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(71) Applicant: **Masuda Co., Ltd.**
Chichibu-shi, Saitama-ken 368 (JP)

(72) Inventor: **Masuda, Toshiyuki**
Chichibu-shi, Saitama-Ken 368 (JP)

(74) Representative:
Perry, Robert Edward
GILL JENNINGS & EVERY
Broadgate House
7 Eldon Street
London EC2M 7LH (GB)

(54) Bedding

(57) A bedding is disclosed having a space divided into a plurality of regions containing wadding, wherein at least the one of these regions is provided along the periphery between ticking sheets, and is filled with cedar chips. The cedar chips filling this peripheral region provide a long-lasting aromatherapeutic effect and a pesticidal effect, and is made by simple construction. Each of the cedar chips is preferably provided in the form of a substantially spherical chip having a through-hole.

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Description

Field of the Invention

[0001] This invention relates to bedding having an aromatic pesticidal effect.

Background to the Invention

[0002] Bedding in the form of a sleeping mat is well know, in which polyester cotton impregnated with essential oil obtained from Japanese cypress is employed as wadding.

[0003] Such sleeping mat is certainly effective to diffuse aroma of Japanese cypress for a time.

[0004] However, neither aromatherapeutic effect nor tick-repellent effect last for a long period due to deterioration of the wadding fiber and evaporation and dispersion of the essential oil.

Summary of the Invention

[0005] In view of the problems as have been described above, it is a principal object of the invention to provide an improved bedding exhibiting a long lasting significant aromatherapeutic effect and an effective tick-repellent effect, and having a simplified construction.

[0006] The object set forth above is achieved, according to the present invention, by a bedding having a space divided in a plurality of regions along the periphery of the ticking sheets, wherein at least one of the regions is filled with cedar chips. A fibrous wadding is introduced around the regions.

[0007] In spite of such simplified construction, the cedar chips filling said region provided along the periphery of the ticking sheets can exhibit an effective aromatherapeutic effect and a tick repellent effect.

[0008] In order to assure comfortableness of sleeping in addition to an effective tick repellent effect, the fibrous wadding material and the cedar chips are preferably distributed at a volume ratio of approximately 3~4:1.

[0009] In order to avoid a leak of the cedar chips and to prevent the space of the mat that is wadded from getting out of shape, the space is preferably loaded with cedar chip bags filled with cedar chips.

[0010] The space that is wadded may be provided with a means of closure that can be opened and closed so as to adjust the amount of the cedar chips and/or to replace the used cedar chips with fresh cedar chips.

[0011] The respective cedar chip bags may be provided also with a means of closure that can be opened and closed so as to reactivate the used cedar chips or to launder the cedar chip bags.

[0012] These means of closure provided on the mat itself as well as on the respective cedar chip bags enable the cedar chips to exhibit the desired long-lasting and significant effect.

[0013] The cedar chip bags may be made of the same material as that of the ticking sheets to improve comfort and to reduce the manufacturing cost.

[0014] The cedar chip bag along the peripheral region of the ticking sheets may be divided in a plurality of separate bags at least along long sides of the ticking sheets to make it possible to fold the mat along gaps defined between said plurality of separate bags and thereby to facilitate transport and storage of the mat.

[0015] Preferably, each of the cedar chips has a substantially spherical shape. The substantially spherical cedar chips can smoothly roll in contact with one another as a user shifts sleeping positions and, in consequence, diffusion of aroma is promoted.

[0016] Each of the cedar chips may be formed with at least one through-hole to increase its surface area and thereby to improve an aroma diffusing efficiency.

[0017] Each of the cedar chips preferably has a diameter of approximately 10 mm and said through-hole preferably has a diameter of approximately 3 mm in order to facilitate the cedar chips to roll in contact one another and thereby to assure a comfortableness of sleeping.

Description of the Drawings

[0018]

Fig. 1 is a cross-sectional illustration of a sleeping mat according to the present invention wherein A is a sleeping mat; K is a gap; S is cedar chips; l is the top ticking; 2 and 3 are the width and length of the mat; 4 is a gusset; 5, 5A and 5B are cedar chip bags; and 6 is a fibrous wadding material.

Fig. 2 is a plan view showing the sleeping mat with its top ticking partially broken away; and

Fig. 3 is a perspective view showing a cedar chip bag as partially broaden away wherein H represents through-holes.

Description of the Invention

[0019] The invention is now described with reference to the drawings.

[0020] However, while the invention is described herein with respect to a sleeping mat, the invention is applicable also to a coverlet and the other bedclothes, such as a pillow, so far as these bedclothes have shapes substantially similar to the sleeping mat as illustrated.

[0021] The sleeping mat (A) presents a rectangular shape defined by top and bottom ticking sheets (1)(1) which are identical in shape as well as in dimension. These ticking sheets (1) (1) are opposed to and connected to each other along their short sides (2)(2) and long sides (3)(3) by a gusset (4) stitched to these ticking sheets (1)(1).

[0022] The space that is to be wadded is divided into a central and a peripheral region. The peripheral region

is entirely filled with tubular cedar tip bags (5) which are, in turn, filled with cedar tips (S). The central region is filled with well known fibrous wadding material (6) such as cotton wool, feather or polyester fibers.

[0023] The volume ratio of the fibrous wadding material (6) to the cedar chips (S) is preferably about 3~4: 1. This provides a comfortable bedding with an effective tick-repellent effect. However, the volume ratio may be varied depending on requests from customers and characteristics of particular bedclothes.

[0024] Regarding the distribution of the wadding, it is possible to mix a certain amount of the cedar chips (S) in the fibrous wadding material of the central region, and inversely it is also possible to mix a certain amount of the fibrous wadding material in the cedar chips (S) in the peripheral region.

[0025] The space that is wadded may be divided in the other ways than that illustrated, for example, it may be evenly divided in a checker-pattern.

[0026] According to the illustrated embodiment, the cedar chip bags (5) are stitched integrally to the ticking sheets (1) and the gusset (4). It is possible thereby to fix a relative position between the cedar chip bags (5) and the ticking sheets (1) including said gusset (4). This means that the cedar chips bags (5) cannot get out of their initial positions and/or the cedar chips (S) can be evenly distributed within the respective bags (5) with the mat (A) used over a long duration.

[0027] The mat (A) is loaded with the cedar chip bags (5) after these cedar chip bags (5) have been filled with the cedar chips (S). This procedure is effective to avoid a leak of the cedar chips (S) and to prevent the space of the mat becoming filled with the cedar chips (S) and to retain the initial shape.

[0028] It is also possible to provide the mat (A) with a closure means (not shown) being able to be opened and closed to adjust the amount of the cedar chips (S) loaded in the mat (A). Said closure means may be convenient also when it is desired to exchange used cedar chips (S) with fresh cedar chips (S).

[0029] The cedar chip bags (5) also may be provided with the similar closure means (not shown) for a convenience of cleaning the bags (5) and/or reactivating the cedar chips (S) taken out from the bags (5).

[0030] The closure means may be sealed by any conventionally means so as to prevent the contents from leaking. For example, a fastener, Magic Tape, buttons or a drawstring made of cloth may be selectively employed.

[0031] While the bags (5) to be filled with the cedar chips (S) may be of nylon or paper it is preferred to use the same cloth as used in the ticking sheets. This is for the reason the manufacturing cost can be reduced and the cedar chip bags (5) can be reliably integrated with the ticking sheets (1) to improve comfort.

[0032] The facilitate stitching, the cedar chip bags (5) provided along the peripheral region of the ticking sheets (1) preferably comprise a pair of tubular bags (5A) slightly shorter than the respective short sides (2) of the ticking sheets (1) and a pair of tubular bags (5B) slightly shorter than the respective long sides (3) of the ticking sheets f(1). It is also possible, however, to use a continuous cedar chip bag (5) having a length substantially same as the length of an inner peripheral edge of the ticking sheets (1). In this case, said continuous bag (5) may be, for example, bent in conformity with the four corners of the ticking sheets (1) and fixed thereto.

[0033] Said cedar chip bags (5B) may be divided in a plurality of bags, for example, three bags (5B1), (5B2) and (5B3) leaving gaps (K) (K) between each pair of adjacent bags to facilitate folding of the mat for convenience of transport or storage.

[0034] The cedar chips (S) may be of Eastern Red Cedar growing in the Appalachian Ozark region or the like. This aromatic tree provides a high aromatherapeutic effect and pesticidal effect. Particularly the latter effect advantageously protects the user from atopic diseases and asthma.

[0035] Regarding the pesticidal effect, a repellent test conducted by means of a glass tube method has indicated a repellent effect of 100%.

[0036] In this manner, the tick repellent effect as well as the aromatherapeutic effect can be effectively obtained by employing such cedar chips (S) in the bedding, in spite of the simplified construction of the bedding. Accordingly, the mat allows a user to enjoy a relaxing and comfortable sleep. This means also the mat according to the invention provides a physiological effect such as relief of fatigue and stabilization of the circulatory system.

[0037] Fig. 3 is a perspective view showing the cedar chip bag (5) and its contents.

[0038] Each of the cedar chips (S) has a substantially spherical shape defined by a diameter of approximately 10 mm and is formed with a hole (H) having a diameter of approximately 3 mm extending through this cedar chip (S).

[0039] The substantially spherical shape is selected from the cedar chip (S) for the reason that it facilitates movement of the cedar chips (S) which can roll in contact one another as the use turns over in sleep or shifts his or her sleeping positions. Rolling of the cedar chips (S) promotes diffusion of aroma.

[0040] The through-hole (H) increases the surface area of each cedar chip (S) and thereby improves the diffusion efficiency of aroma.

[0041] As will be apparent from the foregoing description, it is not critical to provide exactly spherical cedar chips (S) so far as these cedar chips (S) can easily roll in contact one another. For example, the cedar chips (S) may be of polyhedra which are substantially spherical.

[0042] Based on a given manufacturing cost as well as a desired shape stability, it is also possible to provide each of the cedar chips (S) with a plurality of through-holes (H) or with blind holes(s).

[0043] A method for making the spherical cedar chips

(S) comprises steps of cutting raw cedar chips to obtain substantially polyhedra chips, angle cutting these polyhedral chips to obtain spherical chips and finally drilling these spherical chips to form the through-hole(s) or the blink hole(s). Shaving produced during these steps may be added to the cedar chips (S) to fill the respective bags (5), if desired.

Claims

1. Bedding (A), comprising top and bottom ticking sheets (1) filled with a fibrous wadding material (6) and, around the periphery of the sheets, a region comprising cedar chips (S).

2. Bedding according to claim 1, wherein the wadding material and cedar chips are present at a volume ratio of 3~4: 1.

3. Bedding according to claim 1 or claim 2, further comprising means for opening and closing the bedding to access the cedar chips.

4. Bedding according to any preceding claim, wherein the cedar chips are contained in bags (5).

5. Bedding according to claim 4, which further comprises means for opening and closing the bags.

6. Bedding according to claim 4 or claim 5, wherein the bags and ticking sheets are made from the same material.

7. Bedding according to any of claims 4 to 6, wherein a plurality of bags are arranged along at least the length of the bedding.

8. Bedding according to any preceding claim, wherein the cedar chips are substantially spherical.

9. Bedding according to any preceding claim, wherein the cedar chips contain a hole (H) through each chip.

10. Bedding according to claim 9, wherein the cedar chips are approximately 10 mm in diameter and the hole is approximately 3 mm in diameter.

FIG. 1

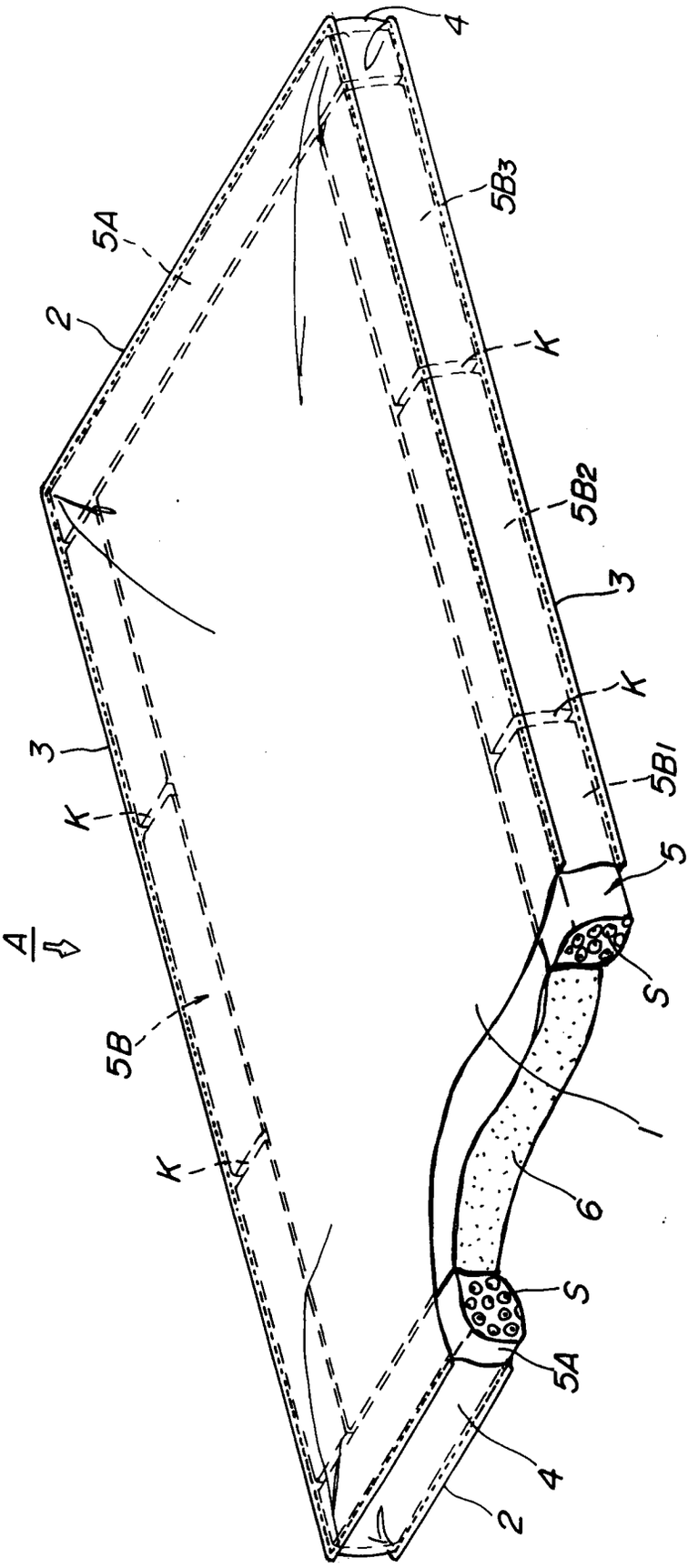


FIG. 2

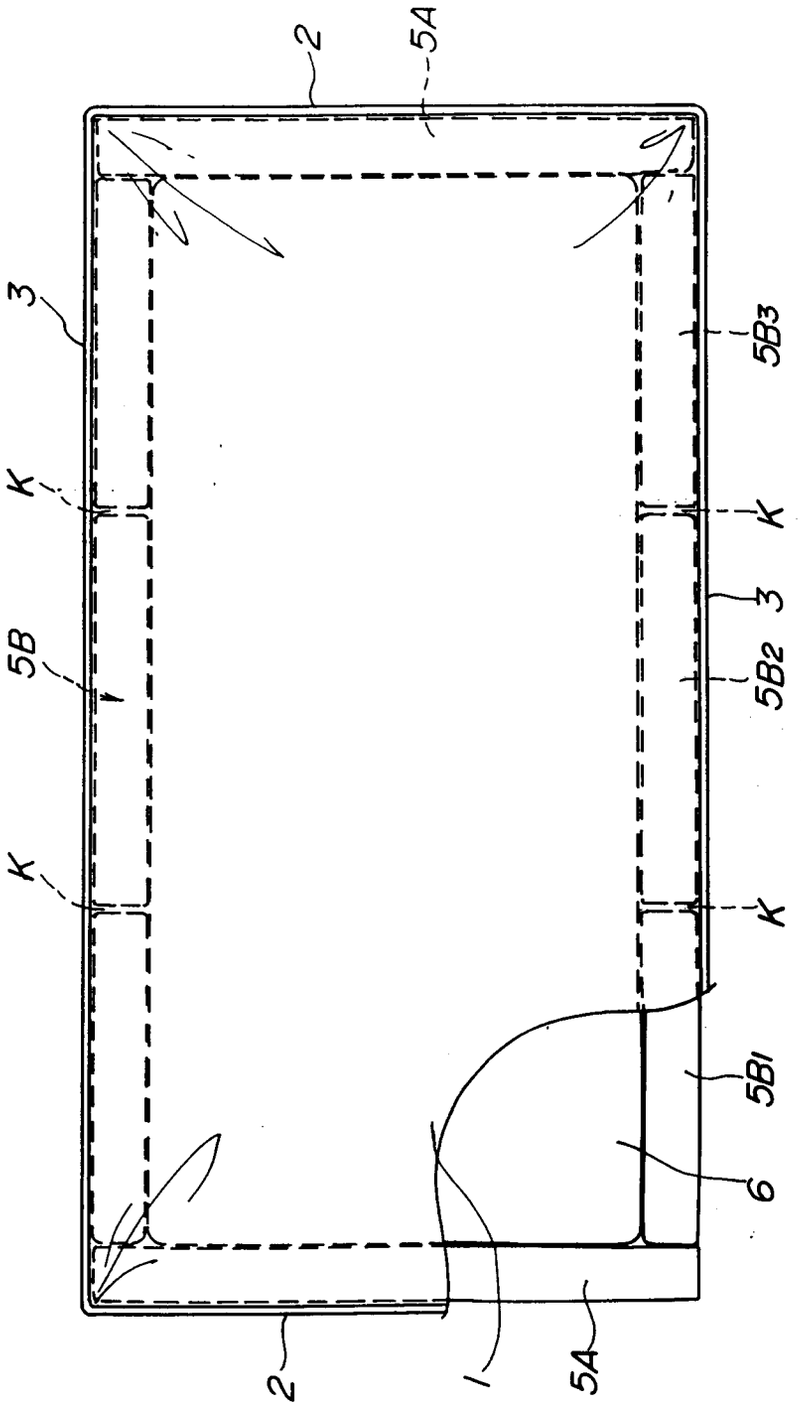
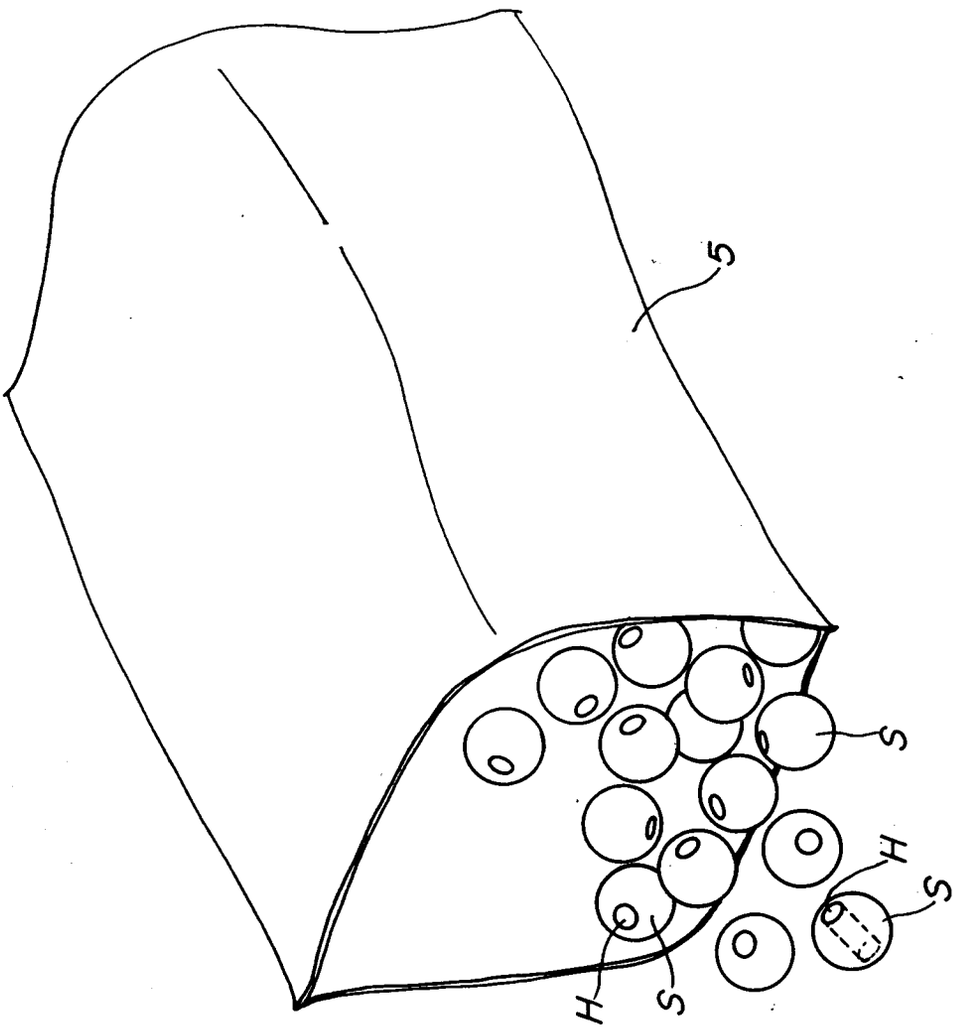


FIG. 3



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EUROPEAN SEARCH REPORT

Application Number EP 98304390.2

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 6)
A	EP 0518115 A1 (KOSTAR DAUNEN-PRODUKTE GMBH) 16 December 1992 (16.12.92), the whole document. --	1-10	A 47 C 27/12 A 47 C 27/22
A	DE 3635570 A1 (BADER, I. et al.) 21 April 1988 (21.04.88), fig. 1-3, claims. --	1-10	
A	EP 0371184 A1 (GRÜNE ERDE GESELLSCHAFT M.B.H.) 06 June 1990 (06.06.90), the whole document. --	1-10	
A	GB 2283169 A (DAWNA HENSON) 03 May 1995 (03.05.95), the whole document. ----	1-10	

TECHNICAL FIELDS SEARCHED (Int. Cl. 6)

A 47 C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	11-12-1998	SEIRAFI

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO. EP 98304390.2

This annex lists the patent family members relating to the patent documents cited in the above-mentioned search report.
The members are as contained in the EPIDOS INPADOC file on 16.12.1998.
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP A1 518115	16-12-92	DE A1 4119050 DE C2 4119050	17-12-92 31-03-94
DE A1 3635570	21-04-88	none	
EP A1 371184	06-06-90	DE C0 3877760 EP B1 371184	04-03-93 20-01-93
GB A1 2283169	03-05-95	AU A1 79986/94 GB A0 9322374 GB A0 9416643 GB B2 2283169 WO A1 9511606 ZA A 9408450	22-05-95 15-12-93 12-10-94 29-10-97 04-05-95 06-07-95

For more details about this annex see Official Journal of the European Patent Office, No. 12/82.