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(51) INT CL[5]
B64C 23/08

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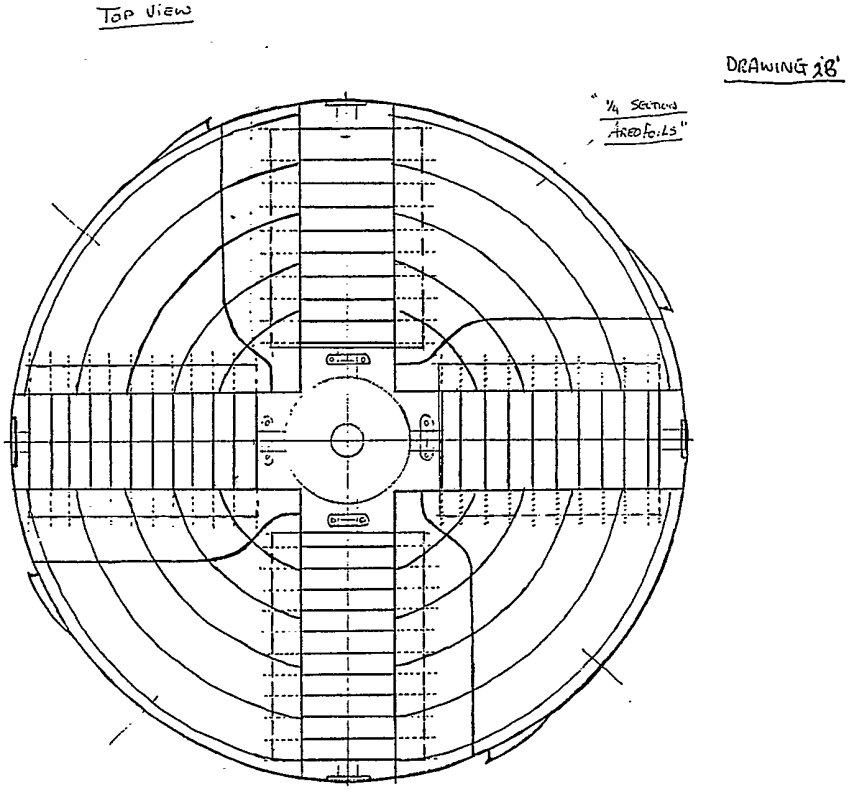
B7G G44E
B7W WBD

(56) Documents cited
GB 0835221 A GB 0580053 A GB 0510192 A
GB 0364151 A GB 0272957 A EP 0468894 A1
WO 89/07073 A2

(58) Field of search
UK CL (Edition L) B7G G44E, B7W WBD WPF W611
INT CL[5] B64C 23/02 23/08
On-line database: W.P.I.

# (54) Magnus effect lifter unit

(57) A four axis counter rotating finned cylinder and aerofoil structure, rotated by a central drive shaft, coupled by a central gear box with bevel gears to each horizontal axis at a ratio of 8:1. To rotate the cylinders through the induced air stream at up to 3,500 RPM, the cylinders are enclosed in a multiple aerofoil support structure, by which the natural forces of magnus aerofoil lift, aerofoil lift and the directed gyroscopic inertia forces are harnessed to produce high lift coefficients that are capable of being used to lift vehicles and their heavy objects when suitably installed in lifting frames.

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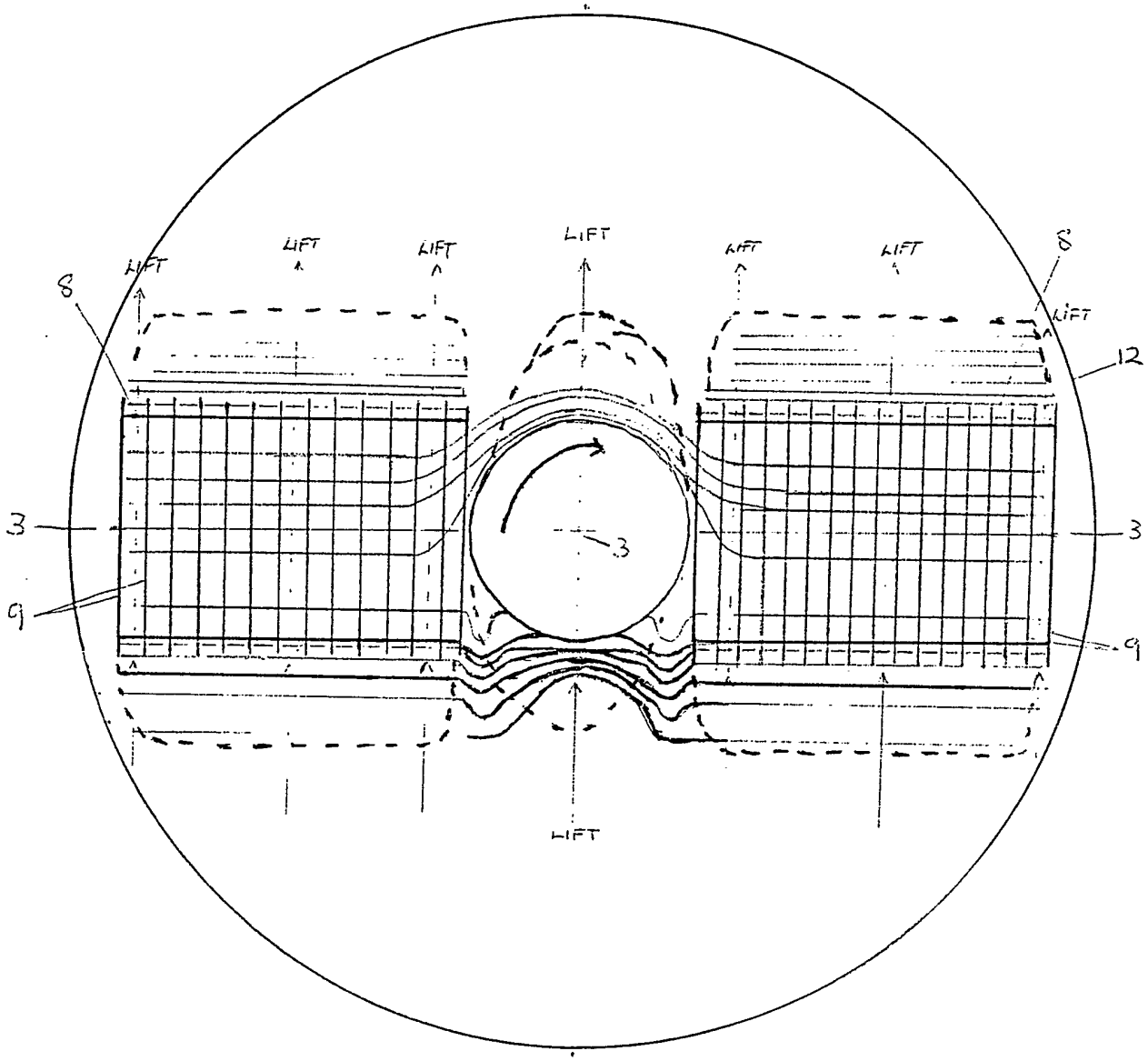
GB 2 266 498 A




3. Cylinder Drive shaft.
8. Cylinder.
9. Fins.
12. Support Sphere.

LIFT = A combination of Magnus effect and Gyro lift via upward inertia

DRAWING TWO 'A'

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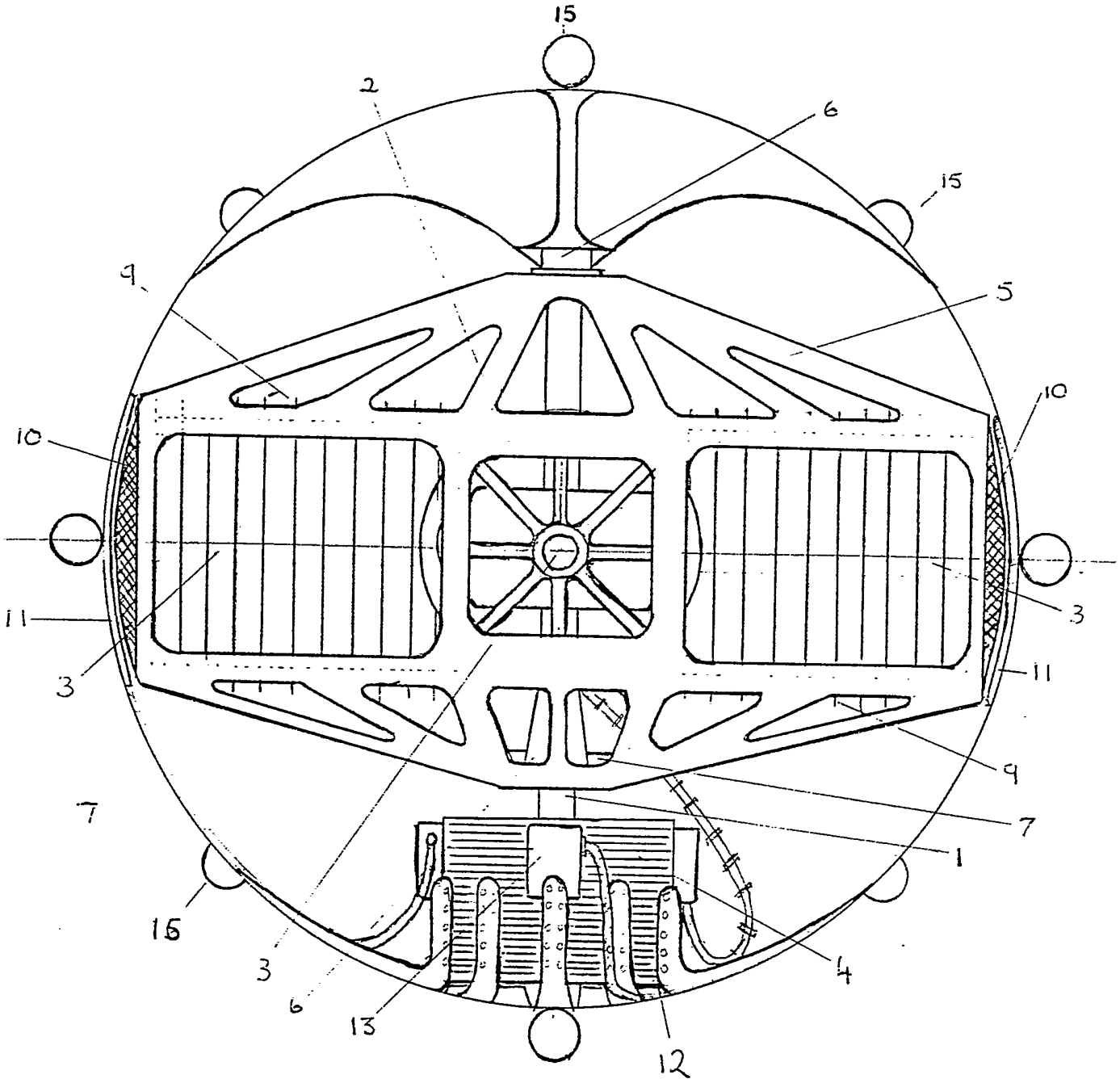
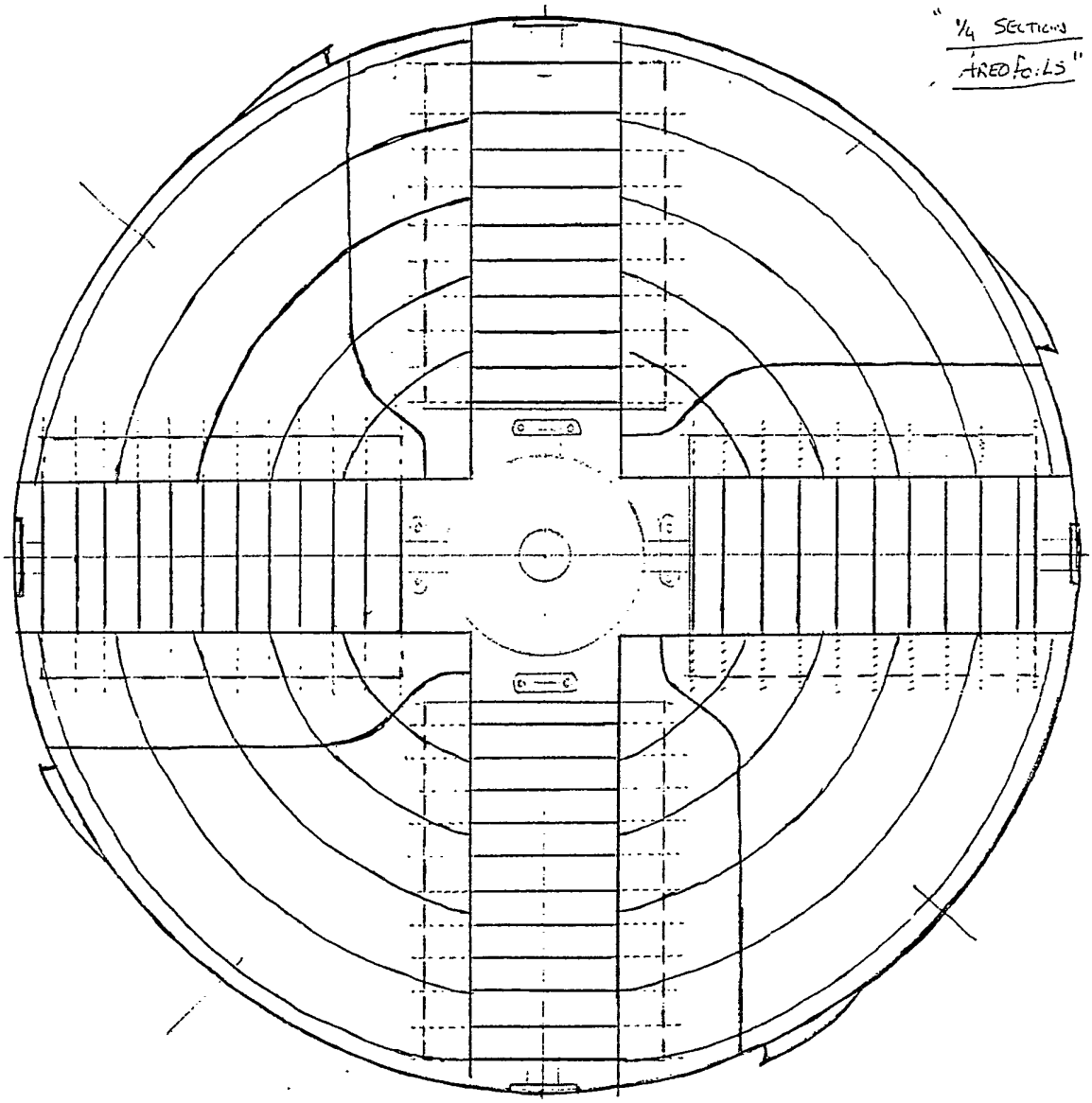


DRAWING 18'

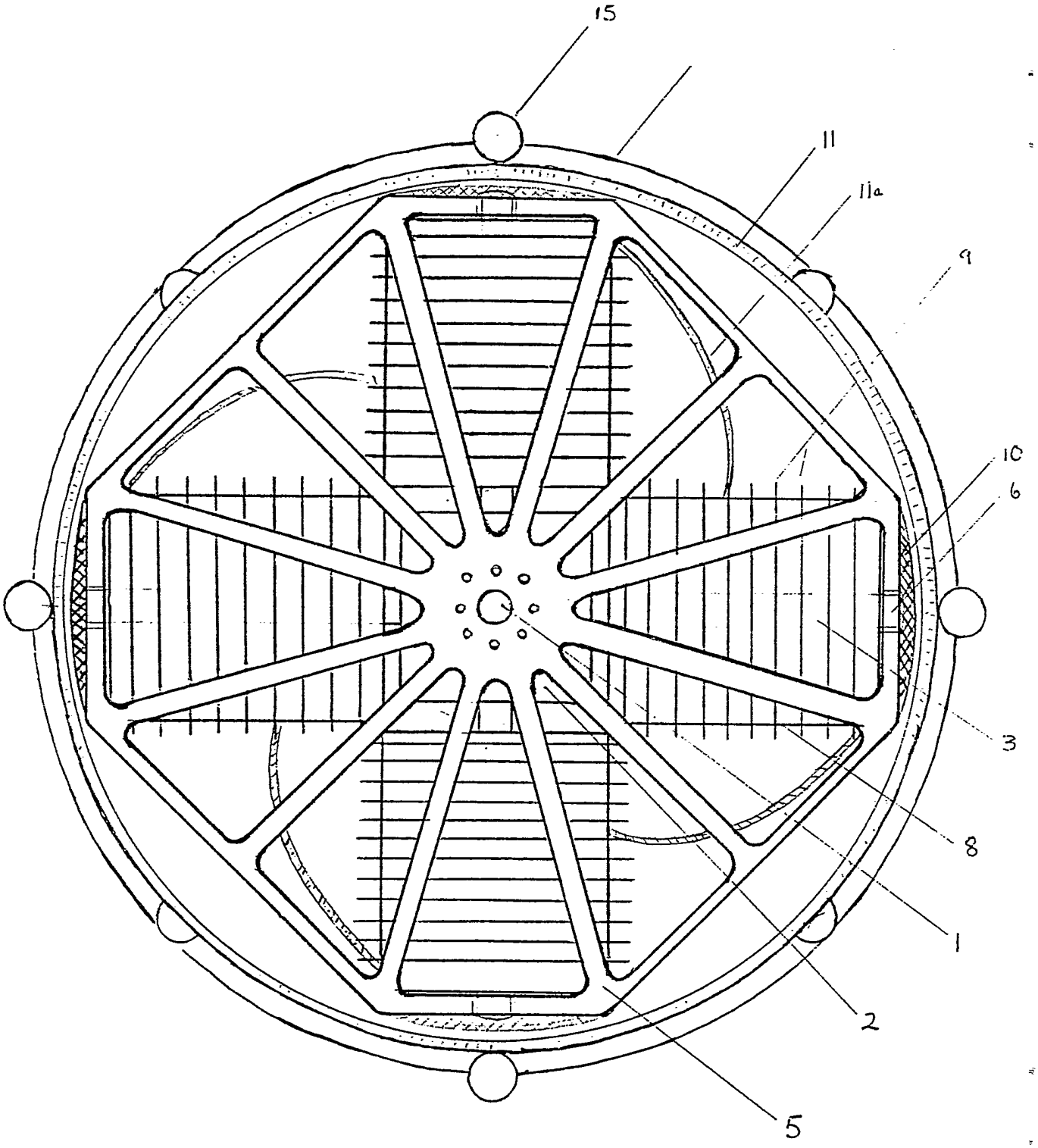
3/14

TOP VIEW



DRAWING THREE





DRAWING TOOK

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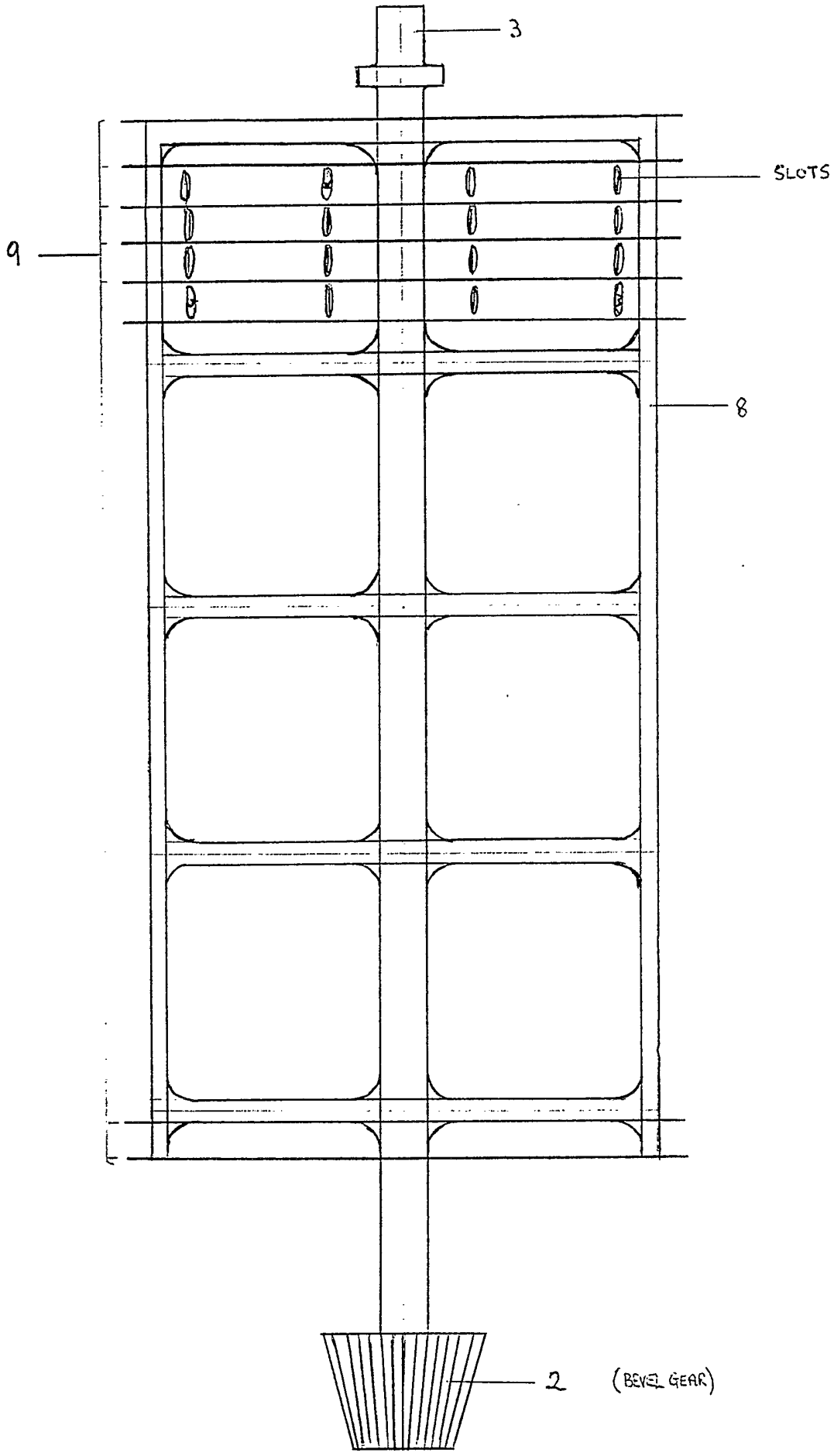
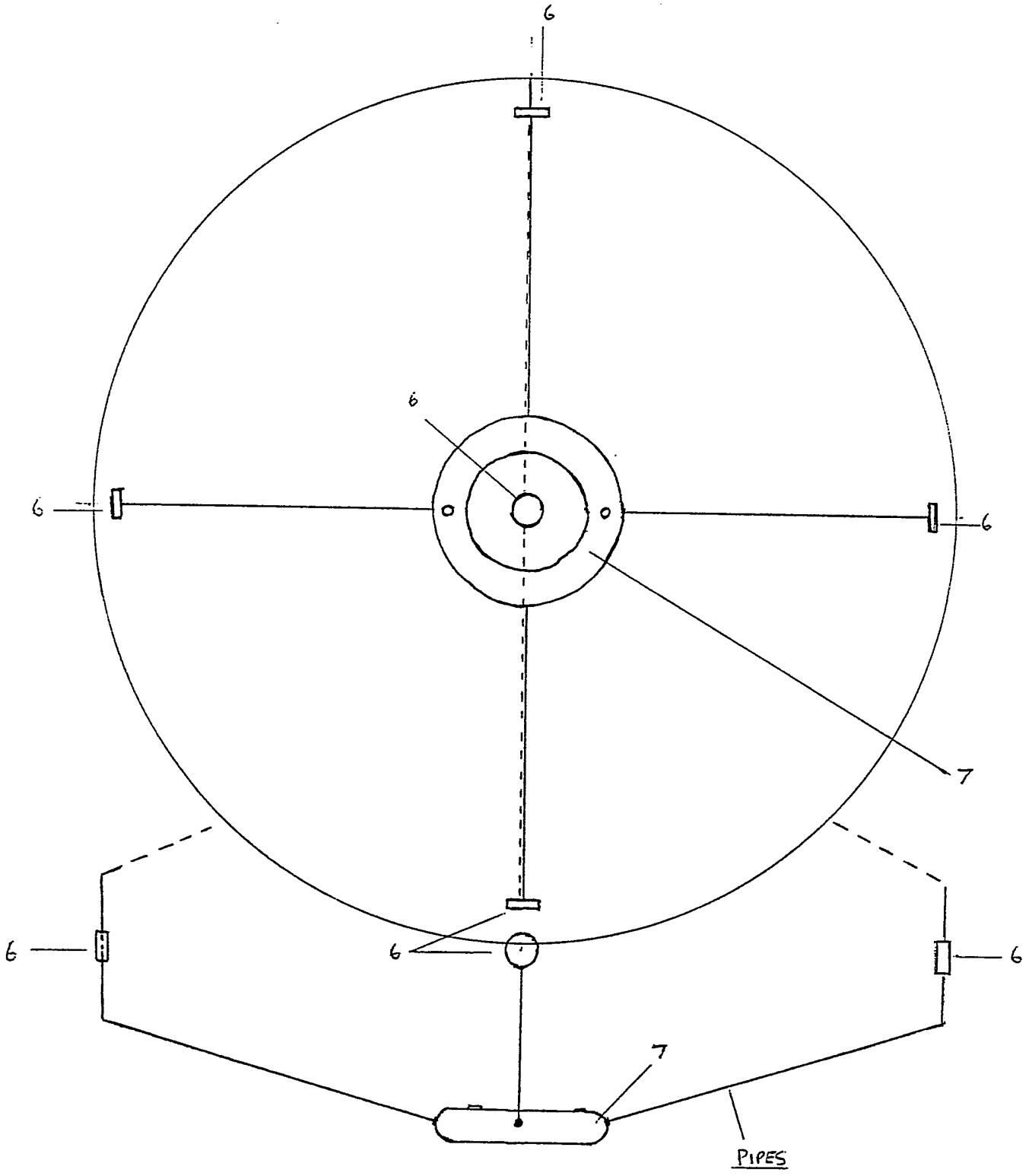


LUBRICATION SYSTEM

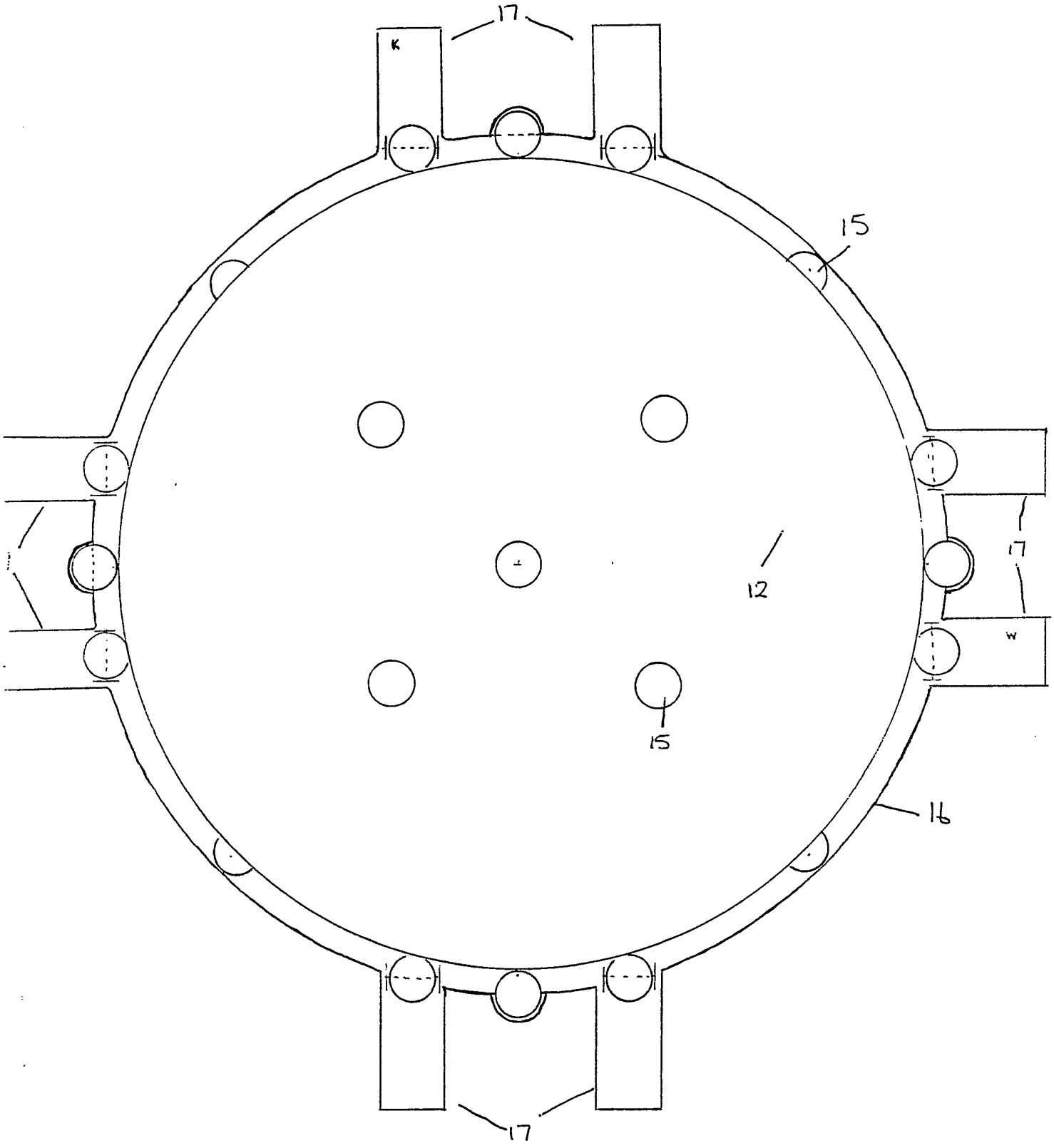
DRAWING 5





DRAWING SIX

TOP VIEW



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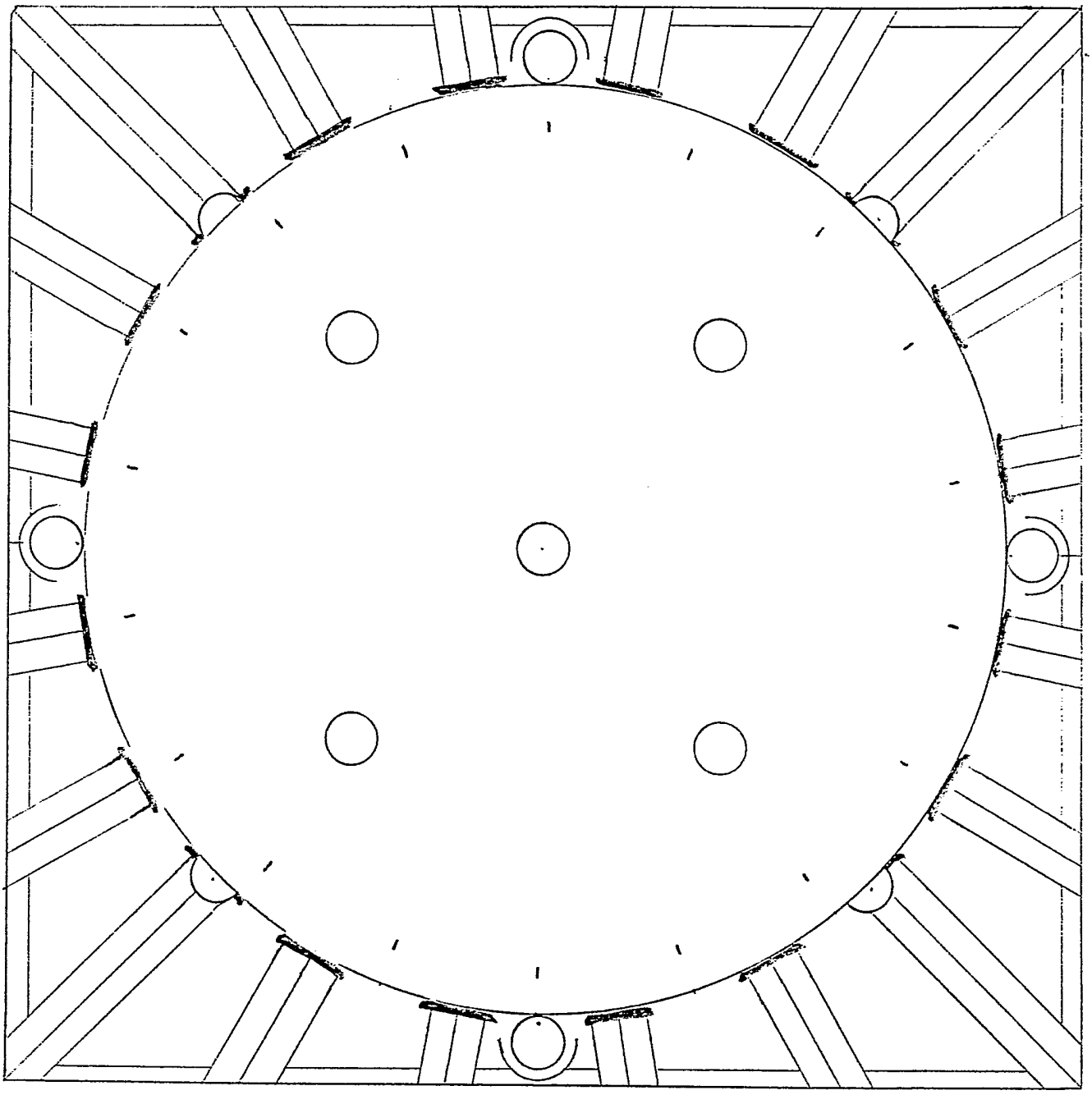
SEVEN

DRAWING :

Top & SIDE ELEVATION DRAWING

EIGHT.



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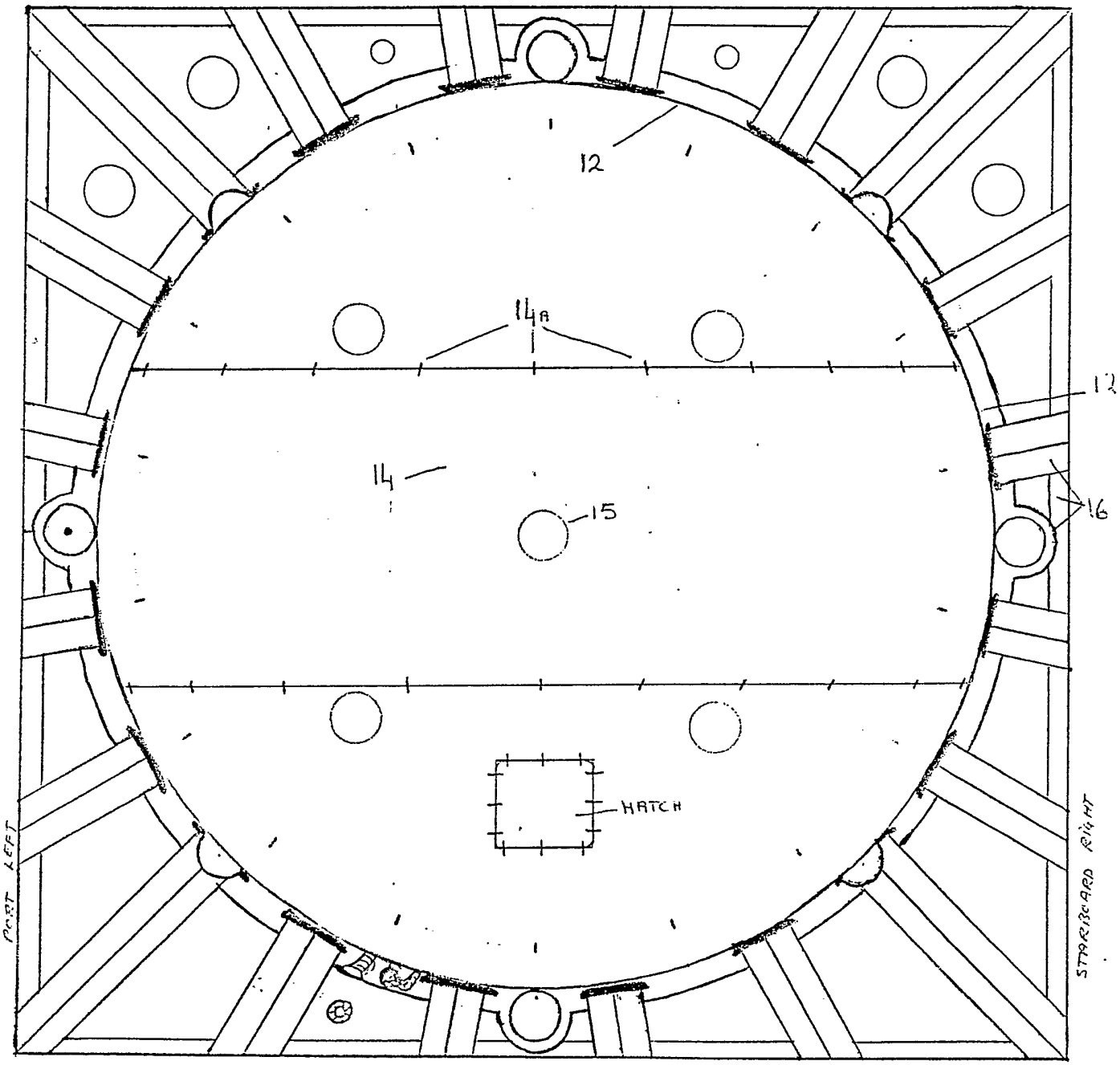
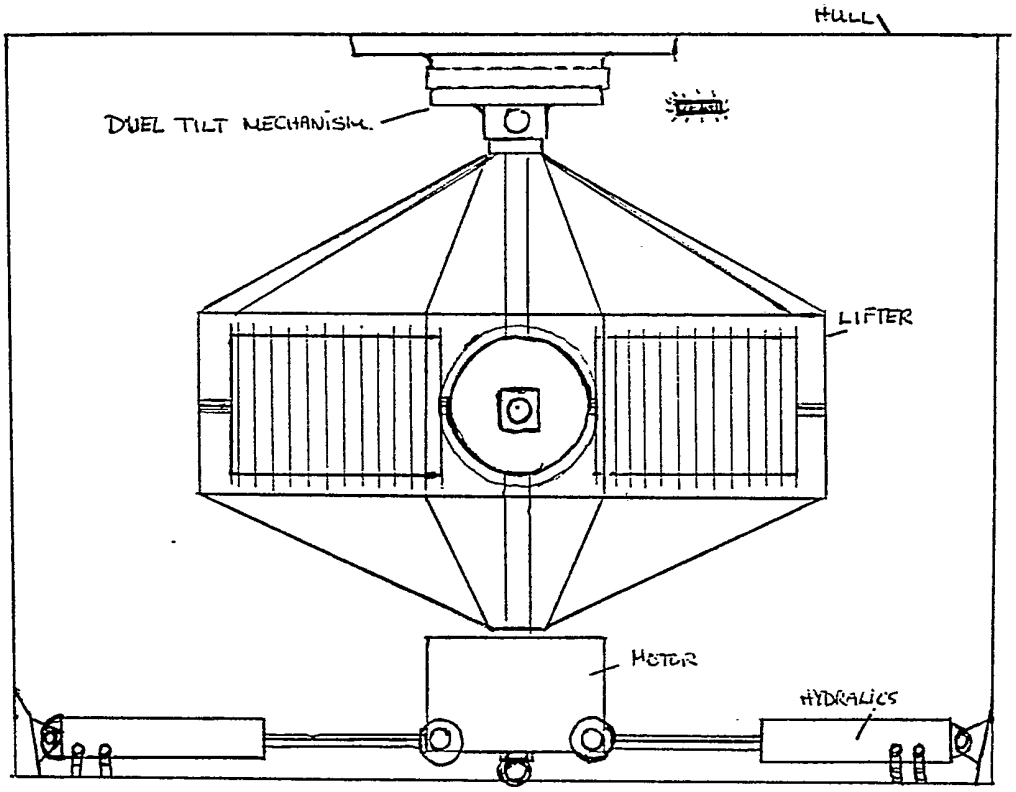
DRAWING EIGHT

SIDE ELEVATION

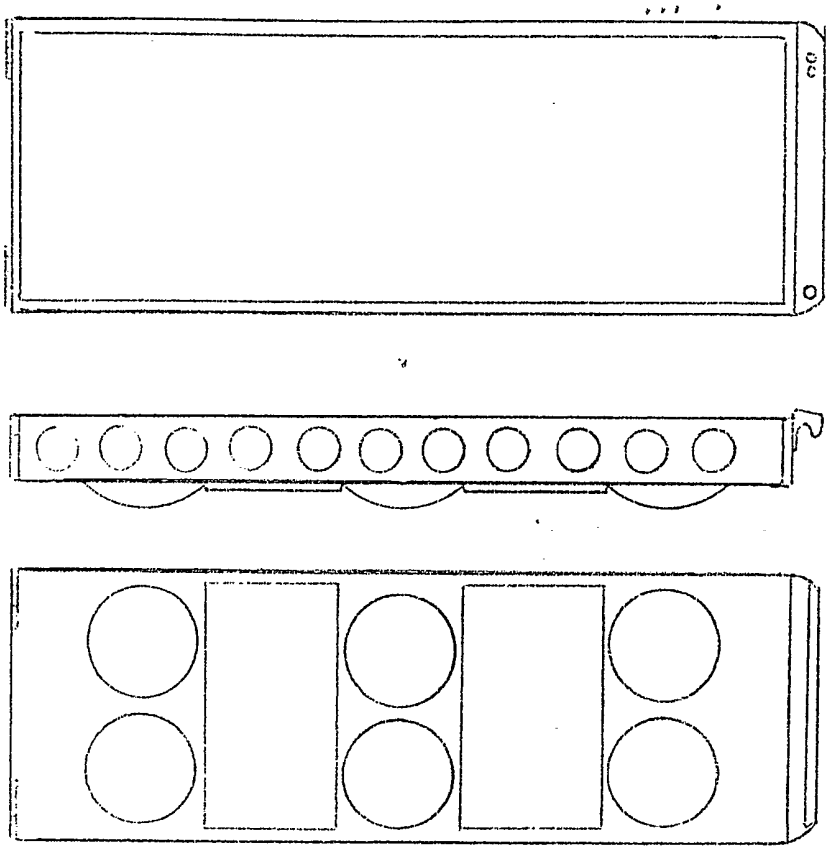



HULL DOWN – BASE OF VESSEL

DRAWING NINE



DRAWING ITEM



FLAT BED LIFTER

12/14

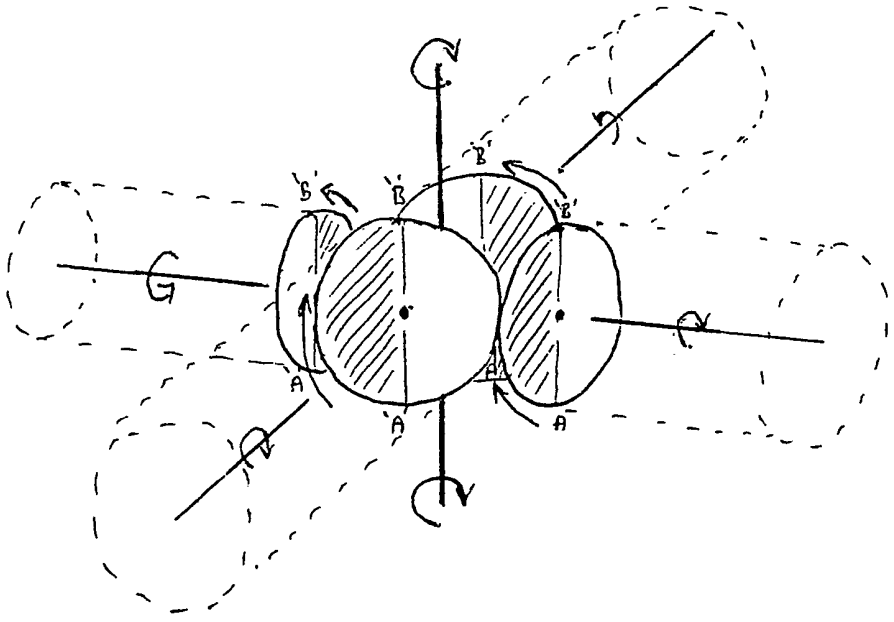
ANNEX TO DRAWING 10

LIST OF SOME USES

FOR, SPACE SHIPS, HOMES MOBILE, TOOLS & CONSTRUCTION EQUIPMENT, BULKY OBJECTS, A TABLE, SNACK BAR, DRINKS BAR, HOVER BOARD, LIFE RAFT, SUPPORT LIFTER MODULE, CONTAINER CARGO LIFTER, FLOATING MODEL SPACESHIP, SHOPPING TROLLEY, PERSONAL TRANSPORT, SEATING, HOVERING ARMCHAIR, MOBILE KITCHEN, MARKET STAND, ADVERTISING STAND, EMERGENCY STRETCHER, ANTIGRAV REENTRY VEHICLE , ROBOTIC PROGRAMMED LIFTER UNIT, SHIP TO SHIP BACK PACK OR PLATFORM, SPACE STATION LIFTER MODULE, WORK STATION, COMPUTER DESK, FOOD TRAY, SERVICE TRAY, DRAFTSMENS DRAWING TABLE, HOVERING LIGHT/COVER, HOVERING MINING SHIP & PROCESSOR UNIT, MAINTENENCE PERSONELL LIFT UNIT, HOVERING FIRE SUPPRESSOR, FARMERS CROP CARRIER, AUTOMATED WATERING UNIT, PROPULSION UNIT FOR LIQUID ENVIRONMENTS, MILK FLOAT, HOVER HARVESTER, HOVER TRACTOR, HOVER BALL, MOBILE SPHEREOID SECOND WORLD, BULK TRANSIT CARRIER, BABIES HOVER CARRIER, FURNATURE CARRIER, MINERAL DISPLAY CABINET, GARDENERS CARRYALL, FACTORY CARRYALL, CHILDRENS HOVERBOARD, MINERAL SAMPLES CARRIER, SCHOOLS AND UNIVERCITY STUDY PIECE, HOVER GOLF TROLLEY, SEA SHORE LIFE PRESERVER, HOVER SPORT RACER, HOVER PICNIC CARRIER, WATER CARRIER,

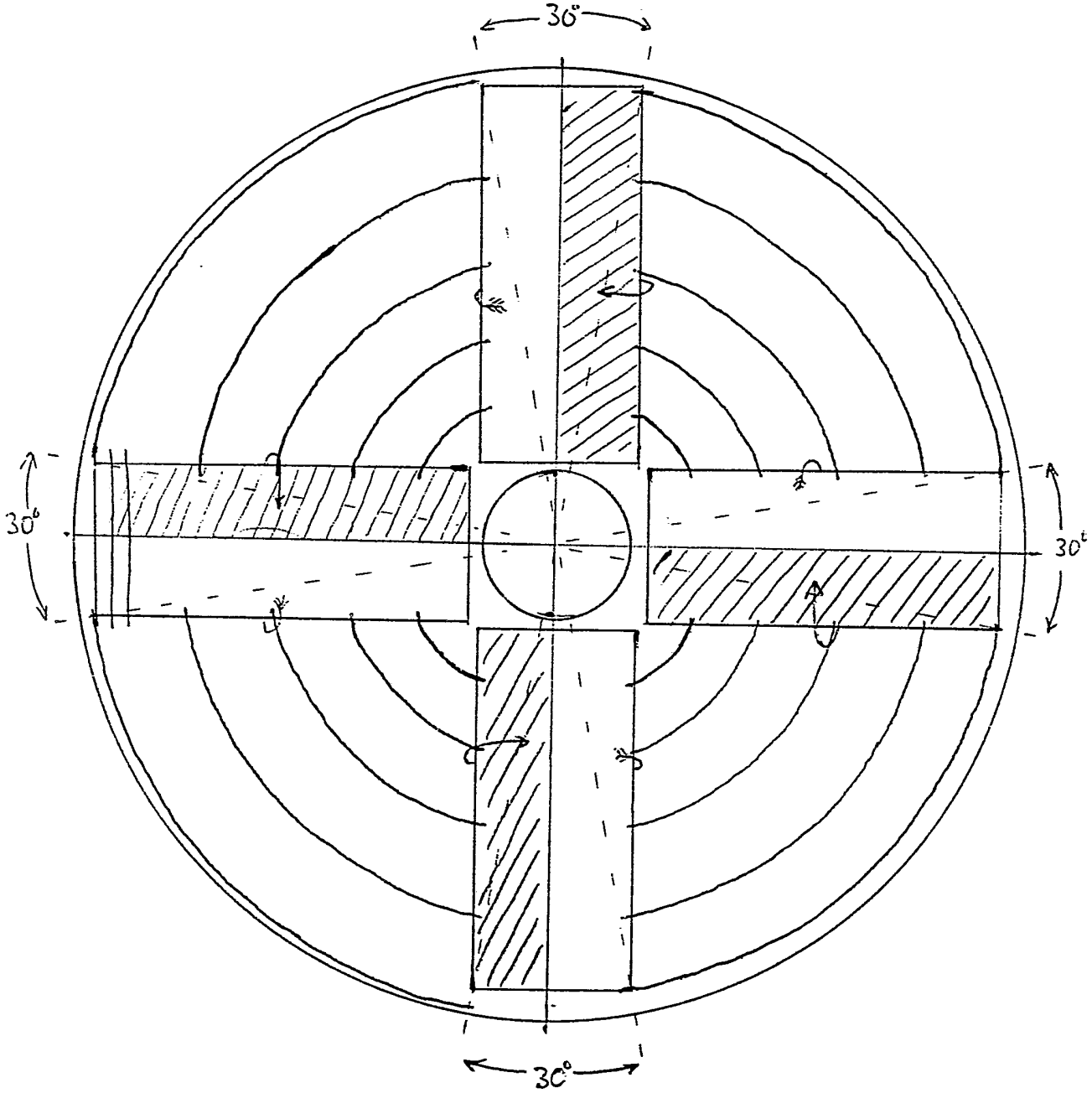
CALCULATION

1st DRAWING



CALCULATION

2ND DRAWING



MR G

FOR THE GRANT OF PATENT

# VESSEL LIFTING UNIT

## MAG LIFTER

SEARCH FOR OTHER TYPES OF INVENTIONS USING THE MAGNUS AREOFOIL LIFT EFFECT,THE DIRECTED GYROSCOPIC INERTIA EFFECT, AND THE AREOFOIL EFFECT COMBINED TO PRODUCE LIFT AND DIRECTIONAL THRUST TO A VESSEL OR AIR OR SPACE VEHICLE.

PRE SEARCH.

1. FLETTNER ROTOR SHIP FOR OCEAN GOING VESSELS, DOUBLE CROSSING OF THE NORTH SEA, ATLANTIC CROSSING.
2. BETZ, EXPERIMENTED WITH ROTATING CYLINDERS.
3. LIPPISCH, EXPERIMENTED WITH CYLINDERS ROTATING ON THE LEADING EDGE OF AREOFOILS OF WINGS TO IMPROVE THE COEFFICIENT OF LIFT, CL.
4. SPORTSMANS PLAYBALL, MAGNUS EFFECT MADE TO SWERVE PLAY BALL.

THE NOT SO OBVIOUS USE OF SOME AVAILABLE KNOWLEDGE, PLUS OTHER METHODS OF ENHANCING THE AREOFOIL MAGNUS EFFECT, THE DIRECTABLE INERTIA OF THE GYROSCOPIC EFFECT AND AREOFOILS, TO PRODUCE LIFT, PROPULSION,FORWARD,REVERSE,LEFT AND RIGHT DIRECTIONS OF MOVEMENT, AND CONTROLLED ASSENT AND DECENT. FOR PASSENGER VEHICLES, CARGO VEHICLES, PRIVATE AND COMMERCIAL VEHICLES, HEAVY LIFTING DEVICES.

proposed inventions use, lifter and thrust unit.

M-

18

THE INVENTION RELATES TO THE LIFT AND PROPULSION BY THE MECHANICAL MANIPULATION OF THE NATURAL PHENOMENA CALLED THE MAGNUS EFFECT, AN AREOFOIL LIFT DEVICE AND DIRCTED GYROSCOPIC INERTIA INTO LIFT.

USUALLY THE NATURAL EFFECT ENHANCED HERE HAS BEEN INCORPORATED IN LARGE DIAMETER CYLINDRICAL COLUMNS FOR VESSELS PROPULSION WEIGHING MANY TONS. THE CONCEPT OF COMPACTING THE SIZE AND ARRANGEMENT OF CYLINDERS PLUS ADDITIONAL AREOFOILS AND FINS TO PRODUCE LIFT AND FORWARD MOTION WITHOUT BEING DIRECTLY EXPOSED TO THE OUTSIDE ENVIRONMENT, BUT STILL BEING PROVIDED WITH GREATER WIND VELOCITY BY THE ENTIRE CYLINDER ASSEMBLY AND AREOFOILS BEING ROTATED ABOUT IT'S CENTRAL VIRTICAL OR INCLINED AXIS.

A SECURE MOTOR DRIVE SHAFT ROTATION SYSTEM, ATTACHED TO A CENTRAL DRIVE SHAFT AND SUPPORT COLUMN, MID-WAY GEARED TO 8:1 MULTIPLICATION, PRODUCING 8 TIMES THE ROTATION ON FOUR FINNED CYLINDERS 90 DEGREES APART; INBETWEEN THE FINNED CYLINDERS ARE 4 SEGMENTED AREOFOILS, ALL SUPPORTED AT THEIR ENDS AND JUST BEFORE THE GEAR BOX BY AN AREOFOIL THRUST CAGE AND AT THE TOP AND BOTTOM THE CENTRAL DRIVE SHAFT COLUMN, SECURED TO THE TOP BY THRUST AND ROLLER BEARING ASSEMLIES, THE ENTIRE ASSEMBLY EITHER ENCLOSED IN A SPHERE THAT PROVIDES MOVEMENT IN ALL DIRECTIONS OF 360 DEGREES OR A DUEL AXIS ASSEMBLY WITH MOVEMENT; FORWARDS, BACKWARDS, LEFT AND RIGHT.

MR G

1[illegible] VI

A SPECIFIC EMBODIMENT OF THE INVENTION WILL NOW BE DESCRIBED BY WAY OF EXAMPLE WITH REFERENCE TO THE ACCOMPANYING DRAWINGS AND SCRIPT, WITH CALCULATIONS THAT SHOWS THE EFFECTS OF ALL THE PHENOMENA INVOLVED.

DRAWING 1. SHOWS THE AIR CONTOUR LINES THAT PRODUCE THE EFFECT KNOWN AS THE MAGNUSS AREOFOIL EFFECT A LIFT PRODUCING FORCE ON ALL ROTATING CYLINDERS. HERE SHOWN ON THREE OF FOUR ROTATING CYLINDERS IN THE INDUCED AIR STREAM; EACH OF THE CYLINDERS HAS AT IT'S FRONT AND REAR AN AREOFOIL SEGMENT THAT REDUCES THE TURBULENCE AND DIRECTS THE AIRFLOW OVER AND UNDER THE FINNED CYLINDERS.

DRAWING 2. SHOWS THE SAME SIDE ON VIEW WITH ALL MAJOR COMPONENTS MOTOR AND SECURING, GEARING UNIT 8:1 RATIO, THREE OF FOUR CYLINDERS ON THEIR AXIS DRIVE SHAFTS, SEGMENT AREOFOILS, AREOFOIL THRUST CAGE AND SUPPORT BEARINGS, AN OPTIONAL ENCLOSURE SPHERE WITH INDUCTION POWER PRODUCING COIL FROM PERMANENT MAGNETS SET AT THE OUTER EDGE OF EACH CYLINDER END ON THE OUTSIDE OF THE SUPPORT STRUCTURE, ALSO SHOWN ARE TOUGH PHNUMATIC SUPPORT SPHERES FOR THE FREE MOVEMENT WHEN UNDER GUIDENCE .

DRAWING 3. SHOWS THE TOP VIEW OF THE LIFTER UNIT,THE CENTRAL DRIVE SHAFT AND SUPPORT,AREOFOIL STRUCTURE, FOUR AREOFOIL SEGMENTS EQUALLY SPACED BETWEEN EACH OF THE FOUR CYLINDERS THAT HAVE EQUALLY SPACED FINS, OPTIONAL INDUCTION COIL AND POWER FEED CABLES, THE SPHERES OUTER EDGE IS SHOWN SUPPORTED FOR FREE MOVEMENT BY THE TOUGH PHNUMATIC SPHERES THAT ARE KEPT IN PLACE BY THE VESSELS CONTAINER STRUCTURE.

DRAWING 4.

SHOWS ONE OF THE FOUR CYLINDERS IN SECTION WITH CENTRAL DRIVE SHAFT SUPPORTS, PLUS FINS AND THE ANTI-AREOFOIL BREAKAWAY SLOTS TO ENHANCE THE COEFFICIENT OF LIFT.

DRAWING 5. CENTRAL LUBRICATION SYSTEM SUPPLYING BEARINGS BY CENTRIFUGAL FORCE AND DRIP FEED RESERVOIRS.

DRAWING 6. SHOWING SPHERE CONTAINER, TOUGH PHNUMATIC SUPPORT SPHERES AND GUIDENCE CONTROL.

DRAWING 7. SHOWS THE ENCLOSED SUPPORT STRUCTURE TO THE HULL OF THE VESSEL SELECTED, MAIN PRIMARY POWER CABLE AND SUPPORT SPHERES. TOP VIEW.

DRAWING 8. A SIDE VIEW SHOWING LIFTER UNITS SPHERES 3 SEGMENTS ATTACHMENT POSITIONS, THE SUPPORT SPHERES AND LIFTER SPHERES CONTAINER AND HULL FOR VESSEL THRUST STRUCTURE, AT THE BASE THE PRIMARY POWER CABLE.

DRAWING 9. SHOWING THE ALTERNATE ARRANGEMENT OF AREOFOIL--SUPPORT STRUCTURE, ATTACHED DIRECTLY TO THE HULL OF THE VESSEL WITH HYDRAULIC TILT RAMS, ROTATING AREOFOIL SUPPORT STRUCTURE'S POSITION FOR THE FOLLOWING NEEDS.
1, UP OR HOVER: 2,HOVER AND TURNING TO RIGHT..AND DASHED LINES FOR FORWARD AND REVERSE POSITIONS.,
3, HOVER AND TURN LEFT ALL ON THE DUEL AXIS TILT MECHANISM.

DRAWING 10. SHOWS A FLAT LIFTER UNIT COMPRISED OF MULTIPLE LIFTERS (INDICATED BY SPHERES, NOTATION GIVING SOME USES.

MR.G.K
18 [illegible]RI
GLE[illegible].C
SC[illegible]LE



DRAWING 11. SHOWS AN AIR SHIPS ARRANGEMENT OF LIFTERS, ONE SPHERE MADE OF THREE SEGMENTS WITH A ENTRY MAINTENENCE HATCH. NOTES ON MAINTENECE PROCEDURE.

# CALCULATIONS
# TO HELP EXPLAIN THE M.A.G. LIFTERS
# PERFORMENCE

COEFFICIENT OF CYLINDER LIFT CAUSED BY THE MAGNUS EFFECT IS = 8 x 4 UNITS = 32

COEFFICIENT OF THE ¼ SECTION AREOFOIL SECTIONS IS = 1.5 to 2.0 = 6 to 8

COEFFICIENT OF LIFT..... SUBTOTAL CL 38 to 40

ADDITIONAL AREOFOIL LIFT IS OBTAINED VIA THE CONTOURED AREOFOILS OF THE SUPPORT STRUCTURE.
EACH SUPPORT AREOFOILS LENGTH= 750mm x 12 top section
= 750mm x 12 bottom section
THE TOTAL COEFFICIENT OF LIFT FOR THE TOP AND BOTTOM SECTIONS OF THE SUPPORT STRUCTURE IS AS FOLLOWS,
CL= 1.5 x 12= 18 for the top.
CL= 1.5 x 12= 18 for the bottom.

THE TOTAL CALCULATED AREOFOIL AND MAGNUS EFFECT LIFT IS .....= 74 to 76 CL

WHEN THE M.A.G. LIFTERS RPM REACHES 3,500 THE WEIGHT OF AIR AT NORMAL ATMOSPHERIC PRESSURE IS 11,907.77402Kg/minute MULTIPLIED BY THE COEFFICIENT OF LIFT 74 to 76 this WILL PRODUCE A KILOGRAMME LIFT FORCE OF:-

881,175.2775 kg to 904,990.8255 kg per MINUTE.

PER SECOND THIS CALCULATES OUT AT,
58.3333 rps.....198.462kg of air/second times CL of 74 to 76= 14,686.188kg of lift per second to 15,083.112kg. of lift per second.
THERE IS ALSO THE GYROSCOPIC INERTIA LIFT THAT ACCOMPANIES THE M.A.G. LIFTER THE CALCULATIONS FOLLOW ON THE NEXT PAGE.

CALCULATIONS HELPING TO EXPLAIN THE GYROSCOPIC INERTIA LIFT

THAT THE M.A.G. LIFTER PRODUCES.

FACTORS,

CENTRAL DRIVE SHAFT ROTATION SPEED, MAXIMUM 3500 rpm or 58.3333 rps.

FINNED CYLINDER WEIGHT MAXIMUM SPEED, UP TO 28,000 rpm or 466.666 rps.

THE DISTANCE THE CYLINDER COVERS AT MAXIMUM RPM,= 371.933 meters per second.

(EXAMPLE) CYLINDER WEIGHTS TO CALCULATE INERTIA LIFT EFFECTS.

1 CYLINDER WEIGHT 20.5 KILOGRAMMES X 371.933m/sec =

=7,624.6265 kilogrammes of inertia mass, multiply this by 4 [illegible]

cylinders = 30,498.506 kilogrammes per second.

WHERE AND HOW THE M.A.G. LIFTERS INERTIA FROM THE GYROSCOPIC EFFECT OF THE CYLINDERS IS DIRECTED TO PROVIDE LIFT TO THE UNIT.

THE CIRCUMFERENCE THE CYLINDERS ROTATE ABOUT= 5.340m,

THE DIAMETER OF THE CYLINDER STRUCTURE = 1.700m,

3,500 rpm divided by 60 seconds = 58.3333 rps,

the shaded area of the next two drawings is the moment the inertia mass is exerted upwards from both directions from 'a' to 'b' by both the counter rotating cylinder masses and inertia, this keeping the lift even on all four cylinders axies.

THE MASS OF INERTIA KILOGRAMMES BEING EXERTED UPWARDS FOR EVERY SECOND OF MAXIMUM RPM REVOLUTION IS AS FOLLOWS.

EACH CYLINDER TAKES UP AT THE END TIP 30 DEGREES OF 360 DEGREES.

THIS 360 $^{o}$ divided by 30$^{o}$ = 12 x 7,624.6265 kilogrammes per second = 91,495.518 kilogrammes.

The 360 $^{o}$ x 58.3333 rps = 21,000$^{o}$ divided by 30$^{o}$ for the cylinders area used = 700 reference points to lift per second.

as shown on the second drwaing.

MR. G

MULTIPLE AREOFOIL MAGNUS EFFECTS AND DIRECTED GYROSCOPIC INERTIA FORM THE SUBSTANCE OF THIS PROPULSION AND LIFT DEVICE, THE DRAWINGS AND CALCULATIONS GÓ TO QUALIFY THIS ADAPTATION OF NATURAL FORCES WHOSE EFFECT IN THIS ARRANGEMENT I CALL ."THE WALDEN M.A.G. LIFTER".

FOR OTHER COMMERCIAL PURPOSES "ANTI-GRAV LIFTER" IS GOING TO BE USED, TO SOME EXTENT.

"THE WALDEN M.A.G. LIFTER".

DRAWING TAG NUMBERS,AND DESCRIPTION.

1. 0 to 3,500 R.P.M. FROM THE CENTRAL DRIVE SHAFT, FROM THE POWER SYSTEM USED. ELECTRICAL OR COMBUSTION ENGINE.

2 , 3. MID POSITION BEVEL GEARS MULTIPLYING THE RPM TO EACH 90 DEGREE AXIS ON THE HORIZONTAL = 3,500 x 8 = 28,000 rpm

4. DRIVE SHAFT CENTRAL AXIS CONNECTED TO THE FOLLOWING OPTIONS AVAILABLE,TO PROVIDE THE RPM LINEAR FLAT PLATE ELECTRIC MOTOR, VECTORED THRUST JET TURBIBE SHAFT COUPLING LIGHT WEIGHT COMBUSTION ENGINES.

5. THE 90 DEGREE CYLINDER DRIVE SHAFTS ARE CONNECTED TO THE MULTIPLE AREOFOIL SUPPORT STRUCTURE.

6.SUPPORT AND THRUST BEARINGS

7.LUBRICATION FROM A CENTRAL AXIS RESERVOIR THAT DUE TO CENTRIFUGAL FORCES, THE LUBRICATION IS FORCED TO THE BEARINGS ALONG PIPE LINES.

8. EACH HORIZONTAL ROTATING SHAFT, WHICH SUPPORTS A CYLINDER THAT HAS ON IT'S SURFACE ARROUND THE CIRCUMFERENCE,

9. EQUALLY SPACED FINS ALONG THEIR FULL LENGTH, THIS ENHANCES THE AREOFOIL LIFT BY PREVENTING CENTRIFUGAL AREOFOIL LIFT BREAK AWAY.

10. THE AREOFOIL THRUST SUPPORT STRUCTURE AT IT'S HORIZONTAL AXIS, AT THE CIRCUMFERENCE AS AN OPTION HAS ON IT'S OUTER EDGE SECURED PERMANENT MAGNETS, THAT WHEN ROTATED INDUCE AN ELECTRICAL CURRENT TO FLOW, THIS CAN BE USED FOR THE LIFTER UNIT OR OTHER VESSEL NEEDS.

11. THE INDUCTION COIL SURROUNDING THE INTERNAL HORIZONTAL SURFACE OF THE SPHERE.

12. THE SPHERE OPTION CAN SUPPORT THE ENTIRE LIFTER UNIT.

13. REUSED POWER TO THE MOTOR.

14. IF THE SHERE CONFIGURATION IS USED IT IS COMPRISED OF THREE INTERLOCKING SEGMENTS ALIGNED AND CLAMPED.

15. THE ANGLE OF TILT AND THEREFORE THE GYRO INERTIA THRUST OF THE LIFTER IS ACCOMPLISHED BY THE USE OF SUPPORT SPHERES ON THE OUTER SURFACE WHICH ROTATE WITH THE SPHERES DIRECTION

16. THE MAIN CONTAINER FOR THE LIFTER SPHERE.

17. THE SPHERES DIRECTION AND NAVIGATION VIA IT'S ROTATION OF THE M.A.G. LIFTER, IS CONTROLLED BY 4 SETS OF 360 DEGREE MOTOR DRIVEN SPHERE WHEELS THAT PERMITS THE SPHERE LIFTER UNIT TO BE TILTED TO ANY ANGLE FROM ANY SET POINT OF ORIGIN.

THIS IS THE BEIGINING OF THE CLAIM AND DEMAND FOR PATENT RIGHTS , NOT TO BE LIMITED TO THE DRAWINGS SUBMITTED, ALSO THIS CLAIM AND DEMAND SHOULD BE CONSIDERED ALSO INTELLECTUAL PROPERTY FOR WHICH ROYALTY RITES WILL BE DUE AT ANY MOMENT OF INFORMATION TRANSFER.

## CLAIMS

1. THE LIFTER UNITS ABILITY TO PRODUCE LIFT AND PROPULSION VIA MULTIPLE AREOFOILS AND DIRECTED GYROSCOPIC INERTIA.
2. THE LIFTER UNITS ABILITY TO REPRODUCE POWER USED.

3. THE LIFTER UNITS ABILITY TO PRODUCE IT'S OWN INDUCED AIR VELOCITY.

4. THE LIFTER UNITS ABILITY TO BE GUIDED VIA TILTING GIVING THE VESSEL DIRECTION THROUGH INERTIA FORCES AND AREOFOIL THRUST FORCES.

5. THAT THIS CONFIGURATION AND USE IS NEW AND ORIGINAL.

**Patents Act 1977**
**Examiner's report to the Comptroller under Section 17 (The Search Report)**

Application number
GB 9300681.5

**Relevant Technical fields**

(i) UK Cl (Edition L ) B7G - G44E
B7W - WBD, WPF, W611

(ii) Int Cl (Edition 5 ) B64C - 23/02, 23/08

Search Examiner
B F BAXTER

**Databases** (see over)

(i) UK Patent Office

(ii) ONLINE DATABASE: WPI

Date of Search
18 MARCH 1993

Documents considered relevant following a search in respect of claims

| Category (see over) | Identity of document and relevant passages | | Relevant to claim(s) |
|---|---|---|---|
| X | GB 835221 | (MINISTER OF SUPPLY) - note Figures 8-10 | 1-3 |
| X | GB 580053 | (MASSEY) - whole document | 1-3 |
| X | GB 510192 | (FAIREY AVIATION & AM) - note rotors 11 | 1-3 |
| X | GB 364151 | (DAVIES) - note rotors 10 | 1-3 |
| X | GB 272957 | (PICCOLI) - whole document | 1-3 |
| X | EP 0468894 A1 | (PICARD) - see also WPI Abstract Accession No 92-034609/05 | 1-3 |
| X | WO 89/07073 A2 | (WEISSHEIMER) - note rotors 13, 14, 70, 71 | 1-3 |

| Category | Identity of document and relevant passages | Relevant to claim(s) |
|---|---|---|
| | | |

## Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

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