Sept. 3, 1968 J. K. VEASEY 3,399,670

RESTRAINING DEVICES

Filed Feb. 9, 1966 2 Sheets-Sheet 1

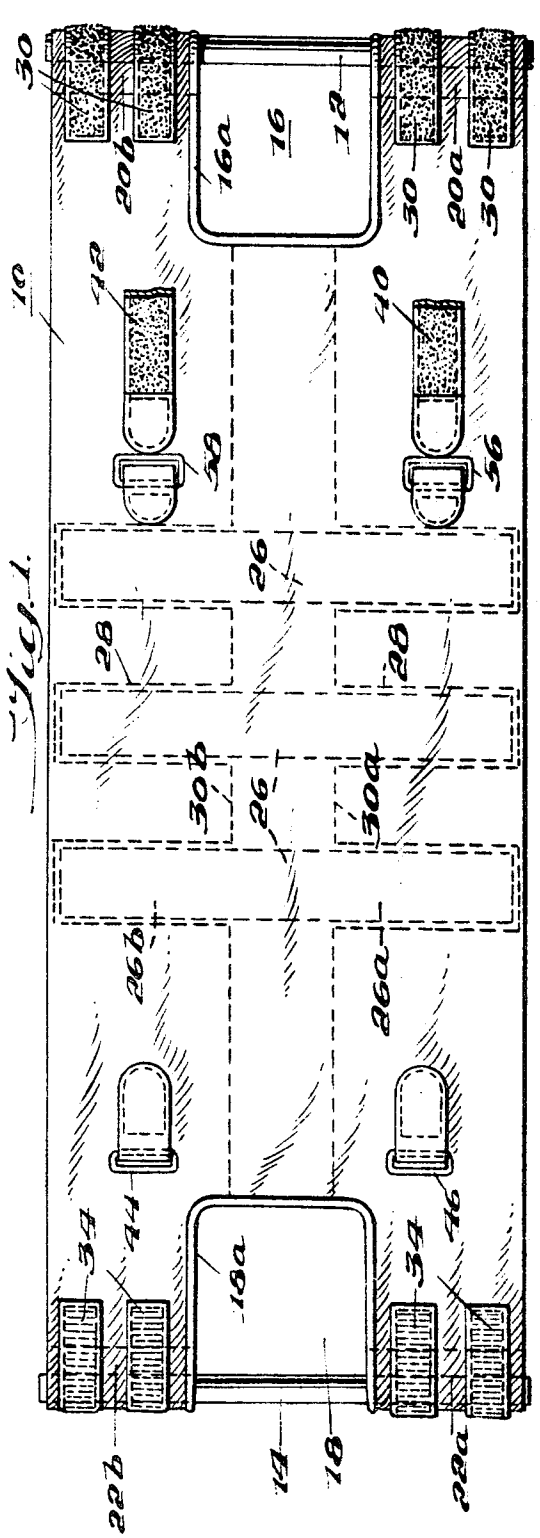


Fig. 1.

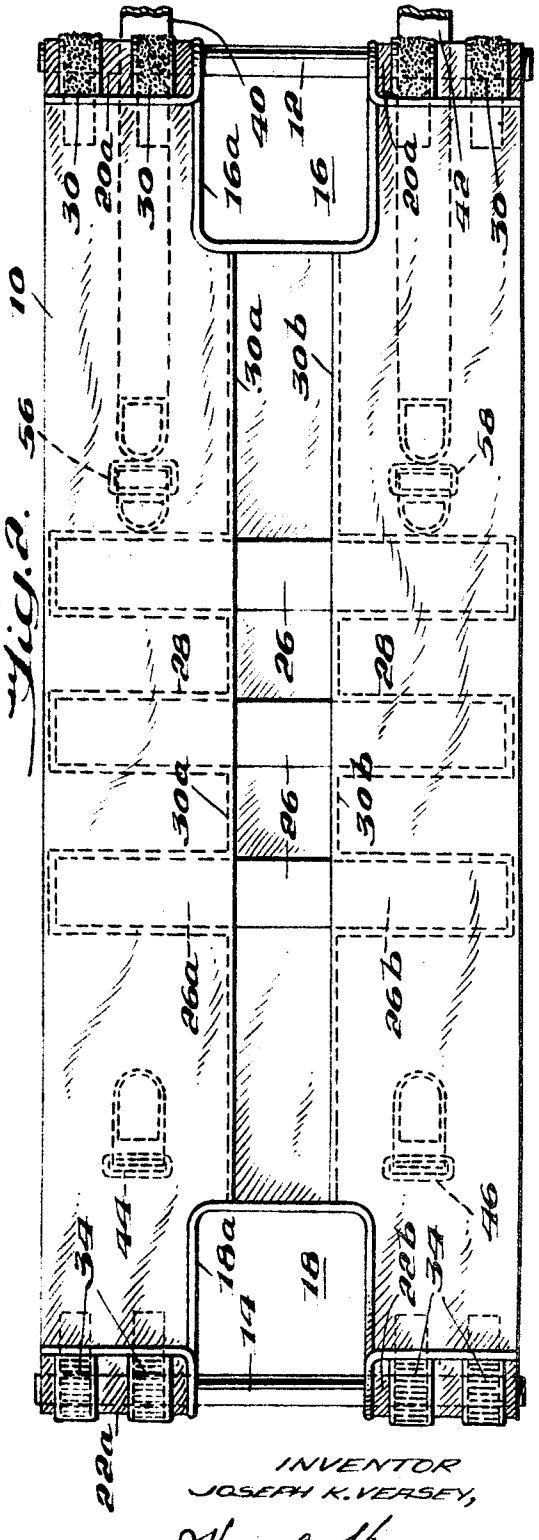


Fig. 2.

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Fig. 4.

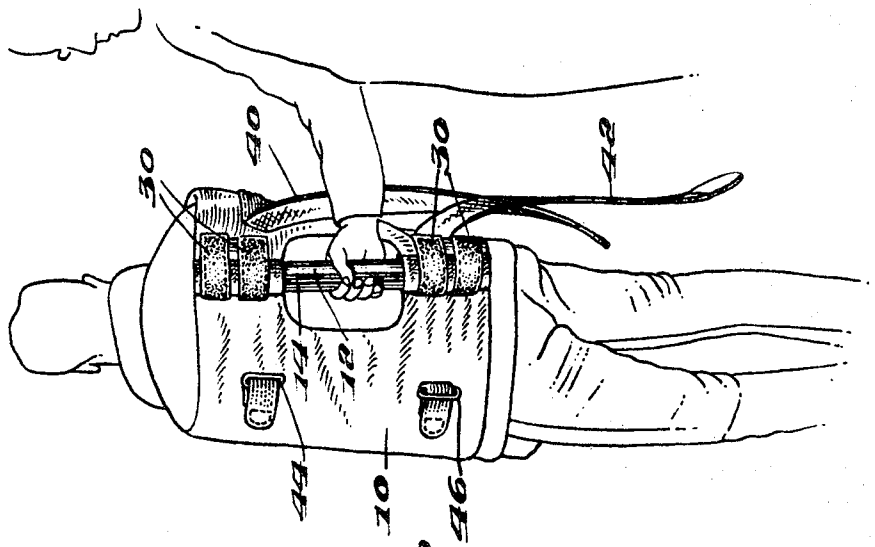


Fig. 3.

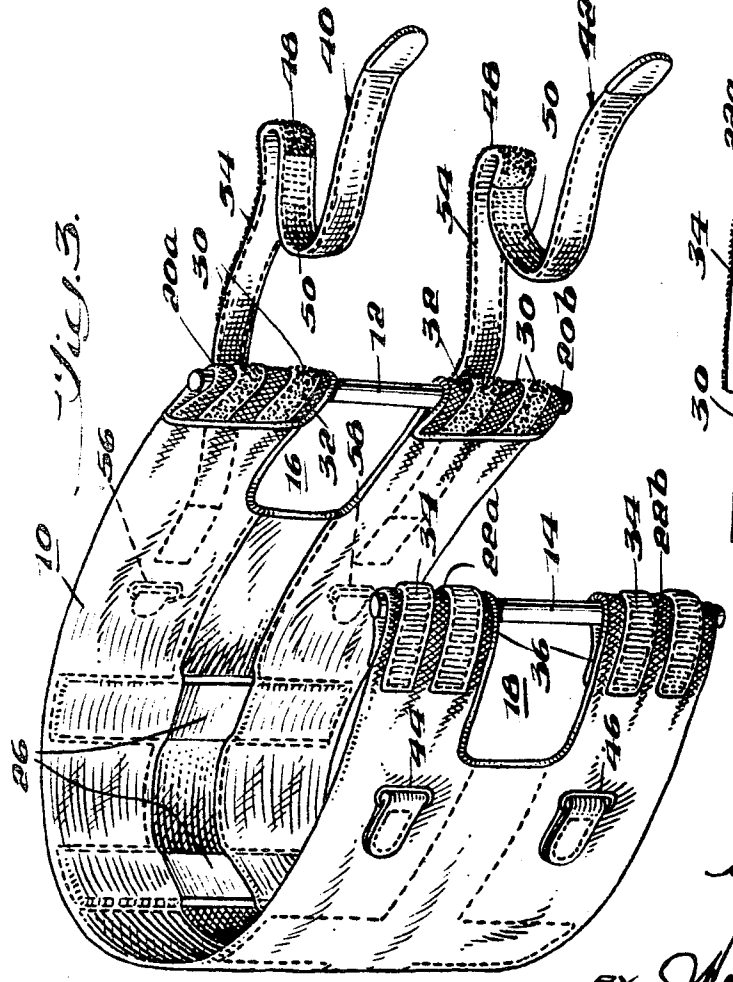


Fig. 5A.

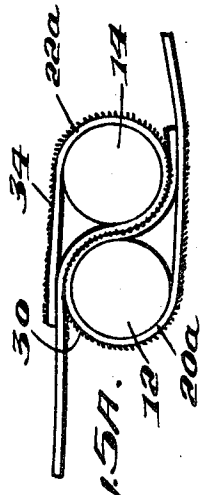
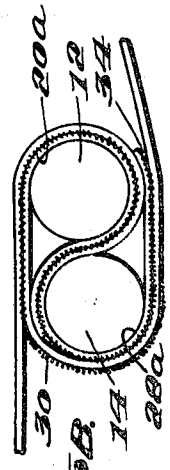


Fig. 5B.



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RESTRAINING DEVICES

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6 Claims. (Cl. 128—134)

This invention relates to improvements in human restraining devices and has for its principal purpose that of making available to law enforcement officials, prison and asylum guards, hospital orderlies, etc. a simple yet effective device for restraining and bringing under control with a minimum of effort a person who may need to be arrested, controlled and/or bodily restrained, either in the interest of the public safety or his or her own good, and with the possibility of said person being harmed as a consequence of being restrained and/or controlled reduced to a minimum.

Recent studies have established that in general police are still using the same basic tools—pistol, handcuffs and night sticks which they have used for many years—not only in apprehending individual criminals or other persons disturbing the peace, but also in combatting mass violence occurring in street demonstrations, in beach riots, in prison uprisings, and the like. It is an important object of this invention to provide police with yet another tool in the form of a body and arm restraining device constructed and arranged so as to be quickly and readily applied to the criminal to be apprehended and/or individually to unruly persons to be controlled by operatives equipped with same and which when so applied effectively immobilizes and renders the subject harmless to a far greater extent than do conventional handcuffs.

A more particular object of the invention is the provision of a wrap-around type of human restraining device for use by police or other officials charged with the duty of maintaining the peace and/or of apprehending a criminal and/or of processing a person from doing bodily harm to himself or others about him, i.e., a violently insane person, which is capable of being readily applied and thereupon quickly tightened about the torso and arms of said person by a simple manipulation of cooperating means provided at the ends of the device and which also assist in the process of wrapping said restraining device on said person.

Yet another object of the invention is the provision of an improved human restraining device adapted to be wrapped about the torso and arms of a criminal or unruly person to be apprehended or controlled and which is effectively self-locking when its ends are brought together.

A still further object of the invention is the provision of a human restraining device of the type adapted to be quickly wrapped and tightened about the torso and arms of a criminal to be apprehended or unruly person to be controlled in manner as to effectively immobilize the upper part of his body, characterized in that the ends of the device are provided with means adapted to self-lock to one another on contact, and/or with additional strap means for effecting a more positive securement of said ends.

Yet another object of the invention is the provision of a restraining device as characterized in the foregoing and which is also adapted in emergency of being used as a partial litter capable of assisting in carrying an injured person to an ambulance, for example.

Still another object of the invention is the provision of a restraining device which makes it relatively easy and safe to handcuff a criminal or unruly person.

The above and other obpects of a human restraining device as herein proposed will appear from the following

detailed description and accompanying illustrative drawings, wherein—

FIG. 1 is a broken-away elevation of the device of the invention as viewed from its outer side or face;

FIG. 2 is a similar view of the device as seen from its inner side or face;

FIG. 3 is a perspective view of a human restraining device as herein proposed, shown in ready-to-apply state;

FIG. 4 is a perspective view illustrating the manner of closing and thereupon effecting a quick tightening of said restraining device about a criminal or other person to be apprehended or controlled; and

FIG. 5A and 5B are diagrammatic views illustrating the functioning of the end portions of a device of the invention when initially brought together and thereafter tightened on a person encased by said device.

Referring to the drawings in greater detail, a human restraining device according to the present invention basically comprises an elongated sheet-form body member **10** of length which may vary but which is such as to enable it to be wrapped fully about the torso and arms of a person to be restrained, with some excess as adapts it for use on persons of different size and age groups, and of height which again may vary but which is generally such that it will extend from the hip to the shoulder lines of said person, and two rigid, vertically disposed and rod-form members **12** and **14**, hereinafter referred to as "dowels," affixed to the opposite end portions of said member and which are adapted, when brought together and turned bodily about a vertical axis extending generally between them, to effect a fast rolling up of said end portions on one another, as effects tightening and securement of the body member about the torso and arms of said person about whom said body member has been wrapped as aforesaid.

As shown in FIGS. 1–4 inclusive, the aforesaid opposite end portions of the body member **10** are provided with centrally disposed cut-outs at **16**, **18** which open through their vertical end edges, across the open ends of which the dowels **12** and **14** extend. FIG. 4 in particular illustrates the purpose of said cut-outs, which is to provide hand holes giving direct access to the middle-length portions of the dowels to the police officials or other operatives of the device called upon to apply and tighten same about a person to be restrained and/or in holding said person restrained. Although not necessary to the aims and purposes of the invention, the edges of the cut-outs are strengthened and protected against fraying or damage by edge bindings designated **16***a*, **18***a*.

Illustratively, the opposite end portions of the body member are folded on themselves so as to provide dowel-receiving end loops designated **20***a*, **20***b* and **22***a*, **22***b*. To maintain the dowels fixed against separation from or turning movement within their respective end loops, they are secured as by bedding them in adhesive applied to the interior surface of the loops, or by mechanical securing means such as tacks or rivets.

As best seen in FIGS. 2 and 3, the central length portion of the body member **10**, which in normal use of the device is disposed against the chest and stomach of the person to be restrained, may be stiffened as by means of a plurality (three being shown) of rigid stays **26** roughly comparing to corset stays. Illustratively, the stays are secured in place by inserting their end portions in vertically aligned pockets **26***a*, **26***b* provided therefor by infolding the upper and lower edge portions of the body member **10** against the inside face thereof, such assuming that the sheet of material from which said body member is fashioned initially has length as to provide for such in-folding, and delineating said pockets

by U-shaped lines of stitching designated **28**, or alternately by rivets or grommets (not shown). Preferably also, said infolded edge portions are secured along their free edges by upper and lower lines of stitching **30***a*, **30***b* extending between stay-receiving pockets and from the endmost pockets to the cut-outs **16**, **18** in the end portions of the body member.

Said body member **10** may be fabricated from any suitable strong and pliable woven textile material such as a good grade of canvas or from equivalent woven plastic material, or from a pliable plastic sheet material such as Saran, or from leather or so-called leatherette. The dowels **12** and **14** preferably but not necessarily have round section and they may be made from any suitable rigid material such as wood or a lightweight metal such as aluminum. Finally, the stays **24** may be made of hardwood approximately ¼" in thickness, or of steel, aluminum or rigid plastic material.

A restraining device as so far described may be used in apprehending a criminal or other person required to be apprehended, controlled or restrained by wrapping the device about his torso and arms in manner such that its opposite end portions carrying the dowels **12**, **14** are brought together at said person's back in the edge-overlapping relationship shown diagrammatically in FIG. 5A. Thereupon, the dowels, held as in FIG. 4, are turned bodily about a vertical axis disposed roughly between their own axes to relative position shown in FIG. 5B, as results in the opposite end portions of the body member **10** being quickly rolled on each other as effects a fast and forceful tightening of the body member about the person to whom the device is applied. Assuming that the person's arms were initially encased within the device as it was applied, tightening of the device by the aforesaid manipulation of the dowels **12**, **14** not only effects immobilization of his arms by holding them tight against his body, as in FIG. 4, but also the person's leg movements can be controlled to a degree by pushing him forwardly or sidewardly and/or pulling him rearwardly through force applied manually through the dowels.

According to a further feature of the invention, means are provided for effecting self-locking of the dowel-carrying end portions of the body member one to the other, responsive to said end portions contacting one another. More particularly, the opposite end portions of the body member **10** have affixed thereto complementary strips of "Velcro," such being a form of fastener manufactured by Velcro Corporation, New York, N.Y., comprising tapes of nylon adapted to be superimposed one on the other, one tape being faced with tiny loops forming a pile surface and the other being faced with tiny hooks, which tapes lock securely to one another when the pile and hook surfaces are pressed together. Thus, according to the present invention, one end portion of the body member **10**, illustratively the right-end portion, carries a plurality (four by way of example) of tapes **30** of Velcro pile, of length as to extend about the dowel-receiving end loops **20***a*, **20***b* provided on that end portion and thence an appreciable distance over onto both inner and outer faces of said body mmeber. Said tapes of Velcro pile are shown to be secured to the body member end loops by lines of stitching **32** extending along all edges thereof, but they may be otherwise appropriately secured. Similarly, the opposite or left-end portion of the body member **10** carries a corresponding number fo Velcro hook tapes **34** which extend about the end loops **22***a*, **22***b* formed on that end of said body member and thence onto both faces of said body member, said hook tapes **34** being secured in horizontal alignment with the pile tapes **30** by lines of stitching **36** extending along all edges of said tapes.

The aforesaid arrangement of dowels **12**, **14** and Velcro fastener tapes provides that upon the end portions of the body member **10** being engaged one with the other by bringing the dowels into close parallel relationship, the Velcro pile and hooktapes **30**, **34** will interlock on contact. This interlocking of the end portions of the body member **10** is of particular advantage also in that it prevents any slippage between the end portions of the body member as the dowels are turned to tighten said body member about the person to be apprehended or restrained, in the manner shown in FIG. 4.

While the dowels **12**, **14** and the complementary Velcro pile and hook tapes **30**, **34**, acting both individually and in concert, provide means for effecting a speedy and semi-positive securement of the end portions of the body member when the latter has been tightened on the person to be restrained, the invention provides additional means designed to effect a more positive securement of the device in its tightened state as permits the operatives who have applied and tightened same to reduce hand pressure on the dowels to that required to hold the restrained person captive, i.e., to use the dowels as a handle. Illustratively, such additional means comprises a pair of elongated straps **40**, **42** disposed one above the other and secured at their corresponding fixed ends to the end portion of the body member **10** which carries the aforesaid Velcro pile tapes, at locations thereof disposed relatively forwardly of said tapes. The free ends of said straps are adapted to be passed through a pair of strap eyes **44**, **46** secured to the opposite end portion of the body member at locations which are horizontally aligned with the locations of securement of said straps and forwardly of the Velco hook tapes **34**.

After said free ends of the straps are passed through the eyes **44**, **46**, they are adapted to be doubled back to positions in which they overlie their fixed end portions. Secured to the relatively outer faces of said straps **40**, **42** is a so-called Velcro strap combination comprising an elongate strip of Velcro pile tape **48** and connected in tandem thereto a similarly elongated strip of Velcro hook tape **50**, said pile and hook tapes **48**, **50** being secured to the straps along corresponding edges by lines of stitching **52**, **54**.

By such arrangement, the free ends of the straps **40**, **42** carrying the hook tapes **50**, after having been passed through the eyes **44**, **46** and doubled back on and pressed against the underlying fixed end portions of said straps which carry the pile tapes **46**, are adapted to self-lock to said underlying end portions. Accordingly, after the body member **10** has been applied and tightened on a subject by manipulation of the dowels **12**, **14** as aforesaid, the straps **40**, **42** may be quickly threaded through the eyes **44**, **46** and thereupon self-locked to their secured end portions. When this latter positive securement has been achieved, the dowels may be used as a handle for holding on to and controlling the encased person.

As a supplementary feature to the strap form of securement as above, the body member **10** may be provided on its outer face with a plurality of additional strap eyes **56**, **58** disposed forwardly of the secured ends of said straps. These latter eyes serve the useful purpose of holding any free-end length portions of the straps **40**, **42** which extend forwardly past the secured ends thereof.

Without further analysis, it will be appreciated that a restraining device as described and illustrated achieves the objectives of the invention as set forth in the foregoing in effective yet thoroughly practical manner. That is to say, it provides a means which may be readily wrapped as an encasement about and tightened on a criminal or other unruly person requiring restraint and, once applied, it functions to completely immobilize the person's arm and body from hips to shoulders in a much more effective manner than do handcuffs, for example. As will be appreciated from a consideration of FIG. 4, the herein restraining device may be also used as to exercise substantial control over the restrained person's leg movements.

The restraining device of the invention may also be employed as an aid in applying handcuffs to a person

to be apprehended by first applying and tightening same about said person in manner as to immobilize his arms and then forcefully bringing his hands together along the bottom edge of the device to a position in which the handcuffs may now readily be applied. With his arms immobilized, there is no possibility of said person using a partially applied or even fully applied handcuff as a weapon. Finally, under emergency conditions requiring such use, the device of the invention, when wrapped about a wounded or injured person in position such that the dowels **12**, **14** are disposed forwardly rather than rearwardly of said person, may also be used as a partial litter for carrying said person to a waiting ambulance, for example.

When not in use, the restraining device of the invention may be rolled on itself from end to end and, when so rolled, takes up relatively little space. Hence a number of the devices may be carried about in the trunk or other appropriate location of a police scout car, or in a case or cabinet of a guard room, for example, for distribution as needed.

As many changes could be made in carrying out the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A restraining device of the character described comprising an elongated, generally rectangular body member of pliable sheet material having length adapting it to be applied as a wrap about the body and arms of a person to be restrained and to provide a small amount of overlap of its opposite end portions, and of height as to extend approximately between the hip and shoulder lines of said person, complemental quick-attachable means on said opposite end portions, and vertically disposed rigid means, one affixed to one said end portion and the other to the other said end portion, for effecting quick roll-up of said end portions one on the other whereby to achieve a fast tightening of the body member about said person.

2. A restraining device according to claim **1**, wherein said rigid means comprise rigid dowels affixed to and extending vertically along the end edges of said end portions and adapted when brought together to be turned in unison about a vertical axis as effects a rolling up of said end portions on said dowels.

3. A restraining device according to claim **2**, wherein the end portions of said body member are provided with cutouts opening through the vertical end edges thereof and across which said dowels extend, said cut-outs forming hand holes providing direct access to the dowels enabling same to be grasped in their middle-length portions and to be bodily turned about said vertical axis as aforesaid.

4. A restraining device according to claim **1**, wherein said quick-attachable means comprises fastener tapes of a type adapted to interlock with one another when said end portions are brought together and the tapes pressed on one another during the course of said end portions being rolled on one another.

5. A restraining device according to claim **4**, wherein said tapes are fashioned from Velcro pile and hook tapes.

6. A restraining device according to claim **1**, wherein one end portion of the body member has secured to its relatively outer face at a point spaced relatively forwardly from its corresponding end edge at least one strap means of substantial length, and the oppoiste end portion of said body member mounts an eye through which the free end of said strap means is adapted to be threaded, said strap means being exteriorly faced with strips of complementary Velcro fastening tapes arranged in end-to-end relation, the construction and arrangement being such that upon tightening ofthe body portion about the person to be restrained having been effected by said roll-up means, said strap means may be threaded through said eye and doubled back on itself as effects locking of said complementary tapes one with the other.

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