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(54) Title: EMERGENCY MOBILE LABOR COT INSIDE AMBULANCE VANS

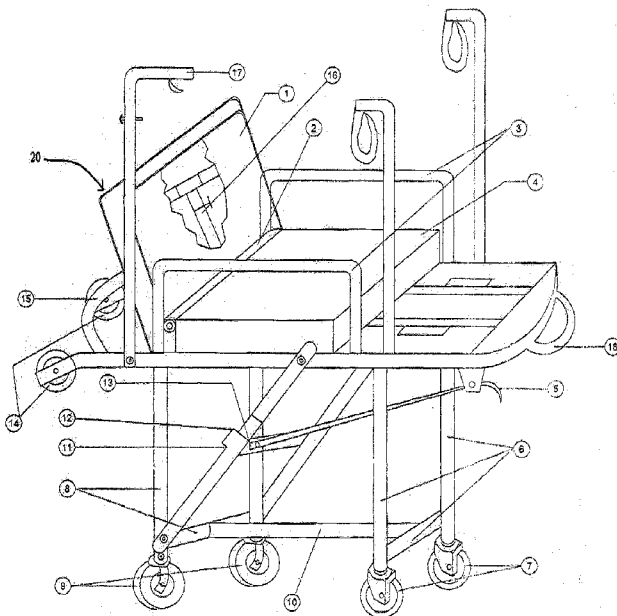


Fig.1

(57) Abstract: Emergency mobile labor cot[20] inside ambulance is disclosed. The emergency mobile labor cot for providing healthcare to pregnant women at their doorstep according to the invention comprises a mainframe, adjustable headrest[1], a base structure with wheels[7,9,15], an actuator lever[4] for folding the legs, and an IV fluid stand[17]. The method of providing healthcare to the patient, comprises the steps of bringing the equipment down to the floor; strapping the patient with strap belts; lifting the equipment to convert it into a labor cot; putting in place the side guards; wheeling the patient into the ambulance; pressing the actuating lever to align the legs of the COT to sit inside the rails fitted inside the ambulance; locking of the mobile labor cot inside the ambulance van using the automatic locking mechanism; fitting the foot straps into the slop; adjusting the sterilized tray; opening the screen for privacy; taking the delivery kit out and performing the delivery with the doctor.

WO 2015/151114 A1

**“EMERGENCY MOBILE LABOR COT INSIDE
AMBULANCE VANS”**

FIELD OF THE INVENTION

[0001] The field of this invention relates to emergency labor cots, and more particularly to an improved emergency labor cot having a wheeled transporter to facilitate mobility.

BACKGROUND OF THE INVENTION

[0002] Healthcare for pregnant women is not available in remote, rural and hilly areas easily. Therefore, access to the nearest healthcare facility becomes very difficult through rough roads.

[0003] Currently women in labor are transported to the health care centers and there is no solution which involves no transport of the pregnant women.

[0004] Women in urban slums also lack the means to access healthcare during labor. Rural areas usually face high rate of maternal mortality and female foeticide. Women in the rural areas, when they are into labour pain either call the emergency or take other means of transport to reach the healthcare centers which may be situated very far away. Commutation is a problem faced by the women. The transition time to reach the healthcare centers sometimes complicates the delivery. For most rural people the first point of contact for medical care is Primary Health Care Centre (PHC). The pregnant ladies in these areas access PHCs. Several factors like difficulty in accessing PHC for delivery are a major problem. Access to Hospitals for child delivery on time remains a critical problem for rural women with an average of 20 km travel over rough roads to reach the nearest Hospital. The tyranny of distance and lack of transport are major impediments to safe delivery of baby.

[0005] There is a recognized need in the art for an improved apparatus and method which will enable emergency labor healthcare at their doorstep. The present invention fulfills this long standing need in the art.

SUMMARY OF THE INVENTION

[0006] An object of the present invention is to provide safe delivery on any road where an ambulance can be parked.

[0007] Another object of the present invention is to provide a mobile maternity ward to pregnant women where safe delivery can be performed at their doorstep.

[0008] Another object of the present invention is to provide healthcare to pregnant women in urban slums and who cannot afford transportation costs.

[0009] Accordingly, to meet the objects of the invention, disclosed herein is a method, comprising the steps of: bringing down the equipment for easy transfer of the patient; strapping the strap belts to the patient; lifting the equipment to convert it into a LABOR COT ON WHEELS; putting in place of the side guards; wheeling the patient into the ambulance van; pressing the actuating lever to align the legs inside the rails fitted inside the ambulance; locking the mobile labor cot inside the ambulance van using the automatic locking mechanism; fitting the foot strap into the slot and adjusting the height according to the comfort of the patient; adjusting of the sterilized tray depending on the height of the patient; opening of the screen for privacy; taking the delivery kit outside and performing the delivery.

[00010] In accordance with an embodiment of the invention, disclosed herein is an emergency labor cot for use in the location where the pregnant women is located, said emergency delivery cot comprising a mainframe; an adjustable head rest; two side guards for the safety of the

patient; a patient strap belt for patient safety; a 3 inch puff cushion; a foot strap; a tray; a main handle; two side main links; a spring loaded main link locks; a main link cross flat; an actuating lever capable of bringing the cot to ground level by folding the legs after undoing the link locks; a rear leg assembly fitted with two pillar wheels capable of 360 degree rotation for easy movement; a front leg assembly fitted with two non-rotating wheels to guide movement of trolley; 2 rubber castor wheels for guiding the cot inside the ambulance van; a leg cross pipe connecting the front leg assembly and rear leg assembly; a head rest gas spring for adjusting the head rest; an IV fluid stand; a foldable screen for privacy and an automatic locking mechanism located in the rails of the ambulance for use with the said emergency labor cot.

BRIEF DESCRIPTION OF THE DRAWINGS

[00011] Referring now to the drawings wherein the showings are for the purpose of illustrating embodiments of the inventions only, and not for the purpose of limiting the same.

[00012] Fig 1 illustrates an emergency mobile labor cot inside ambulance.

[00013] Fig 2 illustrates the method of using the equipment by means of a flowchart

REFERENCE NUMERALS IN DRAWINGS

- 1 - Adjustable Head rest
- 2 - Patient Strap Belt
- 3 - Side guards
- 4 - 3 inch puf cushion
- 5 - Actuating lever
- 6 - Rear leg assembly
- 7 - 360 degree revolving wheels
- 8 - Front leg assembly

- 9 - Non rotating wheels
- 10 - Leg cross pipe
- 11 - Side main link
- 12 - Spring loaded main link locks
- 13 - Main link cross flat
- 14 - Idle wheels
- 15 - Additional handle
- 16 - Head rest gas spring
- 17 - IV fluid stand
- 18 - Main Frame Handle

DETAILED DESCRIPTION OF THE INVENTION

[00014] "labor" as mentioned herein is 'the process of childbirth'.

[00015] The present invention will be described herein below with reference to the accompanying drawing. The present invention provides an emergency mobile labor cot inside ambulance.

[00016] The labor cot[20] is made of mild steel pipes and sections. It moves on rails fitted inside the ambulance van.

[00017] A preferred embodiment of the emergency labor cot [20] is shown in Fig 1. The labor cot[20] has a mainframe, an adjustable headrest [1] which moves from 90 degree to 180 degree, side guards [3] for the safety of the patient, patient strap belts [2] for patient safety, a 3 inch puff cushion [4] and foot straps. The puff cushion [4] and the foot straps are both removable and height adjustable according to the height of the pregnant women. It also has a removable, reusable, washable tray which can be moved back and forth depending on the height of the pregnant women. It also has a main handle[18] with which the entire labor cot can be pulled to position for optimum use. There are two side main links[11] which is spring loaded[12] and are connected by the main link cross

flat[13] and helps in the conversion of the stretcher to the trolley mode. There are 6 rubber castor wheels [7,9,14], two of which are idle wheels [14] to guide the cot inside the ambulance van, two are pillar wheels [7] capable of 360 degree rotation for easy movement and two are non-rotatable rubber wheels [9] to guide the movement of the trolley. The labor cot has a rear leg assembly [6] fitted with two pillar wheels [7] and a front leg assembly [8] fitted with two non rotating wheels [9]. There is a leg cross pipe [10] connecting the front leg assembly [8] and rear leg assembly [6]. A head rest gas spring [16] is used to adjust the head rest [1]. Labor cot can be brought down to the ground level using an actuating lever[5] where the legs fold after the link locks are undone. This makes it convenient to transfer pregnant women lying in the floor. Labor cot also has an Intravenous fluid stand[17], a foldable screen for privacy and an essential delivery kit containing drugs and accessories needed for delivery. There is also an automatic locking mechanism which holds the mobile labor cot in place located in the rails inside the ambulance van to ensure that the equipment does not come out of the van during transportation.

[00018] The method of using the equipment is shown in figure 2 and explained in the following steps:

- 1) The equipment is brought down to the floor and the pregnant women can be easily shifted/transferred onto the equipment which will be only 8 inches from the ground/floor.
- 2) Patient strap belts can be strapped on for the safety of the pregnant women.
- 3) The equipment is then lifted and it becomes a LABOR COT ON WHEELS
- 4) The side guards are put in place to prevent the patient from falling off the cot thus giving the patient a feeling of security.
- 5) The pregnant women can be wheeled into the ambulance van and when the idle wheel of the equipment touches the

floor of the ambulance van, the actuating lever is pressed so that the legs of the LABOR COT/TROLLEY sits inside the rails fitted inside the ambulance van.

- 6) There is an automatic locking mechanism inside the ambulance with a lock plate and spring mechanism which holds the mobile labor cot inside the ambulance van.
- 7) The foot straps are fitted into the slot and its height is adjusted according to the comfort of the pregnant women whose legs are tied for delivery.
- 8) The sterilized tray is then adjusted back and forth depending on the height of the patient.
- 9) The screen is then opened and kept outside the van for privacy.
- 10) The delivery kit is then taken out and the delivery is performed with the doctor at the rear of the ambulance and a patient attendant inside the ambulance van.

[00019] The foregoing description is for an embodiment of the present invention. It should be appreciated that these embodiments are described for purpose of illustration only, and that numerous alterations and modifications may be practiced by those skilled in the art without departing from the spirit and scope of the invention. It is intended that all such modifications and alterations be included insofar as they come within the scope of the invention as claimed or the equivalents thereof.

[00020] Other modifications will be apparent to those skilled in the art and, therefore, the invention is defined in the claims.

I claim:

- 1) An emergency labor cot[20] for use in the location where the pregnant women is located, said emergency labor cot comprising a mainframe; an adjustable head rest[1]; two side guards[3] for the safety of the patient; a patient strap belt[2] for patient safety; a 3 inch puff cushion[4]; a foot strap; a tray; a main handle[18]; two side main links[11]; a spring loaded main link locks[12]; a main link cross flat[13]; an actuating lever[5] capable of bringing the cot to ground level by folding the legs after undoing the said link locks [12]; a rear leg assembly [6] fitted with two pillar wheels [7] capable of 360 degree rotation for easy movement; a front leg assembly [8] fitted with two non-rotating wheels [9] to guide movement of trolley; 2 rubber castor wheels [14] for guiding the cot inside the ambulance van; a leg cross pipe [10] connecting the front leg assembly [8] and rear leg assembly [6]; a head rest gas spring [16] for adjusting the head rest [1]; an IV fluid stand[17]; a foldable screen for privacy and an automatic locking mechanism located in the rails of the ambulance for use with the said emergency labor cot[20].
- 2) An emergency labor cot[20] as claimed in claim 1 wherein said head rest[1] is capable of moving 90 degrees to 180 degrees.
- 3) An emergency labor cot[20] as claimed in claim 1 wherein said puff cushion[4] is removable and height adjustable according to the height of the patient.
- 4) An emergency labor cot[20] as claimed in claim 1 wherein said foot strap is removable and height adjustable according to the height of the patient.
- 5) An emergency labor cot[20] as claimed in claim 1 wherein said tray is removable, reusable and washable, and capable of moving back and forth depending on the height of the patient.

- 6) An emergency labor cot[20] as claimed in claim 1 wherein said main handle[18] is used to pull and position the entire labor cot for optimum use.
- 7) An emergency labor cot[20] as claimed in claim 1 wherein said automatic locking mechanism is capable of holding the mobile labor cot in place inside the ambulance van to ensure that the equipment does not come out of the van during transportation.
- 8) An emergency labor cot[20] comprising the steps of: bringing down the equipment for easy transfer of the patient; strapping the strap belts to the patient; lifting the equipment to convert it into a LABOR COT ON WHEELS; putting in place of the side guards; wheeling the patient into the ambulance van; pressing the actuating lever[5] to align the legs inside the rails fitted inside the ambulance; locking the mobile labor cot inside the ambulance van using the automatic locking mechanism; fitting the foot strap into the slot and adjusting the height according to the comfort of the patient; adjusting of the sterilized tray depending on the height of the patient; opening of the screen for privacy; taking the delivery kit outside and performing the delivery.

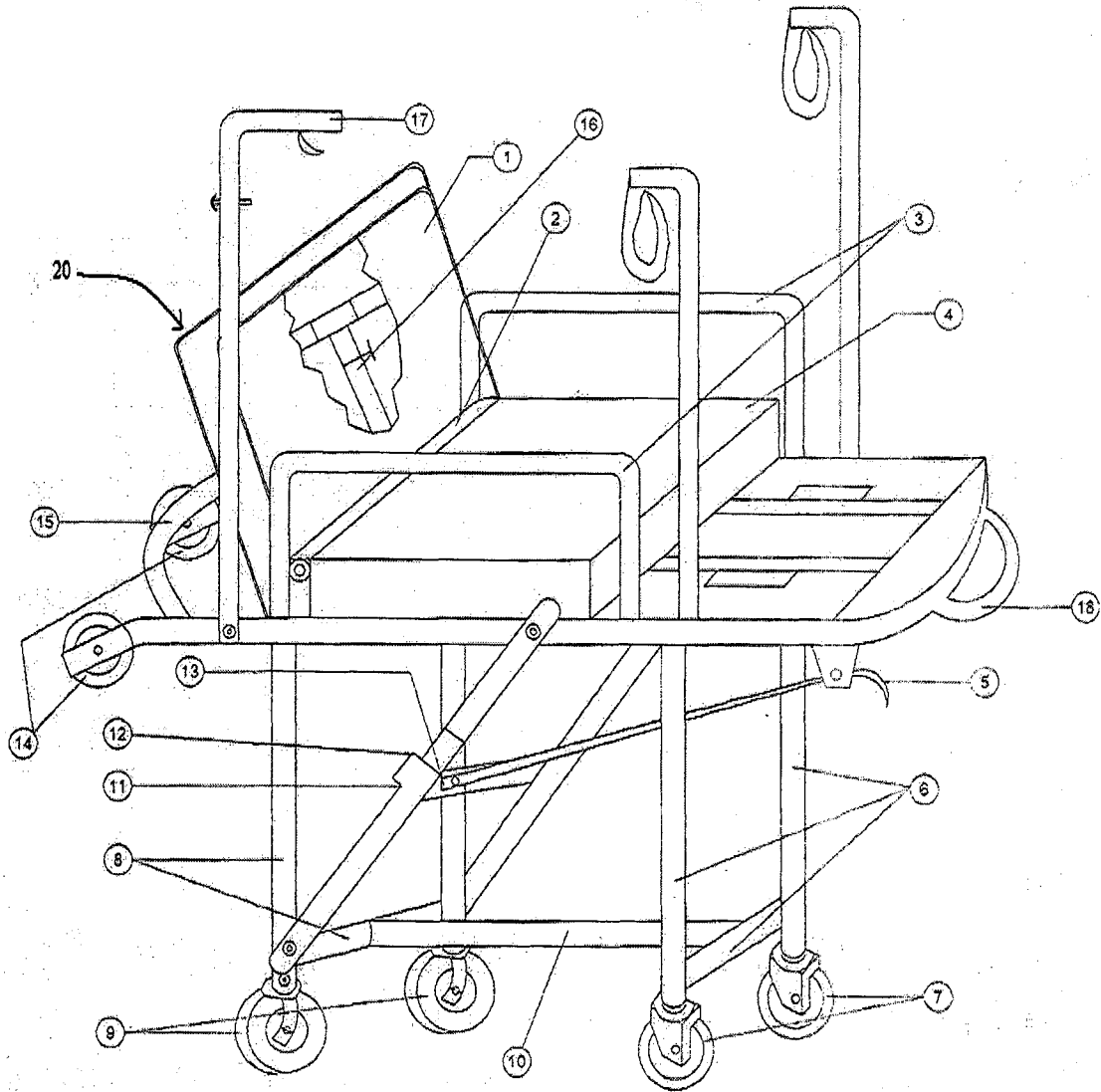


Fig.1

FLOW CHART OF OPERATION AND PURPOSE

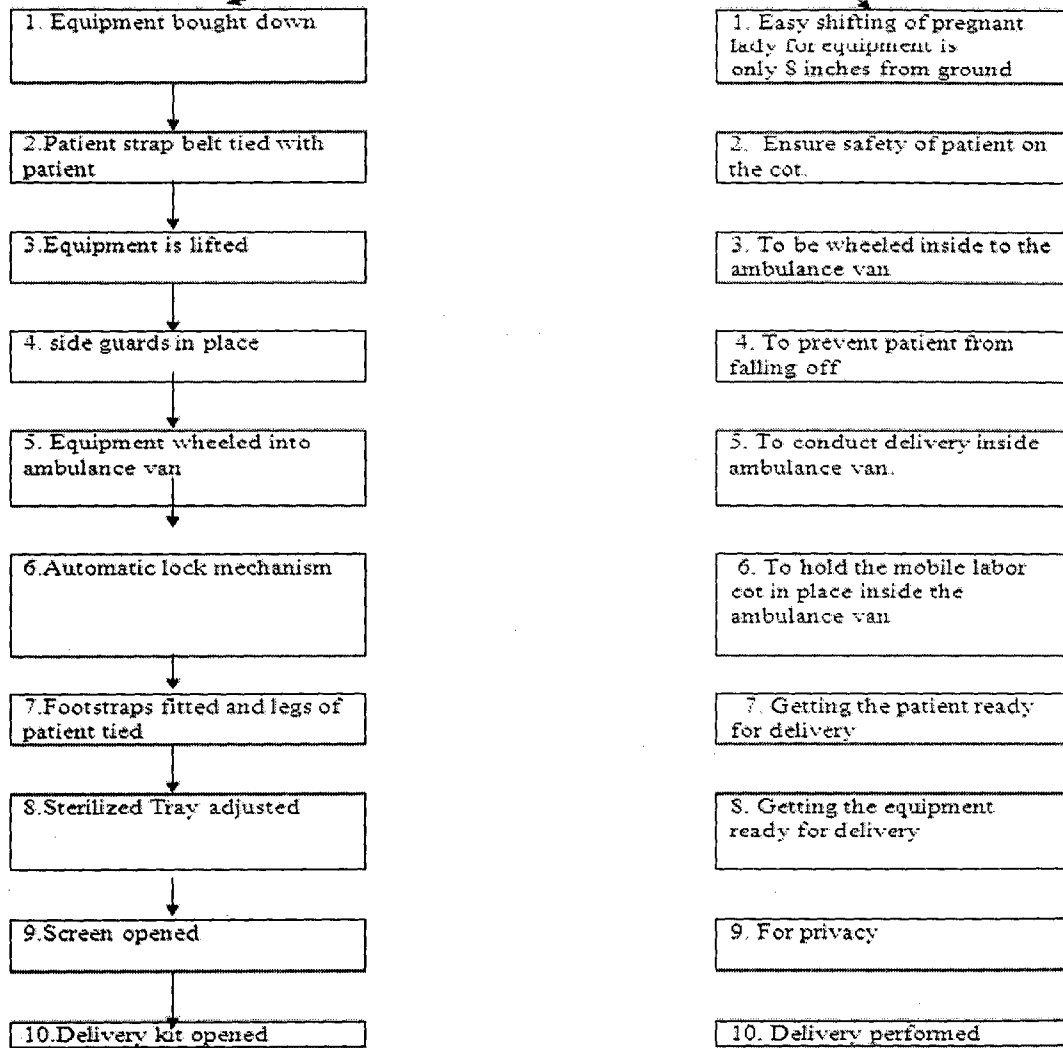


Fig.2

INTERNATIONAL SEARCH REPORT

International application No
PCT/IN2014/000799

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61G1/02 A61G1/056 A61G15/00
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
A61G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/034935 A1 (FERNEAU RICHARD H [US] ET AL FERNEAU RICHARD HENRY [US] ET AL) 26 February 2004 (2004-02-26) figures 1-8	1-3
Y	EP 0 043 983 A2 (MIESEN FAHRZEUG [DE]) 20 January 1982 (1982-01-20) page 9, line 36 - page 10, line 1; figure 1	1-3
A	EP 1 787 614 A2 (HILL ROM SERVICES INC [US]) 23 May 2007 (2007-05-23) the whole document	1
A	CN 203 001 266 U (ZHANG TAO) 19 June 2013 (2013-06-19) the whole document	1

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search 30 April 2015	Date of mailing of the international search report 11/05/2015
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Birlanga Pérez, J
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IN2014/000799

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 8
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IN2014/000799

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