body and to the base member, a pair of rear supports jointedly connected to the body and to the base member, an element having a jointed connection with the body and supported thereon, two flexible connections, each passing through one forward support, the body and one rear support and loosely guided on the base to be tensioned and untensioned projecting beyond the base, so that the body may be raised and lowered in relation to the base member, and another flexible connection passing through one of the supports and the body and connected with the element supported on the body in order to cause the latter to collapse or stiffen with reference to the body.

8. A figure toy comprising a plurality of abutting sections with convex abutting faces, some of said sections having two bores arranged on opposite sides of the axis of the section and at least one of said sections having two bores arranged at angles to each other, and two flexible connections loosely passing through the two bores in each of said sections and secured to one of the sections so that they may be independently tensioned and untensioned.

9. A figure toy comprising a base member formed with two bores, a plurality of abutting sections having convex abutting faces and each provided with two bores some of which are parallel, and at least one of which has its bores at angles to each other, two flexible connections having exposed operating portions and extending through the two bores of the base member and through the bores of the sections, means for securing the opposite ends of said flexible connections, so that see-sawing action on the two flexible connections tends to provide a relative movement between the sections.

10. A figure toy comprising a base member having a handle extending therefrom, a body, a plurality of supports for the body formed of sections, each having a central bore, an element supported by the body and formed of a plurality of sections with convex abutting faces, some of said sections having each two parallel bores and at least one of the sections having two bores at angles to each other, and two flexible connections each having operating means adjacent the handle for the tensioning and untensioning of said connections, said connections extending through the base member and

through the bores of the two supports, the body and the two bores of the sections of the element supported on the body, said connections being secured to the outer section of the element.

11. A figure toy comprising an element formed of a plurality of abutting sections, each formed with two bores, a member arranged at the end of said element and having a part pivoted thereto, and two flexible connections on which said sections of the element are loosely mounted, said flexible connections being connected to the pivoted part at two points eccentric to the axis of turning of said pivoted part so that a see-sawing action on the flexible connections produce a movement of the pivoted element.

12. A figure toy comprising a base member a body, supports for supporting the body on the base member and formed of a plurality of abutting sections, flexible connections on which said sections are loosely arranged, a common controller to which said connections are secured mounted on the base member, a part on the body formed of a plurality of abutting sections, some of which have two parallel bores and at least one of which has two bores at angles to each other, two flexible connections passed through the two bores of each of said last named sections, and a flexible operating member having a sliding connection at its intermediate part with the common controller and connected to the last two mentioned flexible connections at opposite sides of said intermediate part so that a see-sawing action on the flexible operating member effects the alternate tensioning

and untensioning of the said last two mentioned flexible connections.

13. A toy comprising a base, an element supported on said base and formed of a plurality of sections, two flexible connections controlling the relative movement of said sections through the tensioning and untensioning thereof, and operating means for said flexible connections embodying a flexible operating member, means engaging said flexible operating member intermediate of its ends to permit said flexible operating member to slide thereon, said flexible operating member being connected to the first two mentioned flexible connections on opposite sides of its intermediate portion, so that a see sawing action on the flexible operating member effects the alternate tensioning and untensioning of the two last flexible connections.

14. A toy comprising an element formed of a plurality of abutting sections having curved abutting faces, means at one end of said element for supporting the same and the opposite end being free, some of said sections having two bores approximately parallel to each other and at least one of the intermediate sections having two bores arranged at angles to each other and each crossing the axis of the section, and two flexible connections passing loosely through the bores of said sections, and being connected to the outer section, said flexible connections being extended beyond the inner section so that they will be independently tensioned and untensioned.

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