

英漢雙解
航空辭典

A COMPREHENSIVE GLOSSARY
OF
DEFINITIONS AND NOMENCLATURE
FOR
AERONAUTICS

中央航空學校

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序

字學難，辭學亦難，中文辭學難，西文辭譯爲中文尤難。航空雖爲新興事業，其所用名詞，無慮數千餘種，繁雜紛紜，周知頗難，本校負全國航空教育之重任，對於此項航空名詞，亟有整理編譯嘉惠後學之必要。

吾人皆知航空名詞之在中國，率多因人而異，同一物也，而有數種稱呼，同一外國字也，而有數種譯名，譯義譯音，各自爲政，此種現象，不特增加學者之困難，且爲統一空軍事業上之一大障礙。民國二十三年本處編譯科同人有鑒於此，曾有航空用語詞典一書之編譯，意至善也。

二十四年冬季，編譯科長嚴壽康君向余商議科務，以航空用語詞典尙不足以包括并解釋一切航空名詞，乃計劃更進一步，廣事搜羅，將各國現有航空用語，譯成中名，並加以中英文說明，而命名「航空辭典」。議既定，卽指定舒伯炎，姚士宜，郭玉麟，劉寒江四君負責進行。詎知工作方始，而本校奉命改組，編譯科同人大部均調航委會服務，僅舒君一人留本處工作。玉璫深以正在編譯中之「英國皇家空軍操典」及本書「航空辭典」之工作中斷爲憾，仍囑舒君繼續努力，期此偉大工作，能照初議完成，蓋人事

序

雖有變遷，而決辦之工作必須貫徹始終，庶無負初志也。

數月以來，舒君苦心孤詣，勞瘁不辭，除擔任課堂翻譯外，即單獨苦幹，埋頭編譯，卒將此書完成付印，并自任校讐，始終不懈，其服務精神，誠難能可貴，而盡瘁學術裨益後進之功，亦不可沒也。

本書內容豐富，總計名詞四千餘種，中英說明約計數十萬言，其中意譯直譯，難無少數特殊，惟望海內宏達，對於已有之航空名詞，總以統一為前提，此後當再力求劃一，及新字之補充，以期應用之便利，則此書問世之日，即吾國所用航空名詞奠定統一基礎之時，想亦航空學術界所樂觀厥成，而願賜以指正也。是為序。

晏玉琮於航校教育處 廿五年雙十節

編 譯 大 綱

- 一、本書專供吾國航空人士，及各界研究航空學術者，讀書或參考時檢查名詞之用。
- 二、本書之編譯以切於應用爲目的，故取材標準，凡與航空學術有關之名詞及定義，皆廣爲搜羅之。
- 三、本書英文名詞之編輯，全根據英文字母秩序爲主，凡兩詞以上所合成之複名詞，亦依照各詞內字母先後排列之。例如；air hole；air flow 及 airfoil；則其排列秩序爲 air flow；airfoil；air hole。
- 四、本書名詞依照用途共分爲二十四門，用略字標誌於各名詞之後，以資區別。例如：飛行與航行名詞，則用【飛】標誌之。
- 五、凡同一名詞有數意義時，則分別規定相當之中文名詞，加冠以用途略字，以示區別。
- 六、凡一名詞僅有一義，而有數種對照之中文名詞，且均覺可取而能通用者，則并存之，但於中文名詞後加以逗點分別之。
- 七、本書各英文名詞有相等中文名詞外，再加簡易文句詳爲說明，并附英文原文於後，以供對照。
- 八、本書爲求易於瞭解起見，有照對圖表六十五幅，凡名詞必須對照者，可於附錄中參閱之。
- 九、本書名詞範圍極廣，參考各科書籍計數十種，現就其最重要者，列之於后：——

-
- (1) **Aircraft Handbook** *By Fred H. Colvin*
- (2) **Air Questions and Answers** *By P. M. Henshaw*
- (3) **A Textbook of Aviation(4 Vols.)** *By Lt. Leslie Thorpe*
- (4) **Audels New Electric Science Dictionary** *By F. D. Graham*
- (5) **Aviation Handbook** *By Warner & Johnson*
- (6) **Aviation Manual** *By Lcut. Com. John W. Iseman*
- (7) **British standard glossary of Aeronautical Terms**
By British Standard Institution
- (8) **Glossary of Words, Terms & Phrases** *From Popularr Aviation*
- (9) **Rankin text (8 Vols.)** *By Tex Rankin*
- (10) **Simplified Definitions and Nomenclature for Aeronautics** *By Lt. Leslie Thorpe*
- (11) 中國工程學會編訂之：
 a. 汽車工程名詞
 b. 無線電工程名詞
 c. 電機工程名詞
- (12) 氣象學名詞中外對照表
 國立中央研究院氣象研究所編
- (13) 物理學名詞
 國立編譯館編訂
- (14) 航空用語辭典
 中央航空學校編

十、本書名詞編譯，因以時倉促，舛誤必多，尙希讀者加以指正，俾於再版時修改。

舒伯炎謹誌

略 語 表

| | | |
|-----|----------|---|
| 【力】 | 力學及理數 | <i>Aerodynamics, Physics and Mathematics</i> |
| 【工】 | 工作及工作方法 | <i>Aeronautic Engineering and its Methods</i> |
| 【化】 | 化學 | <i>Chemistry</i> |
| 【公】 | 航空機關及團體 | <i>Organizations & Clubs on Aviation</i> |
| 【材】 | 航空材料 | <i>Materials on Aviation</i> |
| 【油】 | 燃料及滑油 | <i>Fuel and Oil</i> |
| 【軍】 | 航空軍事及兵器 | <i>Military Aviation & Armament on Aviation</i> |
| 【飛】 | 飛行及航行 | <i>Flying and Navigation</i> |
| 【氣】 | 氣象，天文及地理 | <i>Meteorology, Astronomy & Geography</i> |
| 【球】 | 氣球 | <i>Balloon</i> |
| 【設】 | 地面設備 | <i>Ground Equipment</i> |
| 【發】 | 航空發動機 | <i>Aviation Engine</i> |
| 【傘】 | 保險傘 | <i>Parachute</i> |
| 【艇】 | 氣艇 | <i>Airship</i> |
| 【電】 | 電氣及無線電 | <i>Electricity and Radio</i> |

| | | |
|-----|------|------------------------------------|
| 【裝】 | 飛機裝備 | <i>Airplane Equipment</i> |
| 【單】 | 單位 | <i>Unit</i> |
| 【儀】 | 航空儀器 | <i>Aviation Instrument</i> |
| 【輸】 | 航空運輸 | <i>Air Transportation</i> |
| 【應】 | 航空應用 | <i>Applied Science on Aviation</i> |
| 【螺】 | 螺旋槳 | <i>Propeller</i> |
| 【操】 | 操縱裝置 | <i>Air Controls</i> |
| 【機】 | 飛機 | <i>Airplane</i> |
| 【醫】 | 航空醫藥 | <i>Aviation Medicine</i> |

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A

a-axis, [力] A 軸.

解：軸中的垂直中心線，或圖中的縱軸。

[The vertical centerline of a shaft or the vertical lines (axis) of graph.]

abrasive, [工] 磨料，磨礫物。

解：為磨礫而用的一種硬粒物，如沙礫金鋼砂，矽礫 (carborundum) 等。

[A hard sharp grained substance such as sand, emery, carborundum, etc., used for grinding or which causes grinding.]

abscissas, [力] 橫坐標。

解：曲線圖解上沿橫軸的距離，多係由左至右。垂直距離稱為縱坐標。

例：圖中OX或YP為軌線上P點的

橫坐標，OY或XP為此點的縱坐標，相交線OX與OY為縱軸與橫軸，O點為元點。



[Distances along the horizontal axes on curve diagrams or graphs, usually from left to right. The vertical distances are called ordinates.]

absolute angle of attack,

[力] 絕對衝角。

解：機翼所成的角度，係由零度昇力位置量起。

[The angle made by a wing, measured from the position or zero lift.]

absolute coefficient, [力] 絕對係數。

absolute ceiling—absolute temperature

解：美國航空顧問委員會 (N. A. C. A.) 根據長度, 重量, 和時間的基本單位, 所創立的一種係數。

[The coefficients (C) originated by the National Advisory Committee on Aeronautics (N. A. C. A.) which are based upon the fundamental units of length, weight and time.]

absolute ceiling, [力] 絕對上昇限度。

解：一種飛機假定在標準空氣情況之中能保持水平飛行的海平線上最大高度。

[The maximum height above sea level at which a given airplane would be able to maintain horizontal flight, assuming standard air conditions.]

absolute horizontal, [力] 絕對水平線。

解：液體在靜止時的水面位置, 卽一塊水的水平面。

[The position of the surface of a liquid at rest, such as the horizon indicated by a body of water.]

absolute humidity, [氣] 絕對湿度。

解：空氣內的水蒸氣實際總量, 以每立方呎噸數說明之。

[The actual amount of water vapor in the air, expressed in grains per cubic foot.]

absolute inclinometer, [儀] 絕對傾斜表。

解：這是指示飛機對於垂直面上姿勢

的儀器, 此種儀器是依賴旋轉儀的動作而指示。

[An instrument which indicates the attitude of an aircraft with reference to the vertical. The indications of instruments of this type usually depends on gyroscopic action.]

absolute pressure, [力] 絕對壓力。

解：真空上所測量的壓力, 在海平面正常情況下, 大氣的絕對壓力, 每平方吋爲14.7磅。因此絕對壓力, 是將 14.7 加在壓氣表示數上而得之。

[Pressure measured above a vacuum. At sea level, under normal conditions, the absolute pressure of the atmosphere is 14.7 pounds per square inch, hence the absolute pressure is obtained by adding 14.7 to the pressure indicated by a gauge.]

absolute temperature, [力] 絕對溫度。

解：由無熱度存在點測起的溫度, 華氏溫度表是在零度下 461°, 攝氏溫度表是在零度以下 273°, 故計算絕對溫度時, 華氏溫度表的示數, 須加461。而攝氏溫度表的示數須加273。

[Temperature measured from the point where heat ceases to exist. This is 461° F. below the zero on the Fahrenheit thermometer, or 273°C. below the centigrade zero. Thus, 461 is added to the readings of a Fahrenheit

absolute vertical—acceleration of gravity

heit scale and 273 to the readings of a centigrade thermometer to obtain the absolute temperature.]

absolute vertical. [力] 絕對垂直。

解：放射線如錘錘所示，而經過地球中心的為絕對垂直綫，此綫是與水平面成直立的位置。

[A radial line passing through the center of the earth as shown by a plumb-bob line. It is perpendicular to the horizon.]

absolute viscosity. [力] 絕對黏性。

解：液體流動所生的阻力，而此係一秒鐘經過一平方公分（種）物體剪力的達因數(dynes)。

[The resistance offered by a fluid to flowing. It is the force in dynes required to shear through a square centimeter of the substance in one second.]

absorption [氣] [力] 吸收。

解：熱浪進入某物體而被損壞的過程。

[The process whereby heat waves are destroyed by the body they enter.]

A. C. [電] 交流電。

解：交流電的縮寫字。

[Abbreviation for alternating current.]

accelerating well. [發] 加速井。

解：在氣化器(carburetor)內，用以貯藏汽油，油門(throttle)驟然開放時能造出所須要的濃厚混合氣。油門關閉時，此井即盛滿汽油，以備油門驟然開放時之用。

[In a carburetor it is a small

well of fuel which is made available to the main jet for the richer mixture desired when the throttle is opened quickly. When the throttle is closed this well fills up so that it is always primed with fuel for sudden throttle openings.]

acceleration. [力] 加速率。

解：速度改變率。一物體的運動速率在每一秒鐘的終了時，較前一秒鐘快每小時一英里，則此物體每秒鐘的加速率為每秒每分鐘一英里。此種情形稱為恒定加速運動。加速率與速度本身無關，僅與速度改變率有關。

[The rate of change of velocity. If, at the end of each succeeding second, the velocity of an object is one mile per hour greater than at the end of the preceding second, then the acceleration of the object is one mile per second per second. This would be a case of uniformly accelerated motion. The acceleration has no relation to velocity itself, but only to the rate of change of velocity.]

acceleration of gravity. [力]

重力加速率。

解：在緯度四十五度的海平面上每秒每秒鐘的重力加速率為 32.17 英尺，其他各處差異甚微，故普通多忽略不計。其縮字在公式中為“g”。

[In feet per second per second is 32.17 at sea level at 45° latitude. The variation at other places is so small that it is negligible in

acceleration uniform—actinic light

ordinary calculations. Its symbol is "g".]

acceleration (uniform), [力]不變
加速率。

解：在變化運動中，每一個連續時間單位內都有劃一的速度增加率。

[Is is variable motion in which velocity increases uniformly with each succeeding unit of time.]

accelerator, [發] 加速器。

解：一種槓桿裝接在發動機氣化器的油門上，用以節制速度。

[The lever connected with the throttle of a gasoline engine carburetor which controls the speed.]

accelerometer, [儀] 加速表。

解：指示測量或記錄加速率的儀器。

[An instrument for indicating, measuring or recording accelerations.]

accutling light, [設] 暫蔽燈。

解：一種忽明忽暗的燈光，但其明時較暗時為常久。

[An intermittent light in which the duration of the bright period is longer than that of the dark.]

acetylene, [化] 亞羰質，乙炔

解：一種無色有毒氣體，氣味如韭臭，為碳化氫，(hydrocarbon.) 的化合物。化學公式為 C_2H_2 ，每立方呎的氣體所含熱力，較其他氣體為強，在空氣中燃燒時發生暗黃色的火焰，用作鐸火時，在未開放氧氣管使火焰中和之前，火嘴的盡端，即發現此種火焰。

[A hydrocarbon gas having a rank garlic odor. It contains

more heat per cubic foot than any other gas, hence it is extensively used in welding.]

acetyl-gasoline, [油] 乙炔汽油。

解：汽油內滲有乙炔，而使熱度和動力增高。

[Gasoline impregnated with acetylene gas for increasing its heat and power capacity.]

acid-battery, [電] 酸性蓄電池。

解：用硫酸溶液作電液，(electrolyte) 的一種蓄電池。

[A storage battery employing a sulphuric acid solution for electrolyte.]

actinic line, [應] 磁赤道。

解：地球上的一條想像線，是與無磁性傾角的各點連貫而成。

[An imaginary line on the earth's surface passing through points having no magnetic inclination or dip. Also called magnetic equator]

acorn, [機] 隔線核。

解：此物是裝在張線交叉間，用以防止磨擦。(參閱附錄第十五圖, 11)

[A device introduced at the intersection of bracing wires to prevent abrasion.]

aerobatics, [飛] 特技飛行。

解：見 aerobatics,

actinic light, [化] 化學光線。

解：一種光線，可使照相底片受影或起化學變化。

[Light rays that are capable of affecting a camera film or of causing chemical to take place.]

A-Cu—adjusting gear

A-Cu, [氣] 高積雲。

解：此即 alto-cumulus 字的縮寫。

adiabatic, [氣] 斷熱。

解：當物質受氣體變化時及無熱度傳入或引出時，它的溫度和密度發生的一種變化。

[The term applied to the changes which may take place in the temperature and density of a substance when it is subjected to changes of pressure and no heat is communicated to or withdrawn from it.]

adiabatic compression, [機] 斷熱壓縮。

解：氣缸內的氣體壓縮，是用物隔離不使熱度出入。

[The compression of a gas accomplished so that heat cannot leave nor enter the cylinder.]

adiabatic cooling, [氣] 斷熱冷卻。

解：空氣上昇則冷，下降則熱，每三千英尺約差華氏1.6度。

[Air cools with ascent and heats with descent at the rate of approximately 1.6°F. per 3,000 feet.]

adjustable pitch propeller,

[螺] 調距螺旋槳。

解：一個螺旋槳的槳葉裝置，可於未旋轉時作任何角度的定置。

[A propeller whose blades are so attached to the hub that they may be set to any desired pitch when the propeller is stationary.]

adjustable stabilizers, [機] 活動安定面。

解：安定面的裝置方法，可在地面或在飛行時，改變其傾角。

[A stabilizer so arranged that its angle of incidence can be changed either when on the ground or in flight.]
adjustable strut, [機] 可調整支柱。

解：一種支柱有長度調整的裝置。

[Struts or compression members provided with adjustments for length.]

adjustable surface, [機] 調整面。

解：調整面就是一個在飛行中可以調整的翼面。例如調整安定面可以調整飛機的縱面均衡性。

[It is a surface which may be adjusted while in flight. Adjustable stabilizer which may be adjusted to balance the airplane longitudinally is the most notable example.]

adjustable wings, [機] 可變翼。

解：機翼有改變面積的裝置。相當的名辭是“變積翼”(Variable area wings)。

[Wings provided with means for adjusting their area. Preferred term; — Variable Area Wings.]

adjusting gear for aileron, rudder, fin, or tail plane,

[機] 副翼，方向舵，或尾翼的調整齒輪。

解：一種機械的設備，於飛行時可變更操縱面等的俯仰角。(參閱附錄第十六圖)

[Mechanism provided for altering the trim of the control surface during flight.]

advanced spark—aerobat

advanced spark, [發] 先期火花。

解：汽油發動機的點火火花，在活塞達到壓縮行程以前發火的，則謂先期火花。

[An ignition spark, in a gasoline engine, that occurs before the piston has reached the end of the compression stroke.]

advanced timing, [發] 先期正時。

解：將機件調整，使其較正常略早，發生動作，如發動機的氣門，作先期的正時，則其開啓提早發生。

[Adjusting the mechanism so that the events occur earlier than normal. Thus, the valves of an engine may be advanced so that they open earlier.]

advancing edge, [機] 前緣

解：機翼的空氣進入最前邊，亦稱一 leading edge。

[Edge of wing entering air. Leading edge.]

A. E. A. [公] 航空實驗會。

解：Aerial Experiment Association 的縮寫。

aerial (collapsible) [電] 收縮式天線。

解：一種可收縮的天線竿，於飛機不飛行時可以伸出使用。

[an aerial, extended by a retractable pole or similar means, for use when the aircraft is not in flight.]

Aerial Experiment Association,

[公] 航空實驗會。

解：飛機實驗家的最早組織 (1907—1909)，內有 Alexander Graham Bell, Glenn H. Curtiss 及 Lieut.

Selfridge 等，彼等曾造成 Silver Dart, the Red Wing, White Wing 及 June Bug 等飛機。

[An early and successful group of airplane experimenters (1907—1909) consisting of Alexander Graham Bell, Glenn H. Curtiss and Lieut. Selfridge. They produced the Silver Dart, the Red Wing, White Wing and June Bug airplanes.]

aerial (fixed), [電] 固定式天線。

解：一種天線在飛機構造上作固定的裝接。

[An aerial permanently attached to two or more points on the structure of an aircraft.]

aerial (trailing), [電] 垂下式天線。

解：一種天線在活動端繫有一錘，當飛機飛行時可在空中垂下。

[An aerial with a small weight or drogue secured to its free end, trailing from an aircraft in flight.]

aerial train, [機] 空中列車。

解：滑翔機一架或數架由一飛機拖曳飛行。

[One or more gliders towed behind an airplane.]

aerial weight, [裝] 天線錘。

解：天線末端所裝的重量物。

[A small weight for attachment to the end of the trailing aerial.]

aerobat, [機] 飛行器。

解：一種空中飛行的器具，如氣艇或飛機。

aerobatics— aerodrome beaeon

[A flying machine, a dirigible or airplane.]

aerobatics, [飛] 特技飛行術。

解：表演駕駛員的能力，飛機的強度，靈敏性與操縱性的種種動作，非航向上所必需的，稱為故意的特技飛行。

[These are defined as intentional aerial aerobatics which are not necessary to air navigation, but which demonstrate the ability of the pilot and the strength, maneuverability and controllability of the airplane.]

aeroclinosope, [氣][儀] 天候信號機。

解：一種信號上有標臂指示氣壓大小，同時亦表示風向及低壓區。

[A weather signal with arms raising or lowering with barometric pressure, at the same time showing the direction of the wind and low pressure area.]

aerocurve, [機] 曲翼面。(=aerofoil)

解：機翼或昇力面的上下作弧形，用以產生氣動力上有效的反動力，此種弧度在翼梢處，或翼剖面上即可察出(參閱附錄第七圖。)

[A chamber lifting surface or aerofoil. The outline or boundary surfaces of a section taken through a wing.]

aerocyst, [艇] 氣囊。

解：一種小氣囊。

[An air cell.]

aerodone, [機] 滑翔機。

解：一種滑翔機或御風機，凡重航空

器不用發動前進者，亦用此名。

[A glider or soaring plane. Any plane or heavier-than air machine that flies without an engine.]

aerodnetics, [飛] 滑翔學。

解：研究滑翔或御風飛行的學術，這是 F. W. Lanchester 所用的名辭。

[As defined by F. W. Lanchester; the study of gliding and soaring flight.]

aerodrome, [機] 滑翔機。[力] 翱翔動力。[艇] 棚廠。

[設] 飛行場。

解：[機] 一種滑翔機或御風機，特別指，S. P. Langley 於1896所造的串型單翼機。

[力] 推動滑翔機或飛機的動力。

[艇] 收藏氣球或氣艇的房屋。

[設] 一個有確定有限制的地域或水面包括一切房屋和裝設，而全部或一部作航空器起降之用。

[① Gliding or soaring machine, particularly the tandem wing monoplane devised by S. P. Langley in 1896. ② A power driven aerodone or airplane. ③ A balloon shed or housing for an airship. ④ A definite and limited area of ground or water, including any buildings or installations, intended to be used, either wholly or in part, for landing and takingoff.]

aerodrome beaeon, [設] 飛行場標燈。

解：在飛行場內，或其附近指示路線的標燈。(參閱附錄第四十五圖)

aerodrome lighting—aerofoil

[A beacon located at or near an aerodrome to indicate its position.]

aerodrome lighting, [設] 飛行場燈光。

解：飛行場內的燈光制度。

[The system of lighting on an aerodrome.]

aerodromics, [飛] 翱翔學。

解：飛機或滑翔機的飛行科學。

[Science of aerial flight by planes or gliders.]

aerodrometer, [儀] 速度表。

解：測量空氣速度或氣流的儀器，由 Zwaardemakes 所發明。

[An instrument devised by Zwaardemaker for measuring the velocity of air or gas streams.]

aerodynamic balance, [儀] 氣動天秤。

解：一旋轉臂上裝有一翼，用以測量翼面上的氣壓，用時係在風洞之前，有時稱風洞天秤。(wind-tunnel balance)。

[A rotating arm carrying a aerofoil for measuring the air pressure on the aerofoil. Used before the wind-tunnel. Also called wind-tunnel balance.]

aerodynamic coefficient, [力] 動力係數。

解：物體受氣流的影響，由試驗所決定的恆數，且用以計算昇力和阻力，故昇力係數的符號為 K_y 或 C_y ，而阻力係數的符號為 K_x 或 C_d 。

[Numerical constants of bodies subjected to air-streams, determined by test, and employed in

the computation of lift, drag or resistance. The lift coefficients are symbolized by (K_y) or (C_l) while the drag coefficients are indicated by (K_x) or (C_d).]

aerodynamic force, [力] 氣動力。

解：流動空氣所產生的力。

[Forces created by flowing air.]

aerodynamics, [力] 氣動力學。

解：動力學的一度分，專研究空氣與其他氣體的運動，與固體對於此種氣體運動時所發生的力量。

[The branch of dynamics which treats of the motion of air and other gaseous fluid and of the forces acting on solids in motion relative to such fluid.]

aerodynamic volume, [艇] [球] 氣囊容積。

解：在空氣中推動氣艇形的排氣量， n 與 air volume 相同。

[The volume of the form which must be driven through the air. Same as "air volume".]

aerodyne, [機] 航空器。

解：利用空氣動力而昇起或支持的器械。

[A generic term for aircraft which derive their lift in flight chiefly from aerodynamic forces.]

aero engine, [發] 航空發動機。

解：為航空器發出原動力的發動機。

[An engine used to provide the motive power for an aircraft.]

aerofoil [機] 翼形，翼面。(=airfoil)

解：機翼或昇力方面的上面或下面作弧形，用以產生氣動力上有效的反動力，

aerofoil(slotted)—aerostatics

此種弧度在翼梢處或翼剖面上即可察出。(參閱附錄第七圖)

[An airplane wing or lifting surface having curved or arched top or bottom surfaces. The curvature or "camber" can be seen from the ends or a section.]

aerofoil (slotted).【機】開縫翼面。

解：翼面上有一空氣縫道向後，由下而上。此縫口的形狀，是使翼面被分開的一部，而自成一翼面，當翼縫裝在前面時，縫前的一部翼面，則成一補助翼，可將它的下部作固定的裝置，或可作相對的活動。(參閱附錄第十五，二十四圖)

[An aerofoil having an air passage (or slot) rearwardly directed from its lower to its upper surface. This slot is so shaped that the portions of the aerofoil separated by it are themselves of aerofoil section. When the slot is forwardly located the portion forward of the slot forms an auxiliary aerofoil which may be rigidly attached to the rear portion or be capable of movement relative to it.]

aerology.【氣】空氣學。

解：物理學的一部，專研究大氣的法律與現象。

(The branch of physics treats of the laws and phenomena of the atmosphere.)

aerometer.【儀】量氣表。

解：測量空氣或其他氣體張力的儀器，藉此可知空氣的重量與密度。

[It is a device for weighing the tension of air or other gases to determine weight and density.]

aeronautics.【飛】航空學。

解：關係航空器(aircraft)飛行的科學與藝術，也可包括氣動力學(aerodynamics)與氣靜力學(aerostatics)。

[The science and art pertaining to the flight of aircraft. It contains aerodynamics and aerostatics.]

aeroplane.【機】飛機(airplane)

解：用機械力量推動的重航空器，裝有固定的機翼，藉空氣的動力存留空中者為飛機。

[A flying machine with fixed wings.]

aerostat.【球】浮昇器。

解：輕航空器(lighter-than-aircraft)的總稱。此種航空器的浮力產生於氣靜力，內包含一個或一個以上的氣囊(bag, cell, container)滿貯輕於空氣的氣體。

附註：輕航空器包括一切氣艇與氣球。

[A generic term for aircraft whose support is chiefly due to buoyancy derived from aerostatic forces. The immersed body consists of one or more bags, cells, or other containers, filled with gas which is lighter than air. Lighter-than-air craft includes airship and balloon.]

aerostatics.【力】氣靜力學。

解：研究氣體與留存在氣體內的固體

平衡的科學。此名詞在航空學方面大都用於輕航空器。

[The science that treats of the equilibrium of gaseous fluids and solid bodies immersed in them. As an aeronautic term, it relates to these properties of lighter-than-air craft which are due to the buoyancy of the air.]

aerostation, 【飛】 浮昇術, 浮昇器駕駛術。

解：駕駛浮昇器的技術。

[The art of operating aerostats.]

aftercockpit, 【機】 後座。

解：飛機上的後座或後艙。

[The rear cockpit or compartment in an airplane.]

afterglow, 【氣】 餘輝。

解：日落後西方見的光輝。

[A glow seen in the west after sunset.]

afterwash, 【力】 後洗流。

解：物體在空氣中運動時後面所生的擾亂氣流。

The disturbed air or turbulence in the rear of a body moving through the air.

aging (magnets), 【電】 磁石衰老化。

解：磁石受處理後，性質變成與用久的磁石相同，稱為磁石衰老化。衰老的磁石力量較差，但經久不變。

[It is the subjecting of magnets to treatment similar to the treatment which will be encountered in service. The ag-

ed magnet will have less than the maximum strength obtainable, but this strength will continue unchanged over a long period.]

aging of metals, 【材】 金屬衰老化。

解：金屬由礦內掘出並經過機械作用後，發生自然的變化，稱為金屬衰老化。為求得較大硬度與強度起見，也可施用人工衰老法。人工衰老法用於鉛質最宜。

[It refers to the spontaneous changes which take place in the metals after production and mechanical operations are finished. Artificial aging may be employed, especially in aluminum aging process, to secure greater hardness and strength.]

agonic lines, 【應】 無偏差線。

解：地圖上連貫各無偏差地點的線。

[Lines on a chart or map joining places of zero variation.]

A.I.A.S., 【公】 美國航空科學社。

解：此即 American Institute of the Aeronautical Science 的縮寫。[American Institute of the Aeronautical Science in abbreviation.]

aileron, 【機】 副翼, 偏斜翼。

解：飛機上用樞軸或尖軸移動的副助翼面，大都為機翼後緣的一部，主要作用在操縱飛機的左右傾側。(參閱附錄第十五圖)

[A hinged or pivoted movable auxiliary surface of an airplane, usual part of the trail-

aileron angle—aileron horns

ing edge of wing, the primary function of which is to impress a rolling moment on the air-plane.]

aileron angle, 【機】副翼角。

解：副翼位置對中心位置所成的角度，在中心位置之下的稱為正角。

[The angular displacement of an aileron from its neutral position. It is positive when the trailing edge of the aileron is below the neutral position.]

aileron (balanced), 【機】均衡副翼。

解：這種副翼的裝置，係使氣壓在鉸鏈上均衡，因此操動甚易。

[Ailerons arranged so that the air pressure is balanced about the hinges, hence a minimum effort is required for moving them.]

aileron (differential), 【機】差動副翼。

解：樞軸的裝置是使一副翼起起的程度超過其他副翼下垂的程度，其作用在使各副翼的阻力均衡。

[Ailerons which are hinged in such a manner that the raising of one aileron exceeds the drooping of the other. This action tends to equalize the drag of the ailerons.]

aileron drag, 【力】副翼阻力。

解：副翼所產生的水平阻力。

[The horizontal resistance or drag force due to the ailerons.]

aileron (floating type), 【機】浮動式副翼。

解：副翼可自動取得其位置，且左右

兩副翼，互相連接可自動同時活動。然於駕駛員操動駕駛桿時，它的動作是成相反方向。

[Ailerons free to take up their own position, the right and left ailerons being connected together so that they can move freely when move together, but they move in opposite directions from any position when the pilot move the control lever.]

aileron (Frise type), 【機】弗賴氏式副翼。

解：均衡副翼的一種，樞軸在副翼前緣後三分之一處，下垂時作用與正常式無異，因副翼前緣為機翼所遮住，但副翼翹起時，前緣伸出於機翼下面，因而發生一種阻力，足以抵償其他副翼下垂的阻力，使飛機不致偏航。（參閱附錄第十五圖）

[An aileron which is hinged some distance back from the leading edge of the aileron in such fashion that when the aileron is drooped the action is normal, because the leading edge of the aileron is screened by the wing. However, when the aileron is raised, the leading edge projects below the under surface of the wing, thus introducing a drag force which tends to compensate the drag of the other drooped aileron against yawing.]

aileron horns, 【機】副翼槓桿。

解：操縱索與副翼連接所用的槓桿臂或曲柄。

aileron (interplane) — aileron yaw

[The lever arms or cranks by which the control cable is attached to the ailerons.]

aileron (interplane), 【機】翼際副翼。

副：副翼位置於雙翼機上下兩翼的中間，而不為上翼或下翼後緣的一部。

[An aileron supported between two wings and not a part of the trailing edge of either wing.]

aileron (negative), 【機】負角副翼。

解：副翼的裝置方法，係使操縱在中和位置時略成小負角度，如此可免除偏航和不均的阻力。

[Aileron rigged so that make a small negative angle incidence when controls are in neutral. They eliminate yawing and unequal drag.]

aileron roll, 【飛】副翼側滾。

解：運用副翼使飛機沿縱軸上側滾的一種特技飛行。

[The stunt of rolling an airplane around its longitudinal axis by use of the ailerons.]

aileron (skew), 【機】斜副翼。

解：這種副翼的樞軸由機翼後緣的副翼內端起，漸漸向前面與翼稍延長，成10或15度的角。副翼的最大面積離飛機縱軸(longitudinal axis)最遠，故在高俯角(high angle of attack)中能發生最大的橫操縱(extreme lateral control)。

[An aileron whose hinge line bears forward from the inner end of the aileron at the trailing edge and towards the wing tip

at an angle of perhaps 10° or 15°. This arrangement places the bulk of the aileron area at the maximum distance from the longitudinal axis, thus giving extreme lateral control at high angles of attack.]

aileron spar, 【機】副翼樑。

解：一種輔助樑或翼樑，用以支持副翼。

[An auxiliary spar or wing beam used for the support of the ailerons.]

aileron spoilers, 【機】副翼擾流器。

解：一種小型副翼裝在機翼前緣，用以減少機翼一端的昇力。

[Small auxiliary flaps or baffles used at the leading edge or the wing to reduce the lift on one end of the wing.]

aileron strut, 【機】副翼支柱。

解：一種直立桿，將雙翼機上下翼的副連接以便使上下兩副翼同時運動。

[A vertical rod used for connecting the ailerons on the upper and lower wings of a biplane so that the ailerons will work together.]

aileron turn, 【飛】副翼轉彎。

解：不用方向舵，而專運用兩副翼的不同阻力，使飛機作水平轉彎動作。

[Turning the airplane horizontally by employing the unequal drag of the ailerons, the vertical rudder not being used.]

aileron yaw, 【飛】副翼偏航。

解：機翼的不均衡副翼，若無直立方

aileron yawing moment—air-compressor

向舵保持直線飛行，則有使飛機作水平面搖擺的趨勢。

[The tendency of unbalanced ailerons at the ends of the wings to swing the ship around in a horizontal plane, requiring the use of the vertical rudder to maintain a straight flight.]

aileron yawing moment, 【力】

飛機偏航力距。

解：測量使飛機作左右轉趨勢的不均衡翼阻力。

[The measure of the tendency of unbalanced aileron drag toward turning the ship to the right or left.]

aileron, 【機】 副翼。

解：此字已作廢不用，與 aileron 同。

air, 【氣】 空氣。

解：組成大氣的無色氣體，內含氮氣 78% 氧氣 21%，及其他氣體 1%。

[The colourless gas of which the atmosphere is composed. It consists of 78% nitrogen, 21% oxygen and 1% of other gases.]

air bleed, 【發】 空氣噴射管。

解：斯特耶堡氣化器 (Stromberg carburetor) 內的溝道，空氣可由此溝進入汽油，但在汽油水準線以下，汽油因此化成乳化液，離開主噴射嘴而進入文德利管 (Venturi)。

(圖參閱航空讀本第三冊第二圖)

[In a Stromberg carburetor is a channel opening which admits air to the fuel in the jets but below the fuel level. This action creates an emulsified condition of the fuel which

leaves the main jet into the Venturi.]

air brakes, 【機】 空氣制動器。

解：機翼內端靠近機身兩旁的襟翼，用以產生空氣阻力，使落地速度減低。

[Flaps on the side of the fuselage used to create air resistance for slower landings, experimental only.]

air (carbureted), 【發】 氣化空氣。

解：汽油蒸汽和空氣混合的燃燒氣體，係用在發動機或火頭上。

[A combustible mixture of gasoline vapor or oil vapor with air used in an engine or burner.]

air commerce, 【輸】 航空商業。

解：用任何航空器運送人員或財產而收取運費的，或任何航空器的航行目的在促進商業的，皆稱為航空商業。

[Transportation in whole or in part by aircraft of persons or property for hire, navigation of aircraft in furtherance of a business, or navigation of aircraft from one place to another for operation in the conduct of a business.]

air (compressed), 【發】 壓縮空氣。

解：受較大氣壓力為大的空氣。

[Air at a pressure greater than atmospheric pressure.]

air-compressor, 【發】 空氣壓縮機。

解：一種唧筒，用以壓縮空氣至較高的壓力，此則常為活塞或正旋轉式。

[A pump for compressing air to a relatively high pressure. Usually of the piston or positive rotary type.]

air controls—aircraft

air controls, 【操】操縱。

解：操縱是一個廣義的名詞，即指駕駛員管制一駕飛機的速度，飛行的方向，飛行姿勢，和動力的意義。

[A general term applied to the means provided to enable the pilot to control the speed, direction of flight, attitude, and power of an aircraft.]

air-cooled engine, 【發】氣涼式發動機。

解：發動機的氣缸是直接由空氣向上吹動而散熱的。

[An engine having cylinders cooled directly by an air blast action on the cylinder head and barrel.]

Air council, 【公】航空會議。

解：航空會議為英國空軍最高的機關，於1918年始正式成立，執行以前航空部 (Air Board) 的職務，航空會議為七人所組織，七人有如下列：—

國務卿為航空會議的當然會長，副國務卿為該會議的民用航空部當然部長，以下為航空參謀長，航空人事員，航空供應兼研究員，航空參謀副官長，航空秘書。

航空會議參謀長的職務有三：—

(a) 指揮及謀報。(b) 組織及參謀本部事務。(c) 興改事宜，及建築事宜。

航空會議人事員的職務有三：—

(a) 掌理人事。(b) 訓練事宜，及教育事宜。(c) 醫藥事宜。

[In January, 1918, the Air Council was established, and took over the functions of the Air Board. It consists 7 members. The Secretary of State, who is

president of the Council; the Under-Secretary of State; who is chiefly concerned with the Civil Aviation Department; The Chief of the Air Staff; the Air Member for Personnel; the Air Member for Supply and Research; Deputy Chief of the Air Staff; and the Secretary to the Air Ministry.

The Chief of the Air Staff has under him three directorates:—(a) Operations and Intelligence; (b) Organization and Staff Duties; (c) Works and Buildings.

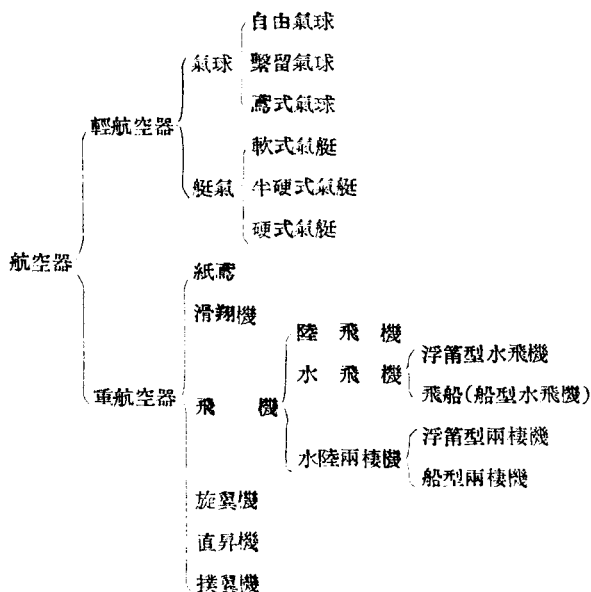
The Air Member for Personnel has the Deputy Directorate of Postings and three directorates:—(a) Directorate of Personal Services, with the Deputy directorate of Manning; (b) Directorate of Training, with Educational Branch; (c) Directorate of Medical Services.

The Air Member for Supply and Research has (a) the joint Directorate of Scientific Research and Technical Development; (b) the Directorates of Aeronautical Inspection and of Equipment. Some of the directorates are further divided.]

aircraft, 【機】航空器。

解：在空氣中航行的切器具，無論由浮力或動力支持的，皆稱為航空器，(保險傘為安全設備的一種，故不列入航空器內) 航空器的種類如下表。

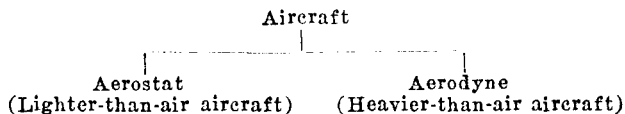
aircraft



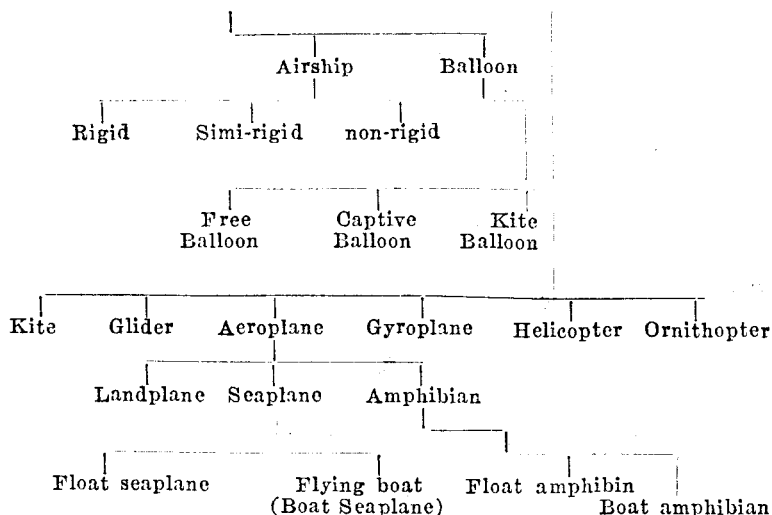
[Department of Commerce definition — “Any contrivance now or hereafter invented used or designed for navigation of or flight in the air, except a parachute or other contrivance designed for such navi-

gation, but used primarily as safety equipment.”

Any weight-carrying device or structure designed to be supported by the air, either by buoyancy or by dynamic action.



aircraft carriers—air density



aircraft carriers, 【軍】航空母艦。

解：航空母艦實際為一浮動飛機場，有甲板兩層，上層甲板掃除清潔專備飛行之用，甲板上的標識檣及航空橋，亦可隨時降下至與甲板相平，至於欲將航空器搬上搬下，則藉水力升降機搬移之，又飛機工場，亦設於下層甲板。

[It is a really a floating aerodrome. There are two decks. The upper one can be completely cleared for flying. The signal mast and navigating bridge can also be lowered flush with the deck. The lower deck is for housing the aircraft and hydraulic lifts carry the aircraft up and down. The workshops are on this deck.]

aircraft lighting, 【裝】航空器燈光。

解：航空器內的燈光系。

[The system of lighting on an aircraft.]

air-damped, 【力】空氣減震法。

解：利用空氣摩擦，而使震動減弱。

[Oscillations checked or suspended by air-friction.]

air-density (mass density),

【氣】空氣密度(質量的)。

解：美國航空顧問委員會，(N. A. C. A.) 為絕對單位制所採用的單位，標準空氣的值为 0.002378，而此數係用吸力(gravity) 除空氣比重密度(0.07651) 而得，即 $W/g = W/32.17$ 。

[Unit adopted by the N. A. C. A. for its system of absolute units. Its value is 0.002378 for standard air, or can be derived

air density (specific weight)—air duct

for other conditions by dividing the specific weight by gravity. This is: $W/g = W/32.17.$

air density (specific weight).

【氣】空氣密度(比重的)。

解：在海平面及標準溫度(59°F)時一立方呎空氣重量磅數，等於0.07651磅，符號爲(W)

(Weight of a cubic foot of air in pound taken at sea level and standard temperature (59° F.) This is equal to 0.07651 pound per cubic foot. Symbol (W).)

air diffraction, 【力】空氣迴折。

解：光線由真空或稀薄氣體而入大氣時，其進行方向遂被屈折之謂。

(The bending of a beam of light when entering the atmosphere from outer space or from a less dense fluid.)

air diffusion, 【力】空氣擴散。

解：空氣因份子作用 (molecular action) 然非滲漏動作而透過薄膜之謂。

(Passage of air through a wall or membrane by molecular action, not by leakage.)

air dilution, 【艇】空氣參淡。

解：氣球或氣艇的氣體被外入空氣而沖壞，用此可以表示氣體的純粹百分率。

(The contamination of a balloon or airship gas by the entrance of air. It is expressed as the percentage of purity of the gas.)

air-displacement, 【艇】排空氣量。

解：氣球或氣艇所排去的空氣重量或體積，若排去空氣的重量，減去氣艇和其氣體的重量，則得總昇力。

(The volume or weight of air displaced or occupied by a balloon or dirigible. The weight of air displaced, less the weight of the gas and ship, gives the net lifting capacity.)

air distance, 【飛】空中距離。

解：專指空中所行的哩數距離，而不與地面發生關係。此數係將空速乘燃料小時或飛行時間而得。

(The distance travelled through the air in miles without respect to the earth. It is the air-speed multiplied by the fuel-hours or hours of flight.)

airdrome, 【設】飛行場。

解：一塊場地，并有相當房屋，專供飛機的起落，蓄藏及修理之用。

(A port or a field, with suitable buildings, for the operation, landing, storage and repair of aircraft.)

air duct, 【艇】空氣通路，風路。

解：供給空氣的圓筒，大都用橡皮布製成，用以維持一切浮昇器(acrostat)內貯充空氣部分的壓力。

(a) 一軟式氣球內的空氣通路連接垂直與橫平各舵翼(lobes)。英國人也叫它爲“互連套筒”(interconnecting sleeve)或“褲”(trousers)。

(b) 一軟式或半硬式氣艇內的空氣通路，由空氣房空氣進口(air scoop)或風扇(blower)運至各副氣囊。

[A tube, usually of fabric, supplying air for filling or for maintaining pressure in air-filled parts of an aerostate.]

A. The duct joining the vertical and lateral lobes of a kite balloon. Sometimes called "interconnecting sleeve" or "trousers" (British).

B. The duct leading from the air scoop or blower of a nonrigid or semirigid airship to the ballonnet or ballonets.]

air envelope. 【氣】大氣層。

解：環繞地球的空氣層。

[The atmosphere or blanket of air surrounding the earth.]

air-expansion. 【力】空氣膨脹。

解：因熱力的作用，而使空氣體積增加，蓋體積增加即是膨脹。

[The application of heat increases the volume of free air or expands it. Expansion is an increase of volume.]

air-flow. 【力】氣流。

解：空氣的運動，其速度是用每分鐘或每秒鐘的呎數測量之。而體積則每分鐘或每秒鐘的立方呎數測量之。

[The movement of body of air. Its velocity is measurable in feet per second or per minute. The volume of flow is measured in cubic feet per minute or per second.]

airfoil. 【機】翼形，翼面。(=aerofoil)

解：機翼或昇力面的上面或下面作弧形，用以產生氣動力上有効的反動力，

此種弧度在翼梢處或翼剖面上即可察出。(參閱附錄第七圖)

[An airplane wing or lifting surface having curved or arched top or bottom surface. The curvature or "camber" can be seen from the ends or a section.]

airfoil section (or profile). 【力】翼剖面。

解：用一與指定參考平面并行的平面，將翼面切成一橫剖面，稱為翼剖面。垂直於此平面的一線，稱為翼面的軸。(參閱附錄第七圖)

[A cross section of an airfoil made by a plane parallel to a specified reference plane. A line perpendicular to this plane is called the axis of the airfoil.]

air (gusty). 【氣】暴風。

解：風速驟然增減，即成暴風。切勿將此種現象誤認為對流氣流的垂直運動。

[Caused by sudden increases and decreases in the wind velocity. This phenomenon should not be confused with the vertical action of convection current.]

air hole. 【飛】氣阱。

解：此乃一誤用的名詞，有時飛機迅速下墮數尺，發生跌落的感覺，其原故在相對速度 (relative speed) 突然減少，例如逆風飛行，風勢忽然靜止一刻，空速消失少許，因此使飛機下降。通常在下降之際，一陣狂風忽又吹來，飛機又突然上昇。

air-intake cooler—air lag

[The term is a 'misnomer. An aeroplane sometimes falls a few feet rapidly, and gives the sensation of falling. This is due to a sudden diminution in the relative speed. For example, if you are flying against the wind, and there is a sudden lull, there is a loss of air speed which causes the aeroplane to fall. Usually this is followed by a gust, which causes it to rise suddenly.]

air-intake cooler, 【發】 空氣管冷却器。

解：一種冷却器，而空氣在器內所通過的管子，外為滑油所包繞。

[A cooler incorporated in a carburettor air-intake.]

air-intake drain, 【發】 吸氣孔放油管。

解：吸氣孔上裝接的一條小管為防止汽油的儲積。

[A small pipe fitted to the air-intake to prevent accumulation of fuel.]

air-intake heater, 【發】 吸氣孔加熱器。

解：一種機件，用以增高進入氣化器空氣的溫度。

[A device for raising the temperature of the air entering the carburettor.]

air-intake (neutral-angle), 【發】 中和角吸氣孔。

解：吸氣孔，成角度的形狀，是减小氣化作用的向前增速影響。

[An air-intake with entry

shaped to minimize the effects of forward speed on carburation.]

air-intake (scoop-type), 【發】 厚斗式吸氣孔。

解：吸氣孔，成厚斗的形狀，直接向前而使氣化作用增高氣壓。

[An air-intake of scoop shape directed forward to increase the pressure in the carburetor.]

air-intake (seaplane, or desert-type), 【發】 水面飛機（或沙漠式）吸氣孔。

解：吸氣孔凸起，為減少水花或沙土的灌入。

[An air-intake with raised entry to minimize ingress of spray or sand.]

air inversion, 【氣】 空氣逆增。

解：一種局部情況高度增加時，而溫度再不衰落，有時某種局部情況下，高度略為增加，而溫度反為加高。

[A local condition under which the temperature no longer decreases with an increasing elevation. This may take place occasionally in certain localities, and under some conditions the temperature may even increase with the altitude for a short distance.]

air lag, 【力】 空遲差。

解：真空彈道和實際彈道在任何高度中的水平差距。（參閱附錄第四十一圖）

[The horizontal difference of vacuum flight-path and actual flight-path in any altitude.]

air league—air log

air league, 【公】航空同盟會。

解：大英帝國航空同盟會 (The Air League of the British Empire) 爲英國的航空宣傳機關，創始於 1909 年，初名航空同盟會 (Aerial League) 其目的在促成英國民間航空與商業航空的充分發展，保持適合的空軍，後備空軍，及爲保護大英帝國國防之用。其組織包括三部——即情報部，編輯及出版部，捐資及理財部。情報部專蒐集關於各種航空消息，節錄演辭，備辦地圖，幻燈影片及傳單資料聯絡新聞界，供給編輯及出版部所需材料，編輯及出版部負責傳單，小冊子，及月刊“air”所需之文稿，捐資及理財部負責收入捐款，發出傳單及通告書，除司理帳目外，尚有許多特別事務，所發通告書，平均每週有一千份之數。

[The Air League of the British Empire is the organization in Great Britain for carrying on aeronautical propaganda. In 1909, it was under the title of the Aerial League. The aim of the League are “to ensure the fullest development of British civil aviation and commercial aviation, and to secure the maintenance of adequate air forces and of reserve for Empire and home defence”. The organization of the League comprises three sections—i. e., intelligence, editorial and publicity, subscriptions and finance. The first compiles information regarding every branch of aviation. It briefs

speakers, prepares maps, lantern slides, and data for leaflets, maintains liaison with the Press and provides material for Section 2. This, the editorial and publicity section, is responsible for the production of leaflets pamphlets and the League's monthly organ, “Air.” Section 3 is responsible for collecting the League's subscriptions, sending out circulars and appeal letters, which average 1,000 a week, and for numerous special appeals, in addition to keeping the League's accounts.]

air line, 【飛】航空線。

解：航空線，即一直線爲兩點間的最短距離，故空中航行在時間上費用上都較他種交通方法爲節省。

[Or a straight line, is the shortest distance between two points: therefore, air navigation, rather than air pilotage, effects a saving in time and expense over the casual method of following irregular landmarks.]

air lock, 【機】氣關。

解：製造得不妥善油路中的較高處，常有空氣或燃料氣體聚集，固結一隅，這就是氣關的現象。

air log, 【儀】航程計, 【裝】航空日記。

解：(儀)測量航空器對空氣運動距離的儀器，此種儀器有一風車與一旋轉表。

【裝】關於飛行時一切飛行情況及時間的紀錄簿。

airman—airplane(attack)

① An instrument for measuring the linear travel of an airplane relative to the air. One form consists of a wind-mill with a revolution counter.

② A record book of all conditions during flight and time in flying.

A record of flight giving the hours of flying and incidents occurring during the flights. A flight diary.]

airman, 【飛】 航空人。

解：從事於航空器航行與負責檢查，翻修，或修理航空器的任何人員（包括指揮人員，駕駛員，機械員，航空器上服務人員），概稱為航空人。

[Any individual—including the person in command and any pilot, mechanic, or member of the crew—who engages in the navigation of aircraft while under way, and any individual who is in charge of the inspection, overhauling, or repairing of aircraft.]

airmap, 【飛】 航空地圖。

解：空中測量，製成的地圖，普通多係採用照像方法所製成，飛航員所需用的地圖，亦稱航空地圖。

[A map made from an aerial survey, generally by photographic means. Or a map containing information of interest to the pilot of an aircraft.]

air mapping Plane, 【機】 空中測量機。

解：一種飛機專為空中照相測量而設

計的。

[An airplane specially designed for photographically surveying.]

air navigation, 【飛】 空中航行學。

解：操縱航空器由出發點至目的地的科學與實施，中途地面情形如何，不在考慮中。

[Practice of the science necessary for conducting aircraft from a point of departure to a point of destination without regard to knowledge of intervening territory.]

airnaut, 【飛】 飛航員。

解：氣艇或氣球上的駕駛。

[The pilot of an airship or a balloon.]

air piloting, 【飛】 空中駕駛術。

解：駕駛航空器由出發點至目的地的方法，並利用城市，河流，鐵道等地面標識為參考。

[The method of conducting aircraft from a point of departure to a point of destination, making use to known landmarks, such as towns, rivers, railroads, etc.]

airplane, 【機】 飛機。(=aeroplane)

解：用機械力量推動的，重於空氣之航空器，裝有固定的機翼，籍空氣的動力存留空中者為飛機。

[A mechanically driven aircraft, heavier than air, fitted with fixed wings, and supported by the dynamic action of the air.]

airplane(attack), 【軍】 攻擊機。

解：軍用飛機，專為攻擊地面陸軍而

airplane base—airport(intermediate)

設計，機上裝備數枝機關槍和小炸彈。

[A military airplane designed for action against ground troops. It is provided with several machine guns and small bombs.]

airplane base, [軍] 空軍根據地。

解：軍用飛機所出發的司令部或總飛行場。

[Headquarters or main airdrome from which military airplanes are directed.]

airplane clearance, [飛] 飛機離場證。

解：准飛機起飛的一種許可證。

[A pass is used for allowing airplane to take-off.]

airplane heading, [飛] 機頭方向。

解：飛機縱軸所向的方向。

[The direction of the airplane's longitudinal axis.]

airplane (pusher), [機] 推進式飛機。

解：螺旋槳在主昇力面（機翼）之後的飛機。（參閱附錄第十四圖）

[An airplane with the propeller or propellers in the rear of the main supporting surfaces.]

airplane (tandem), [機] 串翼飛機。

解：飛機型式的一種，有同樣面積的機翼二副（尾翼組不在內），前後并列，成串字形。

[An airplane with two of more sets of wings of substantially the same area—not including the tail unit—placed one in front of the other and on about the same level.]

airplane (tractor), [機] 拉進式飛機。

解：螺旋槳在主昇力面（機翼）之前的飛機。（參閱附錄第十五圖）

[An airplane with the propeller or propellers forward of the main supporting surfaces.]

air pocket, [氣] 氣袋。

解：這是假設空氣中有一空穴，以致飛機有短時間的下墜，然其實際情況，乃係氣流向下流動所致。

[Popular terms for imaginary holes in the air which cause airplanes to drop suddenly for a short distance. This is actually due to downward moving currents of air.]

airpoise, [儀] 空氣秤。

解：一種器械用以秤空氣的重量。

[An instrument used to measure the weight of air.]

airport, [設] 航空站。

解：可供航空器起落的任何水陸場地，並應有棚廠，水油供給，與航空器修理等設備，也可作航空器裝卸乘客與貨物解。

[A locality, either of water or land, which is adapted for the landing and taking off of aircraft and which provides facilities for shelter, supply, and repair of aircraft; or a place used regularly for receiving or discharging passengers or cargo by air.]

airport (emergency), [設] 應急航空站。

解：見 emergency landing field.

airport (intermediate), [設] 中

airport(major)—air pressure gauge

途航空站。

解：常指商業部航空署在民用航線上的中途降落場，其燈光裝備常用旋轉綠色閃光燈，白色邊界燈指示場的外形，綠色邊界燈裝在滑行道極端，而危險障礙物，則用紅色燈標誌，然洪光燈，修理設備，及棚廠等，則中途降落場常付缺如。

[Usually refers to the intermediate landing fields maintained by the Department of Commerce, Aeronautics Branch, along the civil airways. Lighting equipment generally consists of a rotating beacon flashing green, and white border lights outlining the contour of the field. Green border lights are placed at the end of each runway and dangerous obstructions near the field are marked with red obstruction lights. Flood lights, servicing facilities and hangar space are not usually at intermediate fields.]

airport (major), [設] 大航空站。

解：大航空站則有白色邊界燈，紅色障礙燈，綠色標誌燈，洪光燈，氣象報告，棚廠，工廠，及日夜補給處等設備。

[Any large airport equipped with white border lights, red obstruction lights, green beacon light, flood lights, U. S. weather reporting service, hangar, shops and servicing facilities night and day.]

airport (municipal), [設] 都市航空站。

解：都市所有或辦理的一種航空站。

[Any type of airport owned or operated by an incorporated city or town.]

air power, [軍] 航空軍力，空軍。

解：國家關於空軍的實力，通常以飛機數目表示之。

[The strength of government in regard to its air force. Usually this is in terms of the number of planes.]

air pressure, [力] 氣壓。

解：在單位面積上，如每平方吋，平方呎等，空氣所致的力，則謂氣壓，大氣在海平面上的正常氣壓，每平方吋為 14.7 磅，或每方呎為 2116 磅，若以水銀柱計量之，則柱高為 29.92 吋，或 760 公厘。

[The force exerted by air on a unit of area, per square-inch, square-foot, etc. The normal pressure of the atmosphere at sea-level is 14.7 pounds per square inch or 2,116 pounds per square foot. In terms of a mercury column supported by air, the normal sea-level pressure is 29.92 inches of mercury or 760 millimeters of mercury.]

air pressure gauge, [儀] 氣壓表。

解：測量空氣或氣體壓力的儀器，水銀柱式的名 manometer，係以柱高而測量壓力，寶爾登式 (Bourdon type) 係直接指示氣壓數量，而指針係由彎曲扁管，因壓力影響旋轉。

[An instrument for measuring the pressure of air or gases. The mercury column type, called a

air pump—airscrew(=propeller)

manometer, measures pressure in terms of the height of column supported. The Bourdon type is a direct reading gauge in which movement of the needle is attained by the effects of pressure on a bent flattened tube.)

air pump, 【裝】空氣唧筒。

解：抽出或壓縮空氣的機件，一壓縮唧筒，則可增加一物內的氣壓，然一真空唧筒，可將空氣抽出，成半真空的情況。

[A device for compressing or evacuating air into or from a space. A compressor (pump) increases the air pressure in a vessel. A vacuum pump, or evacuator, removes air from a space producing a practical vacuum. A rotary air-pump employs rotating tears, impellers or vanes to produces the effect.]

air (pure, dry), 【氣】淨燥空氣。

解：空氣含氮 (nitrogen) 78%，氧 (oxygen) 21% 氬 (argon) 1%，炭氧二氣 (carbon dioxide) 30%。

(Pure dry air is approximately 78% nitrogen, 21% oxygen, 1% argon and .03% carbon dioxide.)

air resistance, 【力】空氣阻力。

解：物體經過空氣運動而生的抗力，運動中的阻力，常以指定的速度，用磅數計算，因阻力是與速度的平方成正比，空氣阻力而不發有作用的，則為廢阻力 (parasite resistance)。

(The opposition offered to the movement of a body through

air. The resistance to motion is usually given at pounds at a given speed as the resistance varies with the square of the velocity. Air-resistance without causing useful effect is known as parasite resistance.)

air route, 【飛】航空路線。

解：二個或數個飛行場間的明確路線。

[A definite route between two or more aerodromes.]

air scoop, 【艇】【機】空氣進口。

解：浮昇器上突出於外部的厚斗，引導風或滑流入副氣囊內，以維持內部空氣壓力。飛機上有時亦有此種設備，使飛機空氣流通。(參閱錄附第二十四圖)

[A projecting scoop which uses the wind of slip stream to maintain air pressure in the interior of the ballonnet of an aerostat. A similar device is sometimes used on airplanes to produce ventilation.]

air scoop (carburetor), 【發】氣化器空氣進口。

解：突出於氣化器外部的空氣進口，作用在供給氣化器大量空氣。

[The flared opening or extension of the carburetor air intake designed to insure a large air supply to the carburetor.]

airscrew (=propeller), 【螺】螺旋槳。

解：一種作螺旋形狀的葉面物件，在空氣中旋轉時即向軸的方向，發生推

airscrew(left-hand)—airship

力。

[I. Generically, all types of screw with helical blades designed to rotate in air. II. Specifically, a power driven screw designed to produce thrust by its rotation in air.]

airscrew (left-hand), 【螺】左轉螺旋槳。

解：由航空器後方觀之，螺旋槳是作順時針方向的旋轉。

[An airscrew revolving counter-clockwise to an observer behind the aircraft.]

airscrew (pusher), 【螺】推進式螺旋槳。

解：螺旋槳的設計，是向槳軸方面產生壓縮力。

[An airscrew designed to produce compression in the air screw shaft.]

airscrew (right-hand), 【螺】右轉螺旋槳。

解：由航空器後方觀之，螺旋槳是作反時針方向的旋轉。

[An airscrew revolving counter-clockwise to an observer behind the aircraft.]

airscrew (swivelling), 【螺】迴轉螺旋槳。

解：螺旋槳的旋轉，能在固定面中傳遞推力至各方向。

[An airscrew capable of being turned so as to transmit thrust in any direction within a fixed plane.]

airscrew (tractor), 【螺】拉進式螺旋槳。

解：螺旋槳的設計，是向槳軸方面產生曳張力。

[An airscrew designed to produce tension in the airscrew shaft.]

airscrew (variable-pitch), 【螺】變距螺旋槳。

解：一種螺旋槳，它的槳葉裝配能於旋轉時轉葉軸改變螺距。

[An airscrew whose blades turned are so mounted that they may be turned about their axes to a desired pitch while the airscrew is in rotation.]

airship, 【艇】氣艇

解：有螺旋推進器，並可操縱運動方向的浮昇器。不用發動機時，動機作與自由氣球相同。

nonrigid airship, 【艇】軟式氣艇。

解：氣艇的形狀由氣囊或副氣囊的內部壓力所維持，而無須使龍骨襄助(參閱附錄第十七圖)

rigid airship, 【艇】硬式氣艇。

解：氣艇的形狀由外部的硬骨所維持。(參閱附錄第十八圖)

semirigid airship, 【艇】半硬式氣艇。

解：氣艇的形狀由一硬龍骨與氣囊或副氣囊的內部壓力所維持。

注：airship 或 Ship 二字也常誤用以指重航空器。

[An aerostate provided with a propelling system and with means of controlling the direction of motion. When its power plant is not operating it acts like a free balloon.]

Nonrigid—An airship whose form in maintained by the

internal pressure in the gas bag and ballonets.

Rigid—An airship whose form is maintained by a rigid structure.

Semirigid—An airship whose form is maintained by means of rigid or joined keel in conjunction with internal pressure in the gas containers and ballonets.

The term "airship" is sometimes incorrectly applied to heavier-than-air craft either in full or as "ship". This is a slang use of the word and should be avoided.]

airship dope, 【材】氣艇塗料。

解：一種液體塗在氣艇布面上成橡皮面使氣體不致漏出。此與飛機塗料不同點，是不致緊縮。

[A liquid material applied to rubberized airship fabric to increase gas tightness. In contrast with airplane dope it does not cause shrinking.]

airship station, 【設】氣艇站。

解：地面設備，有棚廠，繫留柱，製氣廠，修理廠，降落場，和一切運用氣艇所需要的各項設備與供給。有上列各項設備或僅存其中一部份的就是氣艇站，而運用氣艇就以此為根據地。

[The complete assembly of sheds, masts, gas plants, shops, landing fields, and related equipment required to operate airships and supply their needs. A station may include all or a

part of the items enumerated. The base from which airship are operated.]

air speed, 【力】【飛】空速

解：航空器對於空氣運動的速度，符號為V。航空器對地面運動的速度，稱為地速(ground speed)。空氣完全靜止時，空速與地速相等，否則即有差別，差別的程度以風力的大小與風向而異。

[The speed of an airplane relative to the air. Its symbol is V.]

air speed meter, 【儀】空速表。

解：測量一物體經過空氣速度的儀器，空氣與此儀器接觸時即發生衝擊壓力，當衝擊壓力的大小，乃可斷定空速的大小。

air speed indicator, 【儀】空速指示器。

解：指示航空器經過空氣速度的儀器。壓力由一壓力噴嘴或向一障礙物噴射，因激起儀器的動作，乃分列度數，指示在標準空氣密度時的正確空速(true airspeed)。儀器內指示的速度，稱為儀示速度(indicated air speed)。儀示速度的為測驗飛機在任何高度的昇力或阻力的直接方法。飛機在任何高度失速，儀示速度的數值皆相同。

true air speed meter, 【儀】正確空速表。

解：測驗航空器經過空氣正確速度的儀器。畢拉姆與魯賓生風壓表(Biram and Robinson anemometers)即屬此類。

[Air-speed indicator — An instrument for indicating the

air(standard)—airway

speed of an aircraft relative to the air. It is actuated by the pressure developed in a suitable pressure nozzle or against a suitable obstruction and is graduated to give true air speed at a standard air density. The speed indicated by the instrument is termed the "indicated air speed". (The indicated speed is a direct measure of the lift or drag exerted on the airplane at any altitude. Stalling at all altitudes occurs for the same value of the indicated speed.)

True air-speed meter—An instrument for measuring the true speed of an aircraft relative to the air. The Biram and Robinson anemometers are of this type.]

air (standard), 【氣】標準空氣。

解：在海平面上空氣溫為華氏59°，氣壓為水銀29.92英寸（或每平方英寸14.7磅）。

空氣作為參考標準的標準空氣是在海平面溫度59°F (13°C) 每方呎重0.07651磅，質量密度為0.002378比體積為1307立方呎。

[Air at sea level at 59°F. and under normal barometric pressure of 29.92 inches of mercury—or 14.7 pounds per square inch.

Air taken as a standard for reference. Standard air at

sealevel and at 59° F. (15°C) weighs 0.07651 pound per cubic foot. The mass density is 0.002378 and the specific volume is 13.07 cubic feet.]

air-tube cooler, 【機】氣管冷却器。
解：此種冷却器係由空氣通過管子，而管外為滑油所環繞。

[A cooler in which air passes through tubes surrounded by the oil.]

air volume (airship), 【艇】空氣體積。

解：氣艇的氣囊或罩所形成物體的排氣量。氣動力的推算要用這個容積。參閱 Volume, aerodynamic (airship).

[The volume of air displaced by the body formed by the outer cover or envelope of an airship. It is this volume which enters into aerodynamic computations. See volume, aerodynamic (airship)].

air volume displacement, 【艇】排空氣量。

解：空氣被吹脹所用的氣體排去的量，稱曰排空氣量，這種排量可用重量或容積表明。

[The mass of air displaced by the gas used for inflation. It may be expressed as a weight or volume.]

airway, 【輸】航空路。

解：各航空交通地點間的航空路線，位置於較平坦區域的上空，可供強迫落地之用，中途各起落場皆設有航行補助設備，與通訊器具。此名詞對於水

airway beacon—alcohol(denatured)

陸飛機的航空路線皆可適用。

[An air route between air traffic centers which is over terrain best suited for emergency landings, with landing fields at intervals equipped with aids to air navigation and a communication system for the transmission of information pertinent to the operation of aircraft. The term "airway" may apply to an air route for either landplanes or seaplanes or both.]

airway beacon, 【設】 航路標燈.

解：在航空路內或附近指示路線的標燈。(參閱附錄第四十五圖)

[A beacon located on or near an airway to indicate its route.]

airway lighting, 【設】 航路燈光.

解：沿航路的燈光，但飛行場內的燈光則不在內。

[The system of lighting along an airway other than aerodrome lights.]

air (weight), 【氣】 空氣重量.

解：在溫度 59°F., 氣壓 29.921 吋水銀柱的標準空氣，每立方呎重 0.07651 磅。乾空氣而含有正常水蒸氣，在溫度 32°F., 氣壓 29.921 吋水銀柱時，每立方呎重 0.08072 磅。

[Standard air, at 59°F. and 29.921 inches of mercury, weighs 0.07651 pounds per cubic foot. Dry air, with a normal water vapor content, at a temperature of 32°F. and 29.921 inches of

mercury weighs 0.08072 pounds per cubic foot.]

airworthiness, 【飛】 適航性.

解：航空器適合於航空最高機關所規定的一切條件，且為該機關所認可，則此航空器方得稱為具有適航性。

[Airworthiness means conformity with requirements prescribed or deviation therefrom approved by the Assistant Secretary of Commerce for Aeronautics.]

alarm (gas-cell), 【艇】 氣囊警報機.

解：裝置於氣囊附近，囊內氣壓將達預定限度時，即能自動警告或指示，故亦稱氣壓警報機。

[A device, fitted adjacent to a gas cell, which indicates or warns when a predetermined limiting pressure has been reached in the gas cell. Also called "pressure alarm".]

alcohol (amy1), 【化】 五碳烷基酒精.

解：由澱粉質發酵所變化的油狀無色液，化學公式為 $C_5H_{11}HO$ 常稱為 (fusel oil) 有毒，常用於油漆內。

[An oily liquid called "fusel oil." Poisonous. Used for certain varnishes and lacquers.]

alcohol (denatured), 【化】 變性酒精.

解：酒精內加入他種原素，使不能作飲料用，但在化學上的效用並不改變。此種酒精與水混合置於散熱器 (radiator) 內，可不致凍結。溶液內含有 40% 變性酒精，在華氏零度時可不致凍結。

alcohol(ethyl) - align

普通酒精, (ethyl alcohol.) 滲入他種液體, 使其不可用作飲料, 而滲入的液體常係木酮 (acetone) 甲醇 (methyl alcohol) 苯 (benzol) 或其他相類似的液體使酒性改變。

(Alcohol which has been rendered unfit for beverage purposes and freed from government excise tax by the addition of other elements which are designed to accomplish the purposes mentioned above but do not contribute to the efficiency of the chemical. It is used in a solution with water as an antifreeze mixture in radiators. A solution of 40% denatured alcohol will protect against freezing to about 0° Fahrenheit. Ethyl alcohol to which certain agents have been added to make it undrinkable. Acetone, methyl alcohol, benzol and similar substances have been used as denaturants.)

alcohol (ethyl), [化] 普通酒精,

乙醇

解: 這是由蜀黍麥等發酵後蒸溜所得的酒精, 各種酒類多含有之, 可用作燃料, 或溶劑, 化學公式為 $\text{CH}_3, \text{CH}_2, \text{CH}_2\text{OH}$ 。

[An alcohol to obtained by the distillation of germinated grains such as cornmeals, rye, etc. It is the constituent of alcohol beverages. Can be used as a fuel or a solvent.]

alcohol fuel, [油] 酒精燃料。

解: 酒精在鍋爐或發動機汽缸內用作燃料, 然所費較為昂貴, 若酒精與汽油混合, 可延緩爆發而有高壓縮壓力, 燃燒時毫無殘屑留。

[Alcohol can be used as a fuel by burning it under a boiler or in the cylinder or an internal combustion engine, although it is too expensive for this purpose in its pure state. Mixed with gasoline, it retards detonations and permits a high compression pressure. Burns without forming residue.]

alcohol (methyl), [化] 甲醇。

解: 蒸溜木質纖維而得的一種酒精, 性極毒祇可專作溶劑, 化學公式為 CH_3OH 。

A raw alcohol prepared by the destructive distillation of woody fibers. Intensely poisonous. Used principally as a solvent.]

alighting, [飛] 降落 (=landing)

解: 航空器於接近地面時的降落動作, 且與地面接觸後, 飛行速度即減, 并漸至停止。

[An aircraft alights when it approaches the earth, loses flying speed until it makes contact, and finally comes to rest.]

alighting gear, [機] 起落架。

解: 即 landing gear。

align, [工] 配準。

解: 使多數物件在一線上, 調整軸承, 使其對正而在一軸上。

[To get a number of objects in line. To adjust bearings so that

they will line up for carrying a shaft.)

alignment, 【工】 配準。

解：調整一飛機使與設計的形狀符合。
〔To adjust or put an airplane into designed form or shape.〕

alkaline battery, 【電】 鹼性蓄電池。

解：蓄電池所用的電解液為鹼溶液 (caustic soda solution) 如愛迪生蓄電池，它的電壓要較酸性為低，但其製造堅牢耐用。

〔A battery employing an alkaline electrolyte or solution (caustic soda solution), such as the Edison storage battery. The voltage of such batteries is lower than that of the acid-lead type but they are more rugged.〕

alobar, 【氣】 壓變區。

解：氣壓變化區域的氣象學名詞。
〔A meteorological expression for an area undergoing changes of barometric pressure.〕

alloy, 【材】 合金。

解：二種以上的金屬融合而成一性質不同的新金屬。

〔A material treated or refined with some other substance to form a new material with different properties.〕

allumage, 【發】 點火。

解：這是法國名詞，指內燃機的點火或點火系而言。

〔Ignition or ignition system for internal combustion engine. It is a French term.〕

alternating current, 【電】 交流

電。

解：定期變換流向的電流，每次向反變向時，均經過零度這是對直流電流祇向一方流動而言。

〔An electric current that periodically reverses its direction of flow, passing through zero at the end of each reversal. This is distinguished from direct current that flows continuously in one direction. Alternating current is classified as: 1. single phase; 2. two phase; 3. three phase; polyphase.〕

alternator, 【電】 交流發電機。

解：一個產生交流電的電氣發電機 (或磁電機)。

〔An electric generator (or magnet) that produces alternating current.〕

altigraph, 【儀】 高度自記器。

解：裝有紀錄機械的高度表，現時通用的大都屬空盒式 (aneroid type)。儀器內有一圖，由發條轉動，圖上依照壓力—溫度—高度公式而分為英尺數或公尺數。換句話說，即設有指示高度表尺的氣壓自記器。

〔An altimeter equipped with a recording mechanism. Present instruments are of the aneroid type. The chart, driven by clockwork, is usually graduated in feet or meters in accordance with some empirical or arbitrary pressure-temperature altitude formula. In other words, it is a barograph whose scale is designed to read heights.〕

altimeter—altimeter(sound ranging)

altimeter, 【儀】高度表。

解：測驗航空器在一基準水面以上高度的儀器。航空器的高度大都以海平線上英尺或公尺數計算。

[An instrument for measuring or indicating the elevation of an aircraft above sea level or the ground (any reference line).]

altimeter (aneroid), 【儀】空匣高度表。

解：因氣壓變化而發生動作的高度表，內含一真空盒，氣壓高時盒面略陷入，低時略隆起，此種隆陷乃傳動於指針，以指示航空器離海平線的高度。

altimeter (electrical capacity), 【儀】電量高度表。

表譯：依照離地距離的電容量變化而指示高度的高度表。

[An altimeter, the indications of which depend on the variation of an electrical capacity with distance from the earth's surface.]

altimeter (engine), 【儀】發動機高度表。

解：高度表的一種，根據增壓發動機進氣歧管內的壓力而指示高度。

[An altimeter for indicating the altitude corresponding to the pressure produced in the intake manifold on the super-charged engine.]

altimeter (gravimetric), 【儀】重量分析高度表。

解：高度表的一種，由已知重量而視重力的變化，而測驗飛機所在的高度，因重量離地球愈遠，則重量愈小，由此

可定離地面的高度。

[An altimeter that records the height of aircraft by the variation in gravitational pull on a known weight. The farther away from the earth, the less the pull of gravity.]

altimeter lag, 【儀】高度差。

解：高度差就是高度表上所表現的實際高度的差數，發生這差數的緣故是因為飛機的高度迅速改變，而高度表的靈敏性不夠，故積聚遂成此差數。

[The amount of difference in actual altitude reading, caused by the inability of the altimeter to accommodate itself to rapid changes in altitude.]

altimeter (optical), 【儀】光學高度表。

解：因光學作用而指示高度的高度表。

[An altimeter, the indications of which depend on the manipulation of a suitable optical system.]

altimeter (sonic), 【儀】聲學高度表。

解：高度表的一種，由航空器向地面發出聲浪，俟回音收接後，而計算往返的時間，測驗離開地面的高度。

[A height measuring instrument based upon the time required for a sound wave to reach the earth and then be reflected back to the aircraft. This gives the height above earth or a body of water.]

altimeter (sound ranging),

【儀】聲學高度表。

解：高度表的一種，由航空器向地面發出聲浪，俟回音收到後，而計算往返的時間，測驗離開地面的高度。

[An altimeter, the indications of which depend on the measurement of the time required for a sound wave to travel from the earth and back.]

altitude, 【飛】高度。

解：通常係指航空器離開海平面的垂直距離用呎數針量之。

[Usually understood to be the height of an aircraft above the sea-level in feet.]

altitude (astronomical), 【氣】【應】天文高度。

解：太陽或其他星球在地平線上的角度距離。

[The angular distance of the sun or any heavenly body above the horizon.]

altitude control, 【發】高空調整。

解：氣化器操縱系中的半真空或副進氣方法，可調整汽油化氣混合劑，使適合於各種不同的高度。因混合劑比例完全以重量為基礎，故在一萬英尺以上飛行時：必須運用高度調整，否則空氣密度太低，混合劑必致大濃。

[Partial vacuum or auxiliary air port methods of carburetor control designed to adjust the fuel vapor mixture for various altitudes. Since mixture ratios are on a weight basis it is necessary to use an altitude control for efficient operation above 10,000 feet, because the

lower density of the air causes the mixture to become increasingly rich.)

altitude (flight), 【飛】飛行高度。

解：由海平線至航空器的垂直距離。
[The vertical distance from sea level or any given reference line to aircraft.]

altitude (maximum-power),

【發】最大動力高度。

解：在最大許可 r.p.m. 能全開油門的最低高度。在增壓發動機方面，則又係額定昇壓所能保持最大許可 r.p.m. 的最大高度。

[The lowest altitude at which full throttle is permissible at maximum permissible r.p.m. For a supercharged engine it is also the highest altitude at which the rated boost pressure can be maintained at maximum permissible r.p.m.]

altitude (rated), 【發】額定高度。

解：在正常 r.p.m. 能全開油門的最低高度。在增壓發動機方面，則又係額定昇壓所能保持正常 r.p.m. 的最大高度。

[The lowest altitude at which full throttle is permissible at normal r.p.m. For a supercharged engine it is also the highest altitude at which the rated boost pressure can be maintained at normal r.p.m.]

alto-cumulus, 【氣】高積雲。

解：高積雲為大型狀的集團雲塊，呈白色或灰色，雲的一部有陰影，排列情形，或為集團，或為行列，往往因密集聚

湊的緣故，各球形雲塊四邊際，皆模糊不明，雲堆散佈的情形，大都在每一集團中央的雲塊較大，而聯合亦較緊密與層積雲托若，但各層的厚薄不同，有時積雲的各集團，散佈天空，宛呈微波狀，或略曲的薄雲片。集團的邊緣，散成細密的鱗片（與卷積雲相似）。高積雲，常對一個或兩個方向，散成行列，平均高度為15,000呎。

[Largish globular masses, white or greyish, partially shaded, arranged in groups or lines, and often so closely packed that their edges appear confused. The detached masses are generally larger and more compact (resembling St.—Cu.) at the center of the group, but the thickness of the layer varies. At times the masses spread themselves out and assume the appearance of small waves or thin slightly curved plates. At the margin they form into finer flakes (resembling Ci.—Cu.). They often spread themselves out in 1 lines in one or two directions. Mean height: 15,000 feet.]

alto-nimbus, 【氣】高雨雲。

解：烏色的雲，經氣流攜帶至積雲下層時，常造成雨的下降。

[High nimbus. A dull coloured cloud which, when carried by an air current beneath a cumulus cloud, frequently leads to rain.]

alto-stratus, 【氣】高層雲。

解：高層雲為灰色或淺藍色的雲片，

常呈黑灰色和纖維狀的緊密雲塊。有時雲片極薄，類似原的層雲，月光能透過雲層，發出暗淡的光輝，其狀頗與透過建築物的玻璃窗相似。此類雲型的變化情形，和卷雲層的特性，無其特異之處，但測量其高度，祇及卷層雲的半數。（無纖維高層雲，常呈波狀或垂綫狀）平均高度為20,000呎。

[A thick sheet of a grey or bluish colour, sometimes forming a compact mass of dark grey colour and fibrous structure. At other times the sheet is thin, resembling thick Ci.—St., and through it the sun or the moon may be seen dimly gleaming as through glass. This form exhibits all changes peculiar to Ci.—St., but from measurements its average altitude is found to be about one-half that of Ci.—St. (Nonfibrous A.—St. is often undulated or festooned.) Mean height: 20,000 feet.]

aluminithermic welding, 【工】

鋁熱鑄接。

解：將鋼注入，接頭鑄接，而鋼係用鋁為燃料以氧氣供燃燒。

[Welding by pouring molten steel into the joints. The steel is produced by using aluminim as a fuel, the oxygen for the combustion being provided by iron oxide scales.]

aluminium, 【化】鋁。

解：這是 aluminium 的老化學名辭，法德二國多用之。

aluminum, 【化】鋁。

aluminum alloys—ammeter

解：一種質軟而量輕的金屬元素，於1828年，由，Wohler 所發見，純粹鋁，在商業上無大用處，但與其他金屬混合，可作航空器上的結構材料，符號為(Al)。

[A soft light white element metal (Al), weak and useless commercially in its pure state but capable of being alloyed with other metals to form structural material for aircraft. It was discovered by Wohler, in 1828.]

aluminum alloys, 【材】鋁合金。

解：金屬的一種混合物，如硬鋁(duralumin)，鋁青銅等，大都用以製造發動機內的機箱(crankcase)，活塞(piston)，搖臂(rocker arm)等。自銲接法改進以來，油箱(fuel tank)構造也大都採用鋁合金。

aluminum bronze, 【材】鋁青銅合金。

解：銅與鋁的混合金屬。其中鋁佔11%，此係極硬的一種青銅，11%鋁合金於每平方吋約有張力95,000磅。

[An alloy of copper and aluminum containing up to 11 percent of the latter. It is a very strong hard bronze, the 11 percent grade having an average tensile strength of 95,000 pounds per square inch.]

aluminum-grease, 【材】鋁黃油。

解：一種固體或半固體潤滑黃油，其基本材料為鋁脂臘酸鹽所製成(aluminum stearate)潤滑油常與硬臘鹽酸成某種分量的混合而得相當的堅度有時稱為蓖麻子機器油(Castor machine oil)

[A solid or semi-solid lubricating grease in which the basic material is aluminum stearate. Lubricating oil is mixed in with the stearate to the required amount for a given consistency. Of ten called "caster machine oil".]

ambroin, 【材】假琥珀。

解：一種固體石膏材料，係用化石樹脂(fossil copal resins)及矽酸鹽(silicates)混合而成，為最優良的絕緣物，且可造各種模型。

[A solid plastic material made by the combination of fossil copal resins and silicates. It is an excellent insulator and can be molded into various shapes.]

ambroin cement, 【材】假琥珀膠。

解：化石樹脂溶在醋酸戊烷而成的一種膠液，但現在用各種樹脂而製成。

[A cement formerly made from fossil resin dissolved in a suitable solvent (amyl acetate). But at the present time is made from a great variety of gums and resins.]

ammeter, 【儀】電流表。

解：用以測驗一電路內電流的儀器，常在發電機與用電機關間的陽極一端上，用直列法連接。

[An electrical device or instrument used to measure the flow of current in a circuit. It is always connected in a series on the positive side of a circuit between the source of current

ammonia—amphibian

supply and the power using unit.)

ammonta, 【化】阿蒙尼亞, 氨精。

解：一種無色而輕的氣體，臭味刺激係由氮氫二氣化合而成(NH₃)。

[A colorless pungent gas composed of nitrogen and hydrogen.]

ammonia (aqua), 【化】阿蒙尼亞水, 氨精水。

解：阿蒙尼亞氣與水溶化而成，為極強的苛性鹼質(caustic alkali)可溶解多種脂肪與黃油且能導電。

[Solution of ammonia gas in water. A strong caustic alkali. Will dissolve most fatty oils and greases.]

amp, 【電】安培。

解：此即ampere的縮寫。

ampere, 【電】安培。

解：電流單位，弗打 (Volt) 與安培相乘即等於瓦特 (Watts電力單位)。

[The unit of electrical current flow. The product of volts and amperes equals watts (the unit of electrical power).]

ampere-hour, 【電】安培小時安時。

解：一安時即一安培電流連續放電達一小時所供給的能，蓄電池的容量，通常用安時單位表示之，如蓄電池，由開始放電至電動力降至1.8弗打為止，所能供給的電能為六十安時，此即安培電流可供給三十小時之久。

[The electrical work done by a current of one ampere flowing for one hour. This unit is used for specifying the capacity of storage batteries. Thus, a battery having the

ability to provide 60 ampere hours from fully charged to discharged condition, can supply one ampere for 60 hours, 2 amperes for 30 hours, and so on.]

ampere turns, 【電】安培匝。

解：總磁力線等於磁線圈匝數乘電流安培數而得，一安培匝即一安培電流繞一匝之謂。

[A total of magnetic force equal to the product of the number of turns in a magnetic coil multiplied by the current strength in amperes. One ampere turn is equal to one ampere flowing through one turn.]

amplifier, 【電】增幅器。

解：增大微弱電流的一種機件，用於無線電收報機上，可增強信號或將原有的弱聲而增強可聽明白。

[A device for increasing or augmenting a feeble electrical current, used for increasing the signal strength on a radio receiver, or for boosting up the original weak signal to greater audibility.]

amplitude, 【力】【電】振幅。

解：一個擺搖物體所經過的距離，及電波振動的長度，均可稱為振幅。

[The distance covered by a swinging body. The height of a wave system measured on a graph.]

amphibian, 【機】兩棲機。

解：可於水上及陸上起落的飛機。(參閱附錄第十二圖)

amsler planimeter—anchor(sea)

(An airplane designed to rise and alight on either land or water.)

amsler planimeter, 【工】求積器。

：一種儀器可用以測量不規則形狀的面積，且可直接而決定重心惰距等，無須計算均積，有時亦稱為機械求積器 (mechanical integrator)。

[An instrument used for measuring the area of irregular figures for determining the center of gravity, moment of inertia, etc. directly and without calculation. It is also called a "mechanical integrator."]

amyl-acetate, 【化】醋酸戊烷。

解：一種有香蕉氣味的油，故普通稱為香蕉油，為各種膠脂，瓊路塔等的液體溶媒，且漆類及鉛漆亦用此為溶媒。

[Commonly called "banana oil" because of its odor. It is a liquid solvent for many gums and resins, celluloid, etc. It is also a solvent for lacquers and is also used with aluminum paint.]

amyl-alcohol, 【化】五裝烷基酒精。

解：由澱粉質發酵所變化的油狀無色液，化學公式為 $C_5H_{11}HO$ 常稱為 (fusel oil) 有毒用於油漆內。

[An oily liquid called "fusel oil", poisonous. Used for certain varnishes and lacquers.]

anabatic wind, 【氣】颯風。

解：熱空氣對流所致成的局部風。

[A localised wind caused by the convection of heated air.]

anallobar, 【氣】增壓區。

解：氣壓增高區域的氣象學名詞。

[It is an area over which the pressure is increasing.]

anchorage (snatch-block), 【設】

滑輪錨。

解：置於地下的錨，上裝滑輪，可容繫留塔上的繫索穿過，滑輪錨用混凝土或木料造成，散置於塔的四週成一圓圈，各錨間的距離大致相等。繫住一氣艇或鸚式氣球時，可隨意選擇一相當滑輪錨。

[An anchorage set in the ground for a snatch block used with a yaw line from a mooring mast. The anchorages may be of concrete or timber and are usually arranged at equal intervals around the circumference of a circle whose center is the mast; may also be applied to any anchorage for a snatch block used in hauling down an airship or kite balloon.]

anchor men, 【飛】司尾人。

解：滑翔機昇空人員 (launching crew) 的一部，彈索拉直時專司執住機尾的任務。

[That part of launching crew holding the tail of a glider while the shock cord is being stretched.]

anchor (sea), 【裝】水錨。

解：航空器上攜帶的開口布袋，將此布袋拖留水中，袋口向前，即能發生相當的阻力，也稱 drogue。

[An open fabric bag carried on an aircraft and arranged to

anemocinematograph—angle(critical)

offer considerable resistance when towed mouth first through water. Tripping or collapsing devices may be incorporated in it. Also called "drogue".

anemocinematograph, 【儀】風速自記器。

解：記錄風速的儀器。

[A device for recording the velocity of the wind.]

anemograph, 【儀】風速自記器。

解：一種自己記錄的風速表，並可記錄風向，即 anemocinematograph

[A self-recording anemometer which may also record the direction of the wind.]

anemometer, 【儀】風速表。

解：測驗或指示氣流速度的儀器。管窠式風速表包含半球形風杯四個，裝置於四軸射臂上，風吹動時風杯即旋轉，轉動次數即在儀器底部紀錄。螺旋槳式風速表則裝置螺旋槳或風車代替風杯。（圖見“航空儀器”57, 60, 二圖）

anemoscope, 【儀】風向器。

解：一種風車指示器，用以表示風吹的方向。

[A wind vane (weather vane) indicator that shows the direction in which the wind is blowing.]

aneroid altimeter, 【儀】空盒高度表。

解：因氣壓變化而發生動作的高度表，內含一真空盒，氣壓高時盒面略陷入，低時略隆起，此種隆陷乃傳動於指針，以指示航空器離海平線的高度。

angle, 【飛】【力】角度。【材】角材。

解：【飛】兩直線間方向的差異，用度

數計算，一度即全圓圈 $1/361$ ，符號爲 $(^\circ)$ 。

【材】機體的一部分，含有二緣，互成直角。兩緣的尺寸如不相同，則應使尺寸較大的一緣支承最大重量。

angle "a", 【飛】衝角。

解：此即 angle of attack 的略寫。

angle (acute), 【力】銳角。

解：小於九十度的角。

[An angle less than 90° .]

angle (aileron), 【機】副翼角。

解：副翼位置對中性位置所成的角度，在中性位置之下的，稱爲正角。

[An angular displacement of an aileron from its neutral position. It is positive when the trailing edge of the aileron is below the neutral position.]

angle (attack), 【飛】衝角。

解：見 angle of attack.

angle (blade), 【螺】槳葉角。

解：槳葉弦和旋轉面所成的銳角。

[The acute angle between the chord of an element of an airscrew blade and the plane of rotation.]

angle (burble), 【飛】【力】失速角。
(=stalling angle)

解：機翼衝角太大，氣流受擾，致昇力消失極快，因而發生失速。

[The excessive angle of attack for an airfoil at which the streamline flow is disturbed to such an extent that the lift decreases rapidly, permitting a stall.]

angle (critical), 【力】【飛】臨界角。

angle(dihedral)—angle(gliding)

解：衝角的一種，是使翼面氣流驟然改變，昇力與阻力因亦驟然改變。

[An angle of attack at which the flow about an airfoil changes abruptly with corresponding changes in the lift and drag.]

angle (dihedral), 【力】【機】翼
反角。

解：見 dihedral angle.

angle (downwash), 【力】向下洗
流角。

解：機翼後緣使氣流向下游動，向下洗流角可用與對稱面平行的平面來測量符號為 E. (參閱附錄第六圖)

[The angle through which an air stream is deflected by any lifting surface of an airplane. It is measured in a plane parallel to the plane of symmetry and is denoted by the symbol E.]

angle (drift), 【飛】偏航角。

解：在測風中航行時，航空器的縱軸與飛行的路線所成的角度。

[The horizontal angle between the longitudinal axis of an aircraft and its path relative to the ground.]

angle (dropping), 【力】【軍】投下
角，投彈角。

解：在準確投彈時飛機對地垂直線前，和對彈着點的瞄準線所成的角度 其所包括的垂面地程，即彈道的射程，故有時亦稱為射程角 (range angle.)

投下角 = $\tan^{-1} \frac{\text{射程}}{\text{高度}}$

(參閱附錄第四十一圖)

[The angle between the vertical and the straight line joining the aircraft to the target at the correct moment for release.]

angle (effective helix), 【力】有
效螺旋角。

解：飛機在空中推進時，螺旋槳葉某一點的螺旋角。此角等於一角，其切線為飛行速度與四個數量之積之比：2π, T (由軸至某點的距離) 與 n (每秒鐘轉數) i, e:

$$\Phi = \tan^{-1} \left(\frac{V}{2\pi T n} \right)$$

[The angle of the helix described by a particular point on a propeller blade as the airplane moves forward through air otherwise undisturbed. It is equal to the angle whose tangent is the ratio of the velocity of flight to the product of the four quantities; 2π, T (the distance from the axis to the point in question) and n (the number of revolutions per second,) i. e.;

$$\Phi = \tan^{-1} \left(\frac{V}{2\pi T n} \right)$$

angle (elevator), 【機】方向航角。

解：方向舵與中性位置所成的角度。昇降舵的位置在中性位置以下的，稱為正角。

[The angular displacement of the elevator from its neutral position. It is positive when the trailing edge of the elevator is below the neutral position.]

angle (gliding), 【飛】滑翔角。

angle(ground)—angle(obtuse)

解：發動機停止後，飛機利用重力 (Gravity) 在正常飛行速度中下降。下降的路線與地平線所成的銳角，稱為滑翔角。最佳的滑翔角應以飛機重量與空氣阻力的關係去追求。(參閱附錄第一圖)

[The angle between the horizontal and the downward path along which an airplane descends at normal flying speed, but not under power.]

angle (ground), 【機】【飛】落地角。

解：同 landing angle.

angle "i", 【力】裝角，傾角。

解：此即 angle of incidence 的縮寫。

angle(landing), 【機】【飛】落地角。

解：飛機置放平地時，縱軸與地平線所成的銳角亦即三點落地 (three point landing) 時的角。有時也稱地面角 ground angle.

[The acute angle between the line of thrust of an airplane and the horizontal when the airplane is resting on level ground in its natural position. Also called "ground angle".]

angle (lateral dihedral), 【力】

【機】橫反角。

解：翼稍向上或向下傾側，兩翼連接處的角度，大於 90° ，而小於 180° 。翼稍如向下傾側，則稱為負橫反角。(圖見航空讀本一冊 Fig 21.)

[Lateral dihedral angle is the angle included between the planes of airplanes lifting surfaces when they are inclined

upward or downward towards the wing tips. A dihedral angle is an angle greater than 90° and less than 180° . It is negative when its tip downward.]

angle (longitudinal dihedral),

【機】縱反角。

解：主翼傾角與橫安定面傾角間的差數。如安定面傾角小於翼傾角，則稱為正縱反角。如安定面傾角大於翼傾角，則稱多負縱反角。

[The difference in angle of wing section and of stabilizer setting. This angle is positive when angle of stabilizer setting, referred to the thrust line, is less than the angle of wing setting.]

angle(magnetic track), 【飛】磁性軌跡角。

解：指磁子午線所成的軌跡角度。

[The track angle referred to the magnetic meridian.]

angle (minimum gliding), 【飛】最小滑翔角。

解：發動機停止後，飛機在平靜空氣中下降，下降的路線極平，幾同地平線平行，此路與地平線所成的角，稱為最小滑翔角。

[The acute angle between the horizontal and the most nearly horizontal path along which an airplane can descend steadily in still air when the propeller is giving to thrust.]

angle (obtuse), 【力】鈍角。

解：大於九十度的角。

[An angle greater than 90° .]

angle of attack—angle of incidence (minimum)

angle of attack, 【飛】衝角。

解：翼弦與水平飛行方向所成的銳角，也稱爲飛行的傾角 (flyer's angle of incidence)，符號爲 ∞

例：圖中F 爲衝角，飛行員可以任意操縱飛機改變它的角度。R 爲裝配傾角 (rigger's angle of incidence)，由翼弦與飛機縱軸所構成，角度永久不變。(圖見航空讀本第一冊 Fig.11)

[The acute angle between the chord of an airfoil and its direction of motion relative to the air. This definition may be extended to other bodies than airfoils. Its symbol is ∞ .]

angle of attack (absolute), 【力】

絕對衝角。

解：機翼所成的角度，係由零度昇力位置量起。

[The angle made by a wing, measured from the position or zero lift.]

angle of climb, 【力】上昇角。

解：上昇飛機的航線與水平線所成的角度，而一指定飛機於順風或逆風時上昇，其上昇角亦有不同。

[Angle made with the horizontal by the path of a climbing or ascending aircraft. This angle varies with a given ship when it is climbing against or with the wind.]

angle of deviation, 【飛】偏差。

解：磁羅針和磁北所成的角度，此係局部磁性物體影響羅針，偏出正確的指示所致的羅差角度。

[The angle made between the magnetic compass needle and

the magnetic North. This is an angle of compass error due to the influence of local magnetic bodies that cause the needle to be drawn off of its proper indication.]

angle of incidence (aerodynamic), 【力】氣動力學的傾角。

解：翼面中和昇力線 (neutral lift line) 對於運動方向與空氣接觸的角度。氣動力學的傾角發生於翼面的弧度，有此種傾角，則縱在衝角零度時，仍能產生大量昇力。(圖見航空讀本一冊 Fig.12.)

[The angle at which the neutral lift of an airfoil attacks the air relative to the direction of motion. This means that an airfoil may generate a large amount of lift at zero angle of attack, due to the aerodynamic angle of incidence resulting from the cambered design of the wing.]

angle of incidence (best climbing), 【力】最上昇角。

解：飛機在最短時間內求得高度的最佳角度。

[That angle of incidence at which an airplane ascends the quickest.]

angle of incidence (maximum),

【力】最大傾角。

解：能保持水平飛行的最大角度。

[The greatest angle of incidence at which horizontal flight can be maintained.]

angle of incidence (minimum),

angle of incidence of wing—angle of stall

【力】最小傾角。

解：能保持水平飛行的最小角度。
[The smallest angle of incidence at which horizontal flight can be maintained.]

angle of incidence of wing,

【力】【機】翼裝角。

解：飛機推力線與翼弦間的銳角。兩翼的翼裝角有時各不相同。

[The acute angle between the plane of wing chord and the line of thrust. It may differ for each wing.]

angle of incidence (optimum),

【力】最好傾角。

解：昇力與阻力比的最高傾角。
[That angle of incidence at which the lift-drag ration is the highest.]

angle of incidence (riggers),

【力】裝配傾角。

解：翼弦與螺旋槳軸平行線所成的角。(參閱附錄第十三圖)

[The angle that the chord of a surface makes with a line parallel to the axis of the propeller.]

angle of pitch, 【力】【飛】俯仰角。

解：以下二平面間的銳角：一平面包含飛機的橫軸與相對風向；一平面包含橫軸與縱軸。(在正常飛行中，俯仰角為縱軸與相對風向間的角)。符號為 θ ，機頭舉起的稱為正角。(參閱附錄第二圖)

[The acute angle between two planes defined as follows: One plane includes the lateral axis of the aircraft and the direction

of the relative wind, the other plane includes the lateral axis and the longitudinal axis. (In normal flight the angle of pitch is, then, the angle between the longitudinal axis and the direction of the relative wind.) This angle is denoted by θ and is positive when the nose of the aircraft has risen.]

angle of roll, or angle of bank,

【力】【飛】橫轉角，或傾側角。

解：飛機沿縱軸旋轉，使橫軸進入橫平面內的銳角。符號為 ψ ，左翼高於右翼則稱為正角。(參閱附錄第三圖)

[The acute angle through which an aircraft must be rotated about its longitudinal axis in order to bring its lateral axis into a horizontal plane. This angle is denoted by ψ and is positive when the left wing is higher than the right.]

angle of side-slip, 【飛】【力】側滑角。

解：飛機的對稱面和運動方向間的銳角。(參閱附錄第四及第五圖)

[The angle between the plane of symmetry and the direction of motion of an aircraft.]

angle of stabilizer setting,

【力】【機】安定面裝角。

解：飛機推力線與安定面弦間的銳角。
[The acute angle between the line of thrust of an airplane and the chord of the stabilizer.]

angle of stall, 【飛】【力】失速角。

解：與最大昇力系數相符的傾角。

angle of sweep-back—angle(propeller-blade)

[The angle of incidence corresponding with the maximum lift coefficient.]

angle of sweep-back, [機]

掠後角, 後退角。

解：飛機橫軸和突出的主翼軸，在包括橫軸和縱平面，向後定置所成的角度。(翼軸就是翼切面中心經過重心所劃的線(參閱附錄第十四圖, 18)

(The angular set back of the main planes relatively to the fuselage or hull.)

angle of torsion, [力] 扭力角。

解：將扭力施用於軸上所成的角度。

[The angle through which a shaft is twisted when a torsional or twisting force is applied. This is also known as torsional deflection.]

angle of trail, [機] 後緣角。

解：機翼剖面的弦線，和向中線在翼後緣成正切的線所成的角度。

[The angle made between the chord of an airfoil section and a line drawn tangent to the median line at the trailing edge of the airfoil.]

angle of variation, [飛] 磁差角。

解：磁羅針，(或磁子午線) 和正北線所成的角度，此係磁羅盤對正北的誤差量。

[The angle made by a magnetic compass needle (or the magnetic meridian) with a line pointing true north. It is the amount by which the magnetic compass is in error from pointing true north.]

angle of wing setting, [力][機] 翼裝角。

解：飛機推力線與翼弦間的銳角。兩翼的翼裝角有時各不相同。

[The acute angle between the plane of wing chord and the line of thrust. It may differ for each wing.]

angle of yaw, [飛] 偏航角。

解：相對風向 (direction of the relative wind) 與飛機的對稱面 (plane of symmetry) 間的角度。符號為 Ψ ，向右偏轉則稱為正偏航角。(參閱附錄第五圖)

[The acute angle between the direction of the relative wind and the plane of symmetry of an aircraft. This angle is denoted by Ψ and is positive when the aircraft has turned to the right.]

angle of zero lift, [力] 無昇力角。

解：機翼面於失去昇力時所成的衝角，此數甚小或有時為衝角。

[The attack angle made by an airfoil (usually negative) at which the airfoil loses its lift. This is a very small or often negative angle of attack.]

angle (propeller-blade), [力][機] 槳翼角。

解：螺旋槳剖面的弦與旋轉軸的垂直面所成的銳角。通常稱為 blade angle。

[The acute angle between the chord of a propeller section and a plane perpendicular to the axis of rotation of the propeller. Usually called "blade angle".]

angle(rudder)—angular velocity

angle (rudder), 【力】【機】方向舵角。

解：方向舵與飛機對面所成的銳角。後緣向駕駛員正常位置的左方移轉時，則稱爲正方向舵角。

[The acute angle between the rudder and the plane of symmetry of the aircraft. It is positive when the trailing edge has moved to the left with reference to the normal position of the pilot.]

angle (tail-setting), 【機】尾裝角。

解：機翼的翼弦線和尾翼的翼弦線間的銳角。若尾翼對水平面的傾斜度大過機翼時，則此角爲正數。

[The acute angle between the chord line of the main plane and the chord line of the tail plane. If the latter is at a greater inclination to the horizontal than the former the angle is said to be positive.]

angle (trail), 【力】退曳角。

解：飛機用恆定速度作直線飛行時的垂直線後面的彈着點觀察角。此角是因高度，飛機的空速，和大氣情況而變化。

$$\text{退曳角} = \tan^{-1} \frac{\text{退曳程}}{\text{高度}}$$

(參閱附錄第四十一圖)

[The angle by which the bomb, as viewed from an aircraft in rectilinear flight at constant speed, is observed to trail behind the vertical. This angle varies with height, air speed of aircraft and atmosphere

conditions.]

angle (true track), 【飛】真軌跡角度。

解：指真子午線所成真軌跡角度。

[The track angle referred to the true meridian.]

angle (wing-dihedral or dihedral), 【力】【機】翼反角。

解：翼面橫基準線與飛機橫軸所成的銳角。兩翼上部的鈍角如小於 180° ，則稱爲正翼反角。(參閱附錄第十二圖a)

[The acute angle between the transverse reference line in the wing surface and the lateral axis of the airplane projected on a plane perpendicular to the longitudinal axis. The dihedral angle is positive when the upper obtuse angle for the two wing is less than 180° .]

angle (zero lift), 【力】【飛】無昇力角。

解：在昇力零度時的翼面衝角。

[The angle of attack of an airfoil when its lift is zero.]

angular momentum, 【力】角動量。

解：旋轉物體的動量，對於圓圈半徑所成的直角。

[The momentum of a revolving body acting at right angles to the radius of the circle.]

angular velocity, 【力】角速度。

解：圓圈路線中一點的速度，係以每分鐘轉數 (r.p.m.) 每秒鐘轉數 (r.p.s.) 或每分鐘弧度 (radians) 計量之，設(N)爲每分鐘轉數，則每秒鐘弧度的角速爲 $0.104172 \times N$ ，以角度表示

animal glue -- annealing

之，則一弧度等於57.3角度 (angular degrees.)

[The velocity of a point in a circular path which can be expressed in revolutions per minute (r.p.m.), revolutions per second (r.p.s.), or in radians per second. If (N) is the number of revolutions per minute, then the angular velocity in radians per second is $0.10472 \times N$. Expressed as an angle, a radian is equal to 57.3 angular degrees.]

animal glue, [材] 動物膠.

解：動物膠係用獸皮，骨，蹄製成，強力極大，但有水分浸入時極易腐壞。此種膠液大都用以膠合螺旋槳，因螺旋槳表面有保護層，水分不致侵入。

[Animal glue, made from hides, bones, and hoofs, have maximum strength, but they are extremely susceptible to deterioration from penetration by moisture. However, it is often used for gluing propellers, which are protected from moisture by surface preservations.]

anneal, [工] 煨煉.

解：煨煉金屬的熱處理法，先加高熱，然後徐徐使冷，以減少脆性。

[Heat treating of metal designed to refine the grain and toughen the metal. It is usually accomplished by long continued heating of baking and slow cooling.]

annealed brass, [材] 煨煉黃銅.

解：片形，管形或桿形黃銅，經熱變軟，滾壓後則驟冷變硬。

[Sheet, tubular or rod brass softened by heating and quenching the hard rolled brass.]

annealing, [工] 煨煉法.

解：鋼合金最初為鑄鐵，待熔成液體時，則傾出各大小形狀鑄塊 (ingot) 此名初鑄，(rough casting) 其成份極為粗糙，鑄塊復又用火燒紅，煨煉成分調整，較前更為平滑，滾壓與錘鍊亦可使構結分子精良，造成機件須置於爐中煨煉之，徐徐增至最高熱度，數小時後使全部熱透然後將爐及爐內的機件，緩緩冷卻，至相當溫度時，再浸入水內驟冷之，當可得到預期的硬度。

[In its original state all of the steel alloys are cast metals. After the steel is made and ready to pour, it is cast into the form of ingots of various sizes and shapes. This might be called "rough casting", and it leaves the metal with strains in the grain and a generally rough structure. The ingots are pickled or brought to a high heat and rolled or forged into rough shapes. This heating process allows the molecular structure to readjust itself, and much of the strain and unevenness is removed. Rolling and forging also help to refine the grain and improve the structure of the metal. Finished parts are annealed in furnaces by bringing them very slowly to a high

annular bearing—anti-drag ring

heating, which is held for many hours to assure right through heating, and then the entire furnace holding the parts is allowed to cooled very slowly. The desired degree of hardness can be attained by quenching at the proper temperature.]

annular bearing, 【發】環形軸承.

解：繞軸的一種圓形軸承，其承受重量與軸長成直角，一個球軸承成轉條軸承繞軸四週，可承受末端推力及垂直重量。

[A ring shaped bearing surrounding a shaft. It takes loads acting at right angles to the length of the shaft. An annular ball bearing or roller bearing surrounds the shaft, but may take end thrust as well as the perpendicular loadings.]

anode, 【電】陽極.

解：亦稱正極，係電流進入液體之點。

[The positive pole or the point where current enters a liquid solution.]

anodic treatment, 【工】陽極處理法.

解：某種金屬須有外皮保護，此係將金屬插在電解液內，作陽極通電鍍之，如此則成保護的外皮一層。

[Certain metal are given a protective coating by making the metal the anode of an electrolytic bath. This process is used for forming a protective coating on the metal parts of aircraft.]

antenna, 【電】天線.

解：用作接受無線電波的金屬線，金屬桿，或其他導體。

[A wire, rod or other conductive body used for the reception of radio waves.]

antheion, 【氣】幻日.

解：一種假日影像，普通又稱爲反日 (counter sun) 是與真日成 180° ，

[A false image or reflection known as the "counter-sun" which appears as a bright spot located 180 degrees from the real sun.]

anti-clockwise, 【儀】逆時針方向.

解：相反時針方向的旋轉，亦稱爲左手旋轉。

[Rotation opposite to the movement of clock-hands. This is "left-hand" rotation.]

anti-cyclone, 【氣】反旋風.

解：氣壓較高的區域，此風在北半球環繞中心作順時針方向的旋轉南半球則作反時針方向的旋轉。(參閱附錄第四十六圖)。

[A region of relatively high barometric pressure. The winds circulate clockwise round the centre in the Northern, and counter-clockwise in the Southern Hemisphere.]

anti-drag ring, 【發】減阻軸環.

解：大型環套在星形發動機的氣缸上，使氣流向某方流動可使發動機的廢阻力減少。

[A large ring surrounding the cylinder of a radial engine which directs the air stream in such a way that there is a marked reduction in the parasitic

anti-drag wire—apparatus(water-recovery)

resistance of the engine.)

anti-drag wire, 【機】抗力線。

解：凡和阻力方向對抗的張線，則稱爲抗力線。(參閱附錄第十五圖37)

[Wires to resist forces in the opposite direction to the drag.]

anti-flutter wire, 【艇】減震線。

解：在氣艇外皮平面中的一條鋼線，用作該處外皮的局部增力，并減去在飛行中因空氣壓力或螺旋槳洗滌所生的震動。又稱外皮線(outer cover support wire.)

[A wire in the plane of the outer cover for locally reinforcing the outer cover in that part of the airship and reducing fluttering in flight due to air pressure or propeller wash. Also called "outer cover support wire".]

anti-freeze mixtures, 【化】防凍劑。

解：在低溫度中不致凍結的溶液，用於散熱器(radiator)與羅盤盤(compass bowl)內。如乙烯質醇(Ethylene-glycol)酒精，及甘油(glycerine)之類。

[Mixtures of chemicals and water (usually) which are used in radiator solutions to secure the benefit of lower freezing points. Also in compass bowls. They are Ethylene-glycol, glycerine, etc.]

anti-friction metal, 【材】減震金屬。

解：一種軟金屬用作軸承的襯裏，如巴必脫合金。(Babbitt metal).

[A soft metal used as a lining

in bearings. Babbitt metal is an example.]

anti-knock gasoline, 【油】防爆汽油。

解：汽油在某種壓縮力下，可以防止爆炸。

[A gasoline that resists detonation or knocking under a given compression pressure.]

anti-lift wire, 【機】落地線。(=landing wire)

解：凡和升力方向對抗的張線，則稱爲落地線。(參閱附錄第十五圖，8)

[Wires to resist forces in the opposite direction to the lift. Sometimes called Landing wires.]

anti-logarithm, 【力】對對數。

解：與對數相等的數目。

[A number corresponding to a given logarithm.]

anti-rolling wire, 【艇】【球】制搖線。

解：防止艇身或氣囊滾搖的索線。

[A wire to prevent rolling of any component relative to the hull or envelope.]

anti-trades, 【氣】反信風。

解：與信風或貿易風相反方向，連續吹來的風，即信風的回風。

[A wind that blows steadily above the trade wind and in the opposite direction. A return of the trade wind.]

aperiodic, 無週期的。

解：無振搖的自然週期。

[without a natural period of vibration.]

apparatus (water-recovery), 【艇】

apparent time—apteroid aspect

還水機。

解：氣艇上用以凝結內燃發動機排出氣體中的水份，以抵償汽油消耗所損失的重量。有了此種設備氣艇可無須常常放出輕氣體。

[Apparatus carried on an airship for condensing and recovering the water contained in the exhaust gases of internal combustion engine in order to avoid the necessity of valving gas as the fuel is consumed.]

apparent time, 【氣】太陽時。

解：由精確的日晷儀所測定的太陽時。

[Sun time.]

appendix, 【球】充氣管。

解：氣球下部用以吸收與排除氣體的管子。在自由氣球上也用為自動排氣口。此管初僅用於自由氣球，後也被採用於他式氣球，但不用於氣艇。

[The tube, usually located at the bottom of a balloon, primarily used for inflation and deflation. To the case of a free balloon it may also serve as an automatic-discharge opening. Originally applied to free balloons only. Should be restricted to the various types of balloons and not applied to airships.]

appendix manhole, 【球】充氣管大口口。

解：短而直徑甚大的口門，多作出進之用，但灌氣與放氣用之甚少。

[An appendix of large diameter and usually rather short. It is used more for access than for

inflation or deflation.]

approaching, 【飛】飛近地面。

解：飛機準備著陸的適當操縱動作。

[The act of properly maneuvering the airplane preparatory to landing.]

approach light, 【設】接近燈。

解：一種特殊燈光，指示飛行場內最好的接近航線。

[A light of distinctive character for indicating a favourable line of approach to an aerodrome.]

approved type certificate, 【公】

許可模型證明書。

解：美國商業部航空署對於符合標準適航的飛機所發給的證明書。

[A certificate issued by the U. S. Dept. of Commerce, Aeronautics Branch, to aircraft meeting its standards of airworthiness.]

apron, 【艇】坪。

解：棚廠前的硬平地，晴天用以為修理或管理飛機的場地。

[A hard surface area of considerable extent immediately in front of the entrance of a hanger or aircraft shelter which is used for the handling of aircraft or for repair in clear weather.]

apteroid aspect, 【力】【機】非翼面形數。

解：與鳥翼相反的裝置翼，進入空氣係以窄緣面風。

[Arranged contrary to the wings of a bird. A wing or plane that

aqua ammonia—area (wetted)

enters the air with the narrow edge into the wing.)

aqua ammonia, 【化】阿摩尼亞水，
鹼精水。

解：阿摩尼亞氣與水溶化而成，爲極強的苛性鹼質(caustic alkali)可溶解多種脂肪與黃油，且能導電。

[Solution of ammonia gas in water. A strong caustic alkali. Will dissolve most fatty oils and greases.]

arc, 【力】弧。【電】弧光。【機】弧線。
解：【力】圓圈的一段。

【電】電流穿過空氣或氣體所致的電光。

【機】機翼的彎曲面。

① A portion of the circumference of a circle. A short curved line.

② An electric flame caused by electricity passing through the air or a gas.

③ Arched or cambered of a ring]

arched wing, 【機】拱面翼。

解：翼面上凸作曲形而下面則中凹。

[A chambered wing or lifting surface of curved section with the concave side at the bottom. See **airfoil**.]

Archimedes' principle, 【力】阿幾米德原理。

解：希臘著名數學家兼機械學家所發明的流體教力學原理，謂固體在流體中必有與重力相反的上壓力，上壓力量與所排除的流體重量相等。

[When a solid body is immersed in a liquid, a buoyant effort to the weight of the liquid

displaced acts upward and opposes the action of gravity.]

arc of fire, 【軍】射弧。

解：飛機機關槍發射的區域。

[The range of aircraft gun.]

area (balanced), 【力】均衡面積。

解：一種操縱面其重載量是由補助面所平衡。

[An air loaded surface (control surface) in which the load is balanced by an auxiliary surface or force.]

area (bearing), 【機】軸承面積。

解：承受壓量的面積。

[The area of surface carrying a crushing load.]

area (disc), 【螺】盤形面積。

解：旋轉螺旋槳葉探過的圓形盤面。

[The area of the circular disc swept by the blades of a revolving propeller.]

area (landing), 【設】落地區域。

解：飛行場或氣艇站爲起落所保留的部分。

[That part of an aerodrome or airship station reserved for landing and taking-off.]

area (projected), 【力】投射面積。

解：物體的此種投影面積乃係平面，軸的投影面積是其直徑乘長度而計算之。

[The area of the shadow cast by an object. The area projected a flat plane or plate. The projected area of a shaft or bearing is equal to the diameter multiplied by the length.]

area (wetted), 【力】沒水面積，氣流

area(wing)—articulated connecting rod

面積。

解：船身與水接觸的面積，有時亦指航空器與流動氣流接觸的面。

[The area of a boat hull in contact with the water. Often the surface of aircraft in contact with moving air is (comparatively) called the "wetted surface."]

area (wing), [機] 翼面積。

解：機翼投射面積，即等於翼面積，亦等於機翼長度(翼展)乘平均寬度(翼弦)。

[The projected area of a wing or airfoil. This equal to a flat projection or is equal to the length (span) multiplied by the mean width (Chord).]

argon, [化] 氬。

解：空氣中的氣體原素之一，密度最大。大氣中性質極不活潑的氣體。

[A small constituent of the atmosphere. It has the greatest density of any gas in the composition of the atmosphere. An inert elementary gas found in the atmosphere.]

armature, [電] 電樞。

解：電動機或發電機旋軸的部分，電樞即係感生電流之處。

[The revolving part of an electric motor or generator. The part in which current is produced.]

arming vanes, [軍] 備炸風車。

解：於炸彈下墜時使爆發尖針活動的機件。

[A device for rendering the

pistol "live" during the fall of a bomb.]

arming-vane stop, [軍] 備炸風車制子。

解：當炸彈裝置在飛機上時，防止爆發尖針的備炸風車旋轉。

[A stop for preventing the rotation of the arming vanes of the pistol while the bomb is in position of the aircraft.]

aromatics compound, [化] 芳香族化合物，環狀化合物。

解：由石油或煤焦油中提出的碳化氫類(hydrocarbon)如石油烴(benzine)。此類化合物可用以制止爆炸。

[A series of hydrocarbons found in petroleum and coal tar products of which benzol is an example. They resist detonations.]

arrow engine, [發] 箭頭形發動機。

解：發動機有三排氣缸，它的尾端組成箭頭(↓)形狀。

[An engine with three rows of cylinders forming, in an view, a ↓.]

articulated connecting rod, [發] 副聯桿。

解：一種聯桿用一組關節銷在主聯桿中點和曲柄銷軸承的距離上，將一個氣缸的活塞與另一個氣缸的主聯桿相聯接。

[A connecting rod which joins the piston of one cylinder to the master connecting rod of another cylinder by means of a knuckle pin bearing at a distance from the center of the master rod and

artificial horizon—aspaltic base oil

crank pin bearing.)

artificial horizon, 【儀】人工水平儀。

解：飛機所在高度太大，不能得到精確的天然水平線，或因天然水平線不十分明晰時，則六分儀內的水泡或擺錘是人工水平線的參考物。

[A self contained artificial reference, bubble or pendulum, within a sextant to be used for a horizon when the natural horizon is obscured, or when an airplane is at too great an altitude to determine the natural horizon with accuracy.]

A. S. A. 【材】美國標準局。

解：美國標準局的縮寫字。

(Abbreviation for American Standard Association.)

ash 【材】槐。 【油】灰。

解：【材】製造飛機用的木料，有彈力，張力頗強，堅硬而韌。重量大於樅 (Spruce)，但如用金屬鑲包得宜，則較同樣重量的其他木料為堅強。

【油】汽油經燃燒後，存留的固體礦物質。

① It is springy, strong in tension, hard and very tough. Its weight is greater than spruce, but, when properly ferruled, can for the same weight be made stronger than any other wood.

② Solid mineral residue left by burn-out gasoline)

aspect (pterygold), 【力】【飛】長邊比。

解：機翼如鳥翼形狀，而長邊正對氣流。

[Appearance of a bird wing. An airplane wing in birdlike arrangement, i. e., with the long dimension entering the airstream.]

aspect-ratio, 【機】展弦比。

解：翼展對於平均翼弦的比例，即機翼的長度對於平均長度的比。

例：設“S”為翼展，“C”為翼弦，則展弦比“r”即： $r=S/c$ ，或 $r=S^2/A$ 其中A=面積。

[The ratio of the span to the average chord of a wing, or the ratio of the length to the average width. If (S) is the span or long dimension of the wing; and (C) is the chord or short dimension, then the aspect-ratio (r) becomes: $r=S/C$, or $r=S^2/A$ Where A=area.]

aspect ratio of propeller blade,

【力】槳翼展弦比。

解：螺旋槳直徑與最大葉闊比的半數

[Half the ratio of propeller diameter to maximum blade width.]

aspaltic base oil, 【油】地瀝青基油。

解：石油一種，其中最多固體殘質。為地瀝青，是油多產於墨西哥，及南美洲一帶。

[A type of petroleum oil in which the predominating solid residue is asphaltum. More correctly known as naphthentic base oil. Asphaltic base oils are found in the Southwestern and

asphaltum—atmospheric electricity

Gulf coast states, in Mexico and South America.)

asphaltum, [油] 地歷青, 石腦油。

解：一種黑色半流質液體。所含大半為碳化氫各地松脂 (bitumen), 天然的歷青係由中美洲地歷青湖內採得, 或即提煉地歷青基油時所得的殘質。

[A heavy black sticky semi-fluid, consisting largely of a hydrocarbon known as bitumen. It is obtained naturally from bitumen lakes in Central America or from the residue left after refining asphaltic base oils.]

aspirator, [發] 吸氣器。

解：由管嘴將氣流引出而產生半真空的機件, 亦稱為濾器唧筒。

[A device for creating a partial vacuum by means of a stream of water in a jet. Also known as a "filter pump".]

A.-St. [氣] 高層雲。

解：此即 alto-stratus 之縮寫。

astatic couple, [儀] 無定位偶合。

解：磁針或測電儀器使不受外界磁場影響的裝置。

[Magnetic needle of an electric measuring instrument so arranged that they are not affected by an external magnetic field.]

astronomical day, [氣] [航] 天文日。

解：以兩正午為每日的始終, 共計二十四小時。

[It commences at noon of the civil day of same date, and consists of one period divided

into twenty-four hours reckoned from noon one day to noon the next day.]

A.T. [電] 安培匝。

解：安培匝的縮寫字。

[abbreviation for ampere turn.]

A.T.C. [公] 許可模型證明書。

解：此即 approved type certificate. 的縮寫。

atmosphere, [氣] 大氣。

釋：地球表面所圍繞的氣體。

[The gaseous envelope surrounding the earth.]

atmosphere (international standard), [氣] 國際標準大氣。

解：用來比較航空器性能的一種理想大氣, 這種大氣, 是假定在平均海平面, 溫度攝氏 15 度, 氣壓 1,013.2 呎 (millibars) 且由海平面上昇至十一公里, 則每公里垂直溫度差 (lapse rate) 為攝氏 6.5 度, 由此上昇則溫度假定恒定不變為攝氏 56.5 度。

[An imaginary atmosphere used in comparing the performance of aircraft. It assumes at mean area level a temperature of 15°C. and a pressure of 1,013.2 millibars, and a lapse rate of 6.5°C. per kilometre from sea level up to 11 kilometres, above which height the temperature is assumed constant at 56.5°C.]

atmospheric electricity, [氣] 空中電氣。

解：大氣所攜帶的電荷, 平均昇高每一呎高度, 增加 300 弗打。

[The electrical charge carried by the atmosphere increased

atmospheric gases—atmospheric visibility

at an average rate of 300 volts per foot increase in altitude.]

atmospheric gases, 【氣】大氣氣體。

解：組成大氣的氣體，主要部分有二種，氮氣(76.93)，及氧氣(20.70)，其餘為氬氣(argon)，二氧化碳，氫氣，氦氣，(helium)氙氣(Xenon)及氖(neon)。大氣的成因，乃由上述諸氣體被狂風攪和，混合而成，而其成分的相關比例各處均同，惟愈高則輕氣體愈在較重氣體之上，若高至度，則僅有氬氣及氦氣。

atmospheric pressure, 【氣】氣壓。

解：海平面上大氣的壓力，用作氣壓單位，每一平方英尺約為2117磅，除以144平方英寸，則每平方英寸氣壓為14.7磅。

[The pressure exerted by the weight of the atmosphere. The pressure on one square foot of the earth's surface at sea level is approximately 2117 pounds. This figure divided by 144 square inches gives the pressure

of 14.7 pounds per square inch.]

atmospheric temperature, 【氣】

大氣溫度。

解：大氣溫度自海平線起，在正常情況中上昇每1000呎平均減低3°F，以至同溫層(大約36000呎)，再由此點起，上昇的溫度保持定，或略有增高(因逆增情況)。

[Starting at sea-level, the temperature of the atmosphere decreases at the average rate of 3°F. per 1,000 feet, under normal conditions, until the temperature of -67 F. is reached at the stratosphere (Approximately 36,000 feet). From this point and above temperature remains nearly constant or may increase slightly (upper inversion).]

atmospheric visibility, 【氣】大氣能

見度。

解：因明朝或朦朧大氣中能顯明物標的距離。

能 見 度 表

| 號數 | 說 明 | 鑑別物標的距離 | 不能鑑別物標的距離 |
|----|-------|---------|-----------|
| 0 | 濃霧 | 50公尺以下 | |
| 1 | 厚霧 | 50公尺以下 | 200公尺 |
| 2 | 霧 | 200公尺以下 | 500公尺 |
| 3 | 薄霧 | 500公尺以下 | 1000公尺 |
| 4 | 霧或霾 | 1000公尺 | 2000公尺 |
| 5 | 惡劣能見度 | 2000公尺 | 4000公尺 |
| 6 | 平常能見度 | 4公里 | 10公里 |
| 7 | 好能見度 | 10公里 | 20公里 |
| 8 | 良好能見度 | 20公里 | 50公里 |

atom—atomization

9 極佳能見度 50公里以上

[Visibility is the distance at which prominent objects can be seen through a clear or hazy atmosphere.]

SCALE OF VISIBILITY

| No. | Description | Object distinguishable at | Objrets not distinguishatbls at |
|-----|---------------------------|---------------------------|---------------------------------|
| 0 | Dense fog..... | Less than 50 meters | |
| 1 | Thick fog | 50 ,, | 200 m. |
| 2 | Fog | 200 ,, | 500 m. |
| 3 | Moderate fog..... | 300 ,, | 1 km. |
| 4 | Mist or haze..... | 500 ,, | 2 km. |
| 5 | Poor visibility..... | 1 km. | 4 ,, |
| 6 | Moderate visibility..... | 2 ,, | 10 ,, |
| 7 | Good visibility..... | 4 ,, | 20 ,, |
| 8 | Very good visibility..... | 10 ,, | 50 ,, |
| 9 | Excellent visibility..... | More than 50 km. | |

atom, 【力】 原子.

解：物質的最小微粒，而有一定的特性，原子本身為一組合體，其中心為陽核(Protons)外為陰電子(electrons)所環繞。

[The smallest portion of matter that retains definite characteristics. The atom itself is built up of small negative electrical charges called "electrons" and positive charges or "Protons".]

atomic weights, 【力】 原子量.

解：由原子的相對量可以計算各化合

物的重量。如氫氣的原子量為1，氧氣的原子量為16，碳為12等。

[The relative weight of the elementary atoms by which the weight of various compounds are calculated. Thus, the atomic weight of hydrogen is 1, oxygen is 16, carbon is 12 and so on through of the elements.]

atomization, 【發】 噴霧作用.

解：液體噴射出來成極微小的細粒。汽油先霧化，噴至氣化器內，始受熱而蒸發為氣體。

attack airplane—attraction and repulsion

(Spraying or breaking down into a spray of very fine particles. Gasoline is atomized in the carburetor before being vaporized on heated surfaces. Atomization differs from vaporization in the fact that atomization can be accomplished without the addition of heat.)

attack airplane, 【軍】攻擊機。

解：軍用飛機專為攻擊地面陸軍而設計，機上裝備數枝機關槍，和小炸彈。
[A military airplane designed for action against ground troops. It is provided with several machine guns and small bombs.]

attack angle, 【飛】衝角。

解：見 angle of attack.

attack aviation, 【軍】空中攻擊術。

解：定義一空中攻擊係航空之一種，其功用在以輕炸彈及機關槍攻擊軍事目的物，尤注重水陸上之軍隊。

[Definition—Attack aviation is that class of aviation whose function is to attack military objectives, especially personnel on the ground or water, by means of light bombs and machine guns.]

attitude, 【飛】姿勢。

解：航空器各軸傾側對基準平面所成的位置。基準平面大都指地面而言。

[The position of an aircraft as determined by the inclination of its axis to some frame of reference. If not otherwise specified, this frame of reference is fixed to the earth.]

attitud of flight, 【飛】飛行姿勢。

解：飛機的三個主要軸（即縱軸，橫軸，及直軸）相對風向所成的傾斜情況。

[The attitude of an aircraft as defined by the inclination of its three principal axis to the relative wind.]

attitude relative to aground, 【飛】

對地姿勢。

解：飛機的三個主要軸（即縱軸，橫軸，及直軸）相對地面所成的傾斜情況。

[The attitude of an aircraft as determined by the inclination of its three principal axis to the ground.]

A.S.T.M. 【材】美國材料試驗會。

解：美國材料試驗會的縮寫字。

[Abbreviation for American Society for Testing Materials.]

attraction and repulsion of magnetic fields 【電】互相吸引

及互相推拒的磁場。

解：兩根平行導體，若通以流向相同的電流（即兩根導體同時都是陽性或陰性，而磁力線方向相同），則磁場互相吸引。反之若通以流向相反的電流（即兩導體一為陽性一為陰性，而磁力線方向相反）則磁場互相推拒。

[Magnetic fields of parallel conductors are mutually attractive if the current in both wires is flowing in the same direction, i.e., if both wire are either positive or negative with the magnetic field of force in the same direction. The field are naturally repellent if the current

audibility-meter—automatic parachute

in the two conductors are flowing opposite directions, i.e., if one conductor is positive and the other negative with the magnetic fields of force in opposite directions.]

audibility-meter, [醫] 測聽表.

解：測量聲音能聽度的儀器，單位是特西比爾

[A device for measuring the relative audibility of sounds or noises. The unit is the decibel. Audibility differs from sounds intensity for many sounds are more easily audible than more intense sounds.]

aureole, [氣] 華蓋，暈.

解：環繞物體的發光圓圈，太陽或月亮周圍發現的白色垂帶紅邊的光圈。

[A luminous ring or halo surrounding an object. A ring of white light with a reddish border seen surrounding the sun or moon.]

aurora australis, [氣] 南極光.

解：南半球所有的光，亦稱南光 (Southern lights.)

[The lights in the southern hemisphere called "Southern lights".]

aurora borealis, [氣] 北極光.

解：閃爍射光成美麗的旗幟形，在北極極的附近上空，此現象或因大氣上空的離化作用能影響於無線電的接收。

[The Northern Light. Luminous flickering radiations, beautiful luminous streamers and curtain-

like pendants formed in the upper atmosphere in the vicinity of the northern magnetic pole. Probably due to the ionization of the upper atmosphere as such manifestations interfere with radio reception or electrical communications.]

auto-gyro, [機] 旋翼機。(=autogiro)

解：重航空器的一種，垂直軸上裝有形似螺旋槳的自由旋轉翼，不用發動機推動，而藉機身前進時的氣流轉動，旋翼機的頭部仍裝有發動機和螺旋槳，與普通飛機無異，供推進之用。此種飛機的昇降角度極大，但仍不能成垂直線。

[A heavier-than-air craft whose angle of ascent and descent are greatly increased by freely rotating airfoils (like a large propeller with a vertical axis) placed approximately in a horizontal plane. These freely rotating airfoil are not power driven, although the auto-gyro has a conventional power plant for forward speed.]

automatic boost-control, [發] 自動昇壓操縱.

解：一種機件能自動調節昇壓，使不致超過預定值以上。

[A device which automatically so regulates the boost pressure that a pre-determined valve is not exceeded.]

automatic parachute, [傘] 自動式保險傘.

解：保險傘包連接航空器式載重上，而降落時載重可將傘自動張開。

automatic pilot—autorotation

[A parachute whose pack is attached wither to the aircraft or the load and the release of which is achieved by the falling load.]

automatic pilot. 【儀】自動駕駛器。

解：此為飛機上，一種複雜的附屬機件，當飛機在側滾，俯仰，及旋轉等情況之下，操縱系統複雜的附屬機件，能自動將側滾，俯仰，及旋轉等弊病改正，此器的效用有限，但可減少駕駛員一部分的疲勞，而使專心致志於其他駕駛事務。

[A complicated accessory by which the controls are automatically operated under the influence of the rolling, pitching, or veering which need correction.]

automatic stability, 【力】自動安定性。

解：凡藉機械自動運用操縱而得來的安定性就是自動安定性。

[Stability dependent upon moveable control surfaces automatically operated by mechanical means.]

automatic stabilizer, 【儀】自動安定器。

解：使飛機安定或飛行時操縱飛機的一種自動操縱器，普通係一種旋轉儀機件使操縱面與手操縱相似。

[An automatic or self-controlled system for stabilizing an airplane or for controlling it in flight. In general, this is usually a form of gyroscopic device which operates the control surface in a manner similar to manual controls.]

automatic valve. 【發】自動氣門。

解：通常是指內燃機的進氣氣門而言，這氣門係由彈力頗弱的彈簧壓着，但活塞的吸入行程的力量足使它開放而吸入一劑汽油混合燃料。

[Usually an intake valve in an internal combustion engine which is held closed by a spring sufficiently weak to allow the suction of the intake vapour.]

automotive, 自動推進的，自動的。

解：應用於自行推進的車或機，如汽船，自動車，飛機，卡車等。

[Self-propelled or self-moving. Applied to any self-propelled vehicle such as a motor boat, automobile, airplane, motor-truck or tractor.]

autoplane, 【機】有翼的自動車，自動操縱機。

解：(1.) 自動車與飛機聯和而成一有翼的自動車。

(2.) 自動操縱的飛機。

[1. A combined automobile and airplane. An automobile with wings.

2. An automatically controlled airplane.]

autorotation, 【力】自動旋轉。

解：凡物相對均恆的氣流，因氣動力距的關係，在一軸上繼續旋轉：翼面在最大傾角上沿一軸而旋轉，且它的對稱面是與風向平行。

[Continuous rotation about any axis of a body exposed to a uniform air stream due solely to aerodynamic moments: the rotation of an aerofoil at high

incidence about an axis in its plane of symmetry parallel to the wind direction.]

auto-rotation, 【飛】自動旋轉。

解：飛機於水平或俯衝運動時，在其縱軸繼續旋轉的趨勢，此種趨勢可致飛機的螺旋。

[The tendency for an airplane to continue rotating around its longitudinal axis when moving horizontally or diving. This tendency is involved in spinning of a plane.]

auto-stable, 【機】自動安定。

解：固有安定的飛機，不用自動安定器的襄助，而自行安定，此則多係昇力及操縱面相當裝置所造成。

[Inherently stable aircraft. Self-stable without the assistance of automatic stabilizers. This is generally made possible by the arrangement of the lifting and control surfaces.]

auxiliary parachute, 【傘】補助傘。

解：附在保險傘主傘蓋的頂端，於跳傘者拉開傘索時，此傘自動展開，並將主傘拖開(參閱附錄第四十三圖)

[A small parachute attached to the main parachute to aid withdrawal of the latter from the pack.]

auxiliary surface, 【機】補助翼。

解：一種副翼，用使主翼均衡，並調整翼面。昇降舵及副翼的均衡面，係屬是類。

[Secondary surfaces employed for balancing the main surfaces,

for “trimming” or adjusting control surfaces, etc. Balancing surfaces for elevators and ailerons come under this definition.]

auxiliary tank, 【油】副油箱。

解：攜載預備汽油供給的油箱。

[A tank in which a reserve supply of fuel is carried.]

available power, 【發】有效動力。

解：發動機所發出的動力，可作有用的工作，此非最大總動力，但係除去一切消耗後的動力。

[The power produced by an engine that is or can be directed to a useful purpose. This is not the gross maximum power, but the power remaining after all losses have been deducted.]

avalanch wind, 【氣】崩雪風。

解：山區內因墮石或雪快崩頽所致的猛陣風。

[A violent gust of wind occasionally encountered in mountainous countries due to a slide of rock or an avalanche.]

aviation, 【飛】航空術。

解：駕駛飛機或其他重航空器的技術。駕駛種航空器的技術，稱為浮昇術。(aerostation)

[The art of operating heavier-than-air craft. The art of operating aerostats is called “aerostation”.]

aviator, 【飛】航空家，飛行家。

解：飛重航空器的人，即飛機的駕駛員

[One who flies a heavier-than-air machine such as an airplane.

avigation—axes of air plane

The pilot of an airplane.]

aviatrix, [飛] 女飛行家。

解：即空中女駕駛員。

[A female air pilot.]

avigation, [飛] 空中航行。

解：依照預定計算，引導航空器向目的地飛行的方法。

[The guidance of craft through the air in accord with previous calculations.]

avigational stars, [飛] 航行星。

解：用以定測飛機位置的星，最著名的為北極星，因此星常在正北三度以內，[The stars, or heavenly bodies, used in locating the position of aircraft. Of the most importance is polaris, the "pole star," that is always within three degrees of true north.]

avigraph, [儀] 航行器。

解：空中航行時所用的一種儀器，於飛行中計算航向及時間。

[An instrument used in avigation for computing the course and time in making a flight.]

Avogadro's law, [力] 亞佛加特羅定律。

解：此定律謂一切相等容積氣體，在相等壓力及溫度下，含有相同數目的分子。在 1,000,000 達因壓力及 273°C 絕對溫度下，一立方公分氣體，含有 27 兆兆分子。

[This law states that, under equal pressures and temperatures, equal volumes of all gases contain the same number of molecules. At a pressure of 1,000,000 dynes and an absolute

temperature of 273 C., a cubic centimeter of a gas contains 27 billion-billion molecules.]

avoirdupois, [力] 常衡。

解：英美兩國的衡制，此制以十六兩為一磅，美常噸合 2000 磅，英常噸合 2,240 磅。

[An American and English system of weights in which a pound is equal to 16 ounces, a short-ton is 2,000 pounds, and a long-ton is 2,240 pounds.]

A.W.G., [工] 美國金屬絲尺寸。

解：美國金屬絲尺寸的縮寫字。

[Abbreviation for American Wire Gauge.]

axes of an aircraft, [力] [機] 航空器軸。

解：航空器內三互相垂直並相切於一點的重心基準線。在對稱面內與螺旋槳軸平行的軸，稱為縱軸 (longitudinal axis)。在對稱面內垂直於縱軸的軸，稱為垂直軸 (normal axis)，垂直於兩軸的軸，稱為橫軸 (lateral axis)。在算學上第一軸由前至後，稱為 x 軸；第二軸，由上而下，稱為 z 軸；第三軸，由左至右，稱為 y 軸。

(參閱附錄第八圖)

axes of air plane, [力] 飛機軸。

解：飛機在此線轉彎或滾或偏航。飛機上有三條主要運動軸。側滾軸 (在縱軸上) 偏航軸 (在直立軸上) 及俯仰軸 (經過機翼的水平軸)。

[The line about which an airplane turns, rolls or yaws. There are three principal axes of movement in an airplane. The axis of roll (about longitudinal

axial cable - axis-A

axis), axis of yaw (about vertical axis), and axis of pitch (horizontal axis through wings).]

axial cable, 【艇】軸繩。

解：硬式氣艇內的軸間物，大都為一鋼繩，與各主橫樑的輻射或對徑線中心裝具連結，由艇頭曳展至艇尾。它的作用係在軸向上支持各輻射線或對徑線，使鄰近各氣囊壓力不相等時或俯仰角度極大時，協助它們承受載重力。[The axial member usually steel wire cable sometimes fitted in rigid airship. It is attached to the central fitting of the radial or diametral wires of each main transverse and to the hull structure at bow and stern. Its purpose is to provide support for the radial or diametral wires in an axial direction and thus assist them to sustain the load which might be caused by unequal pressure in adjacent cell or by the airship being pitched to a large angle.]

axial cone, 【艇】順軸錐形囊。

解：一個錐形的布囊，裝配在硬式氣艇的氣囊尾端，用不透氣的連接方法將氣囊與軸索相連，而使氣囊有少量的活動。此係錐形套的特殊一種。

[The cone-shaped fabric, fitting in the end of a gas cell of a rigid airship, which provides a gas-tight connection of the cell some degree of freedom in its movements. A special form of conical sleeve.]

axial engine, 【發】順軸形發動機。

解：發動機的氣缸和傳動軸作平行的排列。

[An engine with its cylinders arranged parallel to the driving shaft.]

axial girder, 【艇】軸樑。

解：一種桁構，沿硬式氣艇軸心，連接到中心裝配的橫裝架，而向艇身前後裝。

[A girder along the axis of a rigid airship connecting the central fitting of each braced transverse frame and secured to the hull structure forward and aft.]

axis, 【力】軸。

解：穿過物體的實線或虛線，物體可依此線旋轉。例如地球的軸為穿過南北兩極的虛線。

參攷線，經過物體的中心，或他旋轉部分的中心。由此線而發生旋轉或振搖的動作。

[A reference line about which there is rotating movement. The axis of the earth is the diameter on line joining the North and South Poles. Also, any line about which any orientation or plan is arranged or designed.]

A reference line, passing through the center of a body or through the center of some rotating part. The line about which rotation or oscillation takes place.]

axis-A 【力】A軸。

解：曲線圖的垂立測量尺寸線，有時

axis-B - axis(longitudinal)

稱縱坐標軸或縱坐標。

[The vertical scale of measurement in a graphical chart. Sometimes called the "axis of ordinates" or the "ordinate".]

axis-B 【力】B軸。

解：曲線圖的平面測量尺寸線，有時稱橫坐標或水平軸。

[The horizontal scale of measurement in a graphical chart. Sometimes known as the "abscissa" or the "horizontal axis".]

axis (Drag) 【力】阻力軸。

解：穿過機身重心而與風向平行的一條直線，它的方向是飛機和空氣成相對的地位。(參閱附錄第七圖)

[The straight line through the centre of gravity and parallel to the direction of the relative wind. The positive direction is that of the air relative to the aeroplane.]

axis (lateral), 【力】橫軸。

解：穿過機身而與對稱面垂直的一條直線，它的位置方向是與一翼梢至他翼梢的連接線平行，而正方向則在機身右邊。在數理中，此軸稱為y-軸。(參閱附錄第八圖)

[The straight line through the centre of gravity normal to the plane of symmetry; is conveniently taken parallel to a line joining the wing tips. The positive direction is to starboard. In mathematical theory this axis is the y-axis.]

axis (lateral), 【力】【機】橫軸。

解：與縱軸同在一平面內而垂直於縱軸的軸。由一翼梢而至他翼梢，飛機可

依此軸俯仰。(參閱附錄第八圖)

[The athwartship axis in a horizontal plane with the longitudinal axis, and passing from the neighborhood of wing tip to wing tip.]

axis (Hft), 【力】昇力軸。

解：穿過機身重心，并在對稱面中和風向垂直的一條直線，它的正方向是在正常飛行中的上方(此種觀明不適用於浮昇器)。(參閱附錄第七圖)

[The straight line through the centre of gravity and perpendicular to the direction of the relative wind in the plane of symmetry. The positive direction is upward in ordinary straight flight.]

axis (longitudinal), 【力】縱軸。

解：穿過機身重心，并縱列在對稱面中的一條直線。在研究飛機運動的普通理論時，此線是與螺旋槳軸平行。它的正方向是在重心的前面。在數理中，此軸稱為x-軸。(參閱附錄第八圖)

[A straight line through the centre of gravity fore-and-aft in the plane of symmetry. In general theoretical discussions of the motion of an aeroplane, this may be taken as parallel to the airscrew axis. The positive direction is forward from the centre of gravity. In mathematical theory this axis is the x-axis.]

axis (longitudinal), 【力】【機】縱軸。

解：由前而後穿過機身的軸，大都與

axis(normal)—axis-z

推力線平行，飛機可依此線傾側或側滾。(參閱附錄第八圖)

[The fore and aft axis through the fuselage, usually parallel to the line of thrust.]

axis (normal), 【力】垂直軸。

解：穿過重心，并在對稱面中和縱軸成直角的一條直線。縱軸與橫軸均水平，惟此軸則垂直。它的正方是在機身的下面。在數理中，此軸則稱為 x -軸。(參閱附錄第八圖)

[The straight line through the centre of gravity at right angles to the longitudinal axis in the plane of symmetry. Where the longitudinal and lateral axes are horizontal, the normal axis is vertical. The positive direction is downward. In mathematical theory this axis is the x -axis.]

axis of inertia, 【力】慣力軸。

解：在此軸上慣力距為最大者。

[An axis about which the moment of inertia is at a maximum.]

axis of rotation, 【力】旋轉軸。

解：物體轉變或旋轉的軸。在此情況中，旋轉軸的中心線即旋轉軸。

[The axis around which a body turns or rotates. In this case, the centerline of a rotating shaft will be the axis of rotation.]

axis of symmetry, 【力】對稱軸。

解：此線或此軸四周的物體各部，均相同相等。例如：氣缸的中心線，亦是對稱軸。

[The line or axis around which all parts of a body are similar and equal. Thus, the centerline

of a cylinder is also axis of symmetry.]

axis of thrust, 【力】推力軸。

解：由螺旋槳中心引伸出去的軸線，或螺旋槳推力推進飛機所沿的線。

[The prolonged centerline running through the center of the propeller, or the line along which the propeller thrust acts in propelling aircraft.]

axis (vertical), 【力】【機】垂直軸 (=normal axis).

解：與縱軸及橫軸構成的平面成直角的軸，並穿過縱橫二軸的相切點。飛機可以此線向左右偏轉。

[An axis at right angle to the horizontal plane of the longitudinal and lateral axes, and passing through their intersection.]

axis-X, 【力】 x 軸。

解：經過機身或在飛行方向的水平軸。飛機在此軸上向兩側滾。

[A horizontal axis passing through the fuselage or in the direction of flight. The ship "rolls" sidewise about this axis.]

axis-y, 【力】 Y 軸。

解：經過重心的水平軸，飛機在此軸上俯仰。

[A horizontal axis passing through the center of gravity about which the ship pitches, nose-up or nose-down.]

axis-Z, 【力】 Z 軸。

解：經過重心的直立軸。飛機在此軸上左右偏動。

[A vertical axis through the

axle -back kick

center of gravity about which the ship "yaws" from right to left.]

axle, 【機】軸。

解：裝置車輪的軸條，而輪在此軸上旋轉自如。

[A shaft or bar which wheels are mounted, the wheels generally turning freely on the shaft.]

axle (divided), 【機】分裂軸。

解：飛機起落架上裝用的一種軸，在中心旋轉，而裝輪的兩端可上下移動。

[A type of axle used on airplane

landing-gear which is pivoted at the center so that the two ends carrying the wheel are free to move up and down.]

azimuth of a heavenly body,

【飛】天體方位。

解：天體離真北的方位，可從羅盤方位圈求得，或從航海日曆推算。

[Its bearing from the true north, obtainable from a compass bearing circle or computed from the Nautical Almanac.]

B

babbitt (S.A.E.), 【材】S.A.E.巴別脫合金。

解：一種特別巴別脫合金，由自動車工程會所發明，專為自動車的採用。此種合金內錫84分，銅7分錳9分。

[A special babbitt for automotive service devised by the Society of Automotive Engineers. It consists of 84 parts of tin, 7 parts of copper and 9 parts of antimony.]

Babbitt metal, 【材】巴別脫合金，減摩金屬。

解：軟白而能減少摩擦的金屬，以銅、錫與鋅混合而成。

[An anti-friction alloy of copper, tin and zinc.]

back fire, 【發】回火。

解：發動機因點火系，氣門，氣化器，或其他部發生障故時，排氣管內的爆炸。

[Explosions in the exhaust-pipe or muffler of a gasoline engine due to defects in the ignition system, valves, carburetors or other parts of the engine.]

back kick, 【發】回轉。

解：轉動發動機因回火所致的結果。若轉動發動機時發生回火，則有回轉動作，設無自動脫離轉動機件的裝置，開機人必受擊傷。

[The result of back firing during cranking of a gas engine. If back firing should occur while the operator is holding the crank, it produces a back kick, which is liable to dislocate

backing—balanced area

his shoulder or do other injury unless the crank throw off automatically.)

backing, 【氣】逆轉。

解：風作反時針方向的變化。

[A change of wind in a counter-clockwise direction.]

baffle. 【機】導氣板。

解：用以指引氣流的板子或薄膜。氣流的支配槽。

[A plate or diaphragm employed for directing the flow of a fluid. A guiding passage for a fluid.]

baffle (hot), 【發】熱板。

解：一種板面，熱度極高，促成液體汽油的蒸發。

[A plate or surface, highly heated, for completing the vaporization of liquid fuels.]

bag (gas), 【艇】氣囊。

解：硬式氣艇上所裝置的容納氣體物，有時亦稱 gas cell。

ball out, 【飛】跳傘。

解：由飛機上用保險傘跳出之謂。

[To make a parachute jump from an aircraft.]

bakelite, 【材】電木，貝克萊。

解：由燻醃樹脂所製成的材料，性硬而強，大都在點火系，無線電等處用作絕緣物。此物可製成管形片形及桿形。

[A substance obtained from the phenol-resins. Employed as an insulator or for molded parts on ignition systems, radio, etc. It can be obtained in tubes, sheets and rods.]

balance, 【儀】天秤。

解：一種權物體的儀器，而物體的重量是用是量與之平衡而得之。

[A device for weighing objects "scales" in which the weight of a given object is balanced by a known weight.]

balance (aerodynamic), 【儀】氣動天秤。

解：一旋轉上，裝有一翼，用以測量翼面上的氣壓用時係在風洞之前，有時稱風洞天秤 wind-tunnel balance。

[A rotating arm carrying an aerofoil used for measuring the air pressure on the aerofoil. Used before the wind-tunnel. Also called wind-tunnel balance.]

balance (counter), 【力】對秤，平衡錘。

解：一種重量用以平衡或中和其他重量或力量。

[A weight employed for balancing or neutralizing another weight or a force.]

balanced aileron, 【機】均衡副翼。

解：這種副翼的裝置，係使氣壓在鉸鏈上均衡，因此操動甚易。

[Ailerons arranged so that the air pressure is balanced about the hinges, hence a minimum effort is required for moving them.]

balanced area, 【力】均衡面積。

解：一種操縱面其重載量是由補助面所平衡。

[An air loaded surface (control surface) in which the load is balanced by an auxiliary

balanced surface—ballast-condenser

surface or force.]

balanced surface, 【機】均衡面。

解：向樞軸或尖軸兩旁伸展的操縱面，用以減少樞軸上的空氣力量。

(參閱附錄第十五圖)

[A control surface which extends on both sides of the axis of the hinge or pivot in such a manner as to reduce the movement of the air forces about the hinges.]

balance (dynamic), 【力】動力均衡。

解：一旋轉物體在一種情況中，他的一切旋轉力均自為均衡，故於運動時無振搖發生。

[A rotating body in a condition wherein all rotational forces are balanced within themselves so that no vibration is produced while the body is in motion.]

balance (explosion), 【力】【發】爆發均衡。

解：一種情況平衡其中氣缸燃燒所致的衝激力以免振搖。

[A condition in which the impulse forces due to the cylinder combustions are balanced to avoid vibration.]

balance (horn), 【機】均衡翼。

解：此翼是在操縱面指端，并延伸至固定翼面上。(參閱附錄第十五圖，28)

[The balance is confined to the tip of the control surface and extends beyond the fixed surface.]

balance (rolling), 【儀】橫側天秤。

解：當飛機模型在風向平行軸上旋轉

時，測量氣動力或力距的一種天秤。

[A balance designed for measuring aerodynamic forces or moments while the model is rotating about an axis parallel to the wind direction.]

balance (static), 【力】靜力均衡。

解：靜止時的平衡。一靜止均衡的物體，在各位置皆成均衡且於運動時，無需再使均衡。

[Balanced when at rest. A statically balanced body will stand in equilibrium in any position but it is not necessarily balanced when in motion.]

ballast, 【球】【艇】壓載物。

解：氣球或氣艇上攜載的任何物質，通常為水或沙，必要時為減少載重量，而改變浮昇力起見，可將此項壓載物棄去。

[Any substance, usually sand or water, carried in a balloon or airship and intended to be thrown out, if necessary, for the purpose of reducing the load carried and thus altering the aerostatic relations.]

ballast-condenser, 【艇】壓載凝結器。

解：一種機件將氣艇發動機排氣管內的水氣凝結為水用以補償消耗燃料失去的重量，而保持氣艇在恆定高度中，不為燃料消耗所影響。

[A device for condensing and liquifying the moisture in the exhaust of airship engines. The moisture thus collected compensates for the loss of fuel,

ballast(hydrolith) — ballonet

tending to maintain the airship at a constant altitude regardless of the amount of fuel consumed.)

ballast (hydrolith), [艇] 水分解壓載物。

解：一種水分解的化合物，名 (Hydrolith)，與水相觸時，即發生氫氣此種氫氣導入氣囊內，增加額外昇力，而 Hydrolith 的餘渣則為壓載物，此物在氣艇氣球上有二層用途於保持昇力外，並可充壓載物。

[A compound known as "Hydrolith" liberates hydrogen gas when contacted with water. The gas, thus obtained, is conducted to the balloon, causing extra lift while the residue of the Hydrolith is discharged like ballast. This substance, therefore, performs a dual service in maintaining the lift of an airship or balloon.]

ballasting-up, [艇][球] 浮昇調整。

解：擲放壓載物或輕氣而調整浮昇的動作。

[The act of adjusting the buoyancy or trim by releasing ballast or gas.]

ballast thrower, [艇] 壓載物擲出器。

解：壓載物由氣球或氣艇中擲出的機件。

[A device for throwing ballast out of a balloon or airship.]

ball bearings and roller bearings, [發] 球軸承與轉筒軸承。

解：軸承的一種，用以減少接觸時的

摩擦力，因球與轉筒僅在球槽滾轉。此種軸承不能裝緊，不能調整，也不能用壓力加油潤滑，這是它的弱點。球轉筒，球槽面部皆極硬，否則不能承受滾動接觸。

[Designed to eliminate sliding friction, since the balls and rollers have only rolling contact with the cones and races. These bearing have the disadvantage of not being subject to tightening or adjustment, and they cannot be lubricated by pressure. The balls, rollers and cones all have hardened surfaces. This is possible because of the rolling contacts.]

ball-inclinometer, [儀] 珠球式的傾斜表。

解：用以指示飛機俯仰或側滾的儀器，器內有一珠球盛於弧形玻璃管內，並有液體防止珠球的不規則旋轉。

[An instrument designed for determining the angle of pitch or roll of an aircraft. It consists of a ball rolling within a glass tube bent to a circular arc. Rapid and irregular movement of the ball are checked by filling the tube with fluid.]

ballonet, [球][艇] 副氣囊。

解：氣球或氣艇內容納空氣的橡皮布氣囊。氣體容量如有改變，乃操縱氣門吸進或排出空氣，以維持內部的氣體壓力，以免氣球或氣艇走失形狀。軟式氣艇內如有此項副氣副囊二個以上，乃可調整內部氣體壓力。切勿誤認副氣囊為氣囊。(參閱附錄第十七圖)

ballonet diaphragm—balloon cloud

[A compartment of variable volume constructed of fabric, or partitioned off, within the interior of a balloon or airship. It is usually partially inflated with air, under the control of valves, from a blower or from an air scoop. By the blowing in or letting out of air, it serves to compensate for changes of volume in the gas contained in the envelope and to maintain the gas pressure, thus preventing deformation or structural failure. By means of two or more ballonets often used in non-rigid airships, the trim can also be controlled. The ballonet should not be confused with gas cell.]

ballonet diaphragm, [艇] [球]
空氣房隔板。

解：軟式氣艇，半硬式氣艇，或高式氣球的空氣或氣體氣囊間的布質分隔層物。

[The fabric partition between the gas and air compartments of the envelope of a non-rigid or semirigid airship or kite balloon.]

ballonet-fullness indicator, [儀]
空氣囊充滿指示器。

解：用以指示囊內空氣容量的儀器。
[An instrument for indicating the volume of air in a ballonet.]

balloon-sonde, [艇] 高空測候氣球。

解：在大氣中作氣象測量的一種氣球。

[A sounding balloon for meteorological measurements in the atmosphere.]

balloon, [球] 氣球。

解：無發動機推進的浮昇器。

[An aerostate without a propelling system.]

Balloon (barrage), [球] 阻塞氣球。

解：小型繫留氣球，用以支持鐵絲或絲網，用以防止航空器的進攻。

[A small captive balloon, used to support wires or nets which are intended as a protection against attacked by aircraft.]

balloon bed, [設] 氣球繫留台。

解：繫留氣球用的地面繫泊處。

[A mooring place on the ground for a captive balloon.]

balloon (captive), [球] 繫留氣球。

解：用繩索連接於地面的氣球，因此不能自由活動。

[A balloon restrained from free flight by means of cable attaching it to the earth.]

balloon-cloth (fabric), [球] 球皮。

解：氣球外殼所用的外皮，不透氣，常用橡皮一層塗敷於上，或用金箔作囊裏。

[The cloth of which the envelope of a balloon is made. It is gas-tight and is generally a rubberized cotton fabric or a cotton fabric lined with gold-beater's skin.]

balloon cloud, [氣] 球形雲。

balloon(constant pressure)—balloon(kite)

解：球形如氣球的積雲或高積雲。

[A cumulus or alto-cumulus cloud of spherical shape having the appearance of a balloon.]

balloon (constant pressure),

【球】定壓氣球。

解：供給在停泊中浮昇器氣體，使得維持恆定氣壓的氣球。(注：此種氣球不能列為航空器)。

[A supply balloon arranged to maintain a constant pressure of gas in a moored or decked aerostate.]

balloon fabric, 【球】球皮。

解：氣球或氣艇外殼所用的外皮。常有橡皮一層塗加於上面。

[The finished material, usually rubberized, of which balloon or airship envelopes are made.]

balloon (fixed), 【球】固定氣球。

解：固定氣球通稱為繫留氣球(captive balloon)該種氣球繫於纜端，纜之另一端牢繫於地上絞盤，至於自由氣球(free balloon)則無纜索連接。

[An elongated form of captive balloon fitted with tail appendages to keep it headed into the wind, and usually deriving increased lift due to its axis being inclined to the wind.]

balloon flying-cable, 【球】氣球飛行線。

解：繫留或鵝式氣球向絞盤連接的索子。(參閱附錄第二十四圖)

[The rope connecting a captive or kite balloon to the winch.]

balloon (free), 【球】自由氣球。

解：球形的氣球，用壓載物或放去氣

體操縱它的昇降。飛行方向完全由風力操縱。(參閱附錄第二十三圖)

[A balloon, usually spherical, whose ascent and descent may be controlled by use of ballast or with a loss determined by the wind.]

balloon gases, 【球】氣球氣體。

解：輕於空氣的氣體在氣球或氣艇內發生浮力，如氫氣，氦氣，或煤氣等。

[Lighter-than-air gases used for producing buoyancy in a balloon or airship. Such gases are hydrogen, helium or coal gas.]

balloon (hot-air), 【球】熱空氣氣球。

解：氣球的浮力係用熱空氣替代氫氦二氣而得來。熱空氣的密度較四周的大氣為小，而致成比較的浮力。常用發明人的名字稱為蒙持高而懷氣球。

[A balloon in which buoyancy is obtained by the use of heated air instead of by hydrogen or helium gas. The density of heated air, being less than that of the surrounding atmosphere, causes a proportional buoyancy. It is also known as a Montgolfier Balloon from the name of its inventor.]

balloon (kite), 【球】鵝式氣球。

解：長圓形的繫留氣球，裝有舵艭，可使頭部迎風，且可增加昇力。(參閱附錄第二十四圖)

[An elongated form of captive balloon, fitted with lobes to keep it headed into the wind and usually deriving increased

balloon(nurse)—banana oil

lift due to its axis being inclined to the wind.)

balloon (nurse), 【球】補助氣球。
解：有時用以指定壓氣球（注：此種氣球不能列為航空器）。
(Sometimes used to refer to a constant-pressure balloon.)

balloon (observation), 【球】觀測氣球。
解：繫留氣球的一種，供空中觀測地面之用。

[A captive balloon used to provide an elevated observation post.]

balloon (pilot), 【球】測風氣球。
解：由地面放起用以測驗風向與風速的小氣球。
[A small balloon sent up to show the direction and speed of the wind.]

balloon (propaganda), 【球】廣告氣球，宣傳氣球。
解：小氣球的一種，上無人員，而攜帶機器一具，相隔若干時間切投下傳單或其他宣傳文件。

[A small free balloon sent up no passengers but with a device by which papers or documents may be dropped at intervals.]

balloon (registering), 【球】記錄氣球。
解：一種小型氣球，攜帶數種自記儀器，而記錄各高度中的氣壓溫度及濕度等。

[A small free balloon carrying self-recording instruments into the upper air to obtain readings of the pressure, temperature

and humidity at different altitudes.]

balloon (sounding), 【球】高空測候氣球。
解：小氣球的一種，上無人員，而攜帶各種自記氣象儀器。

[A small balloon sent up without passengers but with recording meteorological instruments.]

balloon (supply), 【球】供給氣球。
解：用重橡皮布製成的氣囊，內藏低壓力的輕質氣體，攜帶極為便利。重量較大，縱不繫住也不致升起。（注：此種氣球不能列為航空器）

[A container made of heavy fabric employed as a portable of storing gas at low pressure. It is usually too heavy to rise, even if free.]

balloon (triangulation), 【球】瞄視氣球。
解：三角測量法中用為視標標識的小氣球（注：非航空器）。

[A small captive balloon used as a mark on which to sight in a triangulation survey.]

balsa, 【材】筏木。
解：一種極輕的木質，產於南美洲，常用作飛機模型或大飛機的減重物，筏木較檜木為軟而尤輕。

[A very light wood obtained from South America. Used for the construction of airplane models and for the fairings of large aircraft. Balsa wood is structurally weaker than spruce but is much lighter in weight.]

banana oil, 【油】香蕉油。

band(belly)—bank

解：一種油漆係由礮路珞或火藥溶解於醋酸戊烷所製成，用在最光滑的金屬上，作保護面；用作鋁和青銅漆的媒液，并塗漆飛機模型。

[A lacquer or varnish made by dissolving celluloid or gun-cotton in amyl-acetate. Used as a protective surface for highly polished metals, as a vehicle for aluminum and bronzes paints and for "doping" airplane models.]

band (belly), 【球】腹帶。

解：連接球皮腹部的繩索。

[Lines or ropes connected to the belly of a fabric structure.]

band (drip), 【艇】【球】滴水帶。

(= drip cloth)

解：這是一條布帶裝在浮昇器外殼的一邊，能使雨水由此布帶流下，而不致滴落於吊籃或懸艇內。這種布帶能保護懸索乾燥不導電。有時亦稱為滴水條(drip strip)。

[A strip of fabric attached by one edge to the envelope of an aerostate so that rain runs off its free edge instead of dripping into the basket or car. It also assists in keeping the suspension ropes dry and non-conducting. Also called "drip flap" and "drip strip".]

band (mooring), 【球】繫留帶。

解：鸞式氣球上部的皮條，用以連附繫留索，為繫留裝具的一部分。(參閱附錄第二十四圖)

[A band of tape or webbing, over the top of a kite balloon,

to which the mooring ropes are attached. It forms part of a mooring harness.]

band (rigging), 【球】裝配帶。

解：一種裝在氣囊上的助強帶，以便牢固結吊索。(參閱附錄第二十四圖)

[A reinforced band secured to the envelope for the attachment of rigging.]

band (suspension), 【球】【艇】懸帶。

解：橫平的橫皮布帶，固繫於氣球或氣艇上，懸艇或懸籃及鸞式氣球的繫留索，即用此帶懸吊。

[A horizontal fabric band, securely fastened to the envelope of a balloon or airship, and to which are attached the main suspensions of the basket or car, or the captive cable of kite balloon.]

band (trajectory), 【艇】座帶。

解：氣艇囊面部的特殊弧形膜帶，用以分配懸吊懸艇的張力。

[A band of webbing carried in a special curve over the surface of the envelope of an airship to distribute the stresses due to the suspension of the car.]

bank, 【飛】傾側。

解：飛機向左右傾側，即依縱軸而旋轉。右傾側即右翼下垂。此種動作用以避免轉彎時的側滑。

[To incline an airplane laterally, i.e., to rotate it about its longitudinal axis. Right-bank is to incline the airplane with

bank indicator—barometer

right wing down. Also used as a noun to describe the position of an airplane when its lateral axis is inclined to the horizontal.]

bank indicator, 【儀】傾側指示器。

解：在直線飛行中或轉彎時用以指示左右傾側度數的儀器。Pioneer 傾側指示器爲一弧形管，內貯流質，流質內置一小球，流質可阻止小球的迅速擺動。轉彎與傾側動作如能互相調協，則重力與離心力能在管中央發生作用。如小球離開管的中心點，則可將駕駛桿向小球應改正的方向移動，以糾正飛機的傾側。

[An instrument used to indicate lateral level in straight flight, or correct bank in a turn. In the Pioneer Bank Indicator a small ball is encased in a liquid-filled, curved tube. The liquid acts to dampen rapid oscillations of the ball. The resultant of gravity force and centrifugal force acts through the center of the tube when the turning and bank leaves the center of the tube, the bank can be corrected by moving the stick in the same direction that it is desired to move the ball.]

bar, 【氣】壓。(縮寫作貝)

解：大氣壓力的氣象學單位，等於每平方公分一百萬達因(one megadyne)或等於緯度45度，攝氏0度時，水銀柱高756.1mm(29,531吋)

[The meteorological unit of

atmospheric pressure, equal to one million dynes (one megadyne) per square centimetre, and equivalent to 756.1 millimetres (29,531 in.) if mercury at 0° C. in latitude 45°.]

baric law, 【氣】氣壓定律。

解：風向對於等壓線的關係。

[The relation of the wind direction to the isobars.]

baric wind-rose, 【氣】氣壓風向標。

解：圖上的一種符號，指示各方的風次，及該時時平均氣壓。

[A radial or rosette form chart that shows the frequency of winds blowing from different directions and the average barometric pressures during this time.]

barogram, 【儀】氣壓圖。

解：氣壓自記器上的記錄圖。

[A record or chart made by a barograph.]

barograph, 【儀】氣壓自記器。

解：在圖上依照時間紀錄氣壓的儀器。飛機上如攜帶此種儀器，則可紀錄沿途飛行的高度。企圖打破高度紀錄的飛行，大都攜有此種儀器。

[An instrument for recording the barometric or static pressure of the atmosphere.]

barometer, 【儀】氣壓表。

解：測驗氣壓的儀器，用於氣候預測與高度測驗，大別分爲二種：(一)空盒氣壓表(aneroid barometer)爲金屬之真空盒，盒面作凹凸溝。氣壓高時盒面略陷入，低時略隆起，而隆陷的動

barometer correction—barometric reading

作乃傳動於指針，以示氣壓高低；(二)水銀氣壓表 (mercury barometer) 種類甚多，有將玻璃管彎成 U 字形的，長短不同，短端開放，長端封閉，中置水銀，開端管中水銀的盡端與度數的零點在一線，視閉管中水銀的高低，乃可知氣壓的高低，晴天水銀驟降，為風雨之兆。雨時水銀驟升，為將晴之兆。

An instrument for measuring the pressure of atmosphere. The mercurial barometer is a glass tube 33 to 84 inches high, seal at the top, filled with pure mercury and inverted in an open cup of mercury. A graduated scale on the instrument permits observations of the fluctuations in the height of the mercurial column, which is highest when the atmosphere is dry, weighing more than when saturated with aqueous vapor, which is lighter than air. The pressure of the atmosphere is ordinarily taken as 14.7 lbs. per sq. in. The "standard atmosphere" which by definition = 29.621 ins. of mercury = 14.696 lbs. per sq. in., that is 1 in. of mercury = 14.696 ÷ 29.921 = .49116 lbs. per sq. in.)

barometer correction, 【儀】氣壓表修正。

解：製造廠所發生的氣壓表係照海平面而調整，於在他高度地點運用時，則應再為調整以適環境，有時溫度的修正之，亦屬必要，特殊的是水銀氣壓表。[Barometers as received from

the maker are adjust to sea-level pressure. When used at any other altitude, they must be readjusted to the new conditions. Usually, corrections for temperature are also necessary, particularly with mercury barometers.]

barometric pressure, 【氣】氣壓表壓力。

解：大氣壓在海平面上，每平方吋平均約 14.7 磅，故足支持 760 公厘或 29.92 吋高度的水銀柱，惟氣候情況略致差異而增加高度，則直接發生變化。

[The atmosphere presses down on the earth at sea-level with an average pressure of 14.7 pounds per square-inch. This is sufficient to support a mercury column of 760 millimeters or 29.93 inches in height. There is some variation due to weather conditions and a direct variation with increasing altitude.]

barometric reading, 【儀】氣壓表示數。

解：氣壓表是以水銀柱而分度，用吋或公厘表示，例如氣壓表的數字為 29.85 吋高度的水銀柱，若採用米突法，則 762.4 指示氣壓足以支持 762.4 公厘高度的水銀柱。

[Barometers are graduated to read in terms of mercury column. This may be in inches or millimeters. Thus, the figure 29.85 on a barometer scale means

barometric tendency—barral-type engine

that the atmospheric pressure is sufficient to support 29.85 inches of mercury. If the metric scale is used, then a figure such as 762.4 indicates that many millimeters of mercury supported by the pressure.]

barometric tendency, 【氣】氣壓趨勢。

解：測候前三小時內的變化。

[The change in the barometric pressure during the three hours preceding an observation.]

barometric velocity, 【力】氣壓速度。

解：空氣的速度，是由氣壓表壓力加在空氣上而測定二點間的壓力差，即可決定速度。

[The velocity of air as determined by the barometric pressure acting on the air. The difference in pressure between two points determine the velocity.]

barometric weather forecasts, 【氣】氣壓天預報。

解：若用氣壓預報天氣情況時，氣壓表並不十分準確可靠，然猛烈風暴，由氣壓的突變，常可在數小時前測得。

[When used as a means of forecasting weather conditions, the barometer is not highly accurate. However, the approach of a violent storm can usually be predicated several hours in advance by the sudden change in the barometric pressure.]

barothermograph, 【儀】壓溫自記

器。

解：一種儀器，同時記錄大氣的氣壓和溫度。

[An instrument that simultaneously records the pressure and the temperature of the atmosphere.]

barothermohydrograph, 【儀】壓溫濕自記器。

解：同時記錄大氣氣壓溫度及溫度的一種儀器。

[An exploring instrument that simultaneously record the pressure, temperature and humidity of the atmosphere.]

barrage balloon, 【球】阻塞氣球。

解：小型繫留氣球，用以支持鉄絲或網，以防止航空器的進攻。

[A small captive balloon, used to support wires or nets which are intended as a protection against attacked by aircraft.]

barrel (cylinder), 【發】氣缸筒。

解：發動機氣缸的圓筒部分。

[The cylindrical portion of an engine cylinder.]

barrel roll, 【飛】橫滾。

解：一種特技飛行動作，飛機繼續沿水平直線上，而翼在飛行方向作橫向的旋轉。

[An acrobatic or stunt maneuver in which the airplane continues along a horizontal straight line while the wings rotate laterally about this flight line.]

barral-type engine, 【發】筒形發動機。

解：這種發動機的汽缸是與主軸平行

bar(suspension)—basket

井係相等距離的排列。

[An engine having its cylinders arranged equidistant from and parallel to the main shaft.]

bar (suspension),【球】吊架。

解：繫住氣球懸籃支索的架，上裝有繩索與扣索棍，可使懸籃與氣球連附。亦稱為鞞籃架(trapeze bar)。

[A bar to which the supporting ropes or the basket of a balloon are secured. It is also fitted with ropes and toggles for attaching to the basket suspensions from the balloon. Also called "trapeze bar".]

bar (tail-skid),【機】尾橫條。

解：可操縱的尾橫橫裝物。

[The crosspiece on a steerable tail skid.]

bar (trapeze),【球】【艇】鞞籃式橫木。

解：一種水平橫木，正在鷹式氣球的吊籃上方，而它的左右兩端有吊索繫牢，且吊籃裝置可自由縱搖，然不能對氣球作橫滾(參閱附錄第二十四圖)。此種橫木有時裝在氣艇上，用以繫掛航空器。

[(I) A transverse horizontal bar, immediately above the basket of a kite balloon to the ends of which the port and starboard riggings are led; so arranged that the basket can move freely in pitch but not in roll relative to the balloon. (II) A bar to which aerodynes are attached to or released from an airship.]

base,【軍】根據地。【化】鹽基。

解：【軍】指揮飛機的司令部。

【化】凡物質與酸化合所得的鹽，則稱為鹽基。

① The headquarters from which airplanes operate.

② A chemical term for a substance that reacts with an acid to form neutral bodies known as "salts".]

base (airplane),【軍】空軍根據地。

解：軍用飛機所出發的司令部，或總飛行場。

[Headquarter or main airdrome from which military aeroplanes are directed.]

base metal,【材】基本金屬。

解：基本金屬是指要銲接的金屬而言。要銲接的金屬普通是兩件相同的。

[Metal to be welded. Usually two pieces of identical metal.]

basic load,【力】基本載量。

解：航空器停在地面時所能載均負荷或航空器作不加速的直線飛行時所能載的負荷。兩者皆稱為基本載量。基本載量是一個抽象名詞，對動力載量而言。基本載量是為作應力分析(stress analysis)時用的。

[The load of an aircraft when it is at rest or in a condition of unaccelerated rectilinear flight. For purposes of stress analysis.]

basket,【球】懸籃。

解：掛在氣球下面的結構物，用以攜載乘員，壓載物等。懸籃大都用於自由及鷹式氣球上。(參閱附錄第二十三圖)

[The structure suspended be-

batonet—battery polarity

neath a balloon, for carrying passengers, ballast, etc. It is usually used on a free or kite balloon.]

batonet, [球] [艇] 接棍。

解：特殊形狀的扣索棍，除凹槽外大都為細圓柱形，用以連附氣球或氣艇上的吊帶於氣囊的吊帶上。

[A special form of toggle, usually quite slender and truly cylindrical, except for the groove, and used to attach the rigging of a balloon or airship to a fabric loop or suspension band on the envelope.]

battery, [電] 儲電池。 [工] 一排。

解：[電] 連接多數化學電瓶一處，而得必要的總電壓，或聯合各種電瓶得必要的電流。

[工] 集合多數連接單位在一排或緊密裝置。

① A number of connected units in a row or compactly assembled.

② A number of chemical electric cells connected together to obtain the required total voltage or current by various combination of the cells.]

battery (acid), [電] 酸性蓄電池。

解：用硫酸溶液作電液的一種蓄電池。

[A storage battery employing a sulphuric acid solution for electrolyte.]

battery (alkaline), [電] 鹼性蓄電池。

解：蓄電池所用的電解液為鹼溶液，

(caustic soda solution), 如愛迪生蓄電池，它的電壓要較酸性為低，但其製造堅牢耐用。

[A battery employing an alkaline electrolyte or solution (caustic soda solution), such as the Edison storage battery. The voltage of such batteries is lower than that of the acid-lead type but they are more rugged.]

battery electrolyte, [電] 電解液。

解：電瓶內的液體通常稀硫酸液。

[The solution in an electric cell. In a storage cell this is usually a solution of dilute sulphuric acid.]

battery hydrometer, [儀] 電池比重表。

解：一種刻有分度的浮子，用以測量儲電池內電解液的密度，電池充電的多少，是與密度成正比。

[A graduated float for determining the density of the electrolyte of a storage battery. The amount of charge in the battery is directly proportional to the density.]

battery polarity, [電] 電池極性。

解：電池流出電流的方向，由正連接處在原電池內，正極是銅質或炭質電極，通常正極上塗有明顯的紅色。

[The direction of current flow a battery, positive to negative connections. In a primary battery, the positive pole is the copper or carbon electrode. It is common practice

battery(primary)—bay longitudinal girder

to paint the positive pole (pos) a bright red color.]

battery (primary), 【電】原電池。

解：一種化學電池，其中一電極於放電完畢時完全消蝕無餘。通常負極為鋅，而正極為碳或銅。普通的乾電池即屬是種。

[A chemical cell in which one of the electrodes is entirely consumed at the end of discharge. Usually, negative electrode is zinc while the positive is carbon or copper. The ordinary dry cell is a primary battery.]

battery (secondary), 【電】副電池。

解：亦名儲電池極板多係鉛質浸於稀硫酸液內，於放電時，可再充電向池內作反向流動而恢復，故極板如此可再三之。

[Also known as a storage battery. The plate are usually of lead in a solution of dilute sulphuric acid. When discharged, the charge is renewed by passing a "charged current" in the reverse direction through the cells. The electrodes can be used repeatedly.]

battery voltage, 【電】電流電壓。

解：原電池的電壓由 0.50 弗打至 2.2 弗打，但視種類而定，單一儲電池於充電最足時，它的電壓為 0.2 弗打，多數電池連接成排，以致總電壓或總電流較單一的為大。

[The voltage of a primary battery cell ranges from 0.50 volt to 2.2 volts, depending

upon type. The voltage of a single storage cell, fully charged is 20 volts. A number of cells can be connected up to form a "battery" so that total voltage or the total current is greater than that of a single cell.]

Baume gravity, 【力】波默重力。

解：遂意決定的一種液體密度表，其中清水密度為 10.0 此表同以指示汽油及各種石油的密度或重力，但此非比重。

[An arbitrary scale of densities for liquids in which the density of pure water is 10.0. This scale is used for indicating the density or gravity of gasoline and the various petroleum products. This is not specific gravity.]

bay 【機】支柱對。

解：雙翼機沿機翼長各支柱的間隔。

[The portion of a truss framework between adjacent struts or bulkheads.]

bay (body parts), 【機】張間。

解：機身構架面的一部，在二隣近隔樞的中間。

[The portion of a face, or of a fuselage, between adjacent bulkheads or adjacent struts or frame positions.]

bay longitudinal girder,

【機】張間縱樑。

解：橫樑架中間的一部分縱樑。(參閱附錄第二十一圖)

[That portion of a longitudinal between adjacent transverse

beacon—bearing

frames.)

beacon, 【設】標燈, 【電】無線電信標。

解：【設】一種照耀器具用以指示地形的情况。

【電】用無線電傳播信號的站。

[A luminous device emitting a signal for indicating topographical position.]

beacon (aerodrome), 【設】飛行場標燈。

解：在飛行場內或其附近指示路線的標燈。(參閱附錄第四十五圖。)

[A beacon located on or near an aerodrome to indicate its position.]

beacon (airway), 【設】航路標燈。

解：在航空路內或其附近指示路線的標燈。(閱第四十五圖。)

[A beacon located on or near an airway to indicate its route.]

beacon (landmark), 【設】陸標燈。

解：指示陸標位置的燈，但飛行場或航空路標燈，不包打在内。

[Any beacon other than an aerodrome or airway for indicating the position of a landmark.]

beacon (location), 【設】定位標燈。

解：此燈有特異光彩及性質，易與市鎮的燈光鑑別。

[A small beacon of a distinctive colour and character that can easily be distinguished from town lights.]

beacon (radio), 【設】無線電信標。

解：無線電波向一有限制的路線上發出，以便駕駛員接收此信號後，可在正確航路上飛航。

[Radio waves directed over a

limited path to enable a pilot to follow that path by means of the signals received on the aircraft.]

beam, 【電】電束, 光束, 【材】樑。

解：【電】一道光或一束無線電波。

【材】一種結構材料加上的載量。

是與它的長度成直成，而致彎曲。

① A ray or stream of light or radio waves.

② A structural member in which the load is applied at right angle to the length of the member in such a way as to cause bending.]

beam (hollow), 【材】空心樑。

解：中空或箱形剖面的樑，量輕而力強。

[A beam having a hollow or box-like section which is extremely light for its strength.]

beam (wing), 【機】翼樑。

解：機翼結構的主樑，常稱為翼樑“wing spars”此樑將翼面的載量傳遞至機身。

[The main beams in a wing structure, commonly called “wing spars”. These beams transmit the loading from the wing surface to the fuselage or load.]

bearing, 【飛】方位。

解：東南西北四方的位置，南北依北極星的位置或磁針之方向而定，東西與南北正交，日出處為東，日入處為西，南北定，則東西亦定。

[The angle measured clockwise

bearing angle—bearing projector

from a meridian; true, magnetic or compass, to the line joining two points. The kind of a meridian from which the angle is measured determines whether the bearing is true, magnetic or compass.]

bearing angle, 【飛】方位角。

解：磁針所指的方向，順時針與羅盤南北線所成的角度，由此角可定方位。例如某點之方位角為 90° ，即知其方位為正東， 180° 為正南， 270° 為正西。

bearing (annular), 【發】環形軸承。

解：繞軸一種環形軸承，其承受重量，與軸長成直角，一個球形軸承或轉條軸承繞軸四週，可承受末端推力及垂直重量。

[A ring shaft bearing surrounding a shaft. It takes loads acting at right angles to the length of the shaft. An annular ball-bearing or roller bearing surrounds the shaft, but may take and thrust as well as the perpendicular loading.]

bearing area, 【機】軸承面積。

解：承受壓量的面積。
[The area of a surface carrying a crushing load.]

bearing bronze, 【材】軸承銅。

解：一種軟銅，用在旋轉軸承內。
[A soft malleable bronze employed for bearings or supports for rotating shafting.]

bearing liners, 【發】軸承裏。

解：薄層軟質防磨金屬，在軸承裏面，并與軸接觸，此層金屬為黃銅、巴比脫

金屬等。

[A thin layer of soft anti-friction metal around the inside of a bearing and in contact with the shaft. This metal may be bronze, babbitt metal, etc.]

bearing load, 【力】軸承載量。

解：軸承磨擦面所受的載量，常以投射面每平方吋磅數計量之，

[The load coming on the rubbing surface of a bearing, usually expressed in terms on pounds per square inch or projected area.]

bearing (outboard), 【發】外凸軸承。

解：裝置延長軸的一種軸承，且在機器本身的外邊。

[A bearing for carrying an extended shaft and placed outside of the machine proper.]

bearing (plain), 【發】簡單軸承。

解：一種簡陋圓筒形的套套在軸上，而軸即在套心磨擦。此係最簡易的軸承。

[A simple cylindrical bushing placed over the shaft, the shaft rubbing inside this bushing. The simple form of bearing.]

bearing projector, 【設】航向投光器。

解：一種固定投光器，與陸標燈聯合利用其光束而指示某種規定方向。

[A fixed projector used in conjunction with a landmark beacon for indicating a specific direction by means of its

bearing(projected area of) —bearings

beam.]

bearing (projected area of),

【力】軸承投射面。

解：軸承投射面積是將孔的直徑。乘軸承面積長度而得之。但非軸承表面。

[The projected area of a bearing is equal to the diameter of the bore multiplied by the length of the bearing surface. It is not the superficial surface.]

bearing plate, 【儀】方位盤。

解：儀器的一種，內有大小不等而有公共中心三圓圈，各圓圈可自由轉動，內有一羅盤縱線、瞄準機械、直徑線，可以指示方位、角度與偏航。

[An instrument consisting of three concentric rings which can be turned relative to each other. The instrument has a lubber line, sighting devices, and diametrical lines so that bearings, angle and wind drift readings can be taken.]

bearing (radial), 【發】輻射軸承。

解：一種環形的球軸承，裝置的方法是接受橫力，或即與軸承長度成直角的力，此係水平軸的軸承面。

[A annular type of ball bearing arranged to take the transverse or loads at right angles to the length of the shaft. The supporting bearing for a horizontal shaft.]

bearing (reciprocal) (back), 【飛】

往復方位。

解：由現在的位置回至出發點的方位。向前方位加 180° 。如此方位小於

180° ，則欲求得往復方位可增加 180° 。如此方位大於 180° ，則欲求得往復方位可減少 180° 。任何方位在 360° 以上的，可減去 360° 。

[The bearing from present position back to the point of departure. The forward bearing plus 180° . If the bearing is less than 180° , add 180° to get the reciprocal or back bearing. If the bearing is greater than 180° , subtract 180° to get the reciprocal bearing. Otherwise, 360° must be subtracted from any answer which reads over 360° .]

bearing (roller), 【發】轉條軸承。

解：一種軸承其中裝有轉條於軸及軸承的中間，而此轉條，將運動為滾轉磨擦，而無平面磨擦。

[A type bearing in which rollers are placed between the shaft and the main bearing, the rollers converting the motion into rolling friction inot rubbing friction.]

bearing rubbing velocity, 【力】

軸承磨擦。

解：軸圓周在軸承內的直線速度，此係每秒呎計量。

[The linear speed of the shaft circumference within a bearing in terms of feet per second.]

bearings, 【發】軸承。

解：用以支承曲的支托物，可容軸在內旋轉或滑動，為求軸與軸承耐用起見，大都用二種硬度不同的金屬製成，例如鉛質活塞置於鋼質氣缸內，氣缸

bearings(ball and roller) — beaufort notation

壁較硬，鉛質活寒較軟。鑄鐵的活寒圈也較氣缸為軟。活寒也有用鑄鐵製成的，但較鋼質氣缸壓為軟。

[Bearings are made of dissimilar metals, because the conditions necessary for long life and minimum wear require that adjacent bearing surfaces must be relatively of hard and soft material. Two hard surfaces in bearing have an abrasive effect on each other, and set up a high frictional heat. Two soft surfaces in bearing tend to adhere to each other, fill up the pores of the metal, and stick together. Aluminum pistons in steel cylinders are a good example of the bearing of soft and hard materials. The cylinder walls have a glass-like hardness while the aluminum pistons are relatively soft. The cast iron piston rings are also soft compared to cylinder. Cast iron pistons are sometimes used, but are considerably soft than the steel cylinder walls.]

bearings(ball and roller),【發】球
軸承與轉筒軸承。

解：軸承的一種，用以減少接觸時的摩擦力，因球與轉筒僅在球槽滾轉。此種軸承不能裝緊，不能調整，也不能用壓力加油潤滑，這是它的弱點。球，轉筒，球槽面部皆極硬，否則不能承受滾動接觸。

[These bearings are designed to eliminate sliding friction,

since the balls and rollers have only rolling contact with the cones and recesses. These bearings have the disadvantage of not being subject to tightening or adjustment, and they cannot be lubricated by pressure. The balls, rollers and cones all have hardened surfaces. This is possible because of the rolling contacts.]

bearing shell,【發】軸承殼。

解：一種薄金屬殼常係青銅，表面用巴比脫金屬，而裝置於軸承本身中，此則替化磨擦的消耗。

[A thin metal shell, usually of bronze and faced with babbitt metal, that fits into the bearing proper. They form a means of replacement against wear.]

bearing (spigot),【發】軸承栓。

解：軸承的一點小突出端，用以插入他軸端內，以便二軸配準。

[A small projected end of a shaft that is inserted into the end of another shaft for holding the two shafts in alignment.]

bearing surface,【力】軸承面。

解：承受壓載的任何面。

[Any surface supporting a compressive load.]

bearing (thrust),【力】推力軸承。

解：軸承的設計用以接受軸的尾端活動。

[A bearing designed for taking the end load or end motion of a shaft.]

beaufort notation,【氣】貝福氏天

beaufort notation

氣符號。

解：採用一組字母記錄天氣的情況，由海軍少將貝福氏 (Rear-Admiral Sir Francis Beaufort) 所發明。貝福氏字標及國際符號。

(1) 關於天空狀態者。

- b 碧雲空無雲或淡烟籠罩謂之晴天。
- c 雲氣飄蕩謂之曇天。
- o 滿天雲絮謂之陰天。
- g 陰雲欲雨謂之曇天。
- u 黑雲如墨陰森可畏謂之黧天。

(7) 關於風者。

- q 颯
- KQ 線颯

(3) 關於雨者。

- r ● 雨
- p ● 陣雨
- d ● 細雨
- s * 雪
- rs ★ 霽雨雪
- h ▲ 雹

(4) 電氣現象。

- t 丁 雷
- l < 閃電
- tl ㄩ 雷雨

(5) 大氣之明晦及水氣。

- f 三 霧 } 能見度範圍不至
- fe 三 濕霧 } 1,000公尺。
- z ∞ 霾 } 能見範圍在1,000公尺
- m 三 霏 } 以上至2,000公尺以下
- v O 空氣高度
- e 空氣濕而不雨
- y 乾空氣(濕度約60%以下)

(6) 地面現象。

- w ∩ 露
- x ㄣ 白霜

以上之字母，若用大草，指示制度，如K=大雨，D=大細雨等，附加的指號，則指微薄，如h=微電，Y.S.=小霽雨雪。二個字母連寫指示連續，如SS=連續雪，RR=連續大雨。

[A system of letters, originated by Rear-Admiral Sir Francis Beaufort, for recording weather phenomena.]

Beaufort Letter and Their Interpretation

1. Appearance of Sky

- b. Blue sky whether with clear or hazy atmosphere
- c. Cloudy, i. e., detached opening clouds
- o. Overcast, i. e., the whole sky covered with one impervious clouds
- g. Gloom
- u. Ugly, threatening sky

2. wind

- q. Squalls
- KQ. Line squall

3. Precipitation

- r. ● Rain
- p. ● Passing showers
- d. ● Drizzle

Beaufort scale

s. * Snow

rs. ★ Sleet

h. ▲ Hail

4. Electrical Phenomena

t. T Thunder

l. < Lightning

tl. ⚡ Thunderstorm

5. Atmospheric Phenomena and Water Vapour

f. ≡ Fog

fc. ≡≡ Wet fog

} Range of visibility less than 1,000 meters

z. ∞ Haze

m. ≡ Mist

} Range of visibility 1,000 meter or more, but less than 2,000 m

v. ○ Unusual visibility of distant objects

e. Wet air, without rain falling

y. Dry air (less than 60% humidity)

6. Ground Phenomena

w. ∩ Dew

x. L Hoar-frost

Capital letters denote intensity: thus R=heavy rain; D=thick drizzle.

A suffix "o" denotes "slight": thus h_o slight hail; rs_o slight sleet.

Letter repeated denote continuity: thus ss continuous snow; RR continuous heavy rain.]

Beaufort scale, 【氣】貝福氏風力階級。

解：共分十二階級，用以說明每小時風速的英里數。

| 貝氏 號數 | 風 | 符號 | 時 | 陸地用風級標準 |
|----------|-------------------|-----|-----------------|-----------------------|
| | | | 40 英 尺 高度之風速 | |
| 0. | 無風calm | ☉ | ○英里 | 靜烟垂直上升。 |
| 1. | 軟風light air | → | 2 | 烟能指示風向，但不能轉動風向計。 |
| 2. | 輕風light breeze | ↘ | 5 | 人面感覺有風，樹枝微響，尋常的風向儀轉動。 |
| 3. | 微風gentle breeze | ↗ | 10 | 樹葉與細枝搖動不息旌旗招展。 |
| 4. | 和風moderate breeze | ↘↗ | 15 | 灰塵與紙張飛舞，樹上小枝搖動。 |
| 5. | 清風fresh breeze | ↘↗↘ | 21 | 有葉的小樹搖擺，內陸的水面有小波。 |

bee line—bending moment

| | | | | |
|----|---------------------|-------|--------------|--------------------|
| 6. | 強風 strong breeze | >>>→ | 27 | 大樹枝搖動，電線呼呼有聲，張傘困難。 |
| 7. | 疾風 moderate gale | >>>→ | 35 | 全樹搖動，人迎風行走覺有阻力 |
| 8. | 大風 fresh gale | >>>→ | 42 | 折斷小枝，人向前行走有阻力 |
| 9. | 烈風 strong gale | >>>→ | 50 | 烟囱等將被吹毀 |
| 10 | 狂風 whole gale | >>>→ | 59 | 陸上不常見，見則拔樹或有其他損毀。 |
| 11 | 暴風storm | >>>>→ | 68 | 陸上絕少，有則必有重大損失。 |
| 12 | 颶風Hurricane | >>>>→ | 75 英里 以 上 | |

[A scale of numbers from 0 to 12 referring to a description of winds by name and also indicating the wind velocity in miles per hour.]

bee line 【力】B綫。

解：兩點間最短的綫。

[The shortest distance between two points.]

bell crank, 【發】短曲柄。

解：一種雙臂曲柄，而雙臂均裝在同一轂上。

[A double arm crank mounted with both arms mounted on a common hub.]

belly-band, 【球】腹帶。

解：連接球皮腹部的繩索。

[Lines or ropes connected to the belly of a fabric structure.]

belt, 【球】【氣】帶。

解：〔球〕一種平帶，用以傳動滑輪間的動力，或縫在氣球外殼上，以作連接，或使球皮強硬。

〔氣〕地理上的一條長帶面積。

〔① A rope or flat band employed for transmitting power between pulleys, or a band sewed to the

envelope of a balloon for making connections, attachments or for stiffening the fabric.

② A long strip of surface or a defined area on the earth's surface.]

belt (safety), 【裝】保險帶。

解：繫住駕駛員或乘客於座位，以免跌出機外的繫帶。

[The belt or strip which secures the pilot or passenger to his seat.]

belt tension, 【力】帶張力。

解：帶所受的載量，在傳動帶上，它的初張力，係機件於靜止時，所受的張力。

[The load placed upon a belt. In a belt-drive, the initial tension is the tension in the strands when the system is at rest.]

bench (test), 【工】試驗台。

解：發動機的工廠試驗或實驗試驗。

[A factory test or laboratory test made upon a machine.]

bending moment, 【力】彎曲力距。

解：力或有效槓桿關係，使樑彎曲此係以吋磅計量，即磅數載量乘樑的有

bend radius—Bessemer steel

効槓桿長度。

[The couple of effective leverage system tending to bend a beam. It is given in terms of inch-pounds in which the load in pounds is multiplied by the effective lever length in inches.]

bend radius, 【力】 彎曲半徑。

解：航空器任何部分的弧形半徑。

[The radius of any curve to which a part is bent in forming the part.]

benzol, 【化】 焘。

解：一種揮發性煤焦油蒸溜物，屬於碳化氫、芳香族組中，此為最優良的發動機燃料，無爆發性，且滲入汽油內可止爆發。

[A light volatile coal-tar distillate belonging to the aromatic series of hydrocarbons. Make an excellent motor fuel, free from tendencies toward detonation and can be added to gasoline to suppress detonation.]

benzoline, 【油】 焘汽油。

解：焘和汽油的混合物，用於航空發動機內。這是一種防爆燃料。

[A compound fuel or a mixture of benzol and gasoline, employed in automobile or aviation engines. Anti-detonative.]

Bernoulli's theorem, 【力】 白諾禮氏定理。

解：流質（空氣為流質的一種）的壓力是與它的速度成正比例。空氣占有全部空間，且保有相當密度。翼面彎曲成弧形，空氣經過上部弧面時，與接觸的面積極小，故能在低壓力中獲得高速度。

[It states that the pressure of fluid (air is a fluid) is proportional to its velocity. Since air occupies all space and, therefore, preserve its density, the air which flows over the upper wing curve through a restricted area formed by the wing curve and the great mass of air above it, attains a high velocity with a correspondingly low pressure.]

Bernoulli's Theory, 【力】 白諾禮氏定理。

解：此定理說明在無黏性無壓縮氣流的任何一點上，它的壓力與速度的關係，若P=壓力，q=單位體積物質則：—

$$P - \frac{1}{2} q v^2 = \text{恆數}$$

在連續氣流中，速度是壓力成反比。

[This law expresses the relation between pressure and velocity at any point in a stream for an inviscid incompressible fluid. If p=pressure and q=mass unit volume, then:

$$p - \frac{1}{2} q v^2 = \text{constant}$$

In a continuous fluid stream, the velocity is inversely proportional to the pressure.]

Bessemer steel, 【材】 比斯默鋼。

解：將熱空氣吹入鎔化鐵內而將生鐵變成鋼。此法係燒去其中的游離碳，而將必要的百分率化合碳留下。

[Steel produced from cast iron by blowing heated air through the molten metal. This burns out the free carbon and leaves only the required percentage of

bevel gear—biplane(orthogonal)

combined carbon.)

bevel gear, [發] 斜齒輪。

解：有齒的齒輪，與其軸成角度的裝置，但在同一平面中，齒輪的表面是成錐形。

[Toothed gears arranged to transmit motion with their shaft at an angle but in the same plane. The faces of these gears are conical.]

b.h.p. [發] 實馬力。

解：實馬力的縮寫字。

[Abbreviation for brake horse power.]

biased fabric, [球] 斜交球皮。

解：多層球皮有一層或數層的剪裁，使經線和長度相疊成一種角度。

[A multi-ply fabric with one or more of the plies so cut that the warp threads lie at an angle to the length.]

big-end, [發] 大端。

解：聯桿的曲柄軸端。(閱參閱附錄第二十九圖。)

[The crank-pin end of a connecting rod.]

bight, [工] 索眼。

解：沿嵌環環繞的索圈，稱為索眼。

[The loop around the thimble.]

biplane, [機] 雙翼機。

解：有主翼二副的飛機，一翼在他翼之上，二翼大小不必相同，但須保持對稱。

[An airplane with two supporting surfaces placed one above the other, size may be different, but must in symmetry.]

biplane cell, [機] 雙翼組。

解：完全雙翼組，包括雙翼及一切必

要的結構部分。

[A complete biplane wing unit consisting of two wings and the necessary structural parts for their construction.]

biplane coefficient, [力] 雙翼係數。

解：雙翼組對於單翼機同等翼面的昇力值，在相同情況下的相對昇力值。

[The relative lifting value of a Biplane group referred to the lifting value of a Monoplane of equal area and under equal conditions.]

biplane distribution, [力] 雙翼分佈。

解：雙翼機上下兩翼載量的相對分佈。在正常飛行情況下，上翼受有大部的載量。

[The relative distribution of the loads carried by the upper and lower wings of a biplane. Under normal flying conditions, the upper wing carries the greater parts of the load.]

biplane interference, [力] 雙翼干擾。

解：雙翼因翼間的反動所失去的昇力。例如下翼失去昇力，因氣流被上翼壓下所致。

[The loss of lift in the wings of a biplane due to reactions taking place between the two wings. The lower wing, for example, loses lift because of the air-stream forced down on it by the upper wing.]

biplane (orthogonal), [機] 平齊雙翼機。

biplane(staggered)—blade back

解：上下兩翼無斜罩角的雙翼機。

[A biplane without stagger.]

biplane (staggered), [機] 交錯雙翼機。

解：雙翼機的一翼前緣是在他一翼的前方。

[A biplane in which the leading edge of one wing is set ahead of the other wing.]

bipolar, [電] 雙極。

解：(1)磁鐵的兩極均在一處。

(2)發電機與電動機有二個磁場極。

1. A magnet with both poles placed close together,

2. A generator or electric motor having two field poles.]

birch, [材] 樺木。

解：與樺木合成薄木片，可用以爲彈翼肋，因樺與樺的性質與彈性類相似。兩種不同性質的木片用膠膠合，則曲彎時張力不同，膠合處必致鬆脫。樺也可用爲兩翼面前緣的覆蓋物。

[Used for laminations with spruce for lightening ribs, because it has properties similar to spruce and about the same modulus of elasticity. Unequal strain from bending between dissimilar woods places an unusual strain on the glued joint between them, tending to loosen the joint. Birch is also used to cover the leading edge of airfoils.]

bird-walking weather, [飛] 天氣不佳。

解：此乃俚語，指飛行不適宜的天氣。
[A bad flying weather]

birthingam wire gage, [材] 柏明漢絲尺寸。

解：此係常用以測定鐵絲或鐵板的尺寸制。

[Frequently used for iron and wire and iron plate.]

bise (*pr. bees*), 劈瑟風。

解：由南法蘭西 (France) 山區的西南、北，或東北方吹來的冬季冷燥風。

[A cold dry wind in the winter from the N. W., N., or N. E. in the mountainous regions of southern France.]

bituminous paint, [材] [油] 瀝青油漆。

解：一種防水的地瀝青油漆。

[The water—proof asphaltic paint.]

black-ray, [力] 黑線。

解：一種不可見的光線，如紫外或紅射線，它的週數是在人眼範圍以外。

[An invisible light-ray such as ultra-violet light or infra-red rays which have frequencies above and below the range of the human eye.]

blade angle, [螺] 槳葉角。

解：槳葉弦和旋轉面所成的銳角。

[The acute angle between the chord of an element of an airscrew blade and the plane of rotation.]

Blade back, [螺] 槳葉前面。(前進方向之面)

解：螺旋槳葉在前進方向之面，與翼的上面形狀相似。

[The side of a propeller blade which corresponds to the upper

blade-element theory—blade-tip velocity

surface of an airfoil.)

blade-element theory, 【螺】槳葉學理。

解：此學理由戴子威克氏所發明，說明一螺旋槳的總推力，等於翼剖面沿槳長度所數次發生的總昇力數，因此槳葉是由多數短翼面名「元素」所造成。[The theory advanced by Drzewiski that the total thrust of a propeller is equal to the sum of the lifts developed by a number of short airfoil sections taken along the length of the blade. Thus, the propeller blade is considered as built up of a greater number of very short airfoil called “element”.]

blade face, 【螺】槳葉後面。(thrust face 或 driving face)

解：螺旋槳葉靠近發動機之面（拉進式飛機），與翼的下面形狀相似。

[The surface of a propeller blade which corresponds to the lower surface of an airfoil. Sometimes called “thrust face” or “driving face”.]

blade (geometrical-pitch of) 【螺】幾何螺距葉。

解：在軸至葉長三分之二以上的螺旋槳剖面，無滑落時每次旋轉向前移動的計算距離，若螺旋槳在一螺帽內或固體物內旋轉，其行程必保此距離，或反螺距值常係即在螺旋槳上。

[The calculated distance that a propeller blade section, located at two-thirds the length of the blade from the axis, would move forward in one revolution

without slip. It would be the distance travelled if the screw-propeller were turning in a threaded nut or in a solid medium. The value of the geometrical pitch is usually stamped on the propeller.]

blade (micarta), 【螺】梅克泰槳葉。

解：槳葉為紙層造成他含醃樹脂，而成相似電木的硬質。

[A blade built up of paper plies saturated in a phenol resin product, similar to bakelite.]

blade (multiple), 【螺】多葉。

解：於某種動力須由小直徑螺旋槳，產力時則常採用二個以上的槳葉。在大發動機上螺旋槳直徑如受結構的限制時，採用三葉或四葉類為普通。

[More than two propeller blades are employed when a certain amount of power must be developed with small diameter propeller. Three or four blades are common with large engine where the propeller diameter is limited by structural reasons.]

blade-tip velocity, 【螺】葉梢速度。

解：槳葉端或外梢的直綫速度常以每秒呎數計量，速度須在每秒 950 呎以下，因螺旋槳效率在此種速度以外降落極速。

[The linear velocity of the outer tip or end of a propeller blade, generally in terms of feet-per-second. This should be kept below 950 feet-per-second, as the efficiency of the propeller drops off rapidly above this

blade width ratio—block test

speed.]

blade width ratio, 【螺】葉闊比。

解：螺旋葉任何一點的闊度與此點旋轉的圓周之比例。

(The ratio of the developed width of a propeller blade at any point to the circumference of a circle whose radius is the distance of that point from the propeller axis.)

bleached oil, 【油】無色滑油。

解：一種無色的滑油，係由日光所變成。
[Colorless lubricating oil (stainless oil) produced by sun bleaching.]

bleed (air), 【發】空氣噴射管。

解：斯特耶堡氣化器 (Stromberg carburetor) 內的溝道，空氣可由此溝進入汽油，但在汽油水準線以下。汽油因此化成乳化液，離開主噴射嘴而進入文德利管 (Venturi)。

[In a Stromberg carburetor is a channel opening which admits air to the fuel in the jets but below the fuel level. This action creates an emulsified condition of the fuel which leaves the main jet into the Venturi.]

bleeder, 【發】放油孔。

解：除去汽油或他液體排瀉孔。

[A strain for the removal of gas or liquid contents.]

blended oil, 【油】混合油。

解：一種滑油係將多種滑油混合，以應某種目的之用，滑油常為謀得某種黏度或他特性而混合之。

[A lubricating oil consisting of

a mixture of a number of oils to attain a given purpose. Oils are frequently blended to obtain a given viscosity or other property.]

blimp, 【艇】小氣艇。

解：小型軟式氣艇。

[A small nonrigid airship.]

blind soaring, 【飛】盲目滑翔。

解：在雲霧中不能視察時用滑翔機飛行。

[Soaring without visibility in clouds or mist.]

blizzard, 【氣】吹雪風。

解：一種附有嚴寒和雪花的高風。

[A high wind accompanied by extreme cold and driving or falling snow.]

blizzard, 【氣】吹雪風。

解：一種附有嚴寒和雪花的高風。

[A high with accompanied by cold and driving or falling snow.]

block (cylinder), 【發】氣缸塊。

解：一鑄成塊，內有數氣缸，或一排氣缸。

[A casting or forging container with a number of cylinders in one piece or a row of cylinders in one line.]

block test, 【工】木台試驗。

解：將發動機裝在固定架上試驗。為測驗發動機動力與性能的工廠試驗。

[A engine test with the engine on a stationary stand. A shop test or a test for measuring the power and performance of the engine.]

blood albumen glue—blower(positive)

blood albumen glue, 【材】 血質
蛋白膠。

解：血質蛋白膠係用化學方法，凝結動物的血液而成。凝結血液時需要熱度與壓力，故血質蛋白膠最適用於製造層板。該膠顯明的顏色，塗於薄木片上時僅顯晦暗色，性質強固而不滲水。[It is chemically treated, coagulated blood of animals. Heat and pressure are required to coagulate the blood content of the glue in setting, so that blood glue finds its greatest application in plywood manufacture. Blood glue does not stain, but the dark color may show through on thin veneer plies. Blood glue is very strong and water resisting.]

bloom, 【油】 油光。

解：由滑油表面反射燈光，潘斯番理亞，或石臘基油的油光是綠光，而瀝青基油是藍色。

[A fluorescence or glow reflected from the surface of oils. The bloom of a Pennsylvanian or paraffin base oil is green, while that from an asphaltic base oil is a bright blue.]

blow back, 【發】 反衝擊。

解：氣化器內的逆火或爆炸，常因稀薄混合氣或汽油不足所致。

[Popping or explosions in the carburetor, generally due to a lean mixture or insufficient gasoline.]

blower, 【發】 吹風器。

解：風扇或旋轉式空氣唧筒，用較小

的壓力而傳入大量的空氣，此器用以傳遞一股空氣在氣涼式發動機氣道上，或用以在壓力上傳送空氣與汽油混合，(見增壓器)。

[A fan or rotary air-pump used for delivering large volume of air at comparatively low pressures. Employed for delivering a blast of air over the cylinders of an air-cooled engine or for delivering an air-cooled gasoline mixture to the cylinder under a pressure (see supercharger).]

blower (centrifugal), 【發】 離心
式吹風器。

解：一種空氣唧筒，內有旋轉扇葉，因迅速的旋轉及大股空氣所產生的離心力，而造成氣壓或氣流。

[A air-pump consisting of revolving blades that creates air-pressure or air movement by the rapid rotation and centrifugal force developed by a mass of air. The blade does not contact the casing. Pressures up to 16 ounces.]

blower pipe, 【銼】 吹風管。

解：一種空氣進口利用螺旋槳的滑流，將空氣灌入空氣房內。(參閱附錄第十七圖16)

[A scoop through which air is taken into balloons for carrying crew, ballast, etc.]

blower (positive), 【發】 積極吹風器。

解：一種空氣(旋轉式)壓縮器，發出中等的氣壓，有旋轉活塞，風翼，或突起物。與器匣接觸緊密，但旋轉速度較離

body—bomb sight

心式吹風器的爲低。壓力常至每平方吋25磅。

[A rotary air-compressor for moderate pressure which consists of revolving pistons, vanes or lobes which make air-tight contact with the casing and which revolve at a lower speed than the centrifugal blower. Pressure up to 25 pounds per square inch.]

body, [機] 機身。

解：飛機上的機身（包括發動機整流罩），飛船上的船身，或氣艇上的短艙，用以運載人員與裝備。

[The fuselage or hull, or nacelle (including cowling and covering) and nacelle mounting.]

body resistance, [機] 機身阻力。

解：機身在空氣中運動時的阻力。
[Resistance of the fuselage when moving in air.]

boiling point, [力] 沸騰點。

解：液體沸騰所在的溫度，還是指定液體在指定壓力下的固定溫度。水的沸騰點在華氏212度（攝氏100度），但在海平線壓力，若壓力減低，沸騰溫度亦減低。液體二氧化碳沸騰在華氏—110度。

[The temperature as which a liquid boils—fixed temperature for a given air pressure. Water boils at 212° F. (100° C) at normal sea-level pressure and decreases with a decreasing pressures. Liquid carbon dioxide boils at —110° F.]

bomb, [裝] [軍] 炸彈。

解：內裝爆炸或燃燒劑的容器，且爲爆發，炸烈或燃燒，裝有必要的全部機件。

[A container of explosive or incendiary mixture complete with the devices necessary for detonating, exploding or burning the contents.]

bombardment aviation, [軍] 空中轟炸術。

解：定義空中轟炸爲空軍動作之一部分，其主要作用，即在飛機上投擲炸彈，毀壞各陸地上及水面上意欲炸毀之目標物。

[Definition—Bombardment aviation is that component of an Air Force, the primary function of which is to destroy objectives on land or sea by means of dropping projectiles from airplane.]

bomb carrier, [裝] [軍] 炸彈架。

解：航空器上攜帶炸彈的機件。
[A device for carrying bombs on aircraft.]

bomb-release control, [裝] [軍] 投彈操縱器。

解：操動投彈鈎的機件。
[A device for carrying one or more bomb-release clips.]

bomb rib, [機] 炸彈架肋。

解：航空器構架的部分而炸彈架係在上面裝配的。

[A structural member of the aircraft to which a bomb carrier is attached.]

bomb sight, [儀] 轟炸瞄準器。

bomb sight(course setting)—boom gauge

解：一種測定炸彈投下角的儀器。

[An instrument for determining the dropping angle of a bomb.]

bomb sight(course setting),【儀】

定置航向轟炸瞄準器。

解：一種儀器除測定炸彈投下角外，並於投彈之前，為攻取所欲取的方向，而定飛機的航向。

[An apparatus which, in addition to determining the dropping angle of a bomb, determines, for any desired direction of attack, the course the aircraft should follow immediately prior to the release of the bomb.]

bomb teacher,【儀】轟炸預習器。

解：一種儀器表示假的真實情況，能在地面作轟炸教練。

[An apparatus which by simulating actual conditions enable bombing to be taught on the ground.]

bonding,【發】【電】連繫。

解：點火系的蔽護 (screening) 向航空器的地線系相連接，則稱連繫方法。
[Connexion of the screening of the ignition system to the earth system of the aircraft.]

bouquet,【艇】【球】氣門蓋。

解：這是成傘形的一種覆蓋物，可保護氣艇或氣球的氣門不為雨水所浸入，亦名「氣門罩」或「氣門帽」(valve cover or valve hood,).

[The appliance, having the form of a hood or parasol, which protects the valve of an airship or balloon against rain. Also called "valve cover" or "valve

hood".]

boom well or boom trough,【機】

構架槽。

解：浮筒甲板上的槽形凹部，以便裝接浮筒和機身連接支柱的末端，及二個浮筒的構架。

[A well- or trough-like recess in the deck plating of a float to take the end fittings of the struts connecting the floats to the body and the booms connecting the two floats.]

booster magneto,【發】手動磁電器。

解：副助磁電器的一種，用以產生起動時的強烈火花。手動磁電器裝有加速齒輪，在手搖六十至一百轉時，即能發生極強烈的火花。

[An auxiliary magneto used for the production of a strong spark for starting purposes. Booster magnetos are geared up to such an extent that sixty to one hundred revolutions of hand turning are sufficient to create a very strong spark. The booster current is connected to a trailing segment in the service magneto distributor in such a way that the booster current can jump a small air gap to the nearest service electrode. The trailing segment timing feature insures that the spark can only occur after top center.]

boom gauge,【儀】昇壓表。

解：一種空盒氣壓表，用以指示誘導管內氣壓。

[A form of aneroid for

boost pressure—bow cap

indicating the pressure in the induction pipe.)

boost pressure, [發] 昇壓。

解：這是誘導管的壓力在各方面增壓發動機所規定的一點上，而此係由昇壓表指示，每平方吋磅數(lb/sq. in.) 在標準海平面，大氣壓力以上或以下的。

[The pressure in the induction system at a point standardised for each type of supercharged engine, expressed in lb/sq. in. above or below the standard sea-level atmospheric pressure and indicated by a boost gauge.]

bora, [氣] 布拉風。

解：在亞得里亞 (Adriatic) 或愛琴 (Aegean) 海北岸由東北方吹來的冬季冷颶風。

[A cold squally wind in the winter from the N. E. on the northern shore of the Adriatic or Aegean Sea.]

bore, [工] 孔，口徑，內徑。

解：指一機件內圓筒孔的大小而言。
[Usually refers to the size of a cylindrical hole in a part.]

boss, [螺] 殼。

解：螺旋槳在槳軸上裝接的中心部份。
[The central portion of the airscrew by which it is attached to the airscrew hub or shaft.]

bottom dead center, [發] 下死點。

解：活塞在最近曲軸的位置，即在氣缸下部的盡端位置。

[The position of the piston when nearest the crankshaft—extreme position at bottom of

cylinder.]

bottom rudder, [操] 方向舵下方操縱。

解：向右傾側時操用右方向舵，向左傾側時操用左方向舵，換言之，即操用傾側下方方向舵。

[The use of right rudder when banked to the right, or left rudder when banked to the left. In other words, the use of rudder on the bottom, or lower side of a bank.]

boundary layer, [力] 限界層。

解：一個物體表面四週的空氣層，此層內的黏力在液體運動上而有顯著的影響。

[The thin layer of fluid adjacent to the surface of a body, in which the viscous forces exert a noticeable influence on the motion of the fluid.]

Bourdon tube, [儀] 寶爾登管。

解：一種彎曲而薄壁的管，橫斷成卵圓形一端閉塞，內部壓力增加，則有伸直的傾向。此管用於指示氣壓與溫度的儀器內。

[A tube whose characteristic is to straighten itself out when pressure is applied internally. Bourdon tubes are used in pressure and temperature indicating instruments.]

bow cap, [艇] 艇頭罩。

解：(1) 金屬或橡皮布的帽罩，用以增加硬式或半硬式氣艇的極前端。

(2) 硬式氣艇最前端的圓錐或帽形物，縱樑即接合於此帽上，帽上又裝置緊的軸。

bow-heavy—brake horse-power

[1. A cap of metal or fabric used to reinforce the extreme forward ends of the bow stiffeners of a nonrigid or semirigid airship.

2. The conical or cap-shaped structure at the extreme bow of a rigid airship to which the longitudinal girders are attached and which supports the bow mooring spindle.]

bow-heavy, [艇] 頭重。

解：氣艇停在平靜空氣中時，縱軸向頭部傾斜。用於飛機的術語為“nose heavy”。

[The condition of an airship which, when at rest in still air, trims with its axis inclined down by the bow. The term “bow-heavy” is preferred to “Nose-heavy” in describing airship.]

bowser, [機] 汽油車。

解：汽油車為容納汽油的小車。

[It is a small truck with a petrol container.]

bow-steadying line, [裝] 繫塔索。

解：繫塔索是從氣艇頂部上垂下來的繩索，當繫到繫留塔上時，可以阻止氣艇向繫留塔的兩邊偏出或擦過繫留塔。繫塔索亦有稱為“line yaw”或“yaw guy”。英人尤多稱為“side guy wire”。

[A line dropped from the bow of an airship; when mooring to the mast, to act as a yaw line to prevent yawing and over-riding the mast. Also called “yaw line” or “yaw guy”.

British called “side guy wire”.]

bow stiffener, [艇] 艇頭助力材。

解：裝置在半硬式或軟式氣艇氣囊頭部的一種堅硬材料，可為氣艇移動所生壓力增大抵抗。有時亦稱為艇鼻助力材(nose—stiffener)或艇鼻助力板(nose-batten)。

[A rigid member attached to the bow of a nonrigid or semirigid envelope to reinforce it against the pressure caused by the motion of airship. Sometimes called “nose stiffener” or “nose batten”.]

box girder, [艇] 盒形樑。

解：這是長方形剖面的樑。有時常指氣艇龍骨內懸掛汽油箱和氣囊的長方形縱樑。

[Any girder of rectangular section. Frequently used to refer to the rectangular, longitudinal members in the keel of a rigid airship from which fuel tanks and gas bags are suspended.]

box rib, [機] 盒形肋。

解：在翼和機身連接處的實體盒形肋。
[A rib built in the form of a solid box at the junction of the wing and fuselage.]

Boyle's law (law of perfect gases), [力] 波義爾定理。

解：如溫度永久不變，則氣體體積的變化與壓力成反比例。

[The volume of a given gas, varies inversely as the pressure, provided the temperature remains constant.]

brake horse-power, [發] 實馬力。

brake mean effective pressure—brass (brazing)

解：發動機在螺旋槳軸上所發出的馬力。

[The horse-power developed by an engine at the airscrew shaft.]

brake mean effective pressure,

【發】【力】實際平均有效壓力。

解：發動機活塞的動力行程 (power stroke) 如無機械損失 (mechanical losses), 則淨壓力單位能在指定的速度上產生指定的實馬力。

[The net unit pressure which, if applied during the power strokes to the pistons of an engine having no mechanical losses would produce the given brake horsepower at the stated speed.]

brake (parking), [機] 停機制動器。

解：一種機械如棘輪銷柄，可定置制動輪在一種位置，不致在軸上活動。此種制動機關祇於飛機停止時用之，或使飛機在地面不致滑動，但在滑走，起飛，與降落時，決不可採用。

[A mechanical means, such as a lever with ratchet lock, of setting the wheel brakes in such a manner that the wheels cannot move on their axles. This type of brake is used only while the airplane is parked, or remaining motionless on the ground. It is never to be used in connection with taxiing take-offs or landings.]

brake pedals, [機] 制動踏板。

解：一種小踏板裝在方向舵踏板上面或附近，使駕駛員可用腳縱動，且此種裝置於必要時，能與方向舵同時操動。

[The small pedals mounted on, or near the rudder pedals, to enable the pilot to operate the wheel brakes with his feet. This arrangement permits operation of the rudder pedals at the same time, if necessary.]

brakes (air), [機] 空氣制動器。

解：機翼極端靠近機身兩旁的襟翼，用以產生空氣阻力，使落地速度減緩。[Flaps on the side of the fuselage used to create air resistance for slower landings-experimental only.]

brake test, [工] 制定試驗。

解：一種試驗，用以測定發動機或電動機的確際動力或阻力。

[A test made to determine the actual power or torque developed by an engine or motor.]

brass, [材] 黃銅。

解：一種合金，內有銅，鋅，及鉛。若內加錫少許則變硬。

[An alloy or composite metal consisting of copper, zinc and lead. It may be hardened by the addition of a small amount of tin.]

brass (annealed), [材] 煨煉黃銅。

解：片形，管形或桿形黃銅經熱變軟，滾壓後則驟冷變硬。

[Sheet, tubular or rod brass softened by heating and quenching the hard rolled brass.]

brass (brazing), [材] 鉗接黃銅。

解：鉗接鋼鐵或相似零件所用的黃銅，鉗由火炮鎔化在接頭表面上。

[A brass used for soldering]

brass(high)—breaker(primary)

steel, iron or similar parts together. The spelter is melted by a torch over the surfaces to be joined,]

brass (high), [材] 硬黃銅。

解：含有極高百分率鋅(33—36%)的黃銅，亦名硬黃銅。

[Brass containing a high percentage of zinc, also known as "hard brass". It contains from 33 to 36 percent zinc.]

brass (low), [材] 軟黃銅。

解：含有極低鋅成分的黃銅，鋅約19—22%。

[Brass containing a low percentage of zinc, 19 to 22 percent zinc.]

brazing, [工] 黃銅焊接法。

解：接連二金屬體，利用第三金屬如軟黃銅於鎔化後，而塗敷其上的一種方法。鋼鐵的連接面，先須擦淨，再塗以錐劑以防氧化，錐劑常係硼酸，黃銅用強水鎔化，流入交接處，而緊牢二部連接之。

[The process of uniting two metal bodies by the application of a third body in a molten state, the third body usually being a film of soft BRASS. The steel surfaces to be united are cleaned and then dusted with a FLUX for preventing oxidation of the surfaces, the flux usually being borax or boric acid. The brass is then strongly heated and the melted brass runs into various portions, binding the parts together. This

is also often referred to as BRASS SOLDERING.]

brazing brass, [材] 錐接黃銅。

解：錐接鋼鐵或相似零件所用的黃銅。錐由火炮鎔化在接頭表面上。

[A brass used for soldering steel, iron or similar parts together. The spelter is melted by a torch over the surfaces to be joined.]

breaker (circuit), [電] 電路隔斷器。

解：(1) 一種開關機件，普通能自動開關，用以通斷電路的電流。

(2) 在點火系中，正電路的自動開關，於發火時斷電路，為最普遍的裝置。此器亦名配時器。

① A switching device, usually automatic, that opens and closes an electrical circuit allowing the current to flow intermittently.

② More commonly, an automatic switch in the primary circuit of an ignition system which opens the circuit at the instant that the spark is required. Also known as a TIMER.]

breaker-point, [電] 斷接點。

解：電路隔斷器的接觸點。

[The contact points of circuit breaker.]

breaker (primary), [電] 正電路隔斷器。

解：點火系中正電路的自動隔斷器，用於發火時的斷接正電路。

[An automatic breaker or switch in the primary circuit of

breaker timing—bridge method

an ignition system that opens the primary circuit at the time that the spark is required.]

breaker timing. 【電】隔斷器正時。

解：點火系中隔斷器斷接電路而致火花的時間。此是以發動機活塞的位置而定。先期一則在壓縮行程末期以前之謂。延期一則在壓縮行程末期以後之謂。

[The time at which the breaker of an ignition system opens and causes the ignition spark. This is in terms of the piston position of the engine Advanced when taking place before the end of the compression stroke and retarded when taking place after the end of the compression stroke.]

breather. 【發】通氣孔，呼吸裝置。

解：(1)呼吸空氣或汽油氣的孔口。

(2)軟面運動有如肺部的呼吸。

[1. Any opening which permits the inhaling and exhaling of air or gas.

2. The movement of a flexible surface that corresponds to the breathing of the lungs.]

breather tube. 【發】通氣管。

解：機匣內的一種孔道。用以保持內部為大氣壓力。此管是將機匣內部與外部空氣溝通。於發動機開動時，空氣可內外流動。普通孔口上裝有隔塵器。

[An opening or passage in the crankcase of an engine which maintains the interior pressure at atmospheric pressure. It connects the interior of the

crankcase with the external air so that air flows back and forth through the tubes when the engine is running. If usually connected with a Dust Separator.]

breathing. 【艇】通氣。

解：為改變浮昇器內部的氣體容量，而吸入或放出空氣。

[The passage of air into or out of an aerostat, due to the changing of its volume.]

breathing stresses. 【力】通氣應力。

解：浮昇器由於通氣所生的應力。因為氣囊通氣時，氣囊和龍骨互相作用的原故。這種應力對於半硬式氣艇的氣囊和龍骨極關重要。

[Stresses produced in an aerostat by breathing. Of importance in the envelope and keel of a semirigid airship due to the interaction of envelope and keel when the envelope “breathes”.]

Breguet formula. 【力】白列可定律。

解：一種數學定律，係由重量昇阻比，及發動機耗油量，而定飛機航程。

[A mathematical rule or formula for determining the flight distance or range of an airplane from the weight, lift-drag ratios and the fuel consumption of the engine.]

bridge method. 【電】橋路法。

解：電路於連接時跳過某連接的方法。

bridle—British Thermal Unit

[To cross over or jump certain part of an electrical circuit when making a connection.]

bridle, 【球】繫留索。

解：繩索或鋼索兩端繫住於兩不同點，彎折處繫附一固定或活動的單繩，單繩的拉力可以分配於此兩點，如係多繩式則在兩點以上。繫留索有時也用以指有二腳根的拖曳索或繫泊索，以減少拖曳或繫泊時的偏轉。

[A sling of cordage or wire which has its ends fixed at two different points, to the bight of which a single line may be attached, either movable or fixed, thus distributing the pull of the single line to two points or more in the case of multiple bridle. This term is also used to refer to a towing or mooring line having two legs and intended to reduce yawing when towing or mooring.]

Briggs pipe-threads, 【工】伯列格管子螺絲線。

解：水管連接處美國所用的一種標準螺絲線。螺絲線紋係漸變尖形，致使連接緊密。

[The standard form of screw thread used in the United States for the connection of steam and water pipe. The thread depth is tapered so that the joints will wedge together air and liquid tight.]

brine, 【材】鹽水。

解：普通食鹽所溶成的水，用以降低

冰凍溫度。

[A saline solution of water with a salt such as common sodium chloride or calcium chloride. Used for withstanding low temperature without freezing.]

Brinell number, 【材】布林納爾數。

解：此數為壓力及受壓力面積的商數，硬金屬的壓力為3000kg，軟金屬為500kg。

[The index of % BRINELL TEST. It is equal to the quotient of the pressure and the area of the indentation surface. For hard metals the pressure is 3,000 kg. For soft metal is 500 kg.]

Brinell Test, 【材】布林納爾試驗法。

解：試驗材料硬度的方法。硬度數字等於全部靜壓力除以捺壓而成的弧壓面積。捺壓方法即用一硬球用壓力壓入被試驗的材料面部內。

[A method used to test the hardness of metals. The hardness number equals the total static pressure divided by the curved area of impression made by pressing a hardened ball into the surface which has its ends fixed.]

British Thermal Unit, 【力】【工】英區熱量單位。

解：足使一磅水升高華氏一度的熱量，而近最大的密度。一個 B.T.U. 等於 778 呎磅機械量。此種單位係用以計

broach—bronze(manganese)

算燃料的熱量，以供各動作所處之熱力。

(The amount or quantity of heat required to raise one pound of water by one degree Fahrenheit (1° F.), near the point of greatest density. One British thermal unit (b.t.u.) is equal to 778 foot-pounds of mechanical energy. This unit is employed for calculating the heating values of fuels, heat required for various operations.)

broach, 【工】壓孔器。

解：一種器具用壓機將齒條在上力壓，而成各種形式之孔口。套門軸及齒輪上之縫口，均係用此器所製成。

[A tool to produce holes of various shape, key-ways, castellations etc. by forcing a toothed bar through a previously bored hole by means of a press. Keyways and slots for splined shafts in the hubs of wheels and gears are reproduced by this process.]

brontograph, 【氣】雷雨圖。【儀】雷雨自記器。

解：「氣」顯示雷雨運動的圖表。

「儀」指示雷雨運動的儀器。

① A diagram showing the movement of thunderstorms.

② An instrument showing the movement of thunderstorms.]

Bronze, 【材】青銅。

解：較硬於巴必脫(Babbitt)金屬，但軟於崩錫活塞銷，大都用為活塞銷軸

承。活塞運動方向改變極快，活塞銷軸承固感受相當的震動，故用青銅增高硬度極為有利。青銅係由銅與錫構成，此種合金如略加他種金屬，也可改變它的性質。

(Bronze is harder than Babbitt metal, but very much softer than case hardened steel piston pins, and is generally used for piston pin bearings. Due to the rapid reversal of piston travel direction the piston pin bearing is subjected to considerable shock, and the additional hardness of bronze is an advantage. The principal constituents of bronze are copper and tin, although this alloy may be modified with small percentages of other metals.)

bronze (aluminum). 【材】鋁青銅合金。

解：銅與鋁的混合金屬。其中：鋁佔11%，此係極硬的一種青銅；1%鋁合金於每平方吋約有張力95000磅。

[An alloy of copper and aluminum containing up to 11 percent of the latter. It is a very strong hard bronze, the 11 percent grade having an average tensile strength of 95,000 pounds per square inch.]

bronze (bearing), 【材】軸承銅。

解：一種軟銅，用在旋轉軸承內。

[A soft malleable bronze employed for bearing or supports for rotating shafting.]

bronze (manganese), 【材】錳青銅合金。

bronze(phospher—bulkheads

解：此種合金內含有大部銅和鋅，而實係黃銅。但較普通黃銅為堅硬，並係用以去氧化，而所餘留者無幾。此種金屬可受鹽水的浸蝕，張力每平方吋為 70000 磅。

[As this alloy consists largely of copper and zinc. It is really a brass, but it is much stronger than the ordinary brasses. The manganese is used for deoxidizing the molten metal and only slight traces remain in the finished alloy. It resists salt-water and should have a tensile strength of over 70,000 pounds per square inch.]

bronze(phospher)，【材】磷青銅合金

解：此合金為銅，內含 4% 錳，并用磷去氧化。但磷量極少而增硬度。每平方吋的張力為：65000 磅。質堅而能耐浸蝕與結晶。

[This alloy consists of copper with about 4 percent of zinc, the molten metal being deoxidized by phosphorous. A small percentage of phosphorous adds to the hardness. It has a tensile strength of about 65,000 pounds per square inch, is tough and resists corrosion and crystallization.]

Brown & Sharpe gage，【工】柏期夏浦尺寸。

解：電線，某種金屬片，和管壁的標準，尺寸制。尺寸數如增多，則將剖面積增加一倍。縮寫字為：“B&S”。

[A standard gage system for electrical wires and certain sheet

metals and tube walls. An increase in 3 in the gage number, doubles the cross-sectional area. The abbreviation is “B & S”.]

B. & S. 【工】柏期夏浦尺寸。

解：Brown & Sharpe gage 的縮寫字。

B.T.U. 【力】【工】英國熱量單位。

解：British Thermal Unit 的縮寫字。

bubble sextant，【儀】氣泡六分儀。

解：一種六分儀，運用氣泡機件，而作人工水平，普通係用以定天體的高度。

[A sextant employing a bubble device to provide an artificial horizon. Normally employed for determining the altitude of a celestial body.]

buffeting，【力】振動。

解：飛機一部份結構上的不規的搖動，而此種搖動是直接，因為其他結構部分的渦卷洗流 (eddy wake) 所致。

[An irregular oscillation of any part of an aircraft produced and maintained directly by the eddy wake of some other part of the structure.]

building cradle，【設】氣艇架。

解：製造硬式氣艇構架和軟式氣艇龍骨時所用的支持架。

[A support provided for the frame of a rigid airship or the keel of a semirigid airship during construction.]

bulkheads，【機】隔框，隔壁。

解：機身內的橫隔物，高聲與硬殼機身內尤常用它。

bullseye—burble point

[Lateral partitions of an inclosed fuselage, used particularly used in soaring and monocoque fuselage constructions.]

bullseye, 【球】牛眼環。

解：木料或金屬所製成的小環。構成氣球纜具的一部分，用以連結或安排繩索。

bump, 【氣】衝突氣流。

解：大氣不安定的區域，有垂直上昇氣流的特点。

[A region of unstable atmosphere characterised by marked local vertical components in the air current.]

Bumping bag, 【鉗】【球】緩衝袋。

解：懸艇或吊籃下部所裝置的一種防衝墊，為避免接觸地面時損壞。

[A fender secured to the underside of a car or basket to prevent damage from contact with the ground.]

bunt, 【飛】半外筋斗 (= half outside loop.)

解：飛機作半個外筋斗的飛行。飛機在倒飛行位置時，如欲恢復正常姿勢，須再作一個半側滾動作，或向對方繼續作半個外筋斗動作亦可。

[The aircraft performs the first half of an inverted loop. From the resulting inverted position a normal attitude is resumed either by a half-roll or by a further half-loop in the opposite direction.]

buoyancy, 【力】浮力。

解：浮昇器上由氣靜力學原理產生的向上力量，浮力等被排除的空氣重量。

[The upward air force on an aerostate which is derived from aerostatic conditions. It is equal to the weight of the air displaced.]

buoyancy (center of aerostat), 【力】浮力中心。

解：輕航空器內氣體容量的重心。

[The center of gravity of the volume of the contained gas.]

buran (*pr. booraru*), 【氣】洶冷風。

解：在俄羅斯 (Russia) 及中亞西亞 (Central Asia) 由東北方吹來的強風，此風常見於冬季。

[A strong wind from the N. E. in Russia and Central Asia; occurs most frequently in the winter.]

burble angle, 【力】【飛】失速角 (=stalling angle)

解：機翼衝角太大，氣流受干擾，致昇力消失極快，因而發生失速。

[The excessive angle of attack for an airfoil at which the streamline flow is disturbed to such an extent that the lift decreases rapidly, permitting a stall.]

burble point, 【力】旋渦點。

解：旋渦即擾擾困難之意，在此係指飛機因低速度，及大傾角，致機翼上面的空氣，停止其適當的流動而害，故翼上空氣，不再有適當的流動，飛機遂失速而各操縱面，不復發生作用。

[Burble means trouble. In this connection it is the cessation of the proper flow of the air over

bushing—cabane strut

the wings owing to their low speed and angle of incidence. Thus over the top of the wing the air is no longer flowing properly, and the aeroplane becomes stalled, whilst the control surfaces no longer function.]

bushing, 【機】襯套。

解：用在二零件頭處的填隙物。或係用在旋轉軸承間的套形減磨青銅圈。

[A piece used for filling a gap between two parts, usually the annular space between a shaft and the main bearing. A hollow cylindrical sleeve of bronze, babbitt or other antifriction metal employed as a bearing for the support of a rotating shaft.]

butterfly valve, 【發】蝶形氣門。

解：任何氣門形狀與烟筒內的蝶形瓣相似即氣門軸的兩旁各有一翼。此係節制發動機速度的氣化器氣門。(阻氣

門 choke valve 係節制空氣供給量。)
[Any valve similar in design to the hamper in a stove pipe, i. e., a valve which appears to have a wing on each side of the axis. It is carburetor valve which governs engine speed. Choke valve governs air supply.]

Buys Ballot's Law, 【氣】貝斯巴洛脫定律。

解：氣象學定律的一種，專以說明低氣壓區的地點與方向。此定律為“在北半球如背風而立，則低氣壓區在左邊；在南半球則在右邊”。

[If you stand with your back to the wind, the region of low pressure will be on the left hand in the northern hemisphere and on the right hand in the southern hemisphere.]

B. W. G. 【村】柏明漢絲尺寸。

解：Birmingham Wire Gage 之縮字。

C

Cabane, 【機】懸架。

解：在機身上支托機翼或翼中段的構架；有時也指支持兩翼間橫罩的構架。

[A framework for supporting the wings at the fuselage, also applied to the system of trussing used to support overhang in a wing.]

cabane strut, 【機】懸支柱。

解：由機身向前伸出的支柱，用以支持中段翼。

[A strut or structural member extending upwards from the fuselage for the support of the center-section of the wings. Prior to the war, this included

the bracing struts then placed above the wing.)

cabin, [機] 座艙。

解：四周有壁保護航員或乘客或貨件的機內空間。

[An enclosed space on an aircraft for the protection of the passengers, pilots or cargo. This word is generally preceded by the name of the purpose to which the cabin is put, passenger cabin, pilot's cabin etc.]

cabin-plane, [機] 轎式飛機。

解：四周有壁保護航員乘客座艙的飛機。

[A type of airplane provided with a cabin or enclosure for the passengers, pilot and cargo.]

cable, [機] 鋼繩。

解：用鋼絲搓成的繩索，此種鋼繩較粗單鋼絲為強韌。

[A rope made by twisting a number of wires (strands) together. A cable of given strength is more flexible than the single "solid" wire.]

cable (axial), [艇] 軸繩。

解：硬式氣艇內的軸間物，大都為一鋼繩，與各主橫樑的輪射或對徑線中心裝具連結，由艇頭曳展至艇尾，它的作用係在軸向上支持各輻射線或對徑線，使鄰近各氣囊壓力不相等時或俯仰角度極大時，協助它們承受載重力。
[The axial member (usually steel wire cable) sometimes fitted in a rigid airship. It is attached to the central fitting

of the radial or diametral wires of each main transverse and to the hull structures at bow and stern. Its purpose is to provide for the radial or diametral wires in an axial direction and thus assist them to sustain the load which might be caused by unequal pressure in adjacent cells or be the airship being pitched to a large angle.]

calibrate, [儀] 分度。

解：在儀器上或表尺上分畫正確的等級。

[To mark off the correct graduations on instruments of scales.]

calm, [氣] 無風。

解：無可評價的風，而烟可作垂直的上昇。

[Absence of appreciable wind.]

caloric, [力][工] 加路里(熱量單位)。

解：使足使水一公分(克蘭姆)升高攝氏一度的熱量。

[The heat required to raise the temperature of one gram of water one degree Centigrade.]

calorimeter, [儀] 熱量計。

解：測驗物體內所含熱量的儀器。

[An apparatus for measuring the amount of heat contained in bodies.]

cam, [發] 導輪，偏心盤。

解：偏突形的輪，與他件相接，可受動或傳動於他件。

[An eccentric surface used to impart variable motion of the valve mechanism of engine.]

cam engine—camshaft speed

cam engine, 【發】導輪式發動機。

解：這種發動機的傳動是由轉筒在主軸上的導輪輪面上動作而來。

[An engine driven by the action of rollers acting on the surface of a two lobe cam, mounted on a main shaft.]

cam follower, 【發】導輪隨動部。

解：置於導輪面上的機件，受動於導輪。導輪隨動部大都為硬質轉筒與尖軸臂（用於振動）或鋼軸，在嚮導機（cam follower guide）內往復。

[An engine part which rides on the contour surface of a cam and to which motion is imparted by the cam. The cam follower usually consists of a hardened steel roller and pivoted arm (for oscillating motion) or a steel spindle which reciprocates in a cam follower guide. The latter type is most generally used.]

cam follower guide, 【發】導輪隨動部嚮導機。

解：發動機機件的一種，用以引導導輪隨動部的動作。

[An engine part which guides the motion of the cam follower.]

cam lobe, 【發】導輪突起物。

解：導輪邊緣上突出的部分，其作用在使導輪隨動部（cam follower）發生運動。

[The raised portions on the contour of a cam which cause movement of the cam followers.]

camber, 【機】曲面。

解：翼剖面由翼弦引起的弧形。據風

洞試驗在尋常速度與傾角中，因翼上面受到的壓力極小，故能產生60%昇力，翼下面因受直接衝擊壓力，能產生40%昇力，上部曲面（upper camber）指翼面上部弧度，下部曲面（lower camber）指翼面的下部弧度，平均曲面（mean camber）指此二者的平均弧度。（參閱附錄第七圖）

[The rise in the curve of an airfoil section from its chord, usually expressed as the ratio of the departure of the curve from the chord to the length of the chord. "Upper camber" refers to the upper surface of an airfoil and "lower camber" to the lower surface; "mean camber" is the mean of these two.]

camera obscura, 【設】暗箱。

解：一個黑房，房頂裝有一個鏡頭，將飛機或雲的影像攝入，而投射在房內屏面上，此房可測定速度和航向，以作轟炸的實習。

[A darkened hut or tent with a lens in the roof through which the image of an aircraft or cloud is projected on to a screen within; used for determining speed and direction and for bombing practice.]

camshaft speed, 【發】導輪軸速度。

解：四期循環發動機中，曲軸速度為 ω ，除以突起緣的數量。二期循環發動機中，導輪軸速度等於曲軸速度除以突起緣的數量。

[One-half crankshaft speed, divided by the number of lobes

canopy—cap(bow)

on the cam for four cycle engines. For two cycle engines camshaft speed divided by the number of cam lobes.)

canopy, [傘] 傘身。

解：保險傘的一部份，於開張時能在空氣中，發生阻力使攜帶重量的降落速度阻減少。(參閱附錄第四十三圖) [That part of the parachute which, when spread, offers an air resistance sufficient to reduce the rate of descent of the load to a desired amount.]

cantilever, [機] 張臂。

解：機翼型式的一種，全部結構力量在翼的內部，無須外部支張物。單翼機的翼用支柱支張的，稱為半張臂式。(Cantilever wing design means that the entire structural strength of a wing is within the wing itself, requiring no outside bracing. when monoplane wings are braced with struts they are said to be of semi-cantilever design.)

cantilever monoplane, [機] 張臂單翼機。

解：單翼機的二昇力面(即機翼)不用外張絲支張物支持，此種單翼機可分高翼，中翼與低翼三種。

[A monoplane whose lifting surfaces are not supported by any external wires or braces. Sometimes referred to as an internally braced monoplane. A monoplane of this type may be a low-wing, mid-wing or high-wing type.]

capacitance, [電] 電容。

解：物體吸收電量的本質。

[The property of a material to absorb electricity.]

capacity [力] 容量。

解：浮昇器內容納氣體的数量。

[The volume of the gas-containing portion of an aerostate.]

capacity (nominal gas), [力] 名義氣體容量。

解：在一定氣壓與膨脹情況之下，浮昇器氣囊的容量。名義氣體容量大部與實際氣體容量不同，欲確定此種容量極為困難，尤以硬式氣艇為甚。

[The volume of the envelope of gas cells of an aerostate under certain conditions of pressure and inflation which have been defined. It is rarely the same as the true full volume. This is usually very difficult to determine accurately, especially in the case of rigid airships.]

cap (bow), [艇] 艇頭罩。

解：(1)金屬或攔皮布的帽罩，用以增加硬式或半硬式氣艇的極前端。

(2)硬式氣艇最前端的圓錐或帽形物，縱樑即接合於此帽上，帽上又裝置繫泊軸。

[1. A cap of metal or fabric used to reinforce the extreme forward ends of the bow stiffeners of a nonrigid or semirigid airship, 2. The conical or cap-shaped structure at the extreme bow of a rigid airship to which the longitudinal girders are attached and which supports

cap(nose)—carburetor float

the bow mooring spindle.)

cap (nose), [艇] 艇頭罩—bow cap.

cap strip, [機] 帽條。

解：沿翼肋輪廓的平條。他的功用好像翼肋薄腹板的突條。

[The flap strip along the contour of a wing rib. It acts as a flange to the thinner web (loom) of the rib.]

captive balloon, [球] 繫留氣球。

解：用繩索繫連於地面的氣球，因此不能自由活動。

[A balloon restrained from free flight by means of cable attaching it to the earth.]

car, [艇] 懸艇。

解：氣艇上運載發動機，人員，貨物或設備部分，或懸於氣艇之下，或建築於氣艇接近處，附於硬式或半硬式氣艇龍骨上的部分，雖用以運載以上各物，但不得稱為懸艇。(參閱附錄第十七圖)

[That portion of an airship which is intended to carry power unit of units, personnel, cargo, or equipment. It may be suspended from the buoyant portion, or it may be built close up against it. It is not to be applied to parts of the heel of a rigid or semirigid airship which have been fitted for the purpose mentioned.]

carbon residue, [化] 炭質殘物。

解：汽油混氣消耗後，氣缸內剩餘的滑油或汽油炭質殘留物。故炭質殘留物的發生，實由於燃燒不完全所致。

[That part of the oil or gasoline which remains in the from of a

carbon deposit on the cylinder after the more volatile parts of the gaseous mixture have been consumed. Carbon residue is, therefore, a result of incomplete combustion.]

carborundum, [材] 硅礮。

解：電氣爐熔化碳與硅所成的極硬物質，可作磨料用。

[One kind of hard substance melted from carbon or silica in the electric furnace can be used for grinding purpose.]

carbureted air, [發] 壓縮空氣。

解：汽油蒸汽和空氣混合的燃燒氣體，係用在發動機或火頭上。

[A combustible mixture, or gasoline vapor or oil vapor with air, used in an engine or burner.]

carburetor, [發] 氣化器。

解：機械的一種，用以混合流質燃料與空氣，使含適當成分，而成易於燃燒的混合劑。此種混合劑以重量比為基礎。

[A mechanical device for mixing liquid fuel and air in the proper proportions to form a combustible mixture. Carburetors are designed to mix air and liquid fuel on a weight ratio basis.]

carburetor float, [發] 浮子。(氣化器的)

解：這是一個空心不透氣的物件，在氣化器的供給油管上管制針形氣門，而節制汽油的供給。量價廉的汽車氣化器內，有時用軟木浮子。

[It is a hollow, air-tight object

carburetor jacket - case hardening

designed to control the fuel flow from the feed line to the carburetor bowl by governing the action of the needle valve. Cork floats are sometimes used in inexpensive automobile carburetors.]

carburetor jacket, [發] 氣化器水套。

解：一種套室包繞氣化器，內盛清水或其他液體循環，使器內混合氣的溫度增加。

[A chamber surrounding the carburettor in which water or other medium is circulated for heating the mixture.]

car(control), [艇] 操縱懸艇。

解：懸艇的一種，各操縱系集中於此艇上，駕駛人員即在此艇上調度氣艇的行動。(參閱附錄第十九圖)

[The car of an airship in which controls are centralized and from which it is operated.]

carnet, [飛] 免稅證。

解：免稅證為一種單據，航空器據此飛抵外國，可以豁免一切關稅。

[A carnet enables the holder to travel without having to make payments for customs dues on aircraft when arriving in a foreign country.]

carrier fin, [艇] 尾翅架。

解：軟式或半硬式氣艇內連結尾翅內邊的構架，作用在防免尾翅邊沒入氣囊內。(參閱附錄第十七圖)

[A frame of which the inboard edge of the fin on a nonrigid or semirigid airship is attached, so

as to prevent the edge of the fin from sinking into the envelope.]

carrier (torpedo), [軍] [裝] 魚雷架。

解：航空器上攜載魚雷的機件。

[A device for carrying torpedoes on aircraft.]

car(side), [艇] 旁艇。

解：在氣艇中心線以外的懸艇。

[A car ussuspended off the center line of an airship. It is also "wing car".]

cartographer, [飛] 製圖師。

解：構造地圖或航海圖者。

[One who constructs maps and charts.]

car (wing), [艇] 旁艇。

解：同side car。

cascades, [力] 風洞角片。

解：一種翼形固定片，在同流風洞內，用以管理轉彎處的液體流動。(參閱附錄第十一圖)

[Fixed blades of aerofoil shape which direct the fluid stream round the bends in the passages of a return-flow wind tunnel.]

case hardening, [工] 磨鋼法。

解：金屬機件外層加硬的方法。此法可使面部增硬，而不致減小機件的強度，因炭化處僅佔面深度數千分之一。炭化作用深入內部者極少。

[A process of hardning the outer crust or layer of metal parts. This process creates a hard wearing surface without materially reducing the strength or toughness of the part, because

casein glue—catenary

the carbonizing is practically limited to few thousandths depth at the surface. A very small amount of carbonizing penetrates the interior of the part.)

casein glue, 【材】乳質膠, 乾酪膠.

解：乳質膠係用化學方法加鹽酸於酸性牛乳中而提出。加入石灰與其他化學品使成爲乳酸鈣。經化學製煉過的膠質粘附性減低，但可使之更強硬。乳質除蒸發水分外，尤能發生化學作用，其功作與混凝土同。製造須經過壓固、焙乾和磨研等手續。用時冷水調和，在普通室內溫度極相宜，乳質的強度雖超過於木材的剪力，但不及動物膠或白質蛋白膠強固，該膠絕對不透水，可困於膠合層板，螺旋槳與其他一切膠合工事。

[Casein glue is made from the casein which is precipitated from sour milk curds by the use of hydrochloric acid. Lime and other chemicals are added to form what is known as "caseinate of calcium." The chemical treatment reduces the adhesive qualities somewhat, but facilitates hardening. Like the action of poured concrete, the setting of casein glue is more the result of chemical change rather than evaporation of the water used in mixing. In manufacture, the casein is pressed, dried, and ground. Casein glue is prepared for use by mixing with cold water, and is used successfully in ordinary room temperatures

on unheated wood. Casein glue is not quite as strong as animal or blood glue, although its strength exceeds the shearing strength of the woods on which it is used. It is extremely resistant to water, and can be used on all assembly work as well as plywood and propeller manufacture.)

catapult, 【設】彈射器.

解：由船上使飛機起飛的設備，將飛機置於小車上，小車的加速率極快，此種初速（空速）乃傳至飛機，因而起飛空中。

[An arrangement for launching airplane from ship and barges through imparting initial velocity (flying speed) to the aircraft by means of the rapid acceleration of a small car on which the aircraft is mounted.]

catapulting, 【飛】彈射飛行.

解：滑翔機起飛的一種方法，滑翔機先鉤在伸縮索上，此索拉長至十分緊張程度，於繫留鉤開放時，能將滑翔機彈射於空中。

[A method of launching a glider by hooking elastic cord onto the prow of the glider and stretching out ahead of it until the elastic is taut enough to project the glider into the air when the mooring is released.]

catenary, 【球】垂曲線.

解：一條線索，裝接在一塊球皮的上部，作垂曲線形狀，或成一組垂曲線形狀，以便搜集或傳散他線的載量。（參

caterpillar club - ceiling (meteorological)

附錄第二十二圖)

[A line or length of cordage which is secured to or in a piece of fabric in the form of a catenary curve or a series of such curves, in order to collect and transmit loads from other line.]

caterpillar club, 【公】蝶蛾俱樂部。

解：曾因遇險跳傘逃命者，組成的俱樂部。

[This club is open only to those who have saved their lives by using a parachute.]

cavitation, 【力】旋轉真空。

解：旋轉真空，為螺旋槳旋轉時所形成的真空或半真空，螺旋槳的轉速及旋轉真空增加則推力減少，旋轉真空，在螺旋槳旋轉極高時有之。

[Cavitation is the tendency of the propeller to produce a cavity or semi-vacuum in which it revolves, the thrust decreasing with increase of speed and cavitation, Cavitation occurs at very high speeds of revolution.]

cavitation (propeller), 【螺】螺旋槳真空。

解：螺旋槳產生真空的區域，在它的旋轉範圍內，并在它的前面。

[The tendency of a propeller to produce a rarified area ahead or and in the sphere of propeller rotation.]

cedar, 【材】柏木。

解：柏木有時用作機身蒙板，強度極劃一，且易於工作，機身外面有時鑲以木紋交叉的層板，以增強力，此點以硬殼機身(monocoque)為最常見。鬱金

木(tulip wood), 菩提木(basswood), 赤楊木(alder), 桃花心木(mahogany), 及柏木均可用作機身的蒙板。

[Cedar is sometimes used for fuselage covering. It is quite uniform and is easily worked. Fuselages, particularly of the monocoque design, are sometimes veneered layers of wood with the grain crossing for added strength. Tulip wood, basswood, cedar, alder and mahogany are all used in veneer covering work.]

ceiling (absolute), 【力】絕對上昇限度。

解：一種飛機假定在標準空氣情況之中，能保持水平飛行的海平線上最大高度。

[The maximum height above sea level at which a given airplane would be able to maintain horizontal flight, assuming standard air conditions.]

ceiling (meteorological), 【氣】氣象上昇限度。

解：由地面某規定點上昇，至雲霧底部或下面的垂直距離。例如芝加哥氣象台報告內載氣象上昇限度 1000 呎，此即雲霧離地有 1000 呎的高度，換言之，地面能視度的高度為 1000 呎。

[The vertical distance from the surface of the earth, at any specified point; to the bottom or lower surface of clouds or fog. For instance, if the weather bureau at Chicago reports a ceiling of 1000 feet, it is meant

ceiling projector—cell(biplane)

that the bottom of the clouds or fog are 1000 feet above the ground at that point; or in other words, the ground is visible from an altitude of 1000 feet.)

ceiling projector, 【儀】雲高投光器。

解：投光器使有雲部分發光，而由此測定雲高。

[A projector for producing an illuminated region on a cloud to determine its height.]

ceiling (service), 【飛】【力】實用上昇限度。

解：一種飛機俾定在標準空氣情況中，不能在額定速率而上昇的海平線上的高度。(額定速率在英美兩國為每分鐘上昇100呎，但各國均有不同的規定)。

[The height above sea level, assuming standard air conditions, at which a given airplane ceases to be able to rise at rate higher than a small specified one. 100 feet per minute in the United States and England. This specified rate may be different in different countries.]

ceiling (static), 【力】靜力上昇限度。

解：浮昇器於移去活動重量後，在靜力平衡中的高度(在標準大氣中)。

[The altitude in standard atmosphere, at which an aerostate is in static equilibrium after removal of all dischargeable weights.]

celestial, 【氣】天的。

解：屬於天體的。

[Pertaining to heavenly bodies.]

celestial equator (equinoctial).

【氣】天赤道(晝夜平分的)。

解：伸展地球赤道平面，而與地球相交時的天圓圈。

[The great circle formed by extending the plane of the earth's equator until it intersects the celestial sphere.]

celestial sphere, 【氣】天球。

解：這是一個想像的空間球，圍繞地球，并以地球作中心。天球的南北極和赤道，均係地球的南北極和赤道的投影。換言之，天球的南北極，是垂直在地球的南北極上，且天赤道上各點，亦垂直在地赤道各點上。

[An imaginary hollow globe surrounding the earth and having the same center as the earth. The north and south poles and the equator of the celestial sphere are projections of the north and south poles and the equator of the earth upon the celestial sphere, i. e., the north pole of the celestial sphere is vertically over the north pole of the earth, the south celestial pole is vertically over the south pole of the earth, and each point on the celestial equator is vertically over the corresponding point of the earth's equator. See delineation and right ascension.]

cell (biplane), 【機】雙翼組。

解：一完全雙翼組，包括雙翼及一切必要的結構部分。

cell(gas)—center of pressure

[A complete biplane wing unit consisting of two wings and the necessary structural parts for their construction.]

cell (gas), 【艇】氣囊。

解：硬式氣艇上所裝置的容納氣體物，有時亦稱 gas bag。

[One of the gas-containing units fitted in a rigid airship. Sometimes called "gas bag".]

celluloid 【材】瓊瑤塔。

解：由火棉及樟腦所製成的一種堅固而不碎裂的物質，樟腦油先用酒精溶解，再加火棉，用物壓滾，烘乾成所製成之模型，顏色係製造時加入，此物極易引火，但不爆炸。

[A hard, flexible substance formed from a mixture of camphor and pyroxylin, which is the same as gun cotton. The camphor is dissolved in alcohol, the gun cotton added, and the mass incorporated between rollers, it is then warm-pressed into the desired form. The coloring is usually added during the incorporation. It is highly inflammable, but non-explosive.]

center line of pressure, 【力】壓力中心線。

解：壓力中心線是一根直線，從這個翼梢到那個翼梢，翼面上的一切氣壓在該線都能發生作用，翼面上一切氣壓在這直線上都均衡而有效。（圖見航空讀本一冊140頁13圖）

[A line running from wing tip to wing tip, through which

all the air forces acting on the surface may be said to act, or about which they may be said to balance.]

center line of pressure (resultant), 【力】壓力的合力中心線。

解：壓力的橫線，這是由二面或多面的壓力線所合成的。

[A lateral line of pressure, the position of which is the resultant of the lines of pressure of two or more surfaces.]

center of buoyancy, 【力】浮力中心。

解：輕航空器內氣體容量的重心。

[The center of gravity of the volume of the contained gas.]

center of gravity, 【力】重力中心。

解：重量的中心，或物體重量的平衡點。

[The center of weight of the point in an object about which the weight balance.]

center of pressure coefficient,

【力】壓力中心係數。

解：前緣至壓力中心的距離，和翼弦長度所成的比例。

[The ratio of the distance of the center of pressure from the leading edge to the chord length.]

center of pressure of an airfoil section, 【力】翼面上的壓力中心。

解：這是翼弦上的一點，如必要時可延長，它是翼弦和合成氣壓的反動力線的交叉點，在這一點上一切氣壓（在下面的正氣壓和上面的負氣壓）皆發生作用。（參閱附錄第七圖）

[The point in the chord of an

center section—c.g.s.

airfoil section, prolonged if necessary, which is at the intersection of the chord and the line of action of the resultant air force. Its abbreviation is C.P.]

center section, 【機】 翼中段。

解：機翼的中間部分（上翼或下翼不定）。（參閱附錄第十五圖。）

[The central portion of the main plane (top or bottom.)]

Centigrade Scale, 【俄】 攝氏溫度表。

解：攝氏溫度的分度，是水在零度上結冰，在100度上沸騰。

[The temperature scale on which water freezes at 0° and boils at 100°.]

centimeter, 【單】 公分，米厘。

解：每公分等於0.39吋。

[One centimeter equals .39 inches.]

centimeter-gram-second system, 【力】 厘克秒制。

解：一種單位制，多用於自然科學中，以“厘”為長度的單位，以“克”為重量的單位，以“秒”為時間的單位，更常略作“C.G.S. system”。

[An absolute system for measuring physical quantities in which the fundamental units are the centimeter, gram and second. This system is primarily applicable only to mechanical units. It is extended to other fields of physical science by accepting the doctrine of the conservation of energy and by

introducing a fourth unit or a property of a material. For example, in the theory of heat, the degree centigrade is taken as an additional unit.]

central runner, 【機】 中央滑走撬。
解：滑翔機機身下的單一滑撬，用作起落架。

[A central skid below the fuselage of a glider which acts as the landing gear.]

centrifugal blower, 【發】 離心式吹風器。

解：一種空氣唧筒，內有旋轉扇葉，因迅速的旋轉及大股空氣所產生的離心力，而造成氣壓或氣流。

[A air-pump consisting of revolving blade that creates air-pressure or air movement by the rapid rotation and centrifugal force developed by a mass of air. The blade do not contact the casing. Pressure up to 16 ounces.]

centrifugal force, 【力】 離心力。

解：凡物體在弧線路徑上運動，向弧線中心脫離的力量。

[The force which urges any body moving in a curve path away from the center of the curve.]

centripetal force, 【力】 求心力，向心力。

解：和離心力動作相反的力量。

[The force which acts in an opposite direction to resist centrifugal force.]

c.g.s. 【力】 厘克秒制。

chafing patch—Charles' law

解：centimeter-gram-second 的縮寫字。

chafing patch, 【縫】磨擦補綴。

解：浮昇器上的布料補綴，可以保護浮昇器不受磨擦。

[A patch of fabric secured to the envelope of an aerostate to protect it from abrasion.]

channel patch, 【球】槽形補綴。

解：浮昇器氣囊上面的槽形布料補綴，從槽孔內可以使桿狀物或條狀物通過而達到氣囊上面。

[A channel-shaped fabric-fitting secured to the envelope of an aerostate to allow a rod or spar to be laced to the envelope.]

chamfer, 斜切，去角。

解：使銳角傾斜變平。

[To bevel a sharp edge.]

chandelle, 【飛】向帶兒，一百八十度上昇轉彎。

解：這是小速度的上昇轉彎；飛至失速位置時，再恢復水平動作，作此種飛行動作時，須先將機頭下垂，以增速度，向目的方向稍為傾斜，將操縱桿向後拉動，同時協調運用方向舵，繼續上昇轉彎，以達失速的位置，漸次反用操縱桿，使機頭下垂，漸漸恢復水平飛行，動作宜極平均。

[It is a French term in general use denoting a steep climbing turn.]

channel section, 【材】槽形部。

解：一種構造部分，它的深度為腹板，兩旁為凸緣（上下兩端均有）。它的槽形部分可載垂直負荷，若將它的腹板平置，則強度極小。槽形部亦可製成實體物造成平板（腹板），兩端成彎角（凸

緣）。

[A structural section consisting of a web for depth and flanges on one side only (top and bottom). Channels are used to carry vertical load and have very little strength if the web is solid sections or built up from a flat plate (web) and two angles (flanges).]

characteristic curve, 【力】特性曲線。

解：圖表內所畫的彎曲綫，表示：

各種衝角的昇力係數 (Lift coefficients)

各種衝角的阻力係數 (Drag coefficients)

各種衝角的昇阻比 (Lift-Drag ratios)

各種衝角的壓力中心 (Center of Pressure)

[Plotted curves of graphs which shows:

Lift coefficients for various angles of attack,

Drag coefficients for various angles of attack,

Lift—Drag ratios for various angles of attack,

Center of Pressure for various angles of attack.]

Charles' law, 【力】查利氏定理。

解：氣體在恆定容積內受熱時，氣壓的變化是和絕對溫度成正比；或氣體在恆定氣壓中受熱時，氣的容積變化是和溫度成正比。

[When a gas receives heat at a constant volume, the pressure

chart—chord(of an airfoil section)

varies directly as the absolute temperature; or when a gas receives heat at a constant pressure, the volume varies directly as the absolute temperature.]

chart, 【應】海圖,水圖.

解:表示地球一部分的面積,其中所示的水面較陸地爲多.

[A representation of a portion of the surface of the earth, usually showing more water than land.]

chart (isogonic), 【應】等磁差海圖.

解:有等磁差各點連貫線的海圖.

[A chart with lines (isogonic) drawn through points of equal magnetic variation.]

chill, 【氣】支利風.

解:突尼斯(Tunis)的一種暖燥南風與由塞哈那(Sahara)沙漠吹來的乾暖風(Sirocco)相似.

[A hot dry southern wind in Tunis, similar to Sirocco.]

chine, 【機】隆起部.

解:船邊極端部分,向兩側突出,而與龍骨大約成平行線。(參閱附錄第十二圖,6).

[The extreme side member of the hull running approximately parallel to the keel inside elevation.]

Chinese three-point landing, 【飛】三點失事降落.

解:此乃俚語,指失事的降落,且三點係指槳殼一輪及一翼梢而言,

[It is a crash landing, the three points in this case being the propeller hub, one wheel and

one wing tip; this is also called “nose-up” or “nosing-over.”]

chinook, 【氣】西暖風.

解:由落磯山(Rocky mountains)東側吹來的暖燥西風與芬風(Fohn)極相似.

[A warm dry wind from the west on the eastern side of the Rocky Mountains; similar to Fohn.]

chock, 【設】塞輪木.

解:一種楔形木塊,常於發動機開動前置於飛機車輪前面,且於飛機滑走預備起飛時,或發動機完全停止時,此木塊始可移去.

[A wedge-shaped block or obstruction, always placed in front of the wheels of an aircraft before starting the engine and they are not removed until the airplane is ready to taxi out for take-off, or until the engine is stopped. Chock are also referred to as wheel blocks, or merely as blocks.]

choke valve, 【發】阻氣門.

解:這通常是蝶形氣門,橫置於氣化器的進氣口前,於發動機起動時用以限制空氣的吸入.

[Usually a butterfly type valve which is used across the air intake of a carburetor to limit the air intake at the time of starting the engine.]

chord (of an airfoil section), 【機】翼面的翼弦.

解:這是機翼的寬度,係用一根直線接觸翼剖面的下面二點測量;設翼面

chord length—circle(great)

係雙凸曲面，則一根直線從前緣接到後緣上測量（作此種測量時所用的翼緣，是在切面中相離最寬的二點）。若翼下面為凸曲面，除小部平坦部分外，亦可用直線前緣接到後緣上的測量。翼弦測量所用的方法，應明白說明，以免發生誤會。

[The line of a straight edge brought into contact with the lower surface of the section at two points; in the case of an airfoil having double convex camber, the straight line joining the leading and trailing edges. (These edges may be defined, for this purpose, as the two points in the section which are farthest apart). The line joining the leading and trailing edges should be used also in those cases in which the lower surface is convex except for a short flat portion. The method used for determining the chord should always be explicitly stated for those sections with regard to which ambiguity seems likely to arise.]

chord length, [機] 弦長。

解：翼剖面在弦上投射的長度。它的符號是c。(參閱附錄第七圖)

[The length of the projection of the airfoil section on its chord. Its symbol is c.]

chord line, [機] 翼弦線。

解：在翼剖面的前後緣間，穿過彎曲中心的一條直線。(參閱附錄第七圖)

[The chord line is the straight

line through the centres of curvature at the leading and trailing edges of an aerofoil section.]

chord, mean, of a combination of wings, [機] 聯合翼的平均翼弦。

解：它的比例是——

$$\frac{c_1 S_1 + c_2 S_2 + c_3 S_3 + \dots}{S_1 + S_2 + S_3 + \dots}$$

其中 c_1, c_2, c_3 等等為各翼的平均翼弦

S_1, S_2, S_3 等等為各翼的面積

[where c_1, c_2, c_3 , etc., are the mean chord of various wings and S_1, S_2, S_3 , etc., are their areas.]

chord (mean of a wing), [機] 翼的平均翼弦。

解：將翼面積，被翼在翼弦直角投射的極度尺寸除之，所得的商數。

[The quotient obtained by dividing the wing area by the extreme dimension of the wing projection at right angles to the chord.]

chord wire, [艇] 弦線。

解：氣艇內主橫架的多角架的各尖頂聯接線。

[A wire joining the vertices of the polygonal frame of the main transverse frame.]

ci., [氣] 卷雲。

解：此即 Cirrus 字的縮寫。

ci.-cu., [氣] 卷積雲。

解：此即 Cirro-cumulus 的縮寫。

circle (great), [氣] 大圓圈。

解：球面上的大圓圈，它的直徑即是地球的直徑。子午線 (meridians) 即

circle(small)—circulation

通過地軸而與赤道相交成直角的大圓圈，赤道亦是個大圓圈，但它的平面是和地軸成直角。在球面的兩點上，均可畫成一個大圓圈；而圈上的一段弧線，為球面兩點間的最短距離。

[A circle on the surface of the earth having the earth diameter as its own diameter. True meridians are semi-great circles. The equator is a great circle. A great circle can be drawn between any two points on the surface of the globe, and the arc of this great circle is the shortest distance between the two points.]

circle (small), 【氣】小圓圈。

解：不用地球直徑的球面圓圈，即稱小圓圈。緯線為與赤道平行的小圓圈。[Any circle having less than the earth's diameter as its own diameter. The parallels of latitude are small circles, with the exception of the equator.]

circlep, 【發】圓形夾。

解：一種彈簧環，用以指示和防止旋轉或振搖，銷軸的邊旁動運。

circuit breaker, 【電】電路隔斷器。

解：(1)一種開關機件，普通能自動開關，用以通斷電路的電流。

(2)在點火系中，正電路的自動開關，於發火時斷接電路，為最普通的裝設。此器亦名配時器。

[1. A switching device, usually automatic, that opens and closes an electrical circuit allowing the current to flow intermittenly.]

2. More commonly, an automatic switch in the primary circuit of an ignition system which opens the circuit at the instant that the spark is required. Also known as a TIMER.]

circular measwe, 【單】圓周尺寸。

解：圓周尺寸係用以測量角度：—

尺 寸 表

60秒(″) = 1分, (′)

60分 = 1度, (°)

360度 = 1周, (C)

或

1′ = 60″

S 1° = 60 = 3600

C 1 30 = 1,800 = 108,000

1 = 12 = 360 = 21,600 = 1,296,000

圓周係分爲360部，名度；每度爲圓周1/360。一象限爲圓周四分之一，或90度弧。每度又分爲60部，名分；每分又分爲60部名秒，故圓周有21,600分，或1,296,000秒。

[The circumference of every circle, whatever, is supposed to be divided into 360 equal parts called degrees. A degree is 1/360th of the circumference of any circle, small or large, a quadrant is a fourth of a circumference or an arc of 90 degrees, a degree is divided into 60 parts called minutes expressed by sign (′) and the minute is divided into 60 seconds expressed by (″), so that the circumference of any circle contains 21,600 minutes, or 1,296,000 seconds.]

circulation, 【力】流通。

cirro-cumulus — cirrus

解：液體速度的主要分力，關於路線的長度，是沿任何連合路線。

[The integral of the component of the fluid velocity along any closed path with respect to the length of the path.]

cirro-cumulus, [氣] 卷積雲。

解：卷積雲又稱鱗空 *mackerel sky*，為小球狀的集體雲塊或白色無陰影的鱗狀積雲，有時亦稍帶陰影。此雲的排列情形或為集團，或為行列。（小狀卷積雲，有或呈鱗空現象）。平均高度是27,000呎。（參閱附錄第四十九圖）

[Small globular masses or white flakes without shadows, or showing very slight shadows, arranged in groups and often lines. (Small A.-Cu. may also be "Mackerel Sky".) Mean height: 27,000 feet.]

cirro-stratus, [氣] 卷層雲。

解：卷層雲為一片白色薄雲，有時佈滿天際，形狀乳白色的雲彩（此時應稱卷星雲 *cirro-nebula*），有時或如亂絲。此種雲層，使日月四周生暈（*halos*）。平均高度為32,000呎。（參閱附錄第四十八圖）

[A thin, whitish sheet of clouds sometimes covering the sky completely and giving it only a milky appearance (it is then called *Cirro-nebula*) at other times presenting, more or less distinctly, a formation like a tangled web. This sheet often produces halos around the sun and moon. Mean height: 32,000 feet.]

cirrus, [氣] 卷雲。

解：呈纖維狀的雲，有時亦呈羽毛狀，普通皆為白色。卷雲的形狀，變化很多，時而被孤立的一簇羽毛狀，時而成滿佈天際的銀線，有時成纖維的羽毛狀，有時成彎曲的絲條，末端散或簇羽狀，常稱鈎卷雲 (*cirrus uncinus*)；有時列為平行帶條，成弧形的橫佈天空，同時因受遠鏡透視法的影響，天際帶條，似平均向地平線不集中，若能充分擴展，則在另一端的地平線，亦有同樣的集中情況。（按卷層雲 *cirrus stratus*，卷積雲 *cirrus cumulus* 等有時亦發現條帶的情形）。平均高度為33,000呎。

（參閱附錄第四十七圖）

[Detached clouds of delicate and fibrous appearance, often showing a featherlike structure, generally of a whitish colour. Cirrus clouds take the most varied shapes, such as isolated tufts, thin filaments on a blue sky, threads spreading out in the form of feathers, curved filaments, ending in tufts, sometimes called *cirrus uncinus*, etc.; they are sometimes arranged in parallel belts which cross a portion of the sky in a great circle, and by an effect of perspective appear to converge toward a point on the horizon, or, if sufficiently extended, toward the opposite point also. (Ci.-St. and Ci.-Cu., etc., are also sometimes arranged in similar bands.) Mean height: 33,000 feet.]

Ci-St., 【氣】卷層雲。

解：此即 cirro-stratus 的縮寫。

civil day, 【氣】普通日。

解：普通日分為兩個時間，各為十二小時，由半夜至正午，及正午至半夜。
[Civil day is divided into two periods of twelve hours each, counted from midnight to noon and from noon to midnight.]

clearance, 【發】氣門間隙。

解：氣門帶至激動氣門部分間隙——這間隙是為發動機在各不同溫度情況下膨脹和收縮而設計的。

[The clearance between the valve stem and the part which actuates the valve—designed to allow for expansion and contraction of the engine under varying temperature conditions.]

climate, 【氣】氣候。

解：在一個較長時間和一個較大區域內的平均天氣情況。氣候常因緯度，高度，山嶺，地形，湖河，海流，及風流等的關係而生變化。

[Average weather conditions over a long period of time and a relatively large area. It is affected by latitude, altitude, mountain barriers, topography, bodies of water, ocean currents, and prevailing winds.]

climatology, 【氣】氣候學。

解：研究氣候情況的一種科學，稱為氣候學。

[The study of climatic conditions.]

climb indicator, 【儀】上昇指示器。

解：一種儀器利用氣壓差異的原質，表示飛機上昇或下降的速率。

[An instrument operating on the differential pressure principle, designed to show the rate of ascent and descent of aircraft.]

climbing shaft, 【艇】援登柱。

解：這是由氣艇艇身底部頂部備有小梯的一根入口柱。這種援登柱可裝用於任何型式的氣艇內。

[An access shaft fitted with ladder and leading from the bottom to the top of an airship hull. This may be fitted in an airship of any type.]

climb (rate of), 【力】【飛】上昇速度，攀昇速度。

解：一架飛機空速的垂直分力，此即對於空氣的垂直速度。

[The vertical component of the air speed of an aircraft, i. e., its vertical velocity with reference to the air.]

clinometer (longitudinal), 【儀】縱向傾斜表。

解：一種儀器指示航空器在對稱面中的合力方向，有時亦稱為 fore- and -aft level。

[An instrument for indicating the direction of the resultant force on an aircraft in its plane of symmetry.]

clockwise, 【發】【螺】順時針方向。

解：一種旋轉方向是順鐘表指針的方向而轉動。

[A rotation in the direction indicated by the movement of clock hands.]

closed-jet wind tunnel—clouds

closed-jet wind tunnel, 【力】封口式風洞。

解：一種風洞，其中經過受試驗物體的液體流，是由硬壁所限制。（參閱附錄第十圖）

[A wind tunnel in which the fluid stream passing the body under test is bounded by rigid walls.]

cloth, 【材】布。

解：蒙布在漂布廠來經處理，敷刷塗料，或未經航空器採用的特別處理以前的原料。

[Fabric delivered by the bleaching or finisher before it has been proofed, doped, or specially treated for aeronautic use.]

cloth (ground), 【工】地布。

解：一種粗布置放於浮昇器的下面，專為用作灌氣和放氣時的保護。

[Canvas placed beneath an aerostate for its protection during inflation and deflation.]

cloud amount, 【氣】雲量。

解：雲因遮蓋天空的部份，常以分數計量之。

[The proportion of sky obscured by cloud. Usually expressed in the tenths of sky covered.]

cloud (balloon), 【氣】球形雲。

解：球形如氣球的積雲或高積雲。

[A cumulus or alto-cumulus cloud of spherical shape having the appearance of a balloon.]

cloud height, 【氣】雲高。

解：雲基離地的高度。

[The height of the cloud base

above the ground.]

clouds, 【氣】雲。

解：空氣中的水蒸汽因溫度降底而凝結，集合於一處，成為能視見的形體，即稱為雲，雲所在的高度若過高，則凍結為卷雲(cirrus cloudy)。

報據國際分類方法，雲的形狀和定義，茲列如下：—

1. Cirrus (Ci.) 【氣】卷雲。

解：呈纖維狀的雲，有時亦呈羽毛狀，普通皆為白色。卷雲的形狀，變化很多，時而成孤立的一簇羽毛狀，時而成滿佈天際的銀線，有時成纖維的羽毛，有時成彎曲的絲條，末端散成簇羽狀，常稱銀卷雲 (cirrus uncinus)；有時列為平行帶條，成弧形的橫佈天空，同時因受遠鏡透視法的影響，天際帶條，似平均向地平集中，若能充分擴展，則在另一端的地平線，亦有同樣的集中情況。（按卷層雲 cirrus stratus，卷積雲 cirrus cumulus 等，有時亦發現條帶的情形）。平均高度為33,000呎。（參閱附錄第四十七圖）

2. Cirro-stratus (Ci.-St.), 【氣】卷層雲。

解：卷層雲為一片白色薄雲，有時佈遍天際，形成乳白色的雲彩（此時應稱卷星雲 Cirro-nebula），有時或如亂絲。此種雲層，使日月四周生暈 (halos)。平均高度為32,000呎。（參閱附錄第四十八圖）

3. Cirro-cumulus (Ci.-Cu.) 【氣】卷積雲。

解：卷積雲又稱鯖空 Mackel Sky，為小球狀的集體雲塊或白色無陰影的鱗狀積雲，有時亦稱帶陰影。此雲的排列情形，或為集團，或為行列，（

小狀卷積雲，有時呈罅空現象。平均高度為27,000呎。(參閱附錄第四十九圖)

4. Alto-stratus (A.-St.). 【氣】高層雲。

解：高層雲為灰色或淺藍色的雲片，常呈黑灰色和纖維狀的緊密雲塊。有時雲片極薄，類似原的卷層雲，月光能透過雲層發，出暗淡的光輝，其狀類與透過建築物的玻璃窗相同。此類型的變化情形，和卷層雲的特性，無甚特異之處，但測量其平均高度，祇及卷層雲的半數。(無纖維高層雲，常呈波狀或垂綵狀)平均高度為20,000呎。

5. Alto-cumulus (A.-Cu.). 【氣】高積雲。

解：高積雲為大型狀的集團雲塊，呈白色或灰色，雲的一部有陰影，排列情形，或為集團，或為行列，往往因密集緊湊的緣故，各球形雲塊四邊際，皆模糊不明。雲堆散佈的情形，大都在每一集團中央的雲塊較大，而聯合亦較緊密與層積雲相若，但各層的厚薄不同。有時積雲的各集團，散佈天空，宛呈微波形狀，或略曲的薄雲片，集團的邊緣，或散細密的鱗片(與卷積雲相似)。高積雲，常對一個雲二個方向，散成行列。平均高度為15,000呎。(參閱附錄第五十四圖B)

6. Strato-cumulus (St.-Cu.). 【氣】層積雲。

解：層積雲為大型球塊，或成捲的黑層，時常遮蔽全部天空，尤以冬季為最甚。就一般情形而論，層積雲常為一層灰色殘斷不齊的雲堆，四緣的雲塊較小，常呈水波狀態，很像高積雲。有時此類雲狀，可呈大捲形雲

塊互相平行排列和擁擠的特奇現象，中央的卷雲都成暗色，蒼白的蔚藍色，可從暗色稍遜的各捲雲間的隙縫中窺見。層積雲的球形或捲形的現象，以及與雨不相聯絡的特性，是為兩雲不同之處。平均高度為9,000呎。(參閱附錄第五十三圖)

7. Cumulus (Cu.). 【氣】積雲。

解：積雲又稱羊毛雲 Woolpack Clouds，是從地平線發出的厚雲，其上層面積呈圓頂狀，且有凹凸不平的瘤狀物的堆砌，此類積雲，大抵由地球自轉發生的上昇活動力而成，此種情形，顯而易見，若遇積雲與日光對立時，其光輝的各方面較凸體的邊緣為大。當日光傾斜時，此雲多現晦暗的色彩，而邊緣則極明亮。真正的層雲原有高層和低層的區別。大風發生的時候，往往有被吹斷的雲塊，望之宛若積雲，但其散失部分，時時變化不已。此積雲塊，可予以 [斷片積雲] Fracto cumulos (Fr.-Cu.) 的名稱，俾與積雲有所區別。平均高度為6,000呎(參閱附錄第五十四圖)

8. Cumulo-nimbus. (Cu.-Nb.). 【氣】積雨雲。

解：積雨雲又稱雷雲，驟雨雲，是厚的雲塊，堆砌成峯巒樓閣的形狀，其頂部常有一層纖維狀的雲形，而下部則有一堆與雨雲相似的雲塊，所謂局部雨，驟雲(有時冰雹)即從此下部的雲堆降落，有時此雲的上部邊緣，形似稠密的積雲，構成密集的諸峯，在其周圍常有 [假卷雲] 浮流着。有時積雲的邊緣，散成纖維形的光芒，其形又與卷雲相等。此積雲狀，在春季驟雨的時候，最容易看見。雷雲的前面常成廣大雲片，散佈天際。平均

cloud soaring—coefficient(absolute)

高度：頂部20,000呎；底部4,500呎。(參閱附錄第五十五圖)

9. Nimbus. (Nb.). 【氣】雨雲。

解：雨雲是一層無一定形狀而邊緣參差的烏雲，常造成雨雪的下降。從此雲的孔隙中，可以窺見其上層的卷層雲或高層雲，此為其不變的特點。如雨雲層經暴風的摧殘，散成碎片時，或在大塊雨雲之下，發現散去的小塊雨雲時，可稱之為斷片雨雲 Fracto-nimbus (水手稱為“飛雲” Seud)。(注意：構成雨雲的雲，不祇雨雲一種，故見有降雪降雨的雲塊，不可概以雨雲名之。除雨雲與積雨雲外，高層雲，層雲，層積雲，亦層構成雨雪，而有時高積層積雲，或他種雲塊，亦有兩點落地面。) 雨雲的平均高度為3,000呎。

10. Stratus (St.). 【氣】層雲。

解：層雲為一層均勻的雲，其狀和霧相似惟不停留於地面，而散佈空間。此種雲層，一旦被風吹破，或被峯巒截散，則稱為斷片層雲，以與層雲區別。(雲層雖是均勻的雲層，有時亦是波狀或花綵的狀態。層雲的高度很低，所以易與纖維狀的高層雲區別)。平均高度為2,000呎。

[An accumulation of condensed moisture in the air which is visible. The moisture may become frozen as in cirrus clouds at high altitudes. The english explanations of cloud forms and definitions may be found separately.]

cloud soaring, 【飛】雲上翱翔術。

解：這是利用雲附近的上昇氣流翱翔，在大積雲附近下面的上昇氣流內

翱翔，就屬此種翱翔術。關於此點，應注意御風機是繼續常在滑翔的姿勢，它的高度保持或增高，皆因氣流上昇的緣故。

[Soaring by utilizing the up-currents near clouds. Soaring in the up-currents just below large cumulus clouds is a notable example of cloud soaring. In this connection it is to benoted that a soaring machine is continuously in a gliding attitude, and that altitude is held or increased because the whole body of air is moving upward.]

cockpit, —【機】座。座艙。

解：容納駕駛員和乘客的處所；若此處有物完全庇護，則稱轎式座艙 (Cabin) (參閱附錄第十五圖4)。

[The open spaces in which the pilot and passengers are accommodated. When the cockpit is completely haoused in it is called cabin.]

cockpit lamp, 【裝】座艙燈。

解：在航空器上照耀座艙的燈。

[A lamp on an aerodyne for illuminating the cockpit.]

code light, 【設】符號燈。

解：一種忽明忽滅的燈光，其明暗時間，或一種符號，可資辨認。

[An intermittent light having characteristic dark and bright periods by which its individual identity can be recognised.]

coefficient (absolute), 【力】絕對係數。

解：美國航空顧問委員會，(N.A.C.A.

coefficient(aerodynamic)—cold test

.)根據長度,重量,和時間的基本單位,所創立的一種係數。

[The coefficients (C) originated by the National Advisory Committee on Aeronautics (N. A. C. A.) which are based upon the fundamental units of length, weight and time.]

coefficient (aerodynamic), 【力】

動力係數。

解：物體受氣流的影響，由試驗所決定的恆數，且用以計算昇力和阻力，故昇力係數的符為 K_y 或 C_y 而阻力係數的符號為 K_x 或 C_d 。

[Numerical constants of bodies subjected of air-streams, determined by test, and employed in the computation of lift, drag or resistance. The lift coefficients are symbolized by (K_y) or (C_l) while the drag coefficients are indicated by (K_x) or (C_d).]

coefficient (biplane), 【力】 雙翼係數。

解：雙翼組對於單翼機同等翼面的昇力值，在相同情況下的相對昇力值。

[The relative lifting value or a biplane group referred to the lifting value of a monoplane of equal area and under equal conditions.]

coercive force, 【電】 洗磁力。

解：消滅餘磁的磁力。

[The force necessary to demagnetize a magnet.]

coil (high tension), 【電】 高壓線圈。

解：一種為電火花點火的機件，能將

低電壓提昇為必要的高電壓。

[A device used to raise the potential of low voltage circuits to the high potential necessary for jump spark ignition.]

coil (induction), 【電】 感應線圈。

解：軟鐵心上繞有二個線圈，使鐵心磁場因一個線圈電流衰轉的影響，而感應線圈產生電流。

[Two coils wound on a soft iron core, for the purpose in inducing a secondary current in one coil when the magnetic field about the core, excited by a current in the other coil, collapses, the exciting current being broken or interrupted.]

col, 【氣】 鞍型。

解：鞍型為位於兩高氣壓與兩低氣壓間平均氣壓地帶，在冬季該平均氣壓地帶多霧，在夏季則多雷風雨，然而該地帶於雷雨及迷霧之後，常變為晴朗的天氣。

[A col is an area of almost uniform pressure between two highs and two lows. In winter often means fogs; in summer thunderstorms or rain. On the other hand, it is often accompanied by very good weather.]

cold front, 【氣】 冷面。

解：前進冷空氣間的界線，而熱空氣則被推動。

[The boundary line between advancing cold air and a mass of warmer air under which it pushes.]

cold test, 【工】 冷涼試驗。

collapsible aerial—compass error

解：決定滑油能流動的最低溫度。凡潤滑物若具有冷涼試驗，大概該潤滑物的炭滓百分比必甚低。

[Used to determine the lowest temperature at which an oil will flow. If lubricants have the cold test, then their residue rate may be very small.]

collapsible aerial, 【電】收縮式天線。

解：一種天線，於飛機未飛行時用伸縮桿而將天線張開。

[An aerial, extended by a retractable pole or similar means, for use when the aircraft is not in flight.]

combustion, 【發】燃燒。

解：焚燒的程序，稱為燃燒。

[The process of burning.]

compartment (control), 【艇】駕駛間。

解：氣艇上操縱駕駛的處所，此則和船上的領港室頗相似。

[A compartment in the control car of an airship from which all controls are operated. It may be compared to the pilot house of a ship.]

compass, 【儀】羅盤。

解：船舶或飛機定向時決定方向的一種儀器，定向的參考點在羅盤面上或方向操縱器上為正北。

[An instrument used to determine direction by the orientation of ships or airplanes about a compass card or direction control whose reference point is North.]

compass course, 【飛】羅盤航線。

解：由羅盤子午線作順時針方向測至二處相連線所得的角度。

[The angle measured clockwise from the magnetic meridian to the line joining two places.]

compass (earth inductor), 【儀】

地磁感應羅盤。

解：這種方向指示器是依賴發電機磁場和地磁場的關係，發電機的電刷由管制器定置在某種航向時，則飛機在航向上飛行無電流發出，而測電表的示數為零度。設偏出規定的航向，測電表則向左或向右表示偏差的度數，由此可知飛機航向或左或右的偏出。

[A direction indicator depending on the earth's magnetic field of an electric generator. The generator brushes are set for a given course by a controller so that while the airplane remains on the course no current is generated and a galvanometer reads zero. Deviation from the course will cause reading on the galvanometer to the right or left of zero, indicating that the airplane is off the course to the right or left.]

compass error, 【飛】羅差。

解：這是磁差和偏差的聯合誤差。聯合誤差因單獨的誤差，而名為東差或西差，例如：若磁差為東17，偏差為西4，若此則總羅差為東13。

[The combined error of variation and deviation. The combined error is East or West, being named after the largest indiv-

compass(induction)—compressed air

idual error. Example; If the variation is 17 E and the deviation is 4 W, then the total compass error is 13 E.)

compass (induction), 【俄】感應羅盤。

解：這種羅盤的指示方法，是因發生的電流在線圈內流動，而使線圈在地磁場內旋轉。

[A compass, the indications of which depend on the current generated in a coil revolving in the earth's magnetic field.]

compass north, 【飛】羅盤正北。

解：羅盤指針所指的正北，這個正北有因局部磁性關係所產生的錯誤。

[The actual north point to which a compass needle points, due to errors caused by local magnetic attraction,]

compass (radio), 【俄】無線電羅盤。

解：一種指示發電站方向的儀器。用無線電方位可測出所的位置。

[An instrument to indicate the direction of transmitting stations. Used to plot position by means of radio bearings, or for homing. Also referred to as Radio Direction Finder.]

compass rose, 【飛】羅盤面。

解：羅盤面就是印在海圖或地圖上的羅盤分度規面，用以表示真向或磁向，或二者混合的方向。海圖或地圖因為鄰近地點的磁差關係，可印有多數磁羅盤面表示之。羅盤面常與劃定的航線印得極近。如果在伸長的航線上印有數個磁羅盤面，則必需依照磁差變化的關係，將航線分段劃出。

[The design of a compass card engraved on charts and maps, indicating either true or magnetic directions, or both. Several magnetic compass roses may appear on a map or chart, because the variation is different for neighboring localities. Always use the rose nearest to the course being plotted. If several magnetic roses appear along an extended course, the course must be plotted in sections to account for changing variation along the course.]

compensating sight, 【俄】【軍】補償瞄準器。

解：此種瞄準器有對於飛機和目標相對運動的設備。

[Sight in which provision is made for the relative motion of the aircraft and the target.]

component part or force, 【力】分力。

解：分力是多數聯合力中的任何一分。
[Any one of the several forces or parts in a combination.]

composition of force, 【力】力的組成。

解：力的組成是由多數分力中計算合成力的一種方法。

[The process of finding the resultant of several component forces.]

compressed air, 【發】壓縮空氣。

解：受較大氣壓力為大的空氣。

[Air at a pressure greater than atmospheric pressure.]

compressed-air starter—computer(vector)

compressed-air starter, 【發】 壓縮空氣起動器,

解：一種機械裝置，是利用壓縮空氣在氣缸內膨脹而開動發動機。

[A device for starting an engine by utilizing the expansive energy of compressed-air, in the cylinders or otherwise.]

compressed-air wind tunnel, 【力】 壓縮空氣式風洞。

解：一種風洞，其中平均氣壓可增加，以便得瑞腦氏數(Reynolds number)的最高值，有時稱為變化密度風洞(Variable-density wind tunnel)。[A wind tunnel in which the mean pressure can be increased in order to obtain higher values of the Reynolds number. (Sometimes called Variable-density wind tunnel.)]

compression, 【力】 壓縮。

解：壓縮是氣體或可壓縮的物質被外力壓緊而減小容積的一種程度。

[The degree to which any gas or compressible substance is compressed by reducing the volume or available space.]

compression (adiabatic), 【機】 斷熱壓縮。

解：氣缸內的氣體膨脹是用物隔離，不使熱度出入。

[The compression of a gas accomplished so that heat cannot leave nor enter the cylinder.]

compression-ignition engine, 【發】 壓縮點火發動機。

解：發動機的汽缸，係專利用壓縮發

熱而點火，然不裝用電火花。

[An engine in which ignition of the charge in the cylinder is produced by the heat of compression alone without the use of a sparking plug.]

compression ratio, 【發】 壓縮比。

解：壓縮比是一個汽缸的總變位容量(cubic displacement)對於它的壓縮容量的一種比例。(壓縮容量係活來在汽缸燃燒室內上死點的位置。)

[The ratio of the total cubic displacement of a cylinder to the compressed volume (Combustion chamber when piston is at top dead point.)]

compression rib, 【機】 壓縮肋。

解：翼面構架內的壓縮應力承受肋。

[The compression stress-bearing rib in the framework of an airfoil.]

computer (height), 【儀】 高度計算器。

解：一種計算器械，用密度因數而將真高示出。

[A calculating device for converting indicated to true altitude by taking the density factor into consideration.]

computer (vector), 【儀】 方向量計算器。

解：一種器械可將方向呈三角形示出來，它所決定的數量，為風速風向，空速航向，地速及軌跡，對數比例尺(logarithmic scales.)，常為時間和距離加入計算內。

[A device which enable vector triangles to be represented.]

concentration ring—conductors (electrical)

(Colloquially; Course-and-distance calculator and Course-and-speed computer.)

concentration ring. 【球】集索環。

解：此環在氣艇上，有數條裝配索由氣囊達到上面，并有數索又由此環而伸展至吊籠。在自由氣球上，此環牢繫懸掛吊籠的索子，而球網亦在此上環面結牢，故有時亦稱為“負載環” (load ring)

[In airship, a ring to which several rigging lines are led from the envelope and from which one or more lines also lead to the car. In free balloon, a ring to which are attached the ropes suspending the basket and to which the net is also secured. Sometimes called “load ring”.]

concentric, 同心的, 集中的。

解：盤心是在中央，能發出真正的盤形運動。

[Having the same or a common center. Will produce true circular motions.]

condensation, 【氣】凝結。

解：空氣內的水蒸氣回至液體或固體。
[The return of water vapor in the air to a solid or liquid state.]

condenser, 【電】容電器, 凝電器。

解：這是一種器具，在電流隔斷器 (breaker) 上短接，用以蓄儲磁電機副電路內所感應的反電壓。蓄電池點火方法亦有裝用這容電器的。

[A device, short circuited across the breaker points, desi-

gned to store the back pressure induced in the primary circuit of a magneto. The condenser is also necessary in battery ignition.]

condenser water-recovery, 【發】

還水凝結器。

解：這是還水器的一部份，可以將排氣中的水氣凝結成水。此器為多數金屬管所組成，或係一個布製匣，內有適當的進氣孔，出氣孔，與阻氣門等。

[That part of the water-recovery apparatus which is devoted to the condensing of water in the exhaust gases. It may consist of a number of metal tubes or of a fabric box with appropriate inlets, outlets, and baffles.]

conductance of an electrical circuit, 【電】電路的電導。

解：此係電阻的反值，即電流能通過一個導體的情況。

[The reciprocal of the resistance, being the ease with which electricity may pass through a conductor.]

conduction, 【力】傳導性。

解：一個物體的熱，因分子的互相接觸或物體的互相接觸或移轉至另一個體上。

[The transference of heat from one part of a body to another through the molecules or from one body to another by contact.]

conductors (electrical), 【電】導 (電)體。

解：電流能流過的材料。

cone axial—connecting rod(articulated)

[Materials which have the property of conducting electricity.]

cone axial, 【艇】順軸錐形囊。

解：一個錐形的布囊，裝配在硬式氣艇氣囊的尾端，用不透氣的連接方法將氣囊與軸索相連，而使氣囊有少量的活動。此係錐形套的特殊一種。

[The cone-shaped fabric, fitting in the end of a gas cell of a rigid airship, which provides a gas-tight connection of the cell to the axial cable and yet permits the cell some degree of freedom in its movements. A special form of conical sleeve.]

cone (danger), 【艇】警告標誌。

解：繫留氣球繩索上的小旗，用以警告飛機不致飛近繫留索。此種標誌普通係用薄布製成空心的圓錐形狀。

[A pennant on the wire cable of a captive balloon to warn air craft of its presence. Usually a hollow cone of light cloth.]

cone (mooring) 【艇】繫留圓錐。

解：氣艇前部極端的圓錐形槽，與繫留柱梢的空錐形槽相啮合，且氣艇與繫留柱間備有連接頭。(參閱附錄第十九圖)

[The grooved conical member at the extreme bow of an airship which engages with a hollow cone at the top of the mooring mast and provides the coupling between the airship and the mooring mast.]

cone (wind), 【設】風錐。

解：指示地面風向和風速力的一種器械。

[A device for indicating the direction and strength of the surface wind.]

configuration, 【氣】星羣形狀。

解：星宿中星羣集成的樣子外形。

[The shape of the pattern of a group of stars in a constellation.]

conical sleeve, 【球】錐形接套。

解：這是一個球支造脫的錐形物，裝配在氣囊中，有一根管子後中通過。它可使氣囊和管間的連接部分緊密不漏氣，且同時又有相當的活動。

[A cone-shaped fabric, fitting in a bag or cell through which a line passes. It provides a gas-tight connection of the bag or cell to the line and yet permits both some degree of freedom to move.]

connecting rod, 【發】聯桿。

解：一種桿子兩端均有軸承與活塞銷(piston pin)及曲柄軸的曲柄銷(crank pin)相連接。

[A rod with a bearing at each end connecting the piston pin (wrist pin) and an off-set (crank pin) on the crankshaft.]

connecting rod (articulated),

【發】副聯桿。

解：一種聯桿用一個關節銷(knuckle)在主聯桿中點和曲柄銷軸承的距離上，將一個氣缸的活塞與另一個氣缸的主聯桿相連接。

[A connecting rod which joins

connecting rod assembly—control column

the piston of one cylinder to the master connecting rod of another cylinder by means of a knuckle pin bearing at a distance from the center of the master rod and crank pin bearing.)

connecting-rod assembly, 【發】 聯桿裝置。

解：二條或數條聯桿，全部裝置在一個曲柄軸銷上動作。

[The complete assembly of two or more connecting rods working on one crank-pin.]

constant pressure balloon, 【球】 定壓氣球。

解：供給在停泊中浮昇器氣體，使得維持恆定氣壓的氣球。(注：此種氣球不能列為航空器)。

[A supply balloon arranged to maintain a constant pressure of gas in a moored or decked aerostate.]

constellation, 【氣】 星宿。

解：規定式樣的星羣。

[A group of stars after a regular pattern which can be identified.]

consumption, 【油】 耗油量，消耗量。

解：汽油或滑油的消耗總量，用每小時加侖或派因脫 (gallon or pint) 計量之。

[The total quantity of fuel (or oil) consumed, stated in gallons (or pints) per hour.]

consumption (specific), 【油】 消耗率。

解：每實馬力小時的派因脫的汽油或

滑油的消耗量。

[The quantity of fuel or oil consumed, stated in pints/b.h. p. hr.]

container (gas), 【艇】 氣囊。

解：硬式氣艇上所裝置的容納氣體物，有時亦稱 gas bag。

[One or the gas-containing units fitted in a rigid airship. Sometimes called "gas bag".]

continental winds, 【氣】 大陸風。

解：大氣的副循環。

[The secondary circulation of the atmosphere.]

contour lines, 【飛】 等高線。

解：此係地圖上同等高出海面諸點的貫連線。此線表明參考線的等高，但非實際表明投影線的說明。

[On a map are lines drawn through points of approximately the same altitude above sea level. These lines indicate altitude above the reference line, but do not actually show it as a profile line does.]

control car, 【艇】 操縱懸艇。

解：懸艇的一種。各操縱系集中於此艇上，駕駛人員即在此艇上調度氣艇的行動。(參閱附錄第十九圖)

[The car of an airship in which controls are centralized and from which it is operated.]

control column, 【操】 操縱桿。

解：支持手輪的槓桿或柱桿，用以操縱升降舵和副翼。(參閱附錄第十六圖 B)

[The lever, or pillar supporting a hand-wheel, by which the

control compartment—controls(engine)

elevator and aileron controls are operated.]

control compartment, [艇] 駕駛間。

解：氣艇上操縱駕駛的處所，與船上的領港室頗相似。

[A compartment in the control car of an airship from which all controls are operated. It may be compared to the pilot house of a ship.]

controllability, [操] 操縱性。

解：飛機能使駕駛員用極小力量改變姿態的特質。

[The quality in an airplane which makes it possible for the pilot to change its attitude easily and with the exertion of but little force.]

controllable pitch or variable pitch propeller, [螺] 變距螺旋槳。

解：一個變距螺旋槳的槳葉裝置，可於旋轉之際作任何角度的定置。

control lines, [裝] 操縱索。

解：由駕駛艙伸至氣艇各部的單股或數股絞成的鋼絲索，直接或間接藉用機械操動方向舵，氣門等，而調節氣艇的速度，高度等。

[The lines of wire and or stranded cable leading from the control car or compartment to the various parts of an airship and operating (either through mechanisms or directly) the rudders, valves, etc., which control the speed, altitude, etc., of the airship.]

control (reverse), [操] 反操縱。

解：飛機運至某種範圍時，它的操縱面功用變成相反的一種情況。

例如：飛機在垂直傾斜飛行中，昇降舵變為方向舵，方向舵變為昇降舵。昇降舵於轉動時雖然使機頭掀起，但指地面言之，是側向的轉彎動作。

[The situation that exists when an airplane is maneuvered to such an extent that the control surfaces reverse their function. For example: In a vertical bank the elevators act as an elevator. The elevators are still lifting the nose around the turn, but are acting as a rudder when the turn is considered in relation to the ground.]

controls, [操] 操縱。

解：操縱是一個廣義名詞，即指駕駛員管制一架飛機的速度，飛行方向，飛行姿勢，和動力的意義。

[A general term applied to the means provided to enable the pilot to control the speed, direction of flight, altitude and power of an aircraft.]

controls (air), [操] 空氣操縱。

解：運用飛機翼面的機械。

[The means employed to operate the control surface of the aircraft.]

controls(engine), [操] 發動機操縱。

解：管制發動機動力輸出的機械。(速度的管制方法，可單獨運用空氣操縱或發動機操縱，或二種操縱聯合運用)。

[The means employed to control the power output of the

control(sero) — cooler(oil-tube)

engines. (Control of speed may be effected by the air controls or engine controls independently, or by either in conjunction with the other.)

control (sero), [機][操] 補助操縱系。

解：一種操縱器械，利用氣動力或機械的替換，襄助駕駛員操縱。

[A control devised to reinforce the pilot's effort by an aerodyne or mechanical relay.]

control stick, [操] 操縱桿。

解：操縱桿是一根管制飛機縱面和側面操縱的直立橫桿。

[The vertical lever by means of which the longitudinal and lateral controls of an airplane are operated. Pitching is controlled by a fore-and-aft movement of the stick, rolling by a side-to-side movement.]

control surface, [機][艇] 操縱面。

解：一個活動的翼面，可由駕駛員轉動而使飛機或氣艇的姿勢改變。

[A movable airfoil designed to be rotated or otherwise moved by the pilot in order to change the attitude of the airplane or airship.]

control surface group, [操] 操縱面組。

解：操縱面組包括：

1. 副翼(Ailerons)
2. 水平安定面(Horizontal stabilizer)
3. 升降舵(Elevators)
4. 垂直安定面，或直翅(Fin)

5. 方向舵(Rudder)

control (torpedo-release) [軍]

[裝] 水雷發射操縱器。

解：由魚雷架上投下魚雷的機械。

[A device for operating one or more torpedo-release clips.]

convection, [力][氣] 對流。

解：熱因空氣的循環由一處而傳至他處。例如熱空氣柱的上升。

[The transference of heat from one point to the other by circulation of the air. Rising columns of warm air is an example.]

convection (mechanical), [力]
機械的對流。

解：空氣因阻礙彎曲而上升。

[The ascension of air due to its deflection by barriers and obstacles.]

cooler (air-intake), [發] 吸氣孔冷卻器。

航：裝置在氯化器吸氣孔上的冷卻器。

[A cooler incorporated in a carburettor air-intake.]

cooler (air-tube), [機] 氣管冷卻器。

解：此種冷卻器係由空氣通過管子，而管外為滑油所環繞。

[A cooler in which air passes through tube surrounded by the oil.]

cooler (multi-element), [發] 多部冷卻器。

解：一種冷卻器內包括多數冷卻機件組。

[A cooler composed of a number of cooling units.]

cooler (oil-tube), [發] 油管冷卻器。

cooler (rotary-jet) — cotter pin

解：一種冷卻器，滑油經過管子，而被冷卻。

[A cooler in which the oil passes through tubes exposed to a cooling medium.]

cooler (rotary-jet), [發]旋轉噴射口冷卻器。

解：一種冷卻器，其中旋轉的滑油噴射口是向冷的金屬面上相衝擊。

[A cooler in which rotating oil-jets impinging on a cooled metal surface.]

cooler (tank), [發]油箱冷卻器。

解：冷卻器和滑油箱聯合的一種裝置。
[A cooler and oil tank combined.]

cord grommet, [艇][機]索環。

解：繩索上的環圈。

[A small ring of cord.]

cord netting, [艇]繩網。(硬式氣艇)

解：由細索組成的網，用意協助氣囊皮，使氣體的張力可以藉此傳達由鋼絲所組成較大的網上及縱樑上。以上兩種網都安置在各縱樑之間。氣囊網可以與自由氣球網比較，有時也叫氣囊網。

[A netting of cord of small mesh which is intended to assist the fabric of the gas cells in transmitting gas force to a wire netting of coarser mesh and to the longitudinals, both being fitted between the longitudinals. It may be compared to the net of a free balloon. Sometimes called "gas-cell netting".]

cord (rip), [球]開球索。[傘]開傘索環。

解：[球]開球索就是由開口球布(rip panel)至吊籃的一根長索，如果拉動此索裂開球布，即可使氣球的氣放出。

[傘]一種手動的索環，拉開時可將保險傘張開。(參閱附錄第四十四圖)

① The rope running from the rip panel to the ear of basket, the pulling of which tears off or rips the rip panel and causes immediate deflation.]

② A manual operating rope which is used to the open parachute.]

correction (barometer), [儀]氣壓表修正。

解：製造廠所發出的氣壓表，係照海平面而調整於他高度地點，運用時則應重為調整以適環境，有時溫度的修正亦屬必要，特殊的是水銀氣壓表。

[Barometers as received from the maker are adjust to sealevel pressure. When used at any other altitude, they must be readjusted to the new conditions. Usually, corrections for temperature are also necessary, particularly with mercury barometers.]

corrosion, [材]腐蝕。

解：凡暴露面因氣候情況，或浸沒於水中，或受酸性，鹼性等所腐化的結果。
[The deterioration of exposed surface due to climatic conditions, immersion in water or liquids, or subjection to acids, alkalies, gases, etc.]

cotter pin, [材]楔針，栓針。

coulomb—course(magnetic)

解：一種分裂針；無頭的分裂針，穿入孔中，尖端分裂，使機件不致動搖。

[A split key; properly a headless taper split pin, driven into its hole and expanded at the small end so that it cannot jar loose.]

coulomb, 【電】庫隆。

解：庫隆是每秒鐘受一伏脫電壓并流過一歐姆電阻電路的電量單位。

[The unit of electrical quantity, being the quantity of electricity which will flow in a circuit in one second under a pressure of one volt and against a resistance of one ohm.]

counter balance, 【力】對重，平衡錘。

解：一種重量用以平衡或中和其他重量或力量。

[A weight employed for balancing or neutralizing another weight or a force.]

counter clockwise, 【發】螺【反時針方向】。

解：旋轉方向是與時針轉動的方向相反。

[A rotation opposite to the direction indicated by the movement of clock hands.]

counter (dust), 【儀】數塵器。

解：一種儀器測量一已知體積空氣內的塵埃數量。

[An instrument for measuring the number of dust particles in a known volume of air.]

countersink, 【工】沉頭法。

解：將孔旁的材料移去，以便使釘

頭，釘頭，和螺釘頭沉下，與物件的表面齊平。

[To remove enough material about the end of a hole so that the heads of rivets, bolts and screws may be brought down flush with the surface of an object.]

couple (astatic), 【儀】無定位偶合。

解：磁針或測電儀器使不受外界磁場影響的裝置。

[Magnetic needles of an electric measuring instrument so arranged that they are not affected by an external magnetic field.]

coupling (mooring), 【艇】繫留接頭。

解：一種接頭，使氣艇上的繩索和落地線可作迅速的連接。

[A quick attachement coupling or connecting the wires of an airship to the ground wires.]

course (compass), 【飛】羅盤航線。

解：由羅盤子午線作順時針方向測至二處相連線所得的角度。

[The angle measured clockwise from the compass meridian to the line joining two places.]

course light, 【設】航路燈。

解：一種燈係沿航路投射，故航空器在航路附近或在航路中均可視見。

[A light so projected along the course of an airway as to be visible chiefly from aircraft on or near that airway.]

course (magnetic), 【飛】磁航線。

course-setting bomb-sight—cradle (building)

解：由磁子午線作順時針方向測至二處相連線所得的角度。

[The angle measured clockwise from the magnetic meridian to the line joining two places.]

course setting bomb-sight, 【儀】

定置航向轟炸瞄准器。

解：一種儀器，除測定炸彈投下角外，並於投彈以前，為攻取所欲取的方向，而定飛機的航向。

[An apparatus which, in addition to determining the dropping angle of a bomb, determines, or any desired direction of attack, the course the aircraft should follow immediately prior to the release of the bomb.]

course (true), 【飛】真航線。

解：由真子午線作順時針方向測至二處相連線所得的角度。

[The angle measured clockwise from the true meridian to a line joining two places.]

cover (outer), 【艇】【球】外殼。

解：硬式氣艇的外皮，普通係用布所製造。有時亦名氣艇氣囊(envelope)。(參閱附錄第十九圖)

[The outside covering of the hull of a rigid airship, usually of some kind of fabric. Sometimes called the "envelope".]

cover (valve), 【艇】【球】氣門蓋罩。

解：還是成傘形的一種蓋覆物，可保護氣艇或氣球的氣門不為雨水所浸入。亦名「氣門蓋」或「氣門帽」(valve hood or bonnet)

[The appliance, having the form of a hood or parasol, which

protects the valve of an airship or balloon against rain. Also called "valve hood" or "bonnet".]

cowling, 【發】【機】整流罩。

解：發動機周圍能移動的外罩，有時亦指機身或短艙一部的外罩。(參閱附錄第十五圖)

[A removable covering which extends over or around the engine, and sometimes over a portion of the fuselage or nacelle as well.]

crabbing, 【飛】蟹航，側航。

解：飛機機首向風而保持二點間側風航跡的直線航行。

[The heading of an aircraft up into the wind in order to preserve a straight cross-wind track between two points.]

crab-pot valve, 【球】【艇】捕蟹式氣門。

解：一種特殊式樣的球皮套管，係用手握線操縱之。(參閱附錄第十八圖)

[A special form of fabric sleeve, the operation of which is controlled by a hand line.]

crack-up, 【飛】撞損。

解：此乃俚語，指飛機撞損而言。

[Damage to a plane.]

cradle (building), 【設】氣艇架。

解：製造硬式氣艇構架和軟式氣艇龍骨時所用的支持架。

[A support provided for the frame of a rigid airship or the keel of a semi-rigid airship during construction.]

cradle(docking)—critical angle

cradle (docking), 【設】 泊艇架。

解：氣艇在棚廠吹氣時抬起懸艇所用的支持架。硬式氣艇多有這種的設備。
[A support for the car of an airship while it is being inflated in the shed. Mostly used with rigid airships.]

crank (bell) 【發】 短曲柄。

解：一種雙臂曲柄，而雙臂均裝在同一轂上。
[A double arm crank mounted with both arms mounted on a common hub.]

crankcase, 【發】 機匣，機箱。

解：機匣為發動機鑄成的底部，內有曲柄軸承，推力軸承，和各種零件與傳動機件，且氣缸係與此匣成固定的裝接。
[The cast basic section of an engine in which the crankshaft bearing, thrust bearings and various accessories and drives are mounted and to which the cylinder are fastened.]

crankcase sump, 【發】 機箱槽。

解：機箱內的一部份，滑油在此處集合，而引至滑油唧筒係。
[That portion of the crankcase in which lubricating oil is collected and led to the oil-pumping system.]

cranshaft, 【發】 曲柄軸。

解：曲柄是發動機內的主軸，由活塞推動聯桿和軸上的曲柄銷，使這個主軸發生旋轉的動作。
[The main shaft on an engine to which rotary motion is imparted by the piston through a connect-

ing rod and off-set throw on the shaft.]

crash, 【飛】 失事。

解：航空器因與地面作猛烈的接觸，而發生不測的事端。
[Any accident caused to an air craft by its coming into violent contact with the earth—colloquial.]

crew (ground), 【飛】 地面勤務人員。

解：氣艇降落和在地面被處理所必需的 種人員。
[A detail of men necessary for the landing and handling of an airship on the ground.]

crew (landing), 【艇】 落地時地面勤務人員。

解：氣艇降落和在地面被處理所必需的一種人員，亦稱地面服務人員。(ground crew).
[A detail of men necessary for the landing and handling of an airship on the ground. A "ground crew".]

crew (launching), 【機】 昇空員。

解：用彈索 (Shock cord) 把滑翔機昇到空中的一隊人，叫做昇空員。
[The crew of men who manipulate the shock cord in launching gliders.]

critical angle, 【力】 【飛】 臨界角。

解：衝角的一種，足使翼面氣流驟然改變，昇力與阻力因亦驟然改變。
[An angle of attack at which the flow about an airfoil changes abruptly with corresponding abrupt changes in the lift and

critical angle of attack—crow's foot

drag.]

critical angle of attack, 【力】

臨界衝角。

解：臨界衝角是氣流在機翼或翼面上突起變化的角度，因而昇力和阻力亦突起變化。由臨界衝角乃發生螺旋，側滑和俯衝。

[The critical angle of attack is that angle at which the air flow about the wing or airfoil changes abruptly, resulting in abrupt changes in the lift and drag. It is from this position that spins, side-slips and dives develop.]

critical speed, 【力】【飛】臨界速度。

解：飛機仍能保持操縱的最低速度。

[The lowest speed of an aircraft at which control can be maintained.]

cross-country flight, 【飛】越野飛行。

解：離開規定飛行場向郊外以外地點的飛行。

[A flight which necessitates leaving the vicinity of a regular landing field.]

cross ties, 【機】交叉構材。

解：側面橫過機身上部和底部的主要構結材料。

[The main structural members laterally across the top and bottom of the fuselage.]

cross-wind, 【飛】側風。

解：側風是對飛行和起飛方向成直角吹來的風。偏出九十度角以外的側風有機首側風和四分之一側風等。

[A wind blowing from right

angles to the direction of flight or take-off, Variations from a 90° angle are said to be on the bow or quarter.]

cross wind force, 【力】橫風力。

解：這是飛機或它的任何部分上總空氣力的分力，特別是在昇力和阻力上。它的符號是C，它的絕對係數 C_c 如下式。

$$C_c = \frac{C}{qS}$$

其中 q 是撞擊壓力 (impact pressure) ($= \frac{1}{2} \rho V^2$)， S 是空氣力動作面有效面積。

[The component, perpendicular to the lift and to the drag, of the total air force on the aircraft or any part thereof. Its symbol is C and its absolute coefficient C_c is defined by

$$C_c = \frac{C}{qS}$$

where q is the impact pressure ($= \frac{1}{2} \rho V^2$) and S is the effective area of the surface upon which the air force acts.]

cross wind landing, 【飛】側風降落。

解：在側風中降落必需將機對風側滑，以抵制偏航，故亦名橫風降落。

[A landing made in a cross-wind-side wind-in which it is necessary to side-slip the plane into the wind in order to counteract the drift. Also called side wind-landing.]

crow's foot, 【球】鳥腳索。

解：一系分歧的短索用以備散一根單

cruciform girder—cumulus-nimbus

索的拉力。此種裝配是將索股分開，穩貼並合於蒙布表面上。

[A system of diverging short ropes for distributing the pull of a single rope. An arrangement in which the strands of cord are opened out so that they can be effectively cemented to a fabric surface.]

cruciform girder, [艇] 十字形樑。

解：垂直和水平的橫樑，裝接在硬式氣艇的尾部，用以支持直翅尾柱或方向舵柱的內端。亦可為製成直翅後端的尾柱全部。

[The structure, consisting of vertical and horizontal transverse girders, which is fitted at the stern of a rigid airship for the purpose of supporting the inboard ends of the stern posts of the rudder or the rudder posts. It may be integral with the stern posts which form the after ends of the fins.]

cruising speed, [飛] 巡航速度，巡航速度。

解：這是正常極合經濟的速度，蓋飛機的最高速度，消耗燃料甚多，不合經濟，僅免於先速的最低速度，燃料消耗率雖低，然延長旅途時間，亦不合經濟。

[The normal economical speed. Maximum speed is uneconomical. Speed that only just escapes stalling is also uneconomical because, although the rate of fuel consumption is low, the journey is unduly prolonged.]

Cu., [氣] 積雲。

解：此即 Cumulus 的縮寫。

cube root of a number, [力] 一
個數目的立方根。

解：一數的立方根自乘二次即等於該數的價值。例如 8 的立方根是 2，因為 $2 \times 2 \times 2 = 8$ 。

[A number which multiplied by itself twice will equal that number. Thus, the cube root of 8 is 2, because $2 \times 2 \times 2 = 8$.]

cumulus-nimbus, [氣] 積雨雲。

解：積雨雲又稱雷雲，驟雨雲，是厚的雲塊，堆砌成峯巒樓閣的形狀，其頂部常有一層纖維狀的雲彩，而下部則有一堆與雨雲相似的雲塊。所謂局部雨，驟雲（有時冰雹）即自此下部的雲堆降落，有時此雲的上部邊緣，形似稠密的積雲，構成密集的蕈峯，在其周圍常有「假卷雲」乎流着。有時積雲的邊緣，散成纖維形的光芒，其形又與卷雲相等。此積雲狀，在春季驟雨的時候，最容易看見，雷雲的前面常成廣大雲片，散佈天際。平均高度：頂部 20,000 呎；底部 4,500 呎。（參閱附錄第五十五圖）

[The Thunder Cloud; Shower Cloud. Heavy masses of cloud rising in the form of mountains, turrets, or anvils, generally surmounted by a sheet or screen of fibrous appearance (false cirrus) and having at its base a mass of cloud similar to nimbus. From the base local showers of rain or snow (occasionally of hail or soft hail) usually fall. Sometimes the upper edges assume the compact form of cumulus, and form massive

cumulus—current(electric)

peaks round which delicate "false cirrus" floats. At other times the edges themselves separate into a fringe of filaments similar to cirrus clouds. This last form is particularly common in spring showers. The front of thunder clouds of wide extent frequently presents the form of a large arc spread over a portion of a uniformly brighter sky. Mean height: Top, 20,000 feet, base, 4,500 feet.)

cumulus, [氣] 積雲.

解：積雲又稱羊毛雲(Woolpack Clouds)是從地平線發出的厚雲，其上層面積呈圓頂狀，且有凹凸不平的瘤狀物的堆砌，此類積雲，大抵由地球自轉發生的上昇活動力而成，此種情形，顯而易見，若遇積雲與日光對立時，其光輝的各面積較凸體的邊緣為大，當日光斜射時，此雲反現晦暗的色彩，而邊緣則極明亮，真正的積雲，原有高層和低層的區別，大風發生的時候，往往有被吹斷的雲塊，望之宛若積雲，但其散失部分，時時變化不已，此積雲塊，可予以「斷片積雲」Fracto-cumulus (Fr. Cu.)的名稱，俾與積雲有所區別，平均高度為6,000呎。(參閱附錄第五十四圖)

[Woolpack Clouds, Thick clouds of which the upper surface is dome-shaped and exhibits protuberances while the base is horizontal. These clouds appear to be formed by a diurnal ascensional movement which is almost by always noticeable.

When the cloud is opposite the sun, the surfaces facing the observer have a greater brilliance than the margin of the protuberances. When the light falls aslant, as is usually the case, the clouds throw deep shadows; when, on the contrary, the clouds are on the same side of the observer as the sun, they appear dark with bright edges. True cumulus has well defined upper and lower limits, but in strong winds a broken cloud resembling cumulus is often seen in which the detached portions undergo continual change. This form may be distinguished by the name [Fracto-cumulus (Fr.—Cu.). Mean height: 6,000 feet.]

Cu.-Nb., [氣] 積雨雲.

解：此即 Cumulus-nimbus的縮寫。
current (alternating), [電] 交流電。

解：定期變換流向電流，每次向反變向時，均經過零度，這是對直電流祇向一方流動而言。

[An electric current that periodically reverses its direction of flow, passing through zero at the end of each reversal, This is distinguished from direct current that flows continuously in one direction.]

current (electric), [電] 電流.

解：在導體內流動的電。

[Electricity in motion in con-

curve(characteristic)—cylinder block

ductors.)

curve (characteristic), 【力】特性曲線。

解：圖表內所繪畫的彎曲線，表示：

各種衝角的昇力係數 (Lift coefficients)

各種衝角的阻力係數 (Drag coefficients)

各種衝角的昇阻比 (Lift-Drage ratios)

各種衝角的昇力中心 (Center of pressure)

{Plotted curves or graphs which show:

Lift coefficients for various angle of attack,

Drag coefficients for various angle of attack,

Lift-Drage ratios for various angle of attack,

Center of Pressure for various angle of attack,}

curve diagrams, 【力】曲線圖。

解：曲線圖代表相對的價值，由劃在預定比例尺的距離表示之。繪劃曲線圖表的方法稱曰「製圖」(plotting)，由此製成的圖表稱曰「圖解」(graphs)。凡儀器名字後面加用 graphs 的，係指這種儀器有記錄的義。雖圖表內所繪成的是一條直線，仍稱曰曲線圖，因為直線實係零度彎曲的曲線。

{The representation of relative values as shown by distances drawn to a predetermined scale. Making curve diagrams is called "plotting". The diagrams are also called "graph". Instruments whose names end with the

suffix graph are usually adapted to the printing of permanent records in the form of curve diagrams. Even though a graphical record appears as a straight line, it is still called a curve diagram, because a straight line is really a curve of zero curvature.]

cycle, 【發】【力】循環 【電】周波。

解：二行程或四行程循環的一象是進氣，壓縮，動力或排氣行程，而一系的整個行程就是一個循環。

[One phase of a 2 or 4 stroke cycle, i. e., the intake, compression, power or exhaust stroke—the full series of strokes is called a complete "cycle".]

cyclone, 【氣】旋風。

解：在印度洋 (Indian ocean) 中的熱帶颶風則稱旋風。

{See Tropical revolving storm.}

cylinder, 【發】氣缸。

解：這是一個空心圓筒，內裝活塞往復運動。

[A hollow cylindrical section designed to permit reciprocating motion of a piston placed therein.]

cylinder barrel, 【發】氣缸筒。

解：發動機氣缸的圓筒部分

{The cylindrical portion of an engine cylinder.}

cylinder block, 【發】氣缸塊。

解：一鑄成塊，內有數氣缸或一排氣缸。

[A casting or forging containing a number of cylinders in one

cylinder (f-head) — danger cone

piece or a row of cylinders in one line.]

cylinder (F-head),【發】F形頭汽缸。

解：這是一種L形頭汽缸，但它的汽門是在一邊上下裝置的。(參閱附錄第三十三圖)

[An L-head cylinder with the valves one above the other.]

cylinder (L-head),【發】L形頭汽缸。

解：這種汽缸，它的汽門在同邊平行裝置的。(參閱附錄第三十三圖)

[A cylinder with all the valves

on the same side.]

cylinder (overhead valve),【發】

頭上汽門汽缸。

解：這種汽缸的汽門均裝置在頭部上。(參閱附錄第三十三圖)

[A cylinder with all the valves in the head.]

cylinder (T-head),【發】T形頭汽缸。

解：這種汽缸的汽門是分在兩旁裝置的。(參閱附錄第三十三圖)

[A cylinder with the valves on opposite sides.]

D

Dalton's law,【力】達爾登定律。

解：盒內混合氣體在裏壁所致之壓力，等於每種氣體在裏壁上所致壓力相加之總合。

(The pressure exerted on the interior walls of a vessel containing a mixture of gases is equal to the sum of the pressures which would be exerted if each of the gases occupied the vessel alone.)

damping factor,【力】滯動因數，
減弱因數。

解：滯動調和運動方程式 (damped harmonic motion equation) 內的因數 $e^{-\lambda t}$ 。

$S = Ae^{-\lambda t} \sin pt$ 。

測量一個振搖大小的改變率，或一個沉下 (subsidence) 和偏離 (diver-

gence) 大小的改變率；增大時為正數，減小時為負數。

[The factor $e^{-\lambda t}$ in the equation of damped harmonic motion,

$S = Ae^{-\lambda t} \sin pt$

A measure of the rate of change of amplitude of an oscillation, or of the rate of change of magnitude of subsidence or divergence; positive when decreasing, negative when increasing.]

danger cone,【艇】警告標誌。

解：繫留氣球繩索上的小旗，用以警告飛機不致飛近繫留索。此種標誌普通係用薄布製成空心的圓錐形狀。

[A pennant on the wire cable of a captive balloon to warn aircraft of its presence. Usually

datum line—declination(parallels of)

a hollow cone of light cloth.)

datum line. 【飛】某線。

解：一條假定的水平線，用以作其他高度測量的考據。

[An assumed level to which altitude are referred. Sea level, or at Reno, Nevada, an imaginary line of 4,000 ft. altitude, may be assumed.]

d.c. 【電】直流電。

解：直流電的縮寫字。

[Abbreviation for direct current.]

dead center. 【發】死點。

解：聯桿的中線與曲柄銷和曲柄軸的中線成一直線時的情況為死點。此種情況是發生在行程上下二部上。

[The situation that exists when the center line of the connecting rod is in line with the centers of the crank pin and the crankshaft. This may occur at the top or bottom of the stroke.]

dead load. 【力】空重。機體自重，本身重量。

解：航空器構體，動力裝置，和固定裝備物的共重量。這裏所說的固定裝備，包括散熱器和冷卻系內的水，一切必要的儀器和設備，生熱和發光的固定電線等。若在半昇器方面，為協助安全降落所常用的壓載物數量亦要包括在內。

[The structure, power plant, and fixed equipment of an aircraft included in this fixed equipment are the water in the radiator and cooling system, all essential instruments and

furnishings, fixed electric wiring for lighting, heating, etc. In the case of the assist in making a safe landing must also be included.]

dead reckoning. 【飛】推測位置法。

解：在地圖和海圖上繪畫航路，距離及位置的方法。飛機由各航線上所飛過的航線和距離，而不觀察天體所得的位置。

[The method of plotting courses, distances and positions on maps and charts. Finding the place of a craft without celestial observations from a record of the course flown and the distance made on each course.]

decalage. 【機】差傾角。

解：三翼機或多翼機的翼弦間的銳角。[The acute angle between the wing chords of a tri-plane or multiplane.]

declination (of a heavenly body). 【飛】赤緯。

解：由赤道至天體間所得子午線的弧線。

[The arc of the meridian (celestial) intercepted between the equator and the body.]

declination (parallels of). 【飛】赤緯的平行線。

解：和赤道成平行面的天球上的小圈。這種平行小圈亦和地球的緯線平行。

[Small circle of the celestial sphere whose plane are parallel

deflation—denatured alcohol

to the equator. They are analogous to parallels of latitude on the earth.)

deflation, 【球】【艇】放氣.

解：浮昇器內的氣體和空氣排出的動作名放氣。

[The act of removing gas and air from an aerostat.]

**deflation sleeve, 【球】【艇】放氣
套管.**

解：常係用球皮所造成的一個接套或附屬物，專為便利浮昇器 (Aerostat) 放氣而用的，放氣套管亦指馬式氣球舵囊下部所裝接的套管或附屬物，且於氣球下時可使氣體迅速排洩。

[Generally a sleeve or appendix made of fabric provided for the special purpose of facilitating the deflation of an aerostat. Also applied to the sleeve or appendix fitted in the lower lobe of a kite balloon and used to permit the rapid escape of air in the lobe when the balloon is hauled down.]

deformation, 【力】變形.

解：一個物體外形的變更由應力所造成。這種變更外形的應力視情況的不同，分有張力，壓力，彎力，或剪力等。

[The amount of alteration in form of a body produced by a stress. It may be tensile, compressive, bending, or shearing deformation, depending upon the type of stress causing it.]

degree, 【力】度.

解：一度就是圓周 360 分之 1 的一個單位。一度劃成 60 分，而一分又劃成

60 秒。

[1/360 of a circle. For smaller division there are sixty minutes (60') in one degree and sixty seconds (60'') in one minute.]

degree of latitude, 【飛】緯線度.

解：緯線一度常等於 60 海里。

[Always 60 nautical miles.]

degree of longitude at equator, 【飛】赤道上的經線度.

解：赤道上的經線一度等於 60 哩，赤道上的經線一分等於一海里，

[60 miles. One minute of longitude at the equator one nautical mile.]

degree of longitude at 30° latitude, 【飛】南北緯 30° 上的經線度.

解：南北緯 30° 上的經線等於 52 哩。
[Degree of longitude at 30° latitude both north and south equals 52 miles,]

degree of longitude at 60° latitude, 【飛】南北緯 60° 上的經線度.

解：南化緯 60° 上的經線一度等於 30 哩。

[Degree of longitude at 60° latitude both north and south equals 30 miles.]

denatured alcohol, 【化】變性酒精.

解：普通酒精 (ethyl alcohol) 滲入他種液體使其不可用作飲料，而滲入的液體常係木酮 (acetone)，甲醯 (methyl alcohol)，樟 (benzol)，或其他相類似的液體使酒性改變。

[Ethyl alcohol to which certain

denominator—dew

agents have been added to make in udrinkable. Acetone, methhl alcohol, benzol and similar subatances have been used as donaturants.]

denominator, 【力】分母.

解：分數下列的數字爲分母；例 $\frac{1}{2}$ ，2就是分母。

[The figure under the bar in a fraction. Example; $\frac{1}{2}$, in which 2 is the denominator.]

density, 【力】密度.

解：每單位容量的物質重量，相對同一單位容量的水重謂爲密度。水的密度是一。

[The relative weight per unit volume of a substance compared to the weight of water for the same unit volume, the density of water being taken as one.]

density magnetic, 【電】磁密度.

解：磁場內發生的磁力線的緊密程度。磁密度就是測量磁力的大小。

[The closeness with which the lines of force are packed together in a magnetic field, Magnetic density is a measure of magnetic strength.]

departure, 【飛】橫距.

解：由起點的子午線至現有位置向東或向西所測量的距離。

[The distance measured due East or West from the meridian of the starting point to the meridian of the present position.]

deprssion, 【氣】低氣壓.

解：氣壓較低的區域，風在北半球作

反時針方向的旋轉。在南半球，作順時針的方向旋轉。（參閱附錄第四十六圖）

[A region of relatively low barometric pressure. The winds circulate counter-clockwise round the centre in the Northern, and clockwise in the Southern, Hemisphere.]

detonation, 【油】非常爆發.

解：燃料的非常爆發傾向，是發動機動力和效率發展的限度，超過此限度，燃料即自然爆發。每種燃料各有能承受壓力的限度在此限度內，該燃料在氣缸裏不致非常爆發。

[The detonation tendency of a fuel is the limiting factor in the development of engine power and efficiency with which the fuel can be burnd. Each type of fuel has its own limiting pressure at which it can be compressed in a cylinder without detonation occurring.]

detonator, 【軍】起爆管.

解：內貯爆藥而引起爆發的管子。

[A component containing a substance for initiating action in the exploder.]

deviation, 【飛】【儀】偏差.

解：由磁子午線對羅盤子午線向東或向西所測得的角度。

[The angle measured East or West from the magnetic meridian to the compass meridian.]

dew, 【氣】露.

解：濕氣遇着冷物時在上面凝結的水

dewpoint—diaphragm(ballonet)

就是露，因為這個物體的溫度較環境空氣的溫度為低。

[Condensed water vapor deposited on solid bodies due to the fact that the bodies are colder than the surrounding air.]

dewpoint, 【氣】露點。

解：空氣將水蒸氣凝結為液體，而減低濕氣的溫度即稱露點。

[The temperature below which air must give up some of its water vapor as its capacity for moisture diminishes.]

diagrams curve, 【力】曲線圖。

解：曲線圖代表相對的價值，由劃在預定比例尺距離表示之給劃曲線圖表的方法稱曰「製圖」(plotting)，由此製成之圖表稱曰「圖解」(graphs)。凡儀器名詞後面加用graphs的，係指示這種儀器有紀錄的意義，雖圖表所給成的是一條直線仍稱曰曲線圖，因為直線實際係零度彎曲的曲線。

[The representation of relative value as shown by distances drawn to a predetermined scale. Making curve diagrams is called "plotting". The diagram are also called "graph". Instruments whose names end with the suffix graph are usually adapted to the printing of permanent records in the form of curve diagrams. Even though a graphical record appears as a straight line, it is still called a curve diagram, because a straight line is really a curve of zero curvature.]

diamagnetic substances, 【電】逆磁質。

解：磁性所抗拒的物質。

[Substances which are feebly repelled by magnetism.]

diametral wire, 【艇】徑線。

解：在主橫樑中心或附近通過的弦線。通常這線附接於軸接頭。

[A chord wire which passes through or near the center of the main transverse frame. It is usually attached to the axial fitting.]

diaphragm, 【儀】薄膜, 隔板, 【應】光圈(照相機)

解：【儀】薄膜是儀器內的薄橡皮，金屬皮，或空匣的金屬薄皮(匣內空氣排盡)，均有極高的氣壓感覺。此種薄膜不論在匣上或不在匣上，因兩面氣壓的不同，能使指針在分度盤上移動。

【應】光圈是照相機鏡頭內的薄膜拼疊而成的小孔。攝影時因光線的強弱，可扭動機件將此孔變大變小。

① As applied to instruments, it means a pressure sensitive element of thin rubber or metal, or the diaphragm light metal cell from which the air has been exhausted. Different pressure on opposite side of a diaphragm, or without and within a cell, will govern the registering hand on a dial.

② An adjustable disc at the lens of a camera is used to regulate the intensity of light of image inside.]

diaphragm (ballonet), 【艇】【球】

diathermanous—dihedral angle (longitudinal)

空氣房隔板。

解：軟式氣艇，半軟式氣艇，或氈式氣球的空氣或氣體氣囊間的布質分隔物。

[The fabric partition between the gas and air compartments of the envelope of a non-rigid or semirigid airship or kite balloon.]

diathermanous, 【應】透熱質。

解：物質能容熱線通過的一種情況。

[A condition of a substance which permits the free passage of heat rays.]

diesel engine, 【發】重油發動機。

解：這種內燃燒發動機，是由壓縮熱而點火。這種燃料係用高壓注射，并無點火系和氣化器設裝的必要。

[An internal combustion engine depending upon the heat of compression for ignition. The oil fuel is injected under high pressure and no ignition system or carburetor is required.]

differential aileron, 【機】差勁副翼。

解：副翼的一種裝置它的上翹動作要較下為迅速，如此可使飛機的軌線不致發生偏差。

[A system in which the up-moving aileron travels farther than the down-moving aileron, thus avoiding yaw or deviation from the path of the plane.]

diffraction (air), 【力】空氣迴折。

解：光線由真空或稀薄氣體而進入大氣時，其進行方向遂被屈折之謂。

[The bending of a beam of light

when entering the atmosphere from outer space or from a less dense fluid.]

diffusion (air), 【力】空氣擴散。

解：空氣因份子作用 (molecular action), 然非滲漏動作，而透過薄膜之謂。

[Passage of air through a wall or membrane by molecular action not by leakage.]

dihedral angle, 【力】【機】翼反角。

解：翼面橫基準線與飛機橫軸所成的銳角，兩翼上部的鈍角如小於 180° ，則稱為正翼反角。(參閱附錄第十二圖a)

[The acute angle between the transverse reference line in the wing surface and the lateral axis of the airplane projected on a plane perpendicular to the longitudinal axis. The dihedral angle is positive when the upper obtuse angle for the two wings is less than 180° .]

dihedral angle (lateral), 【力】

橫上反角。

解：橫上反角是兩面翼梢在翼中心梢 (翼中心梢是機翼和對稱面的接合點) 以上或以下的角度。若翼梢高於翼中心梢，則這種角是正角。

[It is the angular displacement of opposite wing tips above or below the center wing tip. If the wing tips are raised above the center tip, then the angle is positive.]

dihedral angle (longitudinal),

【力】縱上反角。

解：縱上反角係鈍角，為機翼的翼弦

dilution(air) - direction of magnetic

和水平安定面所組成。

[It is the obtuse angle formed by the chords of a wing and the horizontal stabilizer.]

dilution (air),【艇】空氣滲淡。

解：氣球或氣艇的氣體，被外入空氣沖環，用此可以表示氣體的純粹百分率。

[The contamination of a balloon or airship gas by the entrance of air. It is expressed as the percentage of purity of the gas.]

dimpled or recessed type of riveted joint,【工】微凹式鉚釘接頭。

解：金屬薄片不能用沉頭法這種微凹式鉚釘接頭可避除剪力，并使表面齊平。這種方法是在二塊金屬片的鉚釘連接處，用打孔機同時壓凹，因此可使鉚釘頭下沉，避免剪力的影響。

[It is usually used on thin sheets of metal to remove shearing stress and also to give a flush surface, since thin sheets cannot be counter-sunk. At the proposed point of riveting the two sheets are coincidentally recessed with a punch and die, and the recess acts as a countersink for the rivet head. The recess takes the shearing stress.]

dip (of the horizon),【飛】傾斜，俯角。

解：目光在海面或地平線上舉起所增的高度。

[An increase in altitude caused by the elevation of the eye above sea or ground level.]

direct current,【電】直流電。

解：向一方流動的電流，有時為恆定或定期起伏，如交流電。

[A uni-directional current. It may be constant or periodically fluctuating, as rectified alternating current. An electric current flowing in one direction only and sensibly free from pulsation.]

directional radio,【儀】定向無線電機。

解：此機係賴無線電方位而測定位置。

[Used to plot position by means of radio bearing.]

directional stability,【力】方向安定性。

解：這是關於直軸自轉的安定性，此即飛機如發生很小的偏航角度(angle of yaw)時而有復元力距起作用，那就是飛機具有方向安定性的最簡單的方式，因為對稱的關係，方向安定性，和橫面安定性，極為密切除駕員的操縱外，順直軸移動叫做偏航(yawing)。

[Stability with reference to rotations about the normal axis, i. e., an airplane possesses directional stability in its simplest form if a restoring moment comes into action when it is given a small angle of yaw. Owing to symmetry directional stability is closely associated with lateral stability.]

direction of magnetic lines of force,【電】磁力線方向。

解：通有電流的導電體，而電流方向

dirigible—displacement(cubic piston)

係由觀察者所定的地位向外流動，則環繞該導體周圍有圓柱形繼續不斷的磁力線順時針方向旋轉，這就是磁力線方向。

[Around a current-carrying conductor from a continuous cylindrical whirl in a clockwise direction when the current is flowing away from the observer.]

dirigible, 可駕駛的。

解：易於指揮和易於駕駛有如氣球的意義。

[That can be directed; steerable; as a dirigible balloon. Its use as a noun to indicate an airship is improper.]

disc area, [螺] 盤形面積。

解：旋轉螺旋槳葉採過的圓形盤面。
[The area of the circular disc swept by the blades of revolving propeller.]

dischargeable weight, [力] [艇]

氣艇可加減重量。

解：氣艇除預留汽油，滑油，壓載水，食物，裝備，和艇員外可以起卸或消耗而使氣艇可以在安全情況運行的一切重量。

[All weight which can be consumed or discharged and still leave the airship in safe operating condition with a specified reserve of fuel, oil, water ballast, and provisions, and her normal crew.]

discharge nozzle (carburetor),

[發] 流出噴嘴。

解：液體燃料向文德利氣流中噴出所

經過的孔口。

[The nozzle through which the liquid fuel is discharged into the Venturi air stream.]

discontinuity, [氣] 不連續。

解：在一短距離或一固定點在一短時間內，有極明顯的氣象變化——如氣壓，風向，溫度，及濕度。

[A sharp variation in a small distance, or in a short time at a fixed point, in one or more of the atmospheric variables pressure, wind, temperature and humidity.]

displacement, [艇] 排空氣量。

解：空氣被吹脹所用的氣體排去的量，稱曰排空氣量，這種排量可用重量或用容積表明。

[The mass of air displaced by the gas used for inflation. It may be expressed as a weight or volume. In the latter case it is usually called "volume".]

displacement (aerodynamic

volume or air volume), [力]

氣動容積量。

解：在海平面 N. A. C. A. (航空顧問委員會) 標準大氣內，空氣體積的重量等於氣艇的氣動容積。

[The weight of a mass of air equal to the aerodynamic volume of the airship in N. A. C. A. standard atmosphere at sea level.]

displacement (cubic piston),

[發] 活塞變位容積，活塞工作容積。

解：活塞由下死點至上死點時的排動容積。這種容積的計算是用 $3.1416 \times$

displacement (total cubic) — distribution (biplane)

氣缸半徑的平方×行程的長度。

[The cubic volume displaced by a piston in its movement from bottom dead center to top dead center. Cubic piston displacement equals 3.1416×radius of cylinder squared×length of stroke.]

displacement (total cubic),【發】總變位容積。

解：活塞變位容積加以燃燒室的容積（活塞在上死點），就是總變位容積。

[The piston displacement plus the volume of the combustion chamber—piston at top dead center.]

disposable lift,【力】【艇】有效昇力。

解：總昇力減去自重，則得有效昇力。

[The gross lift less the tare weight.]

disposable weight,【艇】氣艇自由重量；氣艇的可使用重量。

解：氣艇中除固定重量外的一切重量，即包括與固定重量相反的可起卸重量。

[All weight other than fixed weight, including dischargeable weight contrasted with fixed weight, q. v.]

distance (air),【飛】空中距離。

解：專指空中所行的哩數距離而不與地面發生關係，此數係將空速乘燃料小時或飛行時間而得。

[The distance travelled through the air in miles without respect to the earth. It is the air-speed multiplied by the fuel

hours or hours of flight.]

distance, (trail),【力】退曳程。

解：實際彈道在直線飛行恆定速度的飛行垂直線後面的水平距離。（參閱附錄第四十一圖）

[The horizontal distance by which a bomb trails behind the vertical from an aircraft in rectilinear flight at constant speed.]

distillates,【化】【油】蒸溜物。

解：由天然油內蒸溜所得的石腦油。

[The naphtha products which are obtained by distilling crude oils.]

distortion,【力】變形。

解：將原有形狀或圖形扭轉、顛轉，或彎動為其他形狀或圖形的意義。

[To twist, turn or deform anything from its natural shape or figure.]

distortion on maps and charts,

【應】地圖和海圖投影偏差。

解：地球曲面投影製成平面地圖或海圖的不良方法的結果。

[Distortion on maps and charts occurs because of the imperfect methods available for projecting the curved surface of the globe onto a flat map or chart.]

distribution (biplane),【力】雙翼分佈。

解：雙翼機上下兩翼載量的相對分佈，在正常飛行情況下，上翼受有大部的載量。

[The relative distribution of the loads carried by the upper and lower wings of a biplane. Under

distributor—dividers

normal flying conditions, the upper wing carries the greater parts of the load.)

distributor, 【發】配分器.

解：配分器是將高壓電（副繞圈）依照適當點火時間向各個電火塞的電路連接的一種機件。

[Device used to complete the high tension (secondary) circuit to the various spark plugs at the proper firing time.]

disturbance (sea), 【氣】海浪狀態.

解：風對海面，所產生的狀態。

[The rate of the sea produced locally by wind.]

disturbing moment, 【力】干涉力距.

解：能使飛機產生任何旋轉干涉的力距。

[A moment which tends to produce any rotational disturbance of an aircraft.]

dive, 【飛】俯衝，急降.

解：俯衝是開動發動機或不開動發動機的一種大斜度急降飛行動作，且在這種飛行動作中的空速（air speed）要較最大平飛時的空速為高。

[A steep descent, with or without power, in which the air speed is greater than the maximum speed in horizontal flight.]

divergence, 【力】偏離.

解：物體脫出均衡後，雖無振盪而仍繼續偏出原有運動情況的一種運動。

[A motion in which, after a disturbance from equilibrium, the body departs continuously,

without oscillations, from its original state of motion.]

divergance (lateral), 【力】橫偏離.

解：橫滾，縱搖，側滑等的任何無定期的聯合。這運動的不安定於轉彎增速中可引成螺旋或盤旋的動作。

[Any non-periodic combination of rolling, yawing, and side-slipping. The instability of motion which leads to a spin or to a spiral with increasing rate of turn.]

divergence (longitudinal), 【力】縱偏離.

解：對稱面內的任何無定期增加干涉。這運動的不安定，可引成俯衝或失速的動作。

[Any non-periodic increasing disturbance in the plane of symmetry. The instability of motion which leads to a nose-dive or to stalling.]

divided axle, 【機】分裂軸.

解：飛機起落架上所裝用的一種軸，在中心旋轉，而裝輪的兩端可上下移動。

[A type of axle used on airplane landing-gear which is pivoted at the center so that the two ends carrying the wheel are free to move up and down.]

dividers, 【儀】兩腳規.

解：兩腳規極與圓周規相似，用以測量海圖，地圖，平行四邊形力圖等的距離。這種兩腳規的二足均為尖端，但圓周規的二足略有不同，因為一足為尖端，一足為鉛筆。

[An instrument similar to a drawing compass, used to scale off distances on charts, maps, parallelograms of force, etc. The instrument has two sharp points rather than one point and a lead, as in a drawing compass.]

dizzy pilot, 【飛】冒險飛航員。

解：此乃俚語，指喜作各種冒險飛行動作，而僥倖未遭失事的飛航員。

[A dizzy pilot is one who is always taking chances.]

dock, 【艇】氣艇棚廠。

解：此字本作船塢解，在氣艇方面則指氣艇棚廠。

[A term sometimes applied to an airship shed.]

docking cradle, 【艇】泊艇架。

解：氣艇在棚廠吹氣時抬起懸艇所用的支持架。硬式氣艇多有這種的設備。

[A support for the car of an airship while it is being inflated in the shed. Mostly used with rigid airships.]

docking rail, 【裝】【艇】棚廠操作。

解：一種軌道或導條建築在降落場，伸入棚廠內，以便握住氣艇的側拉降落索，用軌上的小車向前拉動。普通裝用雙軌，相離甚寬，且可伸入棚廠。

[A rail or guide, constructed on the landing field and extending into the shed, which supplies a means for holding the lateral pull of an airship's docking or handling lines. The pull is transmitted to the rail from wheeled cars or trolleys which

are fitted on or in the rails. Usually two rails are fitted at the greatest distance apart which will permit them to be run into the shed.]

docking trolley, 【設】【艇】棚廠小車。

解：裝置在棚廠鐵軌上的小車，用以拉動氣艇入廠索。車上裝輪，內有抗摩擦的軸承，所以可在鐵軌上自由滾動。車上通常亦裝有速脫器，能將入廠索放脫方便。

[A car or trolley fitted on (or in) docking rails to transmit the pull of an airship docking line. It is fitted with wheels having antifriction bearing so it can move freely in the rail. Usually some port of quick-release device for letting go the line is also fitted.]

dog fight, 【軍】格鬥飛行。

解：一種空軍戰鬥飛行。

[One kind of aerial combat.]

doldrums, 【氣】赤道無風帶。

解：熱帶的低氣壓和無風的區帶，該地氣候平靜，空氣輕而易變，多大雨，大雷雨，及驟風等。

[The equatorial oceanic regions of calms and variable winds which are often associated with heavy rains, thunderstorms and squalls.]

dope, 【材】塗料。

解：塗料是一種外漆，用於飛機布面上，能保護布面，并使它緊縮不致透氣。塗料常係環路塔或棉膠化合物，溶解於酒精或丙酮液中 (ether or ace-

dope(airplane)—drag

tone).

[The finish applied to aircraft cloth fabric, to shrink, preserve and cause air-tightness. Dopes are usually cellulose or collodion compounds, soluble in ether or acetone.]

dope (airplane), 【材】飛機塗料。

解：一種液體塗在飛機的布面上，使布面的強度增高并致緊縮不透氣。

[The liquid material applied to the cloth surface of airplane to increase strength, to produce tautness by shrinking and to act as a filler for maintaining air-tightness.]

dope (airship), 【材】氣艇塗料。

解：一種液體塗在氣艇布面上成橡皮面，使氣體不致漏出。此與飛機塗料不同點，是不致緊縮。

[A liquid material applied to rubberized airship fabric to increase gas tightness. In contrast with airplane dope it does not cause shrinking.]

dope (pigmented), 【材】着色塗料。

解：飛機塗料加有顏色的粉，名着色塗料，這種塗料為不透明體，能保護布面不為日光所侵蝕。

[An aircraft dope to which a pigment has been added to make as opaque finish, or to protect it from the effects of sunlight.]

down draft, 【氣】下降氣流。

解：向下拂過障礙的風流，或下降的寒冷氣流。

[A draft sweeping down over an obstacle or a cool descending

draft of air. The former is likely to be of the more violent nature.]

downwash angle, 【力】向下洗流角。

解：機翼後緣使氣流向下流動。向下洗流角可用與對稱面平行的平面來測量，符號為 ϵ 。

[The angle through which an air stream is deflected by any lifting surface of an airplane. It is measured in a plane parallel to the plane of symmetry and is denoted by the symbol ϵ .]

down wind, 【飛】下風。

解：即順風之意，此名辭甚少採用，惟於飛行或滑走時對逆風作半轉彎，并由順風變方向而言。

[Pertaining to a tail wind. This term is seldom used, except in reference to a half turn made while flying, or taxiing, against a head wind and changing the direction of travel to that of the tail wind.]

down wind turn, 【飛】下風轉彎。

解：飛機於滑走或飛行時對風向左或右作一百八十度轉彎，即稱為下風轉彎。

[When an airplane is taxiing, or flying against a head wind and turns to the right or to the left, 180 degrees-half turn, it is said to be a "down wind turn".]

drag, 【力】阻力。

解：飛機或機翼上總空氣動力中的相對風力的平行分力，阻力的符號是D，絕對阻力係數是 C_p ，如下列公式：

drag - drag (mooring)

$$C_p = \frac{D}{qS}$$

其中 D=阻力

q =衝擊的壓力 ($=\frac{1}{2}\rho V^2$)

S =空氣動力有效的面積

在飛機上，機翼所致的阻力，為翼阻力，其他部分則稱為結構阻力，或廢阻力 (structural drag or parasite resistance).

induced drag [力] 誘導阻力。

解：發生昇力所誘導或致成的一部分翼阻力。

profile drag [力] 翼剖面阻力。

解：因為流體摩擦和擾亂所致成的一部分翼阻力，然在無黏性液體中則不發生。

[The component parallel to the relative wind of the total air force on an aircraft or airfoil. Its symbol is D. The "absolute drag" coefficient is C_p as defined by the equation

$$C_p = \frac{D}{qS}$$

in which D is the drag, q is the impact pressure ($=\frac{1}{2}\rho v^2$)

and S is the effective area of the surface upon which the air force acts. In the case of an airplane, that part of the drag due to the wings is called "wing drag"; that due to the rest of the airplane is called "structural drag" or "parasite resistance".]

drag. [力] 翼抵抗。

解：翼面在空氣中推動時因反應所生的水平分力。

[The horizontal component of

reaction produced when airfoil are thrust through the air.]

drag axis, [力] 阻力軸。

解：穿過機身重心而與風向平行的一條直線，它的方向是飛機和空氣成相對的地位。(參閱附錄第七圖)

[The straight line through the centre of gravity and parallel to the direction of the relative wind. The positive direction is that of the air relative to the aeroplane.]

drag coefficient, [力] 阻力係數。

解：每平方呎翼面在一固定衝角上而每小時速度一哩所得的磅數為阻力係數。它的方程式為

$$D = K_x AV^2$$

其中 D=阻力的磅數

K_x =阻力的係力

A=翼面的平方呎

v^2 =速度自乘的平方數

[The value of the drag in pounds of one square foot of wing area traveling at a velocity of one mile per hour at a given angle of attack. This leads to the formula $D = K_x AV^2$ where

D=the drag in pounds

K_x =coefficient of drag

A=wing area in square feet

V^2 =velocity squared.

drag (induced), [力] 誘導阻力。

解：發生昇力所誘導或致成的一部分翼阻力。

[That portion of the wing drag induced by, or resulting from the generation of lift.]

drag (mooring), [艇] 活動錨。

drag (parasite)—drain (air-intake)

解：這是一個活動并可變動的重量，當氣艇在繫留柱上停泊時，可藉助艇尾抑制上下和兩側的搖動。

[A movable and/or variable weight, suspended from the after part of an airship's structure while moored at a mast, to aid in restraining the vertical and lateral motions of the stern of the airship.]

drag (parasite), [力] 廢阻力。

解：這是個集合的名稱，專指飛機除開機翼(有用昇力面)以外的一切部分所產生的阻力。

[A collective term which refers to the drag produced by all parts of the airplane except the wings—useful lifting surface.]

drag (profile), [力] 翼剖面阻力。

解：因為氣體摩擦和擾亂所造成的一部分翼阻力，然在無黏性氣體中則不發生。

[That portion of the wing drag which is due to friction and turbulence in the fluid and which would be absent in a nonviscous fluid.]

drag rope, [艇] 曳索。(=controlling rope)

解：一根長索，懸掛在氣球的外邊，於着陸時可作制動或壓載物之用。如落地索或引導索(trail rope or guide rope)。此索懸掛在氣艇上，地面人員將此作拉下索或繫留。此索常較握索(handling line)粗而長，亦稱為握緊索(grab line)。

[A long rope which can be hung overboard from a balloon so as

to act as a brake and a variable ballast in making a landing. Same as "trail rope" or "guide rope". On airship a similar rope or ropes is used as a haul-down or mooring line by the landing crew. It is usually larger and longer than a regular handling line. Sometimes called "grab line".]

drag strut, [機] 阻力支柱，翼內支柱。(=compression member)

解：機翼內部支張系的前後縱柱。
[A fore-and-aft compression member of the internal bracing system of a wing.]

drag wire, [機] 阻力線。

解：線的主要機功用，是將翼面的阻力傳遞至機身或其他結構部分上，則稱為阻力線。(參閱附錄第十五圖，36)
[Wires or cables the principal function of which is to transfer the drag of the planes to the body or other part of the structure.]

drag wire (balloon), [艇] [球] 阻力線。

解：由吊籃前方引達艇身或氣囊的一條線，用以傳遞阻力。

[A wire led forward from a car to the hull or envelope to transmit drag.]

drain (air-intake), [發] 吸氣孔放油管。

解：吸氣孔上裝接的一條小管，為防免汽油的儲積。

[A small pipe fitted to the air-intake to prevent accumulation

drift—drip band

of fuel.]

drift. 【力】偏流，【飛】偏航。

解：【力】飛機因氣流的關係所生的側向速度。

【飛】因偏風所致離開航向的運動。

① The lateral velocity of an aircraft due to air current.]

② The movement away from the line of heading caused by cross winds.]

drift angle. 【力】偏流角 【飛】偏航角。

解：在側風中航行時，航空器的縱軸與飛行路線所成的角度。

[The horizontal angle between the longitudinal axis of an aircraft and its path relative to the ground.]

drift-angle sight. 【儀】偏航角測視器。

解：一種決定偏航角度的儀器。

[An instrument for determining the drift-angle.]

drift bar. 【儀】偏流尺，偏航尺。

解：偏航計內表示飛機縱軸對於地面運動的明白方向的機件。這種機件常係絲形或條形，可照運動的方向而定置。

[A part of a drift meter or other instrument for indicating the apparent direction of motion of the ground relative to the fore-and-aft axis of the aircraft. It usually consists of a wire or arm which can be set along this direction of motion. Cf. drift.]

drift float. 【氣】偏航浮筒。

解：航空器向水面墜下的一種物件。用作參物以便觀測偏航角或水面風向。

[An article or substance dropped from an aircraft over water, forming a point of reference for observing the drift angle or the surface wind direction.]

drift meter. 【儀】偏航計，偏航表。

解：測量飛機縱軸和它的地面航線的角度。此計有一個偏航尺并一個角度分度盤，如能使它水平，可得正確的示數。

[An instrument for measuring the angle between the fore-and-aft axis of an aircraft and its path over the ground. One form consists of a drift bar provided with a suitable angular scale. (Cf. drift) The instrument is graduated to read correctly when it is level.]

drift indicator. 【儀】偏航指示器。

解：偏航指示器可測定機頭因偏流偏出的角度。

[An instrument for determining the angle of departure from the aircraft heading, due to lateral velocity.]

D-ring. 【機】D形環。

解：環如D字形，繩索可在上繫掛。

[A ring having (as the name implies) the shape of a capital D, to which rope suspensions are attached.]

drip band. 【球】【艇】滴水帶。(=drip cloth)

解：這是一條布帶裝在浮昇器外殼的

drip flap—dry ice

一邊，能使雨水由此布帶流下，而不致滴落於吊籃或懸甕內。這種布帶能保護懸索乾燥不導電。有時亦稱滴水條。(參閱附錄第二十三圖)

[A strip of fabric attached by one edge to the envelope of an aerostat so that rain runs off its free edge instead of dripping into the basket or car. It also assists in keeping the suspension ropes dry and non-conducting. Also called "drip flap" and "drip strip".]

drip flap, [球] [艇] 滴水條。

解：同 drip band.

drip strip, [球] [艇] 滴水條。

解：同 drip band.

drive fit, [工] 壓嵌接合。

解：二塊密接的部分，係將一塊擊打嵌入他塊的裏面。

[Two pieces of such close dimensions that it is necessary to drive one piece into the other with blows.]

drizzle, [氣] 霰霖雨。

解：極小水滴的降雨。

[Precipitation in which the drops are very small.]

drogue, [裝] 水錨。

解：航空器上攜帶的開口布袋，將此布袋拖留水中，袋口向前，即能發生相當的阻力。也稱 sea anchor.

[An open fabric bag carried on an aircraft and arranged to offer considerable resistance when towed mouth first through water. Tripping or collapsing devices may be incorporated in

it. Also called "sea anchor".]

dropping angle, [力] [軍] 投上角，投彈角。

解：在準葷投彈時飛機對地垂直線前，和對準着點的瞄準線所成的角度，其所包括的垂面地程，即彈重的射程，故有時亦稱為射程角。(range angle)

$$\text{投下角} = \tan^{-1} \frac{\text{射程}}{\text{高度}}$$

(參閱附錄第四十一圖)

[The angle between the vertical and the straight line joining the aircraft to the target at the correct moment for release.]

dry adiabatic lapse rate, [氣]

乾燥空氣斷熱垂直溫度差。

解：乾燥空氣，接近地面，而在斷熱情況中，的垂直溫度差。(每100公尺攝氏1度或每1,000呎華氏5.5度)

[The lapse rate of dry air near the earth's surface under adiabatic conditions. (1° C. per 100 metres or 5.5° F. per 1,000 feet,)]

dry ice, [材] 乾冰。

解：凝成固體的炭氧二，據基爾伯氏研究，炭氧二如其他氣體，有三種情況，即氣體，液體及固體。亦如他種氣體，用壓力縮壓之，則由氣體變成液體，因潛熱排除，溫度降低。於是減去壓力，液體變成固體，大約百分之75—80變成雪狀，其餘則變成低溫度之氣體與液體。如此所成的雪再加壓力而成雪塊。商業界中所出售乾冰塊，較水冰塊為密，每立方尺之炭氧二冰塊要較水冰重一倍，此不過看壓力之大小而定，是以商業乾冰不可一概而論也。

[Solidified carbon dioxide; sometimes called carbice, like

dry sump—dry sump engine

many other gases, has the capacity of existing in three separate states, namely, gas, liquid and solid. Like many other gases, it may be liquified by the application of pressure produced by compression using a gas compressor for the purpose, then subsequently cooled to remove the heat of compression and the latent heat. The liquid may then be converted to the solid state by reducing the pressure and allowing same to escape through a control valve into a suitable container where approximately 75 to 80% forms snow and the remainder passes off in the form of low temperature and low pressure gas to be recovered and reconverted to the liquid state. The snow thus formed is compressed into dense cake which resembles somewhat a cake of closely packed fine snow. As produced for the trade, a cake of dry ice is more dense than water ice and its weight per cubic foot is approximately twice that of water ice, depending upon the pressure used for compressing the snow. Not all commercial dry ice has the same density.]

dry sump, [發] 乾槽。

解：僅有小滑油槽的發動機，而滑油是由這裏用唧筒送至外面的蓄油池或油箱裏。

[An engine having only small oil collecting sumps from which the oil is pumped to an outside reservoir or tank.]

dry sump engine, [發] 乾油槽發動機。

解：乾油槽發動機的滑油主體是裝在外面的一個貯油器裏，從這個貯油器有一根油管通到壓力唧筒。當滑油盡了潤滑作用以後，剩下的滑油流到機箱下部，從這裏又因一個叫作“回油唧筒”的作用，運行回到貯油器裏面。Liberty 發動機和幾種 Hispano-Suiza 發動機都是有乾油槽的。凡是星形發動機都是裝有乾油槽的，因為發動機的機箱裏沒有貯多量滑油的設備。此外乾油槽發動機有一種比較好的冷卻效果，因為循環時要經過一個外部貯油器的原故。

[In the dry sump engine the main body of oil is carried in an outside reservoir, which has a lead to the pressure pump. After the oil performs its lubricating function, the excess drains to the lowest parts of the crankcase from whence it is returned to the reservoir by a second oil pump called the "scavenging pump". The Liberty engine and several models of the Hispano-Suiza engine are dry sump engines. All radial engines are dry sump engines, because they have no facility for quantity oil storage in the crankcase. The dry sump arrangement permits better

dry weight(net)—duralumin

cooling of the oil by circulation through an external reservoir.]

dry weight (net), [發] 實淨重。

解：發動機的重量並包括下列各構件：——點火系，並有連繫與蔽護等物 (bonding and screening)；氣化器和誘導系並有發動機啟動唧筒，排水集合管 (water-outlet-collector pipes) 直桿裝置，而互相連接二個或數個氣化器或磁電器起動齒輪和發動機附和零件，增壓器和必要的管子，但排氣支管和歧管或短管，排水集合器和唧筒，向散熱器連接的管子，吸氣管油和水等均不在內，以前螺旋槳殼本包括在內，現因國際習慣，亦不在內計算。

[The weight of an engine, including ignition system, with bonding and screening; carburettors and induction systems; with engine-driven fuel-pump; water out let collector-pipes; rods fitted to interconnect two or more carburettors or magnetos; starting gear and accessory drives incorporated in the engine; supercharger with necessary pipe work; but excluding exhaust branch-pipes and manifolds or stub pipes; pipes connecting water-outlet-collector and water pump to the radiator; air-intakes; oil and water.]

dry weight of an engine, [發]

發動機的淨重。

解：發重機的重量，包括氣化器和點火系全部，螺旋槳殼全部，減速齒輪；

但排氣歧管，滑油管及水管等不在內。設機內裝有起動機，則係機內結構的一部分，故它的重量當然亦包括在內。

[The weight of the engine including carburetor and ignition system complete, propeller hub assembly, reduction gears, if any, but excluding exhaust manifolds, oil, and water. If the starter is built into the engine as an integral part of the structure its weight shall be included.]

dual ignition, [發] 複式點火

解：複式點火是用兩個不同的點火系，在一個氣缸裏使兩個分離的火塞點火的意義。

[Two entirely distinct and separate ignition systems which serve two separate spark plugs in each cylinder.]

dual-purpose generator, [電] 雙用發電機。

解：一種發電機能為燈泡的陽極和燈絲，供給低壓和高壓的電流。

[A generator which supplies both high and low tension current for the anodes and filaments of the valves.]

duralumin, [材] 硬鋁。

解：製造氣艇和飛機常用的一種混合鋁。它的化合成分及性質現列如下：

銅，3.5至5.5%

錳，0.4至1%

鎂，0.2至0.75%

鋁，92%，最少量。

張力，極極點，每平方吋55,000磅

彈性能範圍的張力，每平方吋30,000磅

dust counter—dynamic factor

終極張力上伸長2吋(試驗材料 $\frac{1}{2}$ 吋寬)18%

比重最大為2.85

這種混合鋁常用作機翼，翼面和機身製造的材料。它的強度若在重量方面言之，要較銅強三倍。機身或機翼外皮是採用極光滑表面的硬鋁片，蓋此可減少表面的摩擦。硬鋁片的釘置是採用鉚釘。若飛機外皮裝用波紋形的硬鋁片，則重量如舊而強度遞增。

[An alloy of aluminum which is much used in aeronautics, especially for the structure of ship and airplane. Its chemical composition and physical properties are about as follows: Copper, 3.5 to 4.5%

Manganese, 0.4 to 1%

Magnesium, 0.2 to 0.75%

Aluminum, 92%, minimum.

Tensile strength, ultimate, 55,000 pounds per square inch.

Tensile strength at elastic limit, 30,000 pounds per square inch.

Elongation of 2 inches at ultimate strength (test specimen $\frac{1}{2}$ inch wide), 18%

Specific gravity not more than 2.85.

This aluminum alloy is used extensively in wing construction and for the covering of wings and fuselages. It has about three times the strength of steel for the same weight. For covering, it is generally applied with a very smooth finish,

which offers greatly reduced skin friction. Duralumin is usually fabricated with reveted construction. The corrugations in sheet duralumin, used for covering, add a great deal of strength without materially adding weight.]

dust counter, 【儀】數塵器。

解：一種儀器測量一已知體積空氣內的塵埃數量。

[An instrument for measuring the number of dust particles in a known volume of air.]

dust devil, 【氣】塵卷風。

解：一種小迴風係由沙漠區域內的強烈對流所成，而將沙捲起成直柱的形狀。

[A small whirlwind, formed by strong convection over desert regions, which raises sand in a vertical column.]

dust storm, 【氣】沙風(風沙)。

解：一種強風，攜帶塵沙，至極廣大的區域。

[Strong wind carrying dust or sand extending over a considerable area.]

dynamic balance, 【力】動力均衡。

解：一旋轉物體在一種情況中它的一切旋轉力，均自為均衡，故於運動時無振搖發生。

[A rotating body in a condition wherein all rotational forces are balanced within themselves so that no vibration is produced while the body is in motion.]

dynamic factor, 【力】動力率。

dynamic lift—dyne

解：飛機加速時任何部分的攜載對於適當基本載重間的比率。

[The ratio between the load carried by any part of an aircraft when accelerating and the corresponding basic load.]

dynamic lift, 【力】【軛】 動力昇力。

解：浮昇器因相對空氣運動而得的氣動昇力。

[The aerodynamic lift due to movement of the air relative to the aerostat.]

dynamic load, 【力】 動力載量。

解：航空器因加速行動的關係而發生的任何負荷，即名為動力載量，它與質量成正例。動力載量也是一個抽象的名詞，對基本載量而言。

[Any load due to acceleration of an aircraft, and therefore proportional to its mass.]

dynamic (or impact) pressure.

【力】 動壓，歧點壓，

解： $\frac{1}{2}\rho v^2$ 的乘積，其中 ρ 是空氣的密度， v 是空氣的相對的速度。這種質量可用空速儀器測量得之，它的符號是 q 。

[The product $\frac{1}{2}\rho v^2$. where ρ is the density of the air and v is the relative speed of the air. It is the quantity measured by most air-speed instruments. Symbol is q .]

dynamic soaring, 【飛】 動力翱翔術。

解：這種翱翔術是因風速變更所得的昇力而利用翱翔速度的動能。

[It is accomplished by utilizing the kinetic energy of the soaring

velocity to obtain lift from changes in the wind velocity.]

dynamic stability, 【力】 動力安定性

解：假如飛機由穩定的運動，而改為飛行動作時，則這種特性，能將飛機的運動恢復穩定，且復原力距 (restoring moment) 所致的震動，亦被消失。靜力定性，和動力安定性普通鑑別方法，就是靜力安定性，專賴復元之力距，而動力安定性，則有滯動因數的作用。

[Stability of such a character that, if the airplane is displaced from steady motion in flight, it tends to return to that steady state of motion, the oscillations due to restoring moments being damped out. In a general way, the difference between static stability and dynamic stability is that the latter includes the action of damping factors.]

dynamic trim, 【飛】 動力俯仰配平。

解：因為動力情況或因它們的改變的配平。

[Trim or trimming due to dynamic conditions or their changes.]

dyne, 【力】 達因。

解：力的穗克秒制中的絕對單位，此力作用於一克質量，能使其每秒時間，增加的速度為一每秒穗。

[The c.g.s. unit of force. The force capable of imparting in one second a velocity of one centimeter per second to a mass of one gram.]

E

earth inductor compass, 【儀】

地磁感應羅盤。

解：這種方向指示器是依賴發電機磁場和地磁場的關係。發電機的電刷由管制器定置在某種航向時，則飛機在航向上飛行無電流發出，而測電表的示數為零度。設偏出規定的航向，測電表則向左或向右表示偏差的度數，由此可知飛機航向左或右的偏出。

[A direction indicator depending on the earth's magnetic field of an electric generator. The generator brushes are set for a given course by a controller so that while the airplane remains on the course no current is generated and a galvanometer reads zero. Deviation from the course will cause reading on the galvanometer to the right or left of zero, indicating that the airplane is off the course to the right or left.]

eccentric, 偏心的。

解：偏心是說盤心不在中央的意義，例如導輪，它的廓輪各點不與中心成相等的距離。凡要不規則盤形運動的地方，均是採用此法。

[It means not having the same center. In regard to cams, the points on the contour are not

equidistance from the center. Used to obtain other than true circular motion.]

ecliptic, 【氣】黃道。

解：黃道是一個大圓圈形，太陽在天球中循圈而運行。黃道因地球的年轉的原故，是以不能與天球赤道 (equinoctical line) 相重合。

[The great circle representing the path in which the sun appears to move in the celestial sphere. The ecliptic does not coincide with the equinoctical because of the annual revolution of the earth.]

economic speed, 【飛】經濟速度。

解：在靜止空氣中飛過每個距離單位而用最小燃料消耗量的速度。

[The speed of an aircraft at which control can be maintained.]

economizer, 【發】節約器。

解：這是在氣化器內，和油門管制器相連接的一種燃料流出副件。此器能使駕駛員在巡航速度上多加燃料，使混合氣變濃，以致增高動力與速度，但在巡航速度上為經濟起見，可將此器的燃料停止流出。

[An auxiliary fuel flow device in a carburetor which is connected with the throttle control.

eddying motion—elasticity(modulus)

It permits the pilot to enrich the mixture for power and speed above cruising speed by introducing more fuel, but cuts off the reserve flow of fuel for economy at cruising speed.)

eddying motion, [力] 渦動.

解：液體的速度超過某種臨界值，和少數分子的路線由平滑線而變為不規則或曲線時的一種運動，則稱渦動。

[The motion of a fluid when its speed exceeds a certain critical value and the paths of some of the particles change from smooth to irregular or looped curves.]

effective helix angle, [力] 有效螺旋角.

解：飛機在空中推進時，螺旋槳葉某一點的螺旋角。此角等於一角，其切線為飛行速度與四個數量之積之比：2π, γ (由軸至某點的距離)與n(每秒鐘轉數), i.e.:

$$\Phi = \tan^{-1} \left(\frac{v}{2\pi \gamma n} \right)$$

[The angle of the helix described by a particular point on a propeller blades as the airplane moves forward through air otherwise undisturbed. It is equal to the angle whose tangent is the ratio of the velocity of flight to the product of the four quantities; 2π, γ (the distance from the axis to the point in question) and n (the number of revolution per second), i.e.:

$$\Phi = \tan^{-1} \left(\frac{v}{2\pi \gamma n} \right)$$

effective thrust, [力] 有效推力.

解：螺旋槳裝架於飛機上所出的淨數推動力量，此即是在飛機上的螺旋槳所發生的實際推進力，減去螺旋槳作用所增的飛機阻力而得的餘數。

[The net driving force delivered by a propeller when mounted on an airplane, i.e., the actual thrust given by the propeller, as mounted on the airplane, minus any increase of resistance of the airplane produced by the action of the propeller.]

efficiency, [力] 效率.

解：總受動力和輸出力的比例，或係設計的有效性。

[The ratio of output, or the effectiveness to design.]

elasticity(modulus), [力] 彈性係數.

解：將某一種物質施加應力(stresses)使它變形，則應力與變形的比即是彈力係數。代表彈力係數的字母是E，而E等於每平方吋面積上所受的應力除以每平方吋面積上所感到的變形，E所代表的數字往往能達到每平方吋幾百萬磅之大，因為變形與應力相比較，變形是非常的小。

[The ratio between the stress and the resulting deformations caused thereby for a given material. The symbol for modulus of elasticity is E and it equals the stress in pounds per square inch divided by the deformation per inch. Figures for E run into millions of pounds per square inch, because the deformation is very small

elastic limit of a material—electric furnace

compared to the stress causing it. It has been frequently stated that a ratio is number only (without denomination) and is true in this case, referring only to the stress applied and the unit area.]

elastic limit of a material,

【力】材料的彈性限度。

解：材料如超過這個緊張的範圍，即被分裂。若它的彈性係數時常保持恆定，則彈性限度不致達到。

[The limit of strain beyond which the material will rupture. As long as the modulus of elasticity remains nearly constant the elastic limit is not reached.]

electrical conductors, 【電】導電體。

解：電流能流過的材料。

[Materials which have the property of conducting electricity.]

electrical discharger gear, 【艇】放電裝置。

解：銅質導電物裝配在繞纏繫留氣球布帶上，以便氣囊通地。（參閱附錄第二十四圖，52）

[Copper conductors mounted on fabric bands round a captive balloon to earth the envelope.]

electrical horse power, 【電】電馬力。

解：電馬力為746瓦特，其計算法如下；一瓦特等於每秒鐘一朱爾或每分鐘60米爾，一米爾等於.7374呎磅，因此60米爾等；

$$60 \times .7374 = 44.244 \text{ 呎磅}$$

因一馬力=33,000 呎磅每分鐘，一馬力相等電力是。

$$33,000 \div 44.244 = 746 \text{ 瓦特。}$$

$$\text{或, } \frac{746}{1,000} = .746 \text{ 基羅瓦特}$$

又，基羅瓦特或'，000瓦特等於

$$1,000 \div 746 = 1.34 \text{ 馬力}$$

[746 watts. It is obtained as follows; One watt is equivalent to one joule per second or 60 joules per minute. One joule in turn is equivalent to .7374 ft. lbs., hence 60 joules equal:

$$60 \times .7374 = 44.244 \text{ ft. lbs.}$$

Since one horse power 33,000 ft. lbs. per minute, the electrical equivalent of one horse power is

$$33,000 \div 44.244 = 746 \text{ watts.}$$

$$\text{or } \frac{746}{1,000} = .746 \text{ kilowatt (kw.)}$$

Again, one kilowatt or 1,000 watts is equivalent to

$$1,000 \div 746 = 1.34 \text{ horse power.}]$$

electric current, 【電】電流。

解：在導體內流動的電。

[Electricity in motion in conductors.]

electric furnace, 【電】電爐。

解：一種用電燒熱之冶金爐，作不易鎔化之工作，電爐種類極多如：電阻式，弧光式，感應式，高週率式，低週率式等。

[A furnace heated by electricity for performing difficult or unusual fusion, especially in metallurgical processes. There

electric furnace(direct resistance type) - electric motor

are numerous types of electric furnaces classed as: a. resistance; b. resistor; c. charge resistance; d. arc; e. direct arc; f. indirect arc; g. smothered arc; h. induction; i. low frequency; j. high frequency.]

electric furnace (direct resistance type), [電] 電爐(直阻式).

解：將反應混合物置於電流兩極之間，因該物之本身電阻，而溫度昇高至所要之度數。品炭及矽鐵爐為普通之例子。

[One in which the reaction mixture is inserted between the electrodes and by its own resistance the passage of the current brings the charge up to the requisite temperature. Graphite and carborundum furnaces are examples of this type of furnace.]

electric generator, [電] 發電機.

解：利用電磁感應的原理而將機械力變成電力的機器。

[A machine which transforms mechanical power into electrical power by utilizing the principles of electromagnetic induction.]

electricity (atmospheric), [氣]

空中電氣.

解：大氣所攜帶的電荷平均昇高每一呎高度增加300弗打。

[The electrical charge carried by the atmosphere increased at an average rate of 300 volts per foot increase in altitude.]

electricity, (static), [電] 靜電.

解：這是固定不流動的電。充量的靜電如能通地則發出火花，故此種火花常有釀成火患的可能。載油車上的曳鏈，可用以繼續向地放電，以免靜電在燃料附近凝集太多而有發生火花的危險。

[Electricity at rest or stationary, but without any current flow. Sufficient static electricity may be dissipated in the form of spark by grounding the object which is in this condition. Static discharges of this nature are responsible for many fires. The dragging chain on a gasoline laden truck is used to continuously discharge static electricity at the ground to prevent dangerous accumulations which may be accidentally discharged near the fuel.]

electric motor, [發] 電動機.

解：這是將電力變成機械力的機器，它的原理係利用電壓的高低不同所致。先用磁製成一個磁場產生磁力線，再在該磁力線範圍內置一個可以轉動的電樞，上面通以電流，這樣就產生電壓高低的不同而致電樞旋轉，發生機械動力。

[A machine that transforms electric power into mechanical power by means of the pressure set up between the lines of force of a magnetic field and the field of force about the current-carrying windings of a rotating armature.]

electrode, [電] 電極.

解：電路兩端上所用的導體（如電火塞的發火點，弧光燈的炭極，弧光鐸火上的填塞極等。）

[An electric conductor generally used at a terminal position in a circuit (points on a spark plug, carbons in an arc lamp, filler electrode in arc welding, etc.).]

electrode (fluxed or coated),

[電] 鎔劑電極.

解：這是金屬的電極（如弧光鐸火的填塞極）能使鎔劑由此噴出，浸出，或塗上。

[A metal electrode (filler electrode as in electric arc welding) on which the flux has been applied by spraying, dipping, or painting.]

electrolyte, [電] 電解液.

解：儲電池內的濃硫酸（一分）和蒸溜水（二分之）的混合液。

[The mixture of concentrated sulphuric acid (1 part) and distilled water (2½ parts) in a storage battery.]

**electrolyte (battery), [電] 電池
電解液.**

解：電瓶內的液體，通常係稀硫酸液。
[The solution in an electric cell. In a storage cell this is usually a solution of dilute sulphuric acid.]

electro-magnets, [電] 電磁.

解：電磁普通皆為一個軟鐵心，在這軟鐵心上用銅絲作導體向一個方向繼續纏繞。當在這導體上通電時，必有電

力線輻射出來影響到導體所纏的鐵心，使它磁化。電流發生磁場，磁場又為纏繞的電線所集中。電磁的電力依電流的多寡及線圈纏繞的匝數為轉移。此則常謂「安培匝數」，換言之，三安培電流流過十匝的線圈，則發生30安培匝的價值。

[An electro-magnet consists usually of a soft iron core about which a copper wire conductor is wound or coiled continuously in one direction. When a current passes through the conductor some lines of force which radiate from it take up a position inside of the core, and cause it to be magnetized. The current flow produces the magnetic field, and this field is concentrated by coiling the wire.

The magnet strength of an electromagnet depends upon the value of the current supply and the number of turns or windings of the coil. This is expressed as "ampere turns", i.e., a current of three amperes flowing through ten coils of wire gives a value of 30 ampere-turns.]

electromagnetic inductance,

[電] 電磁感應.

解：導體在磁場內運動割斷磁力線時一種電流流電的趨勢。

[The tendency for electric currents to flow in a conductor when the conductor is moved

electromagnetism—emergency landing

across a magnetic field to cut the lines of force in that field.)

electromagnetism, [電] 電磁性。

解：導體當電流通過周圍所發生的磁性。

(The magnetism produced around a conducting medium when a current flows through it.)

electromotive force, [電] 電動力 (略寫 E.M.F.)

解：二物體間或一物體的兩部間的地位或電壓的差量。

(The difference of electrical potential or pressure between two bodies or parts of the same body.)

elektron, [材] 硬鎂。

解：此為鎂的混合金屬 (alloy of magnesium), 關於此種混合金屬現仍繼續研究, 為美國空軍部所特製。凡飛機的輕型部分如座位, 機身外殼發動機罩, 螺旋槳殼等, 多用此種混合金屬製造, 因其比鉛的混合金屬, 較輕百分之四十。

(It is an alloy of magnesium. Much has yet to be learned about elektron magnesium alloys, but they are now available to Air Ministry specifications, and are being increasingly used for the more lightly stressed parts of aircraft, such as the seats, the fuselage covering, the engine cowling, the propeller boss. Elektron castings are frequently used now. For lightly stressed parts elektron is claimed to be 40

per cent. lighter than aluminium alloys.)

elevation, [氣] 高度, 海拔。

解：在航空方面, 係指地面某固定點離開海面的垂直距離。若飛機離開海面或地面的垂直距離, 則稱為 altitude。

(As used in aviation, usually refers to the elevation above sea level of some fixed point upon the surface of the earth. When referring point upon the earth's surface, the term altitude is generally used.)

elevator, [機] 昇降舵。

解：這是一種補助翼, 能使飛機發生俯仰的動作。此舵是用軸連接於安定面上。

(A movable auxiliary airfoil, the function of which is to impress a pitching moment on the aircraft. The elevator is usually hinged to the stabilizer.)

elevator angle, [力][機] 方向舵角。

解：方向舵與中性位置所成的角度。昇降舵的位置在中性位置以下的, 稱為正角。

(The angular displacement of the elevator from its neutral position. It is positive when the trailing edge of the elevator is below the neutral position.)

emergency airport, [設] 應急航空站。

解：見 emergency landing field.

emergency landing, [飛] 應急降

emergency landing ground—endurance

落，
解：因惡劣天氣情況，或缺乏汽油，或因發動機，及結構障故以外的原因所必要的降落。

[An landing which is made necessary under the stress of bad weather conditions, low gasoline or oil supply or for any purpose other than engine or structural failure.]

emergency landing ground,

【設】應急降落場。

解：凡水一灣或場地一方，能供航空器起落的用途，未設有棚廠，補給，及修理航空器的設備，也不是正規的載卸空中乘客或貨物的地點。

[a locality, either of water or land, which is adapted for the landing and taking off of aircraft, but which is not equipped with facilities for shelter, supply, and repair of aircraft and is not used regularly for the receipt or discharge of passengers or cargo by air.]

E.M.F. 【電】電動力。

解：這是electromotive force的縮寫。

empennage, 【機】尾翼。(=tail plane)

解：這是尾翼組的集合名稱（內包括方向舵，昇降舵，及安定面等）。

[A collective name for the tail surface group (rudder, elevators and stabilizers).]

empirical formula, 實驗公式。

解：凡由經驗或不注意科學和理論而得來的的方法。

[One founded upon experiment

or experience without due regard to science or theory.]

emulsion, 【油】乳化法。

解：這是將各種液體攪打而成的一種機械混合液體（通常內含空氣）。凡液體不能用化學方法變為其他化合物時，則用乳化法。斯多柏氧化器 (stromberg carburetor) 的空氣管將空氣灌入而使主油出口的汽油乳化。

[A mechanical mixture of liquids (and usually air) made by beating or whipping the liquids together. An emulsion occurs when the liquids are not chemically suited to combine in the form of another chemical. The introduction of air through the air bleed of a Stromberg carburetor produces an emulsion with gasoline, which is discharged through the main discharge nozzle.]

emulsion test, 【油】乳化試驗。

解：此種試驗用以決定油由蒸溜水的乳化情況完全分離所必要的時間。

[Used to determine the time required for oil to separate complete from an emulsion with distilled water.]

end boiling point, 【油】最後沸點。

解：蒸溜最後一滴汽油的溫度。

[The temperature at which the last drop of gasoline will be distilled.]

endurance, 【力】【飛】耐航，持久，耐航時間。

解：一架飛機在指定情況不再加添燃料而能繼續飛行的最久時間。

end(wrist-pin)—engine cam

[The maximum time an aircraft can continue flying under given conditions without refuelling.]

end (wrist-pin),【發】活塞銷端。

解：補助聯桿的曲柄軸端。(參閱附錄第二十九圖)

[The crank-pin end of an articulated rod.]

energy,【力】能力。

解：能力是作工的器能，汽油含有熱和能，若釋放出來時則能完成工作。水和物在高度上含有勢能 (potential energy)，若由重力吸下時則成工作。

[Energy is the ability to do work. Gasoline contains heat energy, which, when released, will accomplish work. water and objects at high level have potential energy which will do work when gravity is allowed to draw them down.]

energy, (kinetic),【力】動能。

解：動能是一個動體的作工能量，即重量乘速度的平方 (自乘)，而用兩倍重力加速率所除得的商數。

[The capacity of a moving body to perform work and is equal to the weight times the velocity squared divided by two times the acceleration of gravity.]

engine (aero),【發】航空發動機。

解：為航空器發出原動力的發動機。

[An engine used to provide the motive power for an aircraft.]

engine (air-cooled),【發】氣涼式發動機。

解：發動機的氣缸是直由空氣向上吹動而散熱的。

[An engine having cylinders cooled directly by an air blast action on the cylinder head and barrel.]

engine altimeter,【儀】發動機高度表。

解：高度表的一種，根據增壓發動機進氣歧管內的壓力而指示高度。

[An altimeter for indicating the altitude corresponding to the pressure produced in the intake manifold on the supercharged engine.]

engine (arrow),【發】箭頭形發動機。

解：發動機有三排氣缸，它的尾端組成箭頭(↓)形狀。

[An engine with three rows of cylinders forming, in end view, a ↓.]

engine (axial),【發】順軸形發動機。

解：發動機的氣缸和傳動軸作平行的排列。

[An engine with its cylinders arranged parallel to the driving shaft.]

engine barrel-type,【發】筒形發動機。

解：這種發動機的氣缸是與主軸平行并係相等距離的排列。

[An engine having its cylinders arranged equidistance from and parallel to the main shaft.]

engine cam,【發】導輪式發動機。

解：這種發動機的傳動是由轉筒在主軸上的導輪輪面上動作而來。

[An engine driven by the action of rollers acting on the surface

engine(compression-ignition)—engine(dry weight of an)

of a two lobe cam, mounted on a main shaft.)

engine (compression-ignition),

【發】壓縮點火發動機

解：發動機的氣缸，係專利用壓縮發熱而點火，然不裝用電火塞。

[An engine in which ignition of the charge in the cylinder is produced by the heat of compression alone without the use of a sparking plug.]

engine controls, 【發】發動機操縱。

解：管制發動機動力輸出的機械。

[The means employed to control the power output of the engine.]

engine (diesel), 【發】重油發動機。

解：這種內燃燒發動機，是由壓縮熱而點火。這種燃料係用高壓注射，并無點火系和氣化器裝設的必要。

[An internal combustion engine depending upon the heat of compression for ignition. The oil fuel is injected under high pressure and no ignition system or carburetor is required.]

engine (dry sump), 【發】乾油槽發動機。

解：乾油槽發動機的滑油主體是裝在外面的一個貯油器裏，從這個貯油器有一根油管通到壓力唧筒，當滑油盡完潤滑作用以後，剩下的滑油流到機箱下部，從這裏又因一個叫作“回油唧筒”的作用，重行回到貯油器裏面。liberty 發動機和幾種 Hispano-suiza 發動機都是有乾油槽的。凡星形發動機都是裝用乾油槽的，因為發動機的機箱裏沒有貯多量滑油的設備。此外

乾油槽發動機有一種比較好的冷卻效果，因為循環時要經過一個外部貯油器的原故。

[In the dry sump engine the main body of oil is carried in an outside reservoir, which has a lead to the pressure pump. After the oil performs its lubricating function, the excess drains to the lowest parts of the crankcase from whence it is returned to the reservoir by a second oil pump called the "scavenging pump". The Liberty engine and several models of the Hispano-Suiza engine are dry sump engines. All radial engines are dry sump engines, because they have no facility for quantity oil storage in the crankcase. The dry sump arrangement permits better cooling of the oil by circulation through an external reservoir.]

engine(dry weight of an), 【發】發動機的淨重。

解：發動機的重量，包括氣化器和點火系全部，螺旋槳殼全部，減速齒輪；但排氣歧管，滑油管及水管等不在內。設機內裝有起動器，則係機內結構的一部，故它的重量當然亦包括在內。

[The weight of the engine, including carburetor and ignition system complete, propeller hub assembly, reduction gears if any, but excluding exhaust manifolds, oil, and water. If the starter is built into the

engine(gearred)—engine(opposed-piston)

engine as an integral part of the structure its weight shall be included.]

engine (gearred),【發】減速發動機。

解：這種發動機有一組齒輪連接在螺旋槳的補助軸上。這種裝設能使發動機和螺旋槳有各種的旋轉速度。

[Engines which have a gear train to an auxiliary shaft which carries the propeller. This arrangement permits of different speeds of rotation for the engine operation and the propeller.]

engine (H),【發】H字形發動機

解：發動機的氣缸排列是在尾部組成H字形狀。

[An engine with its cylinders forming, in end view, the letter "H".]

engine (in-line),【發】直線發動機。

解：發動機的氣缸排列是組成向前向後的行列。

[An engine with its cylinders arranged in rows (s) from front to rear (cf. Vertical engine.)]

engine (internal combustion),

【發】內燃燒發動機。

解：這是一種機械，能將燃料的潛熱能 (latent heat energy) 變為機械工作。

[A mechanical device designed to convert the latent heat energy of fuel into mechanical work.]

engine (inverted),【發】倒立發動機。

解：這種發動機的氣缸是裝在曲軸的下面。

[An engine having its cylinders below the crankshaft.]

engine (left-hand),【發】左轉發動機。

解：若人由螺旋槳軸的反端面向螺旋槳時，則此機的螺旋槳軸，是作反時針方向的旋轉。

[An engine whose propeller shaft, to an observer facing the propeller from the antipropeller end of the shaft, rotates in a counter clockwise.]

engine left-side,【發】發動機左邊。

解：觀察者若立在發動機沒有螺旋槳的那一端向有螺旋槳的那一端觀看，則其左手邊為發動機左邊。

[That side which, to an observer looking from the antipropeller end, lies on the left-hand side.]

engine (opposed-cylinder),【發】對置汽缸發動機。

解：發動機的氣缸排列是在同一平面中對置裝配，它的聯桿則在同一曲柄軸上工作。

[An engine with its cylinders arranged opposite each other in the same plane, their connecting rods working on the same crankshaft.]

engine (opposed-piston),【發】對向活塞發動機。

解：發動機的壓縮是由二活塞在同一氣缸內反動而致成。

[An engine in which the compression is effected by two pistons in the same cylinder acting in opposition.]

engine(pusher)—engine(wet sump)

engine (pusher),【發】推進式發動機。

解：凡發動機上裝配推進式螺旋槳的則稱爲推進式發動機。

[Any engine when fitted with a pusher aircrew.]

engine (radial),【發】星形發動機。

解：這機的固定氣缸是在同一曲軸上作星形的裝設。

[An engine having stationary cylinders aranged radially around a common crankshaft.]

engine (right-hand),【發】右轉發動機。

解：若人由螺旋槳軸的反端面向螺旋槳時，則此機的螺旋槳軸是作順時針方向的旋轉。

[An engine whose propeller shaft, to an observer facing the propeller end of the shaft, rotates in a clockwise direction.]

engine (rotary),【發】旋轉發動機。

解：這機的星形裝置氣缸是在同一曲軸上旋轉。

[An engine having revolving cylinders arranged radially around a common fixed crankshaft.]

engine (supercharged),【發】增壓發動機。

解：這種發動機有增壓的機件，能在正常氣壓及溫度以外使氣缸的充氣增高。

[An engine with mechanical means for increasing the cylinder charge beyond that normally taken in at the existing atmospheric pressure and tempe-

ature.]

engine(super compression),【發】最高壓縮發動機。

解：發動機有高縮比率，除超過預定高度外，無需全開油門工作，然在預定高度以下時則油門的開放大小，是由汽油門所限制。

[An engine of high compression ratio which is designed not to be run at full throttle except at or above some predetermined altitude. Below this altitude the throttle opening is usually limited by the use of a throttle gate.]

engine (tractor),【發】拉進式發動機。

解：凡發動機上裝配拉進式螺旋槳的則稱爲拉進式發動機。

[Any engine fitted with a tractor aircrew.]

engine(vertical),【發】直立發動機。

解：這種發動機的氣缸是在曲軸上成直立的裝置。

[An engine having its cylinders arranged vertically above the crankshaft.]

engine (V-type),【發】V形發動機。

解：這種發動機的氣缸分二排裝置，末端成V字形狀。

[An engine having its cylinders arranged in two rows, forming, in the end view, the letter“V”.]

engine (wet sump),【發】濕油槽發動機。

解：濕油槽發動機的滑油主體是裝在油槽或發動機機箱的裏面。滑油盡了潤滑作用以後，又漸漸流回油槽，從這

engine(W-type)—equation of time

裏又因唧筒壓力繼續循環去作潤滑工作。Curtiss OX-5 發動機就是濕油槽的一種發動機。

[The wet sump engine the main body of oil is carried in the base or crankcase of the engine. After performing the lubrication function, the oil drains back to the base from which it continues to be circulated by the oil pump. The Curtiss OX-5 is an example of the wet sump engine.]

engine (W-type), 【發】W形發動機。
解：這種發動機的氣缸分三排裝置，末端成W字形狀。此機有時亦名“寬箭頭式”(broad-arrow-type)。

[An engine having its cylinder arranged in three rows, forming, in the end view, the latter "W".]

engine (X-type), 【發】X形發動機。
解：這種發動機的氣缸分四排裝置，末端成X字形狀。

[An engine having its cylinders arranged in four rows, forming an "X" in the end view.]

entering edge, 【機】【螺】前緣
(=leading or advancing edge)

解：翼面或螺旋槳葉的最前邊稱為前緣。(參閱附錄第七圖及第十五圖)

[The foremost edge of an airfoil or propeller blade. Also called "leading edge".]

envelope, 【艇】【球】氣囊。(=gas bag)

解：這是浮昇器的外殼，常用帆布製造。此囊可盛氣或不盛氣，或用隔板分

為多數氣間或小氣囊，或內有氣囊與空氣間。(參閱附錄第十七圖及第二十四圖)

[The outer covering of an aerostat, usually of fabric. It may or may not be also the gas container. It may be divided diaphragms into separate gas compartments or cells, and it may also contain internal air cells or ballonets.]

envelope (air), 【氣】大氣層。

解：環繞地球的空氣層。

[The atmosphere or balnket of air surrounding the earth.]

equation, 【力】方程式。

解：這是代數數量的表示。例如： $S = V \times T$ 距離，S 等於速度V乘時間T，但速度和時間可有各種不同的價值。

[An algebraic expression of equality. For example: $S = V \times T$. The distance S always equals the Velocity times the Time, regardless of the values for V and T.]

equator, 【氣】赤道。

解：這是地面上的一個大圓圈，而圈上的各點均與南北兩極成相等的距離。赤道是零度平行的緯線。

[A great circle on the surface of the earth, whose points are equidistance from the poles. The equator is the zero parallel of latitude.]

equation of time, 【力】時間的方程式。

解：這是明顯和平均時間中的差數，由海曆中隨時可算得。

equilibrium height—evaporative cooling

(The difference between apparent and mean time, and may be found for any moment from the Nautical Almanac.)

equilibrium height. 【艇】【球】均
衡高度。

解：在指定情況一種高度內，自由氣球或氣艇（動作如自由氣球）的昇力和重量，得有均衡性的成立。

[That altitude at which, under given conditions, equilibrium is established between lift and weight of a free balloon or an airship acting as a free balloon.]

equinox (autumnal), 【氣】秋分。

解：這是太陽由偏北方位角移至偏南方位角的時期。

[That one at which the sun passes from the northern to the southern declination.]

equinox (vernal), 【氣】春分。

解：這是太陽由偏南方位角移至偏北方位角的時期。春分亦指發生的第一點，亦係推算赤經度 (right ascension) 的起源。

[That one at which the sun passes from the southern to the northern declination. The vernal equinox is also designated as the first point of Aries, and is used as the origin of reckoning right ascension.]

equipment (ground), 【艇】落地
裝置。

解：氣艇在地面降落和處理時所必要的裝置或設備。

[The gear, or equipment, necessary for the landing and

handling of an airship on the ground.]

error line. 【力】線差。

解：由目標向彈道面垂直的線長。

eta patch, 【艇】【球】楓形補綴。

解：一種扇形的補綴橡皮，固貼在氣囊上。（參閱附錄第二十七圖）

[A fan-shaped patch of fabric and webbing secured to the envelope.]

etching (propeller), 【螺】螺旋槳
蝕鑄法。

解：處理金屬螺旋槳表現裂痕和瑕疵的方法。

[A process of treating the surface of metal propellers to bring out evidence of flaws and cracks.]

ethyl-alcohol, 【化】普通酒精，乙醴。

解：這是由玉蜀黍麥等發酵後，蒸溜所得的酒精，各種酒類多含有之，可用作燃料或溶劑，化學公式為：OH₅，CH₃，CH₂ OH。

[An alcohol to be obtained by the distillation of fermented grains such as cornmeals, rye, etc. It is the constituent of alcohol beverages. Can be used as a fuel or a solvent.]

evaporation, 【氣】蒸發。

解：水面或雲霧中發出空氣所吸收的水氣。

[The absorption by the air of water vapor given off at the surface of liquids, or the evaporation of fog, clouds, etc.]

evaporative cooling, 【發】蒸發冷
却法。

evaporimeter—eye of storm

解：冷却系利用蒸發時的潛熱作用，而許冷却液沸騰，再向氣缸水套凝結而回至液體。

[A cooling system which takes advantage of the latent heat of evaporation by allowing the cooling fluid to boil, then condensing and returning it to the cylinder jackets.]

evaporimeter, 【儀】蒸發計, 蒸發表。

解：這是測量蒸發速度和數量的儀器。

[A device to measure the rate and amount of evaporation.]

exhaust branch pipe, 【發】排氣支管

解：一種短管將氣缸內的排氣，傳送至排氣集合管。（參閱附錄第三十九圖）

[A short pipe which conveys exhaust gases from a cylinder to an exhaust manifold.]

exhaust-driver supercharger,

【發】排氣運動式增壓器。

解：一種增壓器它的旋轉葉輪，是由發動機的排氣轉動渦輪所運動。

[A supercharger in which the impeller is driven by a turbine operated by the exhaust gases from the engine.]

exhaust flame damper, 【發】排氣管阻火器。

解：一種機械裝置，防止排氣放出時尚為火焰情況。

[A device for preventing exhaust gases from passing into the atmosphere while incandescent.]

exhaust manifold, 【發】排氣集合管。

解：排氣由數氣缸經過支管而達到的集合管。

[A pipe or chamber into which exhaust gases are led from a number of cylinders through branch pipes.]

exhaust ring, 【發】排氣環。

解：一種環形排氣集合管。（參閱附錄第三十九圖）

[A circular exhaust manifold.]

exploder, 【軍】雷管。

解：使炸彈主體爆發的藥管。

[A component containing a substance for detonating or exploding the main charge.]

explosion balance, 【力】【發】爆發均衡。

解：一種情況平衡其中氣缸燃燒所致的衝激力以免振搖。

[A condition in which the impulse forces due to the cylinder combustions are balanced to avoid vibration.]

eye of storm, 【氣】颱風眼。

解：熱帶旋風的中心無風區。

[The central calm area of a tropical cyclone.]

F

fabric—factor of safety

fabric, 【材】蒙布。

解：蒙罩飛機所用的布（係用最好的棉花所紡織。）

[The cloth (usually a high grade cotton) used for covering on airplanes.]

fabric (balloon), 【球】球皮。

解：氣球或氣艇外殼所用的外皮，常有橡皮一層塗加於上面。

[The finished material, usually rubberized, of which balloon or airship envelopes are made.]

fabric (biased), 【球】斜交球皮。

解：多層球皮有一層或數層的剪裁，使徑線和長度相疊成一種角度。

[A multi-ply fabric with one or more of the plies so cut that the warp threads lie at an angle to the length.]

fabric (gas-cell), 【艇】【球】氣囊皮。

解：硬式氣艇氣囊所用的球皮，普通係牛腸膜皮。

[The fabric used in gas cells of rigid airships, usually goldbeater's skin fabric, q.v.]

fabric (gold beater's skin),

【材】牛腸膜皮布。

解：這種氣囊皮是一層堅韌薄布，係用棉織成，布向內膠黏一層或二層牛腸膜，而膜上加用一層透明漆以作保護。這種材料係用在硬式氣艇的氣囊上。

[A gas-containing fabric consisting of a layer of light, fine, strong cloth, usually cotton, to which one or more layers of goldbeater's skin have been

cemented. The skins are on the inside and are usually further protected by a coat of fine varnish. Usually used in the gas cells of rigid airships.]

fabric (multiply), 【球】多層球皮。

解：數層球皮疊合而成。

[Fabric formed of more than one ply.]

fabric (parallel), 【球】平行球皮。

解：多層球皮內的各層徑線均出平行的疊合。

[A multi-ply fabric with the warp threads of all the plies parallel.]

factor (damping), 【力】滯勁因數，減弱因數。

解：測量一個振搖大小的改變率或一個沉下(subsidence)和偏離(divergence)大小的改變率；增大時為正數，減小時為負數。

[A measure of the rate of change of amplitude of an oscillation, or of the rate of change of magnitude of a subsidence or divergence; positive when decreasing, negative when increasing.]

factor (dynamic), 【力】動力率。

解：飛機加速時任何部分的攜載對於適當基本載重的比例。

(The ratio between the load carried by any part of an aircraft when accelerating and the corresponding basic load.)

factor of safety, 【力】安全率。

解：飛機均須按照規定的安全率製造，規定的方法，係以 f.5,3, 或任何數

factor(tenuity)—falling leaf

字表示之，其意在表明飛機強度，在規定的合種情況下，對最高可能載重或應力的比率有時亦指一部分的最大強度，對該部分在實際運用時的最大可有載重的比率。

[Aircraft are built to prescribed factors of safety, which are expressed in such terms as a factor of safety of 6, or 5, or 8, or any number. This means the ratio of the strength of the thing concerned to the maximum possible load, or stress, occurring under specified conditions.]

factor (tenuity), 【力】稀薄因數。

解：射擊計算中的修正數，容有大氣密度因高度的差異。

[A correction employed in ballistic calculations to allow for the variation of atmospheric density with height.]

Fahrenheit scale, 【力】華氏溫度計分度。

解：華氏溫度計的冰點為零度以上的32°，沸點為零度以上的212°。

[The temperature scale on which water freezes at 32° above zero and boils at 212° above zero.]

fairing, 【力】減阻物，整流形。

解：一種副件或補助結構，它的主要功用是在裝接處減低頭部阻力（普通多不增加強度）。

[An auxiliary member or structure whose primary function is to reduce head resistance or drag of the part to which it

is fitted (without, in general, contributing strength).]

fairing wire, 【機】順流線。

解：特為保持氣艇氣囊的外形，而作為外皮附接點用的線。

[A wire provided as a point of attachment for the outer cover to maintain the contour lines of the envelope of an airship.]

fairlead, 【機】有孔木板，圓環。

解：飛機上無線電拖曳天線所通過之孔口。

[In radio, a guide or outlet for a trailing airplane aerial.]

falling leaf, 【飛】落葉航行，飄葉飛行。

解：這種飛行先有螺旋的失速動作，操縱桿須拉置向後不變，副翼處於中和位置而方向舵則在螺旋第一次轉彎時作反向的動作。這種操縱的方法可使飛機作碟狀的兩旁搖降，但機首方向毫不變動，因飛機繼續保持在失速情況中，是以每次搖擺均有失落高度的情況。（參閱附錄第六十四圖）

[It consists in executing a stall as for a spin. With the stick all the way back and neutral ailerons, the rudder action is reversed in time to prevent the first turn of a spin. This method of control causes a series of saucer-like swing from side to side without changing the general direction of heading. Altitude is lost with each oscillation, because the airplane is continuously in a stall.]

false horizon—Ferrel's Law

false horizon, [飛] 假水平線.

解：附近山巔與天底的接連線，此種水平線學生若用作飛機攀升的參考極不安全。

[The apparent junction of the top of nearby hills, or mountains, with the sky. A horizon which cannot be safely used by a student for a reference line in regulating the climb of his airplane.]

false rib, [機] 假肋.

解：在前樑和前緣間的短肋，用以保持翼面的弧面，及蒙布。

[Short form ribs between the front spar and the leading edge, used to improve and maintain the camber of the airfoil.]

farad. [單] [電] 法拉.

解：容電器有一庫隆電，和一伏脫電壓時的電量單位。

[The unit of electrical capacity, being the capacity of a condenser when it will held one coulomb of electricity when a pressure of one volt is applied across it.]

Faraday's Law, [電] 法拉第定律.

解：法拉第定律謂感應電電壓是與磁力線每秒鐘經過線圈上的減少成正比例。因此線圈宜用軟鐵為心，可以幫助磁性突然的崩潰，使磁力線割斷線圈導體的速度增高。

[It states that induced voltage is proportional to the decrease in the number of lines of force through the coil per second.

for this reason soft iron core is used in the coil, because it aids in the sudden collapse of magnetism, allowing the magnetic lines of force to cut across the coiled conductor at higher speed.]

fathom, [單] 呎.

解：一呎長六呎，這是測量水深的航海名詞。

[A nautical term of water measurement equal to six feet.]

fatigue, [機] 毀損.

解：毀損是在飛機結構因連續反覆應力作用所致的部分。屢經超出彈性限度的反覆緊張部分；則有毀損和最後的折斷。

[Fatigue in a part of a structure or machine is due to continued repetition of a stress. Repeated reversals of stress, much less than the elastic limit, will cause fatigue and ultimate fracture.]

feed pipe, [發] 給油管.

解：將滑油由油箱導至發動機的管子。

[A pipe leading the oil from the oil tank to the engine.]

fender, [機] 防禦物.

解：這是航空器等前面的排障器，使衝擊變為緩和，普通係軟木，繩索等所製造。

Ferrel's Law, [氣] 斐烈定律.

解：當一團空氣在地面流動時，它的流動方向在北半球上偏右，在南半球上偏左，且成圓圈的姿勢，它的半徑則以它的速度和離開赤道的距離而定。

ferro-magnetic substance—filling sleeve

(When a mass of air starts to move over the earth's surface it is deflected to the right in the northern hemisphere and to the left in the southern hemisphere, and tends to move in a circle whose radius depends upon its velocity and its distance from the equator.)

ferro-magnetic substance, 【電】
強磁性質。

解：有極強磁性的物質。
(Substances are strongly magnetic.)

ferrous metal, 【材】 含鐵金屬。

解：凡金屬裏面含有鐵質的，均稱為含鐵金屬。

(Any metal derived from an iron base.)

ferrule, 【機】 線圈管。

解：保護木質部分的分裝或線端鬆脫的金屬接頭或綳纏物件。

(Metal fittings or wire wrappings designed to prevent splitting of wooden or loosening of wire terminals, etc.)

F-head cylinder, 【發】 F形頭汽缸。

解：這是一種 L 形頭汽缸，但它的氣門是在一邊上下裝置的。(參閱附錄第三十三圖。)

(An L-head cylinder with the valves one above the other.)

fiducial points, 【力】 標準點。

解：溫度計分度上的沸點和冰點。
(The boiling and freezing points on a thermometric scale.)

field (flying), 【設】 飛行場。
(=aerodrome)

解：同aerodrome。

field handling frame, 【設】 機場處理架。

解：這是一個便於攜帶的支架，氣艇在地面時可將此架裝上，以便有多人在此架上握住操縱氣艇。氣艇在飛行中，則此架多不裝備。

(A portable frame which may be attached to an airship when it is on the ground and which is intended to afford a grasp to more men than could get on the handling rails of the cars. These frames are rarely carried when in flight.)

filler metal, 【材】 充鎔金屬。

解：充鎔金屬通常是一根桿狀的物質，鎔化後可以填充鎔口。在氣體鎔接法及電弧鎔接法中，金屬都是從桿狀物質上而鎔化下來填充鎔口的。

(The material, usually in rod form, which has been melted and deposited in making the weld. Filler metal is deposited by the welding rod in gas melting and by the electrode in electric arc welding.)

filleting, 【工】 順滑法。

解：此法是將飛機的粗糙接頭（機翼和機身的連接處）變為光滑曲線形，而增加流線形的可能性。

(It is used to increase the streamline possibilities of aircraft by rounding out rough joints (wings to fuselage, etc.) with smooth curve.)

filling sleeve, 【艇】 充氣套管。

fin—fire point

解：這是用球皮製成的管子或附屬物，連接在氣艇或氣球氣囊上，用作充氣管的引導管。(參閱附錄第二十四圖)
[A tubular fabric attachment to an envelope or gas bag, serving as a lead for the inflation tube.]

fin, 【機】直翅【發】散熱片。

解：【機】這是飛機上的一個固定翼面，與縱軸成平行，用以保持飛機的安定性，例如尾翅阻流翅 (Skid fin) 等。

【發】氣冷式發動機的氣缸上鑄有多數翅形的金屬片，用以增加散熱的面積，空氣從中流過，可使氣缸的熱度降落。爲此目的所製成的金屬片名散熱片。(參閱附錄第十五圖)

① A fixed surface, attached to a part of the aircraft, parallel to the longitudinal axis, in order to secure stability; for example, tail fin, skid fin, etc. Fins are sometimes adjustable.

② Forged metal plates on cylinder for cooling purpose.]

fin carrier, 【艇】尾翅架。

解：軟式或半硬式氣艇內連結尾翅內邊的構架，作用在防尾翅邊沒入氣囊內。(參閱附錄第十七圖)

[A frame of which the inboard edge of the fin on a nonrigid or semirigid airship is attached, so as to prevent the edge of the fin from sinking into the envelope.]

fineness (of streamline), 【力】
長短比(流線形的)

解：長度對於頭部阻力有關部分最大寬度的剖面比例。

[The proportion is cross-section of length to maximum width with regard to minimum head resistance of a part.]

fin girder, 【艇】直翅樑。

解：在硬式的艇內豎起造成直翅的樑。

[A girder of a rigid airship which goes to make up the fin.]

finger patch, 【艇】【球】指形補綴。

解：特別形狀的補綴其突出的部分類似手指。類似手指的突出物，可用粗絲摩擦過的繩索或布片製成。這類補綴的作用，在將重負擴大的分配於球囊或氣囊的蒙布上面，免得某一處受力過大而發生破裂。

[A special form of patch having extensions or "fingers extending out from the central portion. The "fingers may be of tape, frayed out rope, or fabric. Their function is to distribute the load more widely to the fabric of the envelope or gas cells.]

fire control level, 【裝】【軍】射擊
操縱槓桿。

解：一種遠控器，能操動固定機槍的機件。

[A remote control operating the release mechanism.]

fire point, 【發】火點。

解：凡油接觸明火變成充量的化氣而能繼續燃燒的溫度。

[The degree of temperature at which oil will give off sufficient vapor to ignite and burn continuously when exposed to a

fire wall—fixed balloon

naked flame.]

fire wall, 【機】防火壁。

解：這是一塊阻火的隔壁，構裝在發動機間和機身結構的中央，用以避免發動機的火患。

[A fire-resistance transverse bulkhead, so set as to isolate the engine compartment from the other parts of the structure and thus to reduce the risk from fire in the engine compartment.]

fire order, 【發】點火程序。

解：發動機汽缸點火中的迴轉。

[The series or rotation in which the cylinders of an engine fire.]

fit (drive), 【工】壓嵌接合。

解：二塊密接的部分，係將一塊擊打嵌入他塊的裏面。

[Two pieces of such close dimensions that it is necessary to drive one piece into the other with blows.]

fit (press), 【工】壓夾接合。

解：二塊密接的部分，係用壓力夾緊。接合此部所用的是一個喬木夾子 (arbor press)。

[Two pieces of such close dimension that pressure is required to assemble the pieces. An arbor press is used to assemble such parts.]

fit (running), 【工】迴轉接合。

解：二部分的接合有自由運動的存在。

[Two parts so fitted that free movement of the parts exists.]

fit (skrink), 【工】緊縮接合。

解：一部受熱膨脹後，再將他部裝入。

俟溫度降落因外部緊縮時，則裝接的部分遂變為十分緊密的接合。

[It requires the expansion of one part by heat so that the other part may be placed within it. As the outer part contracts as a result of cooling, a very tight fits is secured.]

fitting, 零件。

解：這是飛機和氣艇結構中所用各物的總稱。若此物的品質無明白的指示時，則可假定為金屬所造。有時亦指他物，如“蒙布零件” (fabric fitting) 等。

[A generic term for any small part used in the structure of an aircraft or airship. If without qualification, a metal part is usually understood. It may refer to other parts, such as “fabric fittings”.]

fitting, 接頭。

解：各個物件接成全部的接合處。

[Joining individual parts to make a complete assembly.]

fixed aerial, 【電】固定式天線。

解：一種天線，在飛機構造上，作固定的裝接。

[An aerial permanently attached to two or more points on the structure of an aircraft.]

fixed balloon, 【球】固定氣球。

解：固定氣球通稱為繫留汽球。(captive balloon) 該種氣球繫於纜端，纜之另一端繫牢於地上絞盤至於自由氣球 (free balloon) 則無纜索連接。

[An elongated form of captive balloon fitted with tail appen-

fixed fuel tank—flame-float(navigation)

dages to keep it headed into the wind, and usually deriving increased lift due to its axis being inclined to the wind.)

fixed fuel tank, 【油】【機】 固定汽油箱。

解：汽油箱非為滑落而裝設：對滑落汽油箱正相反。

[A fuel tank which is not intended or fitted to be dropped, as "slip" tank are.]

fixed gun, 【裝】【軍】 固定鎗。

解：固定裝置在飛機構架上的機關鎗，須運用飛機的飛行動作而打靶。

[A gun rigidly attached to the structures of an aircraft trained by manoeuvring the aircraft.]

fixed light, 【設】 固定燈。

解：一種燈，由固定點觀察之，其光度係恆定而不變化。

[Any light which is constant and uniform in intensity when viewed from a fixed point.]

fixed power-plant weight for a given airplane, 【機】 假定飛機的固定動力機重。

解：就是發動機的重量，其中包括發火，氣化器，感應各系的全套，螺旋槳和槳轂，排氣歧管，散熱器和器內的水（若係水涼式），一切互相關聯相接的電線，操縱器，油箱，管子，滑油溫度調節器，發動機機匣內的滑油和附連在發動機的起動裝置各件的重量，但汽油，滑油和發動機儀器則不在內。

[The weight of an engine including ignition, carburetor, and induction systems complete, propeller and hub, exhaust

manifolds, radiator and water, if used, with all interconnecting wires, controls, tanks, and pipes lubricating-oil temperature regulators, the oil contained in the engine crankcase and the starting gear attached to the engine, but excluding fuel, oil, and engine instruments.]

fixed surface, 【機】 固定翼面。

解：這是飛機的尾翅部分，與縱軸成平行，用以保持飛機的安全定性。

[A fixed surface, attached to a part of the aircraft, parallel to the longitudinal axis, in order to secure stability.]

fixed weight (airship), 【艇】 (氣艇) 固定重量。

解：艇身機械和一切有固定位置而不消耗的裝備物的總重量。氣艇在各種工作情況下一切恆定和不消耗部份的重量（英國標準）。發動機中冷却系的液體亦包括在內。

[The weight of the full machinery and all equipment and parts which are fixed in position and nonconsumable. All constant and nonconsumable weight which an airship would carry under all conditions of service (British). Liquids in cooling system of engines are included.]

flame-float (navigation), 【裝】 航行火浮筒。

解：一種烟火器械。由航空器擲至水面，用以決定偏航角度。

[A pyrotechnic device dropped from an aircraft on to water for

flange—flare(navigation)

determining the drift-angle.)

flange, 【機】凸緣,耳。

解：這是工形樑的凸出連結板，槽道的突起部分，和為螺釘鑄成的凸出部等。

[It refers to the web stiffening parts of I-beam sections, channel sections, projections on castings for bolting, etc.]

flap, 【機】襟翼。

解：一種平面，活動面裝置在機翼下面，有時在機身底部。其前緣用絞鏈裝接，有氣動升力的設計，而同時增加阻力，致使降落速度減低，由駕駛員艙中可用機械操動，現在襟翼仍不普及，將來或均可裝用。

[Flat movable surfaces attached to the lower surfaces of the wings and sometimes to the bottom part of the fuselage. They are hinged at their forward edges and are designed to give an increased dynamic lift and at the same time increase the drag, affording a slower landing speed. They are operated mechanically from the pilot's cockpit. Up to the present time flaps have not been generally used, but will probably be used considerably in the future.]

flap (drip), 【球】【艇】滴水帶。

(=drip cloth)

解：這是一條布帶裝在浮昇器外殼的一邊，能使雨水由此布帶流下，而不致滴落於吊籃或懸艇內。這種布帶能保護懸索乾燥不導電。有時亦稱滴水條 (drip strip or drip band),

[A strip of fabric attached by one edge to the envelope of an aerostat so that rain runs off its free edge instead of dripping into the basket or car. It also assists in keeping the suspension ropes dry and non-conducting. Also called "drip band" and "drip strip".]

flap pressure, 【艇】拍擊壓力。

解：硬式氣艇的外殼上裝有一個拍擊氣門，能使空氣有急速的流動，且空氣於流入時特別迅速。這個氣門裝用的目的，是使殼內空氣的壓力和外面的壓力有極速均衡的可能。

[A flap valve fitted in the outer cover or envelope of a rigid airship and arranged to permit the rapid flow of air in and out—particularly inward. The purpose is to facilitate the rapid equalization of the pressure of the air within the envelope with that of the surrounding air.]

flare (landing), 【裝】航空器着陸
光炬。

解：一種烟火光炬裝置在飛機外面，以便着陸時照耀地面。

[A pyrotechnic flare normally attached to the underside of an aircraft to enable the pilot to illuminate the earth's surface when alighting.]

flare (navigation), 【裝】航空照明
炬。

解：一種烟火器械，由航空器向地面投下，而決定偏航角度。

[A pyrotechnic device dropped

flare(parachute)—flight

from an aircraft on to land for determining the drift-angle.)

flare (parachute), 【儀】照明傘。

解：一種烟火火炬，上裝小型保險傘，以便停留空中，照耀地面。

[A pyrotechnic flare attached to a parachute for providing an illuminated region.]

flashing light, 【設】閃光燈。

解：一種忽明忽暗的燈光，但其暗時較明時為長久。

[An intermittent light in which the duration of the bright period is shorter than that of the dark.]

flash point, 【油】引火點。

解：充量油化氣遇見明火而能即刻點燃的一種溫度。

[The degree of temperature at which vapor is given off by oil in sufficient quantity to ignite momentarily (flash) when exposed to a naked flame.]

flat turn, 【飛】水平轉彎。

解：一種轉彎在垂直軸上，并使側軸及縱軸保持水平，且與地面成平行。此種轉彎祇用方向舵，於表演作之，平時多無此種動作也。

[A turn about the normal axis-vertical axis with the lateral axis and longitudinal axis remaining level and parallel with the surface of the earth, a turn in which only the rudder is used. A turn of this kind is not used except for demonstration purposes while instructing.]

flick, 【飛】閃飛。

解：任何迅速的動作，如快滾或小半徑的翻筋斗飛行(Small radius loop)，皆為閃飛。

[Any quickly executed manoeuvre such as a quick roll or a small radius loop.]

flick roll, 【飛】閃側滾。

解：速度極快的側滾動作。

[A rapid roll.]

flight, 【軍】小隊。

解：小隊為軍用飛行隊中，最小的隊形，每隊的飛機數目，按飛機的型式而有不同。單座戰鬥機，通常三架或為一小隊，每三架飛機，或為三角形的小隊，乃係一切航空的基礎隊形。每一小隊，另有一架或一架以上的飛機，為後備機。單發動機，日間轟炸機，通常三架或為一小隊，多架發動機，轟炸機，則通常以五架或為一小隊。海軍航空隊，普通每小隊有飛機四架，飛船一小隊有機五架，現則稱為一中隊。

[A flight is the smallest formation of Service aircraft, and consists of a varying number of machines, according to type, Single-seater fighter are usually in flights of three, the triangle of three being the basis of all aircraft formation. There are to each flight one or more reserve machines. A flight of single-engine day bomber usually consist of three machines: a flight of multi-engine bombers consists of five machines. In the Fleet Air Arm a formation consists of four machines. In a flight of flying boat there are

flight(cross-country)—float

five machines, but it is now called a squadron.)

flight (cross-country), 【飛】 越野飛行。

解：離開規定飛行場向附郊以外地點的飛行。

[A flight which necessitates leaving the vicinity of a regular landing field.]

flight indicator, 【儀】 飛行指示器。解：這是側面傾斜計，前後傾斜計，和轉彎指示器聯合而成的儀器。

[An instrument which a lateral inclinometer, a fore-and-aft inclinometer, and a turn indicator are combined to form a compact unit.]

flight (normal), 【飛】 正常飛行。

解：普通越野飛行所包括的一切必要飛行動作：即起飛，水平直線飛行及正常上昇和滑降的飛行，水平轉彎及正常上昇和滑降的轉彎，因失去高度或相對偏航的側滑動作，及降落等。

[Includes all flying manoeuvres necessary for ordinary, cross-country flying; e.g. taking-off; horizontal straight flight and flight at normal climbing and gliding angles; turns to port or starboard carried out when flying horizontally and at normal climbing and gliding angles; sideslips for purposes of losing height or counteracting drift; and alighting.]

flight path, 【力】 飛行路徑；【軍】 彈道。

解：【力】一個飛機的重心對於地球所

成的路徑。

【軍】炸彈在空中飛行的路線。(參閱附錄第四十四圖)

(① The path of the center of gravity of an aircraft with reference to the earth. ② The path of bomb flying in the air.)

flight path (vacuum), 【力】【軍】 真空彈道。

解：炸彈假定在真空中飛行的路線。(參閱附錄第四十一圖)

flight recorder, 【儀】 飛行紀錄器。解：紀錄飛機某種性能的一種儀器。

[An instrument for recording certain elements of the performance of an aircraft.]

flight star, 【軍】 星形小隊。

解：飛機四架，成爲方形，以一角向前而進，蓋此係三機小隊的正份子，其最後一架爲後備飛機。

[Four machines together forming a square flying with one of the corners forward. This is "flight star", a reserve machine acting with the usual three.]

flipper turn, 【飛】 垂直傾側轉彎。

解：一種險峻垂直傾側轉彎。歐戰時昇降舵名“flipper”是以用昇降舵所作之轉彎，故有此名。此兩名辭，現均廢止不用矣。

[A tight vertically banked turn. This term was used during the World War at a time when the elevators were termed "flippers". Both terms are now obsolete.]

float, 【機】 浮筒。

float(carburetor)--flotation gear

解：這是裝配飛機上的空筒不透水的結構，當飛機接觸水面時得有浮力和安定。在有浮筒的水面飛機上，航員係坐在機身或短艙內，與浮筒完全隔離。浮筒 (pontoon) 這個名詞，現已廢止不用。

[A complete enclosed water-tight structure attached to an aircraft in order to give it buoyancy and stability when in contact with the surface of the water. In float seaplanes the crew is carried in a fuselage or nacelle separate from the float. The term "pontoon" is now obsolete.]

float (carburetor), 【發】浮子。(氣化器的)

解：這是一個空心不透氣的物件，在氣化器的供給油管上管制針形氣門，而節制汽油的供給量。價廉的汽車氣化器內有時用軟木浮子。

[It is usually a hollow, air-tight object designed to control the fuel flow from the feed line to the carburetor bowl by governing the action of the needle valve. Cork floats are sometimes used in inexpensive automobile carburetors.]

floating gudgeon-pin, 【發】浮動活塞銷。

解：在活塞和聯桿上能自由轉動的一種活塞銷。

[A gudgeon-pin which is free to rotate in both piston and connecting rod.]

floating type aileron, 【機】浮動式

副翼。

解：副翼可自動取得其位置，且左右兩副翼，互相連接，可自動同時活動，然駕駛員操動駕駛桿時，它的動作是成相反方向。

[Ailerons free to take up their own position, the right and left ailerons being connected together so that they can move freely when they move together, but they move in opposite directions from any position when the pilot moves the control lever.]

floodlight, 【設】洪光燈。

解：洪光燈者，即發光均勻而平瀉於地面的燈光其量能照及飛行場一大部，有時且普照全場，此便夜間飛行之用。

[A light which gives an even distribution of light over the ground—a flat beam—and lights up a large portion, and in many cases the whole of an aerodrome in order for night flying.]

floodlight(landing-area), 【設】降落區域洪光燈。

解：為照耀降落區域全部或一部地面而設計的一種燈光。

[A device specially designed for illuminating all or part of the surface of the landing area.]

flotation gear, 【機】浮水裝置。

解：這是陸面飛機為在水面降落而裝置的應急降落架，并在水面停留時給予浮力。

[An emergency gear attached to a landplane to permit alighting

flow(laminar)—flying time

on the water and to provide buoyancy when resting on the surface of the water.]

flow(laminar), 【力】層流動。

解：黏性液體的穩定無週期運動 (steady aperiodic motion).

[Steady aperiodic motion of a viscous fluid.]

flow (turbulent), 【力】擾亂流。

解：液體的不規則週期運動。

[Irregular periodic motion of a fluid.]

flush bolt, 【材】平頭釘。

解：一種螺釘頭埋入孔口內，并不凸出表面。

[A screw bolt whose head is countersunk, so that it will not protrude from the surface.]

flutter, 【飛】鼓翼。

解：翼梢和張絲等的振動。

[The vibration of wing tips, wires, etc.]

flux, 【材】鎔劑。

解：這是鐸接時所用的材料，可使鐸接處的氯化物和氮化物的構成遲緩。在電弧鐸接時，鎔劑可使鐸料冷卻遲緩，且電弧鐸接的火苗係集中於一處，若冷卻太快，則鐸接極為硬碎。
[Material used in welding to retard the formation of oxides, nitrates, etc., in the weld. In arc welding the flux is used to retard the rate of cooling of the metal. In arc welding the heat of the arc is quite localized so that too rapid cooling would cause an exceedingly brittle weld.]

flux (electrical), 【電】磁流。

解：磁力線的運動。

[The movement of lines of force]

flying boat, 【機】飛船。

解：這是一種水面飛機，當它在水面降落時係類船形機身浮起。若水面飛機為中央船形式，則常在翼梢上裝用浮筒保持側面的安定性。船形水面飛機 (boat seaplane) 這個名詞，現已廢止不用。(參閱附錄第十二圖)

[A form of seaplane supported, when resting on the surface of the water, by a hull or hulls providing flotation in addition to serving as fuselages. For the central hull type, lateral stability is usually provided by wing tip floats. The term "boat seaplane" is now obsolete.]

flying field, 【設】飛行場。(=aerodrome)

解：全 aerodrome。

flying (instrument), 【飛】儀器飛行。

解：不用外界目視的標誌，專賴飛機內部所裝備的儀器而作飛行稱為儀器飛行，有時亦稱為盲目飛行。(blind flying)

[Flying by the aid of instruments without visual reference to any external object.]

flying time, 【飛】飛行時間。

解：單次或各次飛行所耗費的時間小時與分數。常由每次飛行於飛機離地時至着陸時計算之。

[The number of hours and/or

flying weight—force(centrifugal)

minutes consumed in a single flight, or in any number of flights. Usually figured from the moment the airplane leaves the ground until it again touches the ground on each flight.]

flying weight, 【力】 飛行載量。

解：航空器在飛行開始時的總重。

[The total weight of an aircraft at the beginning of a flight.]

flying wires, 【機】 飛行線。(=lift wire)

解：多翼飛機上的飛行線皆為張線，常繫在機身的下部，且向上外方而達到機翼。飛行線的功用是阻止上升力，以免機翼連同支柱向上移動，飛行線維持構架組的形狀。

若飛機翼間或張間在一個以上，則應增加飛行線從內支柱的下面經過，而達外支柱的上面。若上翼罩住下翼，飛行線可從外支柱下面通過，向上外方達到外罩翼。

[Flying wires on multiplanes are wires usually fastened at the lower part of the fuselage and running up and outward to the wing. Their function is to prevent the lift from collapsing the wings upward. Together with the struts they preserve a struss formation. If the airplane has more than one panel or bay, additional flying wires pass from the bottom of the inner struts up and outward to the top of the outer struts. If the upper wing overhangs the lower wing, flying wires may

pass from the bottom of the outer struts, upward and out to the overhanging wire.]

fog, 【氣】 霧。

解：這是水氣凝結所成的雲，但接觸地面甚近。

[Fog is a cloud formation of condensed moisture, but close to or in contact with the earth.]

focal distance, 【應】 焦點距離。

解：由透鏡中心至光線會合點間的距離。

[The distance from the optical center of a lens or mirror to the point where the rays converge.]

fohn (pr. furn), 【氣】 焚風。

解：當普通氣流越過阿爾卑斯山(Alps)麓而至北坡向下，吹來的暖燥風。

[A warm dry wind which blows down the northern slopes of the Alps when the general wind current comes over the mountains. Often used for winds experienced under corresponding conditions in other localities.]

foot pound, 【單】 呎磅。

解：這是工作的單位，表明一磅重量升高一呎的距離。

[The unit of work, being the expenditure of energy necessary to raise a weight of one pound through a distance of one foot against the action of gravity.]

force(aerodynamic), 【力】 氣動力。

解：流動空氣所產生的力。

[Force created by flowing air.]

force(centrifugal), 【力】 離心力。

force(centripetal) — force(lateral)

解：凡物體在弧線路徑上運動，向弧線中心脫離的力量。

[The force which urges any body moving in a curve path away from the center of the curve.]

force (centripetal), [力] 求心力，向心力。

解：和離心力動作相反的力量。
[The force which acts in an opposite direction to resist centrifugal force.]

force (coercive), [電] 洗磁力。

解：消滅餘磁的磁力。
[The force necessary to demagnetize a magnet.]

forces (composition of), [力] 力的組成。

解：力的組成是由多數分力中計算合成的一種方法。

[The process of finding the resultant of several component forces.]

force (cross-wind), [力] 橫風力。

解：這是飛機或它的任何部分上總空氣力的分力，特別是在昇力和阻力上。它的符號是C，它的絕對系數Cc如下式。

$$Cc = \frac{C}{qS}$$

其中q是撞擊壓力(impact pressure) ($= \frac{1}{2} \rho V^2$)，S是空氣力動作面的有效面積。

[The component, perpendicular to the lift and to the drag, of the total air force on the aircraft or any part thereof. Its symbol is C and its absolute coefficient

Cc is defined by

$$Cc = \frac{C}{qS}$$

[where q is the impact pressure ($= \frac{1}{2} \rho V^2$) and S is the effective area of the surface upon which the air force acts.]

forced landing, [飛] 強迫降落，應急降落。(=emergency landing)

解：由於發動機的故障，飛機構造上的破損，燃料的缺乏，飛機失火，或天氣惡劣種種原因，使操縱飛機的駕駛員不得不把飛機即刻降落，這種降落動作則稱為強迫降落。在事實上大多數的強迫降落是因發動機發生故障所致。

[A landing forced on the pilot because of engine failure, structural failure, lack of fuel, fire, weather, etc. The majority of forced landings are a result of engine failure.]

force (electromotive), [電] 電動力。(略寫E.M.F.)

解：二物體間或一物體的兩部間的電位或電壓的差量。

[The difference of electrical potential or pressure between two bodies or parts of the same body.]

force (lateral), [力] 橫力。

解：沿合成力橫軸的分力，並包括重心化分的分力。凡不注意重心分力的地方，則直用“橫氣壓”(lateral air force)這名詞。

[The component along the lateral axis of the resultant force, including the resolved compo-

force(lines of)—forecast

ment of gravity. Where the gravity component is neglected the term "lateral air force" is preferable.]

force (lines of), [電] 磁力線.

解：沿磁場內所發出的磁力。

[The lines along which a magnetic influence exerts its force or effect.]

force (longitudinal), [力] 縱力.

解：沿合成力縱軸的分力，并包括重心化分的分力。凡不注意重心分力的地方，則宜用“縱氣壓”(longitudinal air force)這名詞。

[The component along the longitudinal axis of the resultant force. This includes the resolved component of gravity. Where the gravity component is neglected, the term "longitudinal air force" is preferable.]

force (normal), [力] 垂直力.

解：沿合成力垂直軸的分力，并包括重心分力的分力。凡不注意重心分力的地方，則宜用“垂直氣壓”(normal air force)這名詞。

[The component along the normal axis of the resultant force. This includes the resolved component of gravity. Where the gravity component is neglected, the term "normal air force" is preferable.]

forces (resolution of L), [力] 力的分解.

解：計算產生合成力的分力的程序。

[The process of finding the component forces which produce

a given resultant force.]

fore-and-aft level, [儀] 前後水平儀.

解：一種儀器指示航空器，在對稱面中的合理方向，有時亦稱爲 (longitudinal clinometer)。

[An instrument for indicating the direction of the resultant force on an aircraft in its plane of symmetry. Sometimes called Longitudinal clinometer.]

forecast, [氣] 預報.

解：說明一指定地點，指定區域，或指定路線，在一明定時間內所預料的氣候情況。普通爲航空航行各時間的預測多在數小時至三十小時以前，而氣候消息則包括：——

1. 地面風向與風力。
2. 在選定高度上的風向與風力。
3. 雲蓋天空的大小及低雲的高度。
4. 降雨情況。
5. 能見度。
6. 特殊氣候發生的可能情況如颶及雷雨等。

[A statement of the meteorological conditions at a given place, over a given area or along a given route, to be expected during a definite period.]

Forecasts for air navigation are issued, normally, for varying periods ahead from a few hours ("Short period forecasts") to 30 hours, and include information regarding:-

- (1) the direction and force of the surface wind.
- (2) the direction and speed of the upper wind at selected

forked connecting-rod—framing(stern)

heights.

(3) the amount of sky likely to be covered with cloud and the height of the lowest cloud.

(4) the precipitation, if any.

(5) the visibility.

(6) the probability of occurrence of special phenomena such as squalls and thunderstorms.]

forked connecting-rod, 【發】叉形聯桿裝置。

解：一種聯桿裝置，其中一條聯桿裝有大端軸承，其餘聯桿環繞上面，且其振盪面，是由主聯桿或大端軸承同心繞其餘聯桿而組成，它的裝置方法有：(1) 補助聯桿分叉，在主聯桿末端二軸承上動作(2) 主聯桿分叉，而補助聯桿在叉內軸承上動作(3) 主聯桿分叉，內有軸承並外有雙層軸承。(參閱附錄第二十八圖)

[An assembly of connecting rods in which one carries the big-end bearing and the remainder encircle and oscillate upon a surface formed on the master rod or big end bearing concentric with the latter

Usual arrangements are:—

(a) The auxiliary rod forked to work over the master rod end on two bearing.

(b) The master rod forked and an auxiliary rod working in a bearing inside the fork.

(c) The master rod forked with a bearing inside and a double bearing outside.]

form rib, 【機】成形肋。

解：這是一種輕肋，用以構成翼架的形態，支持翼面的蒙布。肋條的腹板上鑿有若干的圓孔，用以減輕重量。又稱為輕肋(lightening rib)。

[The lighter, form-giving parts, used in airfoil construction.]

formation, 【飛】成隊飛行，編隊飛行。

解：兩架或兩架以上的飛機集合飛行。這種每隊的組織有伸縮性，即每隊的飛機數量，按事實上的需要，可以隨時變更。

[A formation is composed of two or more machines; being a flexible organization, its composition changes according to requirements.]

frame (field-handling), 【設】機場處理架。

解：這是一個便於攜帶的支架，氣艇在地面時可將此架裝上，以便有多人在架上握住操縱氣艇。氣艇在飛行中，則此架多不裝備。

[A portable frame which may be attached to an airship when it is on the ground and which is intended to afford a grasp to more men than could get on the handling rails of the cars. These frames are rarely carried when in flight.]

framing (stern), 【艇】尾架。

解：完成硬式氣艇十字形樑後方外形的一切構架。

[All framework, aft of the cruciform girder, necessary to complete the shape and contour

free balloon—Frise type aileron

of a rigid airship.)

free balloon, 【球】自由氣球。

解：球形的氣球，用壓載物或放去氣體操縱它的昇降，飛行方向完全由風向操縱。(參閱附錄第二十三圖)

[A balloon, usually spherical, whose ascent and decent may be controlled by use of ballast or with a loss determined by the wind.]

free-balloon net, 【球】自由氣球網。

解：由繩索組成的裝配，由氣囊上面伸展下垂，用以支持吊籃等等的重量，並將該項重負分配到整個氣囊的表面上部。(參閱附錄第二十三圖)

[A rigging made of ropes and twine shaped to the upper surface of the envelope, which supports the weight of the basket, etc., and distributes the load over the entire surface of the envelope.]

freeboard, 【機】【力】乾舷。(船身浮筒等的)

解：水線和船緣間的距離。

frame (spar), 【機】樑架。

解：一種特別堅強的構架，在飛船船身前後翼樑內作橫河的裝接，而負主要結構的載重。

[A specially strong frame fitted transversely in the hull of a flying boat in the plane of the front or rear spar to take the loads from the main plane structure.]

frame longitudinal girder, 【艇】架間縱樑。

解：縱樑的一部分，在橫樑架而成一分力樑。

[That portion of a longitudinal, in the way of a transverse frame, forming a component member thereof.]

free gun, 【裝】【軍】活動鎗。

解：裝置在飛機構架上的活動機關鎗，可不依照飛行的方向，能自由旋轉射擊。

[A gun so mounted in an aircraft that it can be trained independently of the line of sight.]

freezing point, 【氣】冰點。

解：在溫度表上水凍結為固體的度數。

[The point in the temperature scale at which water congeals or turns to a solid.]

Frise type aileron, 【機】弗賴氏式副翼。

解：均衡副翼的一種，樞軸在副翼前緣後三分之一處，下垂時作用與正常式無異，因副翼前緣為機翼所遮住，但副翼翹起時，前緣伸出於機翼下面，因而發生一種阻力，足以抵償其他副翼下垂的阻力，使飛機不致偏航。(參閱附錄第十五圖)

[An aileron which is hinged some distance back from the leading edge of the aileron in such fashion that when the aileron is drooped the action is normal, because the leading edge of the aileron is screened by the wing. However, when the aileron is raised, the leading edge pro-

front—fuel tank(fixed)

jects below the under surface of the wing, thus introducing a drag force which tends to compensate the drag of the other drooped aileron against yawing.)

front, 【氣】面。

解：冷熱氣體間的不連續線。

[A line of discontinuity between cold and warm masses of air.]

front elevation, 【力】正面圖。

解：物件前視的真實形狀圖。

[Front elevation drawing shows the true shape of an object as viewed from the front.]

frost 【氣】霜。

解：露水凍成固體則為霜。

[Frozen dew, or the condition in which the temperature of the air is below the freezing point of water.]

frost alarm, 【儀】結霜警報器。

解：於溫度降落至零點以下時，利用電氣機械使鈴發筒響。

[An alarm which rings by an electric mechanism when the temperature falls below freezing.]

fuel (alcohol), 【油】酒精燃料。

解：酒精在鍋爐或發動機氣缸內燃燒，可用作燃料，然所費較昂貴，因為酒精與汽油混合，可阻延爆發，而有高壓縮壓力，燃燒時毫無殘屑留下。

[Alcohol can be used as fuel by burning it under a boiler or in the cylinders of an internal combustion engine, although it is too expensive for this purpose in its pure state. Mixed

with gasoline, it retards detonations and permits a high compression pressure. Burns without forming residue.]

fuel (or oil) consumption, specific, 【發】汽油(或滑油)消耗率。

解：每匹實馬力小時所消耗的汽油(或滑油)重量。

[The weight of fuel (or oil) consumed per brake horsepower-hour.]

fuel-contents gauge, 【儀】油量表。

解：一種指示汽油箱內油量的儀器。

[A gauge for indicating the quantity of fuel in a fuel tank.]

fuel-flow indicator, 【儀】油流指示器。

解：一種機械，用以指示汽油供給系的流動或停止情況。

[A device for indicating whether fuel is flowing or not in a fuel supply system.]

fuel-flow meter, 【儀】汽油表。

解：一種指示汽油流動速率的儀器。

[An instrument for indicating the rate of flow of fuel.]

fuel level (carburetor), 【發】汽油水準(氣化器的)

解：汽油水準通常是在主出口上部以下 $\frac{1}{8}$ 吋。

[The fuel level in reference to the top of the main jets (usually about $\frac{1}{8}$ " below the top of main jet).]

fuel tank(fixed), 【油】(機)固定汽油箱。

解：汽油箱非為滑油而裝設。對滑油汽油箱正相反。

fulcrum—fuselage(monocoque)

[A fuel tank which is not intended or fitted to be dropped, as "slip" tank are.]

fulcrum, 支點.

解：槓桿轉動的樞軸支持處。

[The pivotal support about which any lever turns.]

full load, 【力】全載, 滿載重量.

解：淨重加上有用載量等於全載。有時亦稱總重(gross weight)。

[Weight empty plus useful load. Also called "gross weight".]

fuse, 【電】保險絲.

解：這是電路內的軟金屬零件，熔點甚低。它的設計是在電流達到有危險的電量時，因電熱燒熔，電路遂被截斷。

[A soft metal unit in an electrical circuit, and it has a low melting point. The fuse is designed to melt and break the circuit if the current value reaches a point which will damage or rupture the circuit.]

fuse alloy, 【材】鎔化金屬.

解：一種混合鉛，內含少量錫，用作保險絲，因電流經過甚強，超過安全範圍，電即發熱將絲鎔化。

[An alloy of lead with a small percentage of tin, used for electric safety fuses because it readily melts under the heat

of an electric current when the current becomes too strong for the safety of the circuit.]

fuselage, 【機】機身.

解：這是裝接在機翼和尾翼間的一種流線形結構物。這結構上有動力裝置，并攜載旅客和貨物等。

[The structure, of approximately streamline form, to which are attached the wings and tail unit of an airplane. In general it contains the power plant, passengers, cargo, etc.]

fuselage (monocoque), 【機】硬壳機身.

解：這是機身的一種結構式樣，外用木料或金屬的薄壳，內用肋、架、帶形架，或隔框以作支持，但除薄壳本身外并無縱樑的裝設，機身全部的配置均能担負結構必有的應力。

[A type of fuselage construction wherein the structure consists of thin shell of wood, metal, or other material, supported by ribs, frames, belt frames, or bulkheads, but usually without longitudinal members other than the shell itself. The whole is so disposed as to carry the stresses to which the structure is subjected.]

G

galvanometer, [電] 測電表.

解：這是極靈敏的儀器，可用以測量電流的強度（伏脫），或查測微小的電值。

[A very sensitive instrument which measures the intensity (voltage) of an electric current and also to detect the presence of very small current values.]

gap [機] 翼隔 [發] 火花間隙.

解：【機】這是一根線上二翼翼弦間距離的測量，而這根線係與翼弦垂直，且在上翼的前緣測起。用上翼的翼弦作參考，因為二翼的傾角不必相同，（所以翼弦未必平行），故一直線與上翼弦垂直，不必與下翼的翼弦垂直。（參閱附錄第十二圖a）

【發】電火塞 (plug) 內兩電極相隔的距離。

[The gap is the distance measured between the chords of two wing on a line perpendicular to the chord and at the leading edge of the upper wing. The chord of the upper wing is used as reference, because the two wings may not have the same angle of incidence (chords are therefore not parallel), so that a line perpendicular to the upper wing chord is not necessarily perpendicular to the lower wing chord.]

2. The distance between the electrodes of spark plug.

gas bag, [艇] 氣囊.

解：硬式氣艇上所裝置的容納氣體物，有時亦稱 gas, cell.

[One of the gas-containing unit fitted in rigid airship. Sometimes called "gas cell".]

gas capacity (nominal), [力] 名義氣體容量.

解：在一定氣壓與膨脹情況之下，浮昇器氣囊的容量。名義氣體容量大都與實際氣體容量不同。欲確定此種容量極為困難，尤以硬式氣艇為甚。

[The volume of the envelope of gas cell of an aerostate under certain conditions of pressure and inflation which have been defined. It is rarely the same as the true full volume. This is usually very difficult to determine accurately, especially in the case of rigid airship.]

gas cell, [艇] 氣囊.

解：氣艇上容納氣體物，同 gas bag.

[One of the gas-containing unit in rigid airship, same as gas bag.]

gas-cell alarm, [艇] 氣囊警報機.

解：裝置於氣囊附近，囊內氣壓將達預定限度時，即能自動警告或指示，故亦稱氣壓警報機。

[A device, fitted adjacent to a gas cell, which indicates or warns when a predetermined limiting pressure has been reached in the gas cell. Also called "pressure alarm".]

gas-cell fabric [艇] [球] 氣囊皮.

解：硬式氣艇氣囊所用的球皮，普通係牛腸膜皮。

[The fabric used in gas cells]

gas-cell net(rigid airship)- gasoline(blended)

of rigid airships, usually gold-beater's skin fabric, q.v.)

gas cell net (rigid airship),【艇】

氣囊網(硬式氣艇的)。

解：由細索組成的網，用意在於協助氣囊皮，使氣體的張力可以藉此傳達到由鋼絲所組成較大的網上及縱樑上。以上兩種網都安置在各縱樑之間。氣囊網可以與自由氣球網相比較，有時也叫繩網。

[A netting of cord of small mesh which is intended to assist the fabric of the gas cells in transmitting gas force to a wire netting of coarser mesh and to the longitudinals, both being fitted between the longitudinals. It may be compared to the net of a free balloon. Sometimes called "gas-cell netting" or "cord netting".]

gas container,【艇】氣囊。

解：硬式氣艇上所裝置的容納氣體物。

[One of the gas-containing unit fitted on a rigid airship.]

gasket,【發】填料，填隙片(=packing piece)；

解：一種繩摺麻用以填塞汽缸，亦係墊圈或接頭處之薄片料。

[The plaited hemp used for packing a piston; as a pump or the stuffing box of an engine. Any ring or washer of packing. A thin sheet used in making joints.]

gas main,【管】充氣總管。

解：一條球皮軟管，穿過硬式氣艇總

長，並有支管至各氣囊，以為充氣。

[A fabric hose running through the length of a rigid airship having branches to the gas bags for inflation.]

gasoline,【油】汽油(=petrol)

解：汽油是由石臘油(天然汽油)蒸溜所得的飽和碳化氫(hydrocarbons)混合物，而石臘油則係由生石油(crude petroleum)蒸溜得來。生石油含有各種碳氫化合物和小量的雜質，如氮氣及硫等。

[A mixture of saturated hydrocarbons produced by redistilling the gasoline naphthas (crude gasoline) which has been distilled from crude petroleum. Crude petroleum is composed of different compounds of hydrogen and carbon in series, and also contains small quantities of foreign elements, oxygen, nitrogen and sulphur.]

gasoline (anti-knock),【油】防爆汽油。

解：汽油在某種壓縮力下，可以阻止爆炸。

[A gasoline that resists detonation or knocking under a given compression pressure.]

gasoline (blended),【油】混合汽油。

解：這是各種汽油符合規定滲和而成的燃料。

[It is produced by mixing appropriate quantities of various gasoline grades to obtain a fuel to meet definite specifica-

gasoline(casing head)—gas-shaft hood

tion.)

gasoline (casing head), 【油】天然瓦斯汽油。

解：這是由天然瓦斯蒸溜凝結而成，而天然瓦斯則又由生石油蒸溜凝結而成。這種瓦斯是在每平方吋上漸漸增壓至 350 磅，再使冷卻變為液體。

[It is made by condensing from natural gas and the uncondensed gases from crude stills. The gases are gradually compressed up to about 350 pounds per square inch and the liquid gasoline is brought down by cooling.]

gas ring, 【發】活塞圈。

解：一種彈簧圈保持活塞和氣缸間不透氣的功用。

[A spring ring which maintains a gas-tight joint between the piston and the cylinder wall.]

gas shaft, 【艇】溢氣管。

解：這是氣艇內由氣囊底部至外皮的管子。它亦為積聚於行人路或走廊中的溢氣或由氣囊底的氣門所排出的氣體的清除出路。通常它是在鋼索或鋼絲上間隔有相當距離的輕木環或架子，并在外面加一綑子而製成。它可以防止各氣囊不致相接太緊，且可使它們保持相當的距離。有時亦稱“氣筒”(gas trunk)，“排氣管”(exhaust-gas shaft)或排氣筒(trunk)，然因恐和發動機排氣系名稱相混雜，所以稱它為“溢氣管”(gas shaft)似較相宜。

[A duct or shaft leading from the bottom of the gas cells to the outer cover of an airship.

It affords a clear passage for the escape of gases which have accumulated in the gangway or corridor or which are discharged from the valve at the bottom of the cells. It usually consists of light wooden hoops or frames spaced at intervals on cords or wires and is covered by a netting. It prevent the gas cells from closing hard against one another and thus keeps the passage open. Sometimes called "gas trunk", "exhaust-gas shaft", or "trunk". In view of the possibility of confusion with parts of an engine-exhaust system, it is believed that "gas shaft" or "trunk" is to be preferred.]

gas-shaft hood, 【艇】氣管蓋 (= gas hood)

解：這是硬式氣艇外殼上氣管外端的蓋覆物，常係採用輕質木料或厚布所製造，以便囊內氣體洩出。此物有時亦名「排氣蓋」，但與發動機排氣零件完全不同，宜特別注意，以免誤解。

[A hood, or cowl, located on the outer cover of a rigid airship at the outer end of a gas shaft. It is usually made of light wood and fabric and is faced to facilitate the escape of gas. Sometimes called "exhaust-gas hood." In view of the possibility of confusion with the parts of an engine exhaust system, it is believed that "gas-shaft hood"

is to be preferred.)

gassing, 【球】加氣。

解：用新氣補充氣球，更使清潔或增加氣量之工作。

[The operation of replenishing a balloon with fresh gas to increase the purity or to make up for loss of gas.]

gassing factor, 【球】加氣率。

解：這是保持浮昇器在一年內的氣量。通常係用氣體積的百分率說明之。

[The quantity of aerostatic gas required to maintain an aerostat for one year. It is ordinarily expressed as a percentage of the gas volume.]

gas starter, 【發】氣體起動器。

解：一種機械於動力行程時，供給受壓力的燃燒混合氣體至汽缸內。轉動發動機而作開動的動作。

[A device whereby an engine is rotated for starting, by supplying gaseous combustible mixture under pressure to the cylinders during the power stroke.]

gas trunk, 【艇】氣幹管。

解：氣囊氣門和氣管蓋間的管子。

[A duct between a gas-bag valve and a gas hood.]

gas volume, 【艇】氣體容積。

解：氣囊中所載氣體的容積。(參閱 Capacity)

[The volume of the contained gas. See capacity.]

gauge (air-pressure), 【儀】氣壓表。

解：測量空氣或氣體壓力的儀器。水

銀柱式的各 manometer 係以柱高而測量壓力。寶爾答式 (Bourdon type) 係直接指示氣壓數量而指針係由彎曲扁管因壓力影響而旋轉。

[An instrument for measuring the pressure of air or gases. The mercury column type, called a manometer, measures pressure in terms of the weight of column supported. The Bourdon type is a direct reading gauge in which movement of the needle is attained by the effects of pressure on a bent flattened tube.]

gauge (fuel-contents), 【儀】油量表。

解：一種指示汽油箱內油量的儀器。

[A gauge for indicating the quantity of fuel in a fuel tank.]

gauge (induction-pressure),

【儀】誘導壓力表。

解：一種指示增壓發動機內誘導管壓力的儀器。

[An instrument for indicating the pressure in the induction pipe of a supercharged engine.]

gauge (rain), 【儀】量雨器。

解：一種測量雨量的儀器。

[An instrument for measuring rainfall.]

gear (alighting), 【機】起落架。

解：即 landing gear.

gear (bevel), 【發】斜齒輪。

解：有齒的齒輪，與其軸成角度的裝置，但在同一平面中，齒輪的表面是成錐形。

[Toothed gears arranged to

gear(flotation) - generator(dual-purpose)

transmit motion with their shaft at an angle but in the same plane. The faces of these gears are conical.)

gear (flotation),【機】浮水裝置。

解：這是陸面飛機為在水面降落而裝置的應急降落架，并在水面停留時給予浮力。

[An emergency gear attached to a landplane to permit alighting on the water and to provide buoyancy when resting on the surface of the water.]

gear (ground),【艇】落地裝置。

解：氣艇在地面降落和處理時所必要的裝置或設備。

[The gear, or equipment, necessary for the landing and handling of an airship on the ground.]

gear (idler),【發】緩轉齒輪。

解：這是裝在二齒輪中間的齒輪，用以轉移運動但不變更旋轉的方向。

[A gear placed between two other gears to transfer motion with out changing the direction of rotation.]

gear (interrupter),【單】【裝】斷續齒輪。

解：防止槳葉在射擊線上時被機鎗射擊的一種機件。

[A mechanism which prevents the firing of gun when the airscrew (propeller) blade is in the line of fire.]

gear (jettison),【油】放油裝置。

解：於緊急時迅速將汽油放出的一種裝置。

[Gear for the rapid discharge

of fuel in emergency.]

gear (pinion),【工】小緩轉齒輪。

解：這是二齒輪間的小齒輪。

[The smaller of two geared wheels.]

gear (synchronizing),【軍】【裝】協調齒輪。

解：節制機槍射擊和螺旋槳旋轉速度協調的一種機件。

[A gear which controls the firing mechanism of a gun by synchronizing it with the rotation of the airscrew.]

generator clutch,【電】發電機合子。

解：一種可變的交連器械，以便風轉發電機的電樞旋速不致降至預定範圍以下。

[A variable-coupling device by which the speed of revolution of the armature of a wind-driven generator is maintained below a pre-determined limit.]

generator control-box,【電】發電機操縱匣。

解：一種開關并能節制發電機的輸出電量。

[A switchboard from which the output of a generator can be controlled.]

generator (dual-purpose),【電】雙用發電機。

解：一種發電機，能為燈泡的陽極和燈絲供給低壓和高壓的電流。

[A generator which supplies both high and low tension current for the anodes and filaments of the valves.]

generator(electric)—girder(axial)

generator (electric), 【電】發電機，
解：利用電磁感應的原理而將機械力
變成電力的機器。

[A machine which transforms
mechanical power into electrical
power by utilizing the principles
of electromegnetic induction.]

geographical poles, 【應】地極。

解：地球的旋轉軸極端，稱為地極。

[The extremities of the earth's
axis of rotation.]

geometrical pitch of blade, 【螺】

幾何螺距葉。

解：在軸至葉長三分之二以上的螺旋
槳剖面，無滑落時每次旋轉向前移動
的計算距離，若螺旋槳在一螺帽內或
固體物內旋轉，其行程必係此距離，幾
何螺距值常係印在螺旋槳上。

[The calculated distance that
a propeller blade section, locat-
ed at two-thirds the length
of the blade from the axis,
would move forward in one
revolution without slip. It would
be the distance travelled if the
screw-propeller were turning
in a threaded nut or in a solid
medium. The value of the
geometrical pitch is usually
stamped on the propeller.]

German silver, 【電】日耳曼銀，洋
銀。

解：一種導電性極低的混合金屬，為
銅，銻，鎳等不同之成分混合而成，用作
電阻線圈有時名鎳銀。此種混合合金含
二分銅，一分鎳，一分銻，溫度之變化對
電阻影響不大，日耳曼銀比阻為1,609
兆分歐姆。

[An alloy having comparatively
low conductivity, composed of
copper, zinc and nickel in
varying proportions, used in
making resistance coils; some-
times called nickel silver. It
consists of an alloy of copper
two parts, nickel one part and
zinc one part. The variation
of its resistance with changes
of temperature is very small,
Specific resistance of German
silver in micromes is 1,609.]

gibli, 【氣】開比利風。見 Qibli.

gimbals, 【機】【儀】平衡環。

解：一種懸掛經線儀與羅盤在飛機或
船上能自由活動的方法，如此可保持
此儀常在水平位置。平衡環為一對環
形物，在尖軸上成兩向之直角運動，以
便中和飛機或船的運動。

[A method of suspension for
securing free motion to a com-
pass or chronometer on airplane
or shipboard, so that it shall
always preserve a horizontal
position. Gimbals usually consist
of a pair of rings moving on
pivots in such a way as to
have free motion in two direc-
tions at right angles, so to
neutralize the motion of the
vessel or airplane.]

girder (axial), 【艇】軸樑。

解：一種桁構，沿硬式氣艇軸心，連接
向中心裝配的橫裝架，而向艇身前後
裝牢。

[A girder along the axis of
rigid airship connecting the

girder(box) — girder(propeller reinforcing)

central fitting of each braced transverse frame and secured to the hull structure forward and aft.)

girder (box), 【艇】盒形樑。

解：這是長方形剖面的樑，有時常指氣艇龍骨內懸掛汽油箱和氣囊的長方形縱樑。

[Any girder of rectangular section. Frequently used to refer to the rectangular, longitudinal members in the keel of a rigid airship from which fuel tank and gas bags are suspended.]

girder (bay longitudinal), 【艇】 張間縱樑。

解：橫樑架中間的一部分縱樑。(參閱附錄第二十一圖)

[That portion of a longitudinal between adjacent transverse frame.]

girder (cruciform), 【艇】十字形樑。

解：垂直和水平的橫樑裝接在硬式氣艇的尾部，用以支持直翅尾柱或方向舵柱的船內端。亦可為製成直翅後端的尾柱全部。

[The structure, consisting of vertical and horizontal transverse girders, which is fitted at the stern of a rigid airship for the purpose of supporting the inboard ends of the stern posts of the fins or the rudder posts. It may be integral with the stern posts which form the after ends of the fins.]

girder (fin), 【艇】直翅樑。

解：在硬式氣艇內豎起造成直翅的樑。

[A girder of a rigid airship which goes to make up the fin.]

girder (frame longitudinal),

【艇】架間縱樑。

解：縱樑的一部分，在橫樑架而成一分力樑。

[That portion of a longitudinal, in the way of a transverse frame, forming a component member thereof.]

girder (intermediate longitudinal), 【艇】中間縱樑。

解：一條輕質補助縱樑，而在二條主縱樑的中間。

[A light auxiliary longitudinal intermediate between two main longitudinals.]

girder (longitudinal), 【艇】縱樑。

解：一種樑架在艇身外面，作前後位置的裝配。(參閱附錄第十九圖)

[A girder on the outside of the hull running fore and aft.]

girder (main longitudinal), 【艇】 主縱樑。

解：組成硬式氣艇主要構架的縱樑。

[A longitudinal forming an essential structural member of a rigid airship.]

girder (propeller reinforcing),

【艇】接力樑。

解：這是加裝在硬式氣艇結構上的一種小樑，使受螺旋槳洗流的外殼面積增加強度。

[A light additional member

girder(walkway)—glide

fitted in the structure of a rigid airship to reinforce those areas of the outer cover which are affected by the propeller wash.)

girder (walkway), 【艇】 走道樑。

解：在硬式或半硬式氣艇中經過龍骨或他部分的走道的支持樑。

[The girder forming the support of a walkway through the keel or in other localities in a rigid or semirigid airship.]

glacier breeze, 【氣】 冰河輕風。

解：一種冷輕風由冷河方向吹來，它的冷源是因與冰河接觸所致。

[An cold breeze, blowing down the course of a glacier, owing its origin to the cooling of the air in contact with the ice, See Katabatic wind.]

gland, 【發】 【球】 壓蓋。

解：這是裝接在氣囊內一種短管，能使繩索由此穿過，空氣或氣體不致漏出。

[A short tube fitted to an envelope or gas bag in such a manner that a rope or line may slide through without leakage of gas or air.]

gland (manometer-tube), 【儀】 氣壓計管壓蓋。

解：這是裝配在浮昇器氣囊內短管，艙內氣壓計的長導管在此管上作不透氣的接頭。

[A gland fitted to the envelope of an aerostat to form a gas tight connection for the tube leading to the manometer in the car.]

Same as "pressure-tube gland.")
gland (pressure-tube), 【儀】 氣壓計管壓蓋。

解：全 gland(manometer-tube)。

glass (usually of the non-shatterable type), 【材】 玻璃 (常係不碎式。)

解：不碎式玻璃係用細銅絲嵌鑄其中，或係二塊薄玻璃夾住粗玻璃銻合而成。這二種方法所製成的玻璃，於擊破時均可不致脫落。

[Used in the construction of windows and wind screens. Non-shatterable glass is made by either casting fine crossed wires in the glass, or by fusing two thin layers of glass to a center film of tough material. Both kinds are designed to hold the pieces together in case of breakage.]

glazed frost, 【氣】 雨霜。

解：空氣溫度降至凍冰點以下時，雨水降在物體上所凍結的一層光滑冰。

[A layer of smooth ice formed by rain falling on exposed objects when air temperature is below freezing point.]

glide, 【飛】 滑翔。

解：這是一種下降動作，它對於空氣成正常衝角，并無作平飛的發動機力，而它的螺旋槳推力是滑飛行線的重力所替代。

[A descent with reference to the air at a normal angle of attack and without engine power sufficient for level flight in still air, the propeller thrust being re-

glide(spiral)—goldbeater's-skin fabric

placed by a component of gravity along the line of flight. Also used as a verb.]

glide (spiral), 【飛】盤旋滑翔。

解：見 spiral glide.

[See spiral glide.]

glider, 【機】滑翔機。

解：這是與飛機相似的一種航空器，但無動力的裝置。

[A form of aircraft similar to an airplane, but without a power plant.]

gliding angle, 【飛】滑翔角。

解：發動機停止後，飛機利用重力 (gravity) 在正常飛行速度中下降，下降的路線與地平線所成的銳角，稱為滑翔角。最佳的滑翔角應以飛機重量與空氣阻力的關係去推求。(參閱附錄第一圖)

[The angle between the horizontal and the downward path along which an airplane descends at normal flying speed, but not under power.]

gliding range, 【力】滑翔範圍。

解：航空器在正常情況下由指定高度滑翔所能達到的最終點。

[The ultimate point that can be reached from a given height by an aircraft under normal conditions.]

gliding speed, 【飛】滑翔速度。

解：飛機縱軸傾側在正確滑翔角度在空中滑翔時的前進速度。飛行學生的安全滑翔速度，是大過飛機臨界速度一半。

[The forward speed at which the airplane glides through the

air when the longitudinal axis is inclined at the correct gliding angle. A good safe gliding speed for student pilots is considered as being 50 per cent greater than the critical speed of the airplane.]

glycerin, 【化】甘油。

解：這是無色無臭的油狀黏液，化學公式為 $C_3H_5(OH)_3$ 。時常溶解於水中，用作防凍的混合液體。凡溶解液含有甘油 40% 的，可使液體溫度降至華氏零度不致凍結。若溫度降至華氏零點以下 10 度時，此液始能凝結成冰。

[It is frequently used in solution with water as an antifreeze mixture. A solution of 40% glycerin will protect the mixture down to 0° Fahrenheit and freezes solid at about 10° below 0° Fahrenheit.]

gnomonic projection, 【力】日晷儀投影。

解：由地面中心向地面成切線的板上投影。

[A projection from the center of the earth's surface onto a plate tangent to the earth's surface.]

goldbeater's-skin fabric, 【材】牛腸膜皮布。

解：這種氣囊皮是一層堅韌薄布，係用棉織成，布面內膠一層或二層牛腸膜，而膜上常加用一層透明漆，以作保護。這種材料係用在硬式氣艇的氣囊上。

[A gas-containing fabric consist

gondola—grain

ing of a layer of light, fine, strong cloth, usually cotton, to which one or more layers of goldbeater's skin have been cemented. The skins are on the inside and are usually further protected by a coat of fine varnish. Usually used the gas cells of rigid airship.)

gondola, [艇] [球] 懸艇吊籃.

解：這是氣球或氣艇下面的懸物，用以載人或帶物的。此字由德文借用意文而來。

[The car of an airship. This use of the word is borrowed from the Italian via the German. "Car" is to be preferred.]

gore, [球] [艇] 三角布片.

解：這是蓋覆二毗連頂縫的氣球或氣艇的氣囊部分。

[The portion of the envelope of a balloon or airship included between two adjacent meridian seams.]

grab line, [裝] 握緊索.

解：由氣艇旁面伸出來的繩索，當氣艇接近地面或已在地面時，運用這種繩索可以拉動氣艇。有時這種繩索稱為運用索 handling line.

[A line attached along the side of an airship for use in maneuvering near and on the ground. Sometimes called "handling line".]

gradient of a slope, [力] 傾斜率.

解：這是一個分數它的分子為垂直間距，分母為等高線間的水平距離（或相等的水平線）。

[A fraction formed by a vertical interval in the numerator and the horizontal distance (horizontal equivalent) between contour lines in the denominator.]

gradient (pressure), [氣] 氣壓變化.

解：在指定地點和指定時間內，氣壓計的變化，表示將有風暴來臨的嚴重情況。

[The change in barometric pressure over a given distance in a given time, indicating the severity of coming storms.]

gradient (vertical temperature), [氣] 垂直溫度率.

解：在清潔乾燥空氣中上昇溫度降落率——大約上昇每 300 呎降低華氏一度。

[The rate at which pure dry air is found to cooled with elevation—1° Fahrenheit per 300 feet, approximately.]

gradient wind, [氣] 坡度風.

解：空氣流動因地球旋轉，及所受離心力的關係，而使氣壓變化。(pressure gradient)均衡。

[The flow of air balancing the pressure gradient by virtue of the earth's rotation and centrifugal force acting upon it.]

grain, [單] 喱, 克冷.

解：英國衡量的單位，為常衡一磅的七千分之一，并等於一克 (gram) 的 .0648.

[A unit of weight, being 1/7,000 of a pound avoirdupois, and is

gram-calorie(gm. cal.)—gravity tank

equal to .0648 of a gram.)

gram-calorie (gm. cal.).【力】克熱量。

解：克熱量名 15° 小熱，這是一克的水由攝氏 14.5 昇至攝氏 15.5 時所需的热量。

[Called the 15° small calorie, is the heat required to raise one gram of water from 14.5° Centigrade to 15.5° Centigrade.]

graphical scale.【應】圖上比例尺。

解：這種比例尺是將劃有距離單位分度的線來用以表示海圖或地圖上的任何距離。

[Any distance on a chart or map to a line graduated in units of distance.]

gravimetric altimeter.【儀】重量分析高度表。

解：高度表的一種，由已知重量，而視重力的變化，而測驗飛機，所在的高度，因重量離地球愈遠則重量愈小，由此可定離開地面的高度。

[An altimeter that records the height of aircraft by the variation in gravitational pull on a known weight. The farther away from the earth, the less the pull of gravity.]

gravity.【力】重力。

解：這是地球對於物體的吸力，而此力的大小是與地球相距的高低成反比。現在飛機的高度範圍，對於飛機中的重力降落尚不十分顯著。

[The force of the earth's attraction upon a body. It decreases with increases of distance from the earth. The present altitude

range of aircraft is not sufficient to cause an appreciable decrease in the attraction of gravity for an airplane.]

gravity (acceleration).【力】重力加速率。

解：在緯度四十五度的海平面上每秒鐘的重力加速率為 32.17 英尺，其他各處差異甚微，故普通多忽略不計。他的符號在公式中為“g”。

[In feet per second per second is 32.17 at sea level at 45 latitude. The variation at other places is so small that it is negligible in ordinary calculations. Its symbol is “g”.]

gravity (specific).【力】比重。

解：這是一單位容積物質和同一單位水的相對密度。若水的密度每立方公分(種)重一克(gram)，則汽油每立方公分重 .75 克，是以汽油的比重為 .75。比重是一種比例，故可用數字代表之。

[The relative density of substances per unit volume compared to the density of water for the same unit volume. Thus, if the density of water is one gram per cubic centimeter and one cubic centimeter of gasoline weight .75 grams, then the gasoline is said to have a specific gravity of .75. Specific gravity is a ratio and is, therefore, represented as a number only.]

gravity tank.【機】重力油箱。

解：重力供給發動機的一種油箱。

[A tank from which the engine is supplied by gravity alone.]

great circle—gross dry weight

great circle, 【氣】大圓圈。

解：球面上的圓圈，它的直徑即是地球的直徑，子午綫 (meridians) 即通過地軸而與赤道相交成直角的大圓圈，赤道亦是個大圓圈，但它的平面是和地軸成直角，在球面的兩點上，均可畫成一個大圓圈；而圈上的一段弧線，為球面兩點間的最短距離。

[A circle on the surface of the earth, having the earth diameter as its own diameter. True meridian are semi-great circle. The equator is great circle. A great circle can be drawn between any two points on the surface of the globe, and the arc of this great circle is the shortest distance between the two points.]

Greenwich Apparent Time

(G.A.T.), 【格】格林威治太陽時，世界標準太陽時。

解：這是在格林威治子午線的太陽時。格林威治太陽時加東經即得地方太陽時。(local apparent time)。

格林威治太陽時減西經即得地方太陽時。(local apparent time)

[It signifies the appraent sun time at meridian of Greenwich. Greenwish apparent time plus wast logitude equals Local Appraent Time, while minus west longitude equals Local Apparent Time.]

Greenwich mean time (G.M.T.),

【氣】格林威治平均時。

解：這是在格林威治子午線上的鐘錶時，格林威治平均時加東經即得地方平均時(Local mean time)格林尼治

平均時減西經即得地方平均時。

[It signifies clock time at meridian of Greenwich. Greenwich Mean Time plus east logitude equals Local Mean Time, and minus west longitude equals Local Mean Time.]

gregale (pr. gregarley), 【氣】

希臘風。

解：愛奧尼亞海。(Ionan Sea)及其中地中海。(central mediterranean.)附近的猛烈東北風。

[A strong wind from the N.E., usually in winter, in the Ionian Sea and neighbouring parts of the Central mediterranean.]

grinder, 【工】沙磨器。

解：這種機器能使機件於製造時有極光滑的表面和極正確的尺寸。最需要磨擦工作的機件為氣缸，曲柄軸，和活塞銷等。

[A machine used to impart a high finish and very accurate dimensions to parts in the process of manufacture. Cylinder, crankshaft, and piston pins are good examples of finish ground work.]

grommet, 【機】索環。

解：繩索上的環圈。

[A small ring of cord.]

gross dry weight, 【發】總淨重。

解：發動機實重，並有下列各機件：螺旋槳殼全副，排氣支管，及岐管或短管，吸氣管，起動機組，起運裝置零件，及操縱器滑油及汽油濾器，及發動機駛動汽油唧筒的調節氣門，(與唧筒分門裝置時的,)，但散熱器，水，及互相連接

gross lift(airship)—ground equipment

管，油箱，汽油和滑油，排氣尾管，和發動機儀器等不在內。

[The net dry weight, as defined below, with the addition of the airscrew hub complete; exhaust branch-pipes, and manifolds or stub pipes; air-intakes; starting units, claws; primers, accessories and controls; engine oil and petrol-filters and relief-valve to engine-driven fuel-pump (when separate from pump); but excluding radiator and water and interconnecting pipes; tanks; fuel oil; exhaust tail pipes; and engine instruments.]

gross lift (airship). 【力】總昇力 (氣艇的)。

解：總昇力係航空器的“名義氣體容量”(nominal gas capacity)所容輕浮氣體體積產生的昇力。求總昇力的方法，將“名義氣體容量”數值，乘所灌輕浮氣體每單位體積的昇力即得。例如“名義氣體容量”數值為100,000立方尺；每立方尺輕氣(假定所灌氣體是輕氣)的昇力是X，則總昇力為：

$$100,000 \times X = 100,000X.$$

[The lift obtained from a volume of buoyant gas equal to the nominal gas capacity of the aircraft. Obtained by multiplying the nominal gas capacity by the lift per unit volume of the gas used for inflation.]

gross weight, 【力】總載重。

解：航空器在條例規定許可下最大的飛行載量。

[The maximum flying weight of

an aircraft permissible under the Regulations obtaining.]

ground angle, 【機】【飛】地面角。

解：飛機置放平地時，縱軸與地平線所成的銳角，亦即三點落地 (three point landing) 時的角。有時也稱落地角(landing angle)。

[The acute angle between the line of thrust of an airplane and the horizontal when the airplane is resting on level ground position. Also called “landing angle”.]

ground cloth, 【工】地布。

解：一種粗布置放在浮昇器的下面，專為用作灌氣和放氣時的保護。

[Canvas placed beneath an aerostat for its protection during inflation and deflation.]

ground crew, 【飛】地面服務人員。

解：氣艇降落和在地面時，處理所必須的一種人員。

[A detail of man necessary for the landing and handling of an airship on the ground.]

ground (emergency landing).

【設】應急降落地。

解：專為強迫或緊急降落所設備的一塊地域或水面。

[An area of land or water specially intended for forced or emergency landings.]

ground equipment, 【艇】落地裝置。

解：氣艇在地面降落和處理時，所必要的裝置或設備。

[The gear, or equipment, necessary for the landing and handling of an airship on the

ground gear—ground wire

ground.)

ground gear, 【設】 落地裝置。

解：同 ground equipment.

ground lag, 【力】 程遲差。

解：實際彈道因空遲差關係而在真空彈道後面的平面距離，由彈着地點平面測得之。程遲差實因空氣阻力所致，在射擊學中，則受空速，高度，和極限速度三種混合關係的影響。(參閱附錄第四十一圖)

ground (landing), 【設】 降落地。

解：為飛機降落設備的一塊地面。

[A prepared piece of ground on which aircraft may land.]

ground loop, 【飛】 地面急轉。

解：飛機在地面滑走時踏動方向舵使飛機在地面依直軸迅速作圈形旋轉，謂之地面急轉。這是一種應急的動作，為避免與地面物事或人員相撞時用的。

[Turning a plane quickly about the vertical axis while running on the ground by means of hard rudder action. This is an emergency maneuver to prevent a collision with other objects or persons.]

ground performance, 【力】 陸上性能。

解：一架航空器的起飛，降落，及滑走特性。

[The alighting, taking-off and taxiing characteristics of an aerodyne.]

ground speed, 【力】 對地速度。

解：飛機對地的實際速度。

[The horizontal component of the velocity of an aircraft re-

lative to the earth.]

ground-speed meter, 【儀】 地速計。

這是測量飛機對地速度的儀器。現在儀器上有一種參考線，於測量速度前，先須在飛機對地的明白運動方向上作平行的定置。定置的方法是使偏航尺校準，而地速尺能自動有正確的定向，由此飛機對地運動的大小和方向可以決定。

[An instrument for measuring the speed of an aircraft relative to the ground. In present types of instruments some reference line in the instrument must first be set, parallel to the apparent direction of motion of the aircraft with reference to the ground before the speed measurement is made. This is usually accomplished by the use of a drift meter, the adjustment of which automatically orients the ground-speed meter properly. Thus both the magnitude and direction of the motion of the aircraft with reference to the ground are obtained.]

ground starter, 【設】 地面起動器。

解：一種開動發動機的機件不攜載於飛機內。

[Any device not carried in an aircraft for starting an aero-engine.]

ground wire, 【設】【艇】地面索。

解：一種線索是由絞盤引出穿過繫留柱，或繫留塔頂的繫留裝接物，並於至繫留索由氣艇降下時與之相連。

[A cable led from a winch

through the mooring attachment at the top of a mooring mast or tower and connected to the main mooring wire when this is towered from an airship.]

group, 【軍】聯隊。

解：兩大隊 (wing) 或兩大隊以上為一聯隊。

[A group consists of two or more wings.]

gudgeon-pin, 【發】活塞銷。

(=piston pin)

解：聯桿和活塞連接的銷針。

[The pin which attaches the connecting rod to the piston.]

guide (valve stem), 【發】氣門蒂導孔。

解：氣門導孔是用以引導氣門蒂的往復運動。

[Used to guide the reciprocating motion of valve stem.]

gun, 【發】油門。

解：指汽油門而言。

[It is another name of throttle.]

gun (fixed), 【裝】【軍】固定鎗。

解：固定裝置在飛機構架上的機關鎗，須運用飛機的飛行動作而打靶。

[A gun rigidly attached to the structure of an aircraft trained by manoeuvring the aircraft.]

gun (free), 【裝】【軍】活動鎗。

解：裝置在飛機構架上的活動機鎗可不依照飛行的方向，能自由旋轉射擊。

[A gun so mounted in an aircraft that it can be trained independently of the line of sight.]

gun heater, 【裝】【軍】機鎗加熱器。

解：裝配在機鎗上的一種機件，能保持鎗後膛室可射擊的溫度。

[A device fitted to a gun to maintain the breech mechanism at a temperature suitable for operation.]

gun mounting, 【軍】【裝】鎗架。

解：機關鎗在飛機上裝置的一種支持物。

[A fitting on which a gun is mounted in an aircraft.]

gusset, 【機】增力片。

解：一種較小的三角形支張物，用以增加結構物角的強度。翼肋接頭處多裝用此物。

[A relatively small triangular brace used to strengthen corners in a structure. They are used principally at wing rib joints.]

gust, 【氣】陣風。

解：一種速度比較變動迅速的風，離開地面極近，係由穩定的風流所發生的機械擾亂。

[A comparatively rapid fluctuation in the velocity of the wind, characteristic of winds near the surface of the earth, resulting from mechanical interference with the steady flow of air.]

gusty air, 【氣】暴風。

解：風速驟然增減，即成暴風。切勿將此種現象誤認為對流氣流的垂直運動。

[Caused by sudden increases and decreases in the wind velocity. This phenomenon should

guy(mooring)—haar

not be confused with the vertical action of convection current.)

guy (mooring),【艇】[球] 繫留索。

解：一種繩索爲浮昇器於棚廠內，或野外繫牢的用途。(參閱附錄第二十四圖)

[A rope used for securing an aerostat when housed in a shed or picketed down in the open.]

guy (yaw),【裝】 繫塔索。

解：繫塔索是從氣艇頭部垂下來的繩索，當繫到繫留塔上時，可以阻止氣艇向繫留塔的兩邊偏出或擦過繫留塔。繫塔索亦有稱爲“bow-steadying line”。英國人尤多稱爲“Side guy wire”。

[A line dropped from the bow of airship; when mooring to the mast, to act as a steadying line to prevent yawing and overriding the mast. Also called “bow-steadying line” or “yaw line”. (Side guy wire-British).]

gyroplane,【機】 旋翼機。

解：重航空器的一種，垂直軸上裝有形似螺旋槳的自由旋轉翼，不用發動機推動，而藉機身前進時的氣流轉動。旋翼機的頭部仍裝有發動機和螺旋

槳，與普通飛機無異，供推進之用。此種飛機的昇降角度極大，但仍不能成垂直線。

[A combination of an airplane and a helicopter.]

gyroscope,【儀】 旋轉儀。

解：這是一個旋轉輪，它的特性是在整個的轉動軸上旋轉。旋轉儀是轉彎指示器的基本部分。

[A rotating wheel or disc whose characteristic tendency is to rotate about any axis about which it is turned as a whole. A gyroscope is the fundamental unit of a turn indicator.]

gyroscopic level,【儀】 旋轉水平儀。

解：一種儀器運用旋轉儀而指示航空器的垂直軸和真垂直所成的角度。

[An instrument employing a gyroscope, for indicating the angle between the true vertical and the normal axes of an aircraft.]

gyroscopic turn indicator,【儀】 旋轉儀轉彎指示器。

解：這是依賴旋轉儀動作的轉彎指示器。

[A turn indicator dependent on gyroscopic action.]

H

haar,【氣】 濕海霧。

解：東蘇格蘭 (Scotland) 稱海霧的

土語。

[A local name in Eastern Scot-

haboob—handling rails

land for a sea fog.]

haboob, [氣] 哈伯風。

解：蘇丹 (Sudan) 區內雨季的一種線颯 (Line-Squall)，常有極濃的風沙相隨而至

[A disturbance of the line-squall type which occurs in the Sudan during the rainy season, and is usually accompanied by a dense sandstorm.]

hail, [氣] 雹。

解：透明硬球形的小冰塊，由積雨雲 (cumulo-nimbus) 中降下，且常挾有雷雨。

[Precipitation in the form of hard transparent pellets of ice which fall from cumulo-nimbus clouds and are often associated with thunderstorms.]

half-roll, [飛] 半側滾。

解：倘敵機正在後方，半側滾飛行較之筋斗飛行更有效用，但飛機須能運用自如，而絕對不能失却操縱。且半側滾使駕駛員轉彎敏捷，易於佔在敵機後方，是故半側滾飛行爲變換飛機方向最迅速之方法。

[It is a much more useful strick than the loop if a pilot has an opponent right on his tail, as the aeroplane is never out of control and the manoeuvre can be performed quickly. It is also useful to enable a pilot to turn quickly and come down on the tail of an opponent. It is the quickest method of reversing the direction of an aeroplane.]

half round section, [力] 半圓剖面。

解：這是一個固體結構的剖面，一邊平滑，一邊彎曲。

[A solid structural section, flat on one side and curved on the other.]

handling line, [艇] 握索，運用索。

解：由氣艇旁而伸出來的繩索，當氣艇接近地面或已在地面時，運用這種繩索可以拉動氣艇。有時此索亦稱爲 (grab line)。

[A line attached along the side of an airship for use in maneuvering near and on the ground. Sometimes called "grab line".]

**handling frame, [艇] 運用架，
握架。**

解：一種構架臨時裝置在氣艇下部，以便在地面時工作人員可以拉動自如。

[A framework temporarily attached to the under-side of an airship to assist the landing party in handling it.]

handling guy, [艇] 運用索。

(=handling line)

解：浮昇器旁而伸出來的繩索，以便地面勤務人員可以運用拉動。(參閱附錄第十七圖及二十四圖)

[A side guy to assist the landing party in handling an aerostat.]

handling rails, [設] [艇] 地面操作軌。

解：由氣艇棚廠伸至降落區域的軌道，上行小車，可與運用索相連接。

[Tracks laid along an airship shed extending out to the landing area to carry trolleys for the attachment of the handling

hangar—header-tank(radiator)

guys.]

hangar, 【設】棚窠。

解：遮蓋飛機的庇護處。此種處所儲藏重航空器最爲適當。

[A shelter for housing aircraft. More properly applied to heavier-than-air craft.]

hardening (case), 【工】磨鋼法

解：金屬機件外層加硬的方法。此法可使面部增硬，而不致減小機件的強度，因炭化處僅佔面深處數千分之一。炭化作用深入內部的極少。

[A process of hardening the outer crust or layer of metal parts. This process creates a hard wearing surface without materially reducing the strength or toughness of the part, because the carbonizing is practically limited to few thousandths depth at the surface. A very small amount of carbonizing penetrated the interior of the part.]

hard pine, 【材】硬松。

解：這是一種堅韌整齊的木材，機身的縱樑等物多用此種材料製造。

[A tough, uniform wood, particularly applicable to members like the longerons of the fuselage.]

harmattan, 【氣】哈馬丹風。

解：西非洲 (Africa) 於乾季時 (十一月至三月) 常有的極燥東北風攜帶塞哈那 (Sahara) 沙漠的大量飛沙。

[A very dry N. E. wind prevalent in Western Africa during the season (November to March)

carrying with it great quantities of dust from the Sahara.]

harness 【傘】裝具，掛帶。

解：保險傘用者身上所配帶的物件，而保險傘的吊索則裝置於上。

[A device worn by the user of the parachute to which the rigging lines (or life line) are attached.]

harness (mooring), 【球】繫留裝具。

解：這是一種布帶，裝配在氣球氣囊的頂端，而繫留索則係裝接在帶上。鷹式氣球和觀測氣球常有此種裝備。

[A system of webbing bands, fitted over the top of the envelope of a balloon, to which are attached the mooring ropes. Usually found only in kite balloons or observation balloons.]

haze, 【氣】霧。

解：因空氣中的浮塵煙灰，積載水份而成的微霧。

[Slight fog due to the presence of solid matter such as dust, smoke, or hygroscopic particles carrying a deposit of water in air not saturated with water vapour.]

haze top, 【氣】霧頂。

解：霧的上層界而所達的高度頗廣。

[The upper boundary of a layer of haze which may reach a considerable height.]

header-tank (radiator), 【發】散熱器首箱。

解：散熱器的上部由發動機收集的水分分配至冷卻部份。

[The upper portion of a radiator

heading(airplane) — helicopter

in which water is received from the engine and distributed to the cooling elements.]

heading (airplane), 【飛】機頭方向。

解：飛機縱軸所向的方向。

[The direction of the airplane's longitudinal axis.]

head (multiple-cylinder), 【發】多汽缸頭。

解：一種單一集合頭，裝置在數汽缸上。

[A "monobloc" head covering a number of cylinders.]

head wind, 【氣】逆風，頂風。

解：由機頭方向吹來的風。

[A wind blowing from the direction of the airplane's heading.]

heat, 【力】熱。

解：這是原子能力發出的結果。

[Molecular energy which is measured by the effect it produces.]

heater (air-intake), 【發】吸氣孔加熱器。

解：一種機件用以增高進入氣化器空氣的溫度。

[A device for raising the temperature of the air entering the carburettor.]

heater (gun), 【裝】【軍】機槍加熱器。

解：裝配在機槍上的一種機件，能保持槍機膛至可射擊的溫度。

[A device fitted to a gun to maintain the breech mechanism at a temperature suitable for

operation.]

heating muff, 【發】加熱筒。

解：一種套室環繞排氣管，而收集熱空氣。

[A chamber, surrounding an exhaust pipe, to collect hot air.]

heavy oil, 【油】重油。

解：重油為一種無揮發性的油類，或燃火點頗高的油類；換言之，重油乃不與汽油相同的一種油類。

[In this case a non-volatile or high flash-point oil; in other words, not a spirit like petrol.]

height computer, 【儀】高度計算器。

解：一種計算器械用密度因數而將高示出。

[A calculating device for converting indicated to true altitude by taking the density factor into consideration.]

height (pressure), 【力】壓力高度。

解：硬式氣艇或軟式氣艇的氣囊滿盛氣體所在的高度。

[The altitude at which the gas cells of a rigid airship are full, or the gas bag of a non-rigid airship is completely full of gas.]

helicopter, 【機】直昇飛機。

解：這是有螺旋槳在水平面上旋轉的飛機，拉力由垂直軸上發出，故昇力不受水平運動或速度的影響。此種螺旋槳的大小，與機翼相似，槳葉獲得的反動力與普通機翼在空氣中經過而獲得的反動力相同。

[A device having the propeller rotating in a horizontal plane

H-engine—high speed flight

driven from a vertical axis, the lift being independent of horizontal motion or speed. The propeller usually has large wing-like blades, which secure a reaction similar as large conventional wings thrust through the air.]

H-engine, 【發】 H字形發動機。

解：發動機的汽缸排列是在尾端組成H字形狀。

[An engine with its cylinder forming, in end view, the letter "H".]

henry, 【電】 亨利

解：這是感應電動力爲一伏脫，而感應電流每秒鐘相差一安培時的自感或感應的單位。

[The unit of self-induction or the inductive when the induced electromotive force is one volt while the inducing current varies at the rate of one ampere per second.]

hickory, 【材】 胡桃木。

解：這種木材的表面非常堅硬有彈力，製造尾撐和操縱桿頗爲相宜。

[Hickory which is tough, springy and hard surfaced, is a favorite material for skids and control levers.]

high, 【氣】 高氣壓。

解：卽反旋風。

[An anticyclone.]

high brass, 【材】 硬黃銅。

解：含有極高百分率鋅(33—36%)的黃銅，亦名硬黃銅。

[Brass containing a high per-

centage of zinc, also known as "hardbrass". It contains from 33 to 36 percent zinc.]

high fog, 【氣】 濃霧。

解：因煙塵積累或因凝結所成的霧，在地面一層上，而地面能見度較受影響，此種濃霧能生劇度的黑暗。

[Fog due to condensation and/or accumulation of smoke, in a layer above the surface of the ground in which ground visibility is relatively unaffected. Such a fog may produce intense darkness.]

high pressure area, 【氣】 高壓區。

解：這是高氣壓的區帶，常因良好氣候所造成。

[An area of high barometric pressure, usually accompanied by clear pleasant weather.]

high sea, 【飛】 大海。

解：凡航空器飛行於海上，與海岸最近的距離尙超過於六十五哩者，此種環境則名之曰大海。

[A flight over the high seas means a flight in which an aircraft is over the sea at a distance of more than 65 miles from the nearest point of the coast.]

high speed flight, 【飛】 高速飛行隊。

解：高速飛行隊爲一九二七年成立的一種特別單位，專門用水面飛機作高速飛行的研究，特別設計的高速飛機，曾用於一九二九年參與斯克奈德杯比賽 (Schneider Trophy Contest)。現高速飛行隊單位已不復存在，但該

high tension coil—honeycomb

種特別設計的高速機，仍作高速飛行研究之用，昔日高速飛行隊中的一位高速航空員，和其他軍官，均被選從事高速試驗工作。

[This was a special unit formed in 1927 for high speed research flying in seaplanes. Specially designed speed machines were, incidentally, used in the Schneider Trophy contest in 1929. The high speed unit is not now in existence, but these special machines are being used in a programme of high speed research flying, and one member of the High Speed Flight is at Felixsowe, whilst, in addition, other officers have been selected to carry out the tests.]

high tension coil, 【電】高壓絲圈。

解：一種為電火花點火的機件，能將低電壓提昇為必要的高電壓。

[A device used to raise the potential of low voltage circuits to the high potential necessary for jump spark ignition.]

high wing monoplane, 【機】高翼單翼機。

解：(1)一種轆式單翼機，其機翼裝置在上縱樑上，或先用特殊結構，而再裝置在上縱樑上。(2)一種敞艙式單翼機，其機翼裝置在一對支持柱上，而由機身向外向上突出。有時稱為傘型飛機。

① A monoplane, usually of the cabin type, which has its lifting surfaces attached either to high longerons, or to a special super-

structure, which in turn is attached to the upper longerons;
② A monoplane, usually of the open cockpit type, having its lifting surfaces attached to a set of supporting struts, projecting upward and outward from the fuselage. Sometimes referred to as a parasol monoplane.]

hinge moment, 【力】鉸鏈力距。

解：因空氣動力在操縱面或其他鉸鏈翼面軸上所生的力距。

[The moment due to aerodynamic forces about the hinge axis of a control or other hinged surface.]

hit an open switch, 【飛】飛錯航道。

解：此乃俚語，指越野飛行時認錯鐵道而致航向飛差而言。

[On cross-country flying is to follow the wrong branch of railroad.]

hog, 【艇】穹形。

解：氣艇的縱軸向上拱曲如豬背，兩端向下垂落。

[A distortion of an airship in which the longitudinal axis becomes convex upward so that both end droop.]

hollow beam, 【材】空心樑。

解：中空或箱形剖面的樑，量輕而力強。

[A beam having a hollow or box-like section which is extremely light for its strength.]

honeycomb, 【發】【力】蜂巢板。

解：這是一種篩形的設計，使散熱器

honeycomb radiator--horizon(artificial)

內的液體能得極大的面積，并使風洞的氣流圓滑。

[A seive-like design used to secure maximum surface area in solution radiators, and also as a device to smooth the air flow in wind tunnels.]

honeycomb radiator, 【發】蜂巢式散熱器。

解：一種水冷器內有一束空氣管，而管外為水環繞。

[A water-cooler consisting of a block of air-tubes surrounded by water.]

hood (gas-shaft), 【艇】氣管蓋。
(=gas hood)

解：這是硬式氣艇外殼上氣管外端的蓋覆物，常係採用輕質木料或厚布所製造，以便囊內氣體洩出。此物有時亦名「排氣蓋」，但與發動機排氣零件完全不同，宜特別注意，以免誤解。

[A hood, or cowl, located on the outer cover of a rigid airship at the outer end of a gas shaft. It is usually made of light wood and fabric and is faced to facilitate the escape of gas. Sometimes called "exhaust-gas hood". In view of the possibility of confusion with the parts of an engine exhaust system, it is believed that "gas-shaft hood" is to be preferred.]

hood (maneuver ng-valve), 【艇】操縱氣門蓋。

解：這是硬式氣艇外殼上操縱氣門的蓋覆物，係用輕質木料或厚布所製造，并可方便氣體洩出。

[A hood, or cowl, located on the outer cover of a rigid airship just over a maneuvering valve. It is usually made of light wood or fabric and is faced to facilitate the escape of gas.]

hood (valve), 【艇】【球】氣門蓋。

解：這是成傘形的一種蓋覆物，可保護氣艇或氣球的氣門不為雨水所浸入。亦名「氣門罩」或「氣門帽」(valve cover or bonnet)。

[The appliance, having the form of a hood or parasol, which protects the valve of an airship or balloon against rain. Also called "valve cover" or "bonnet".]

horizon, 【氣】水平線。

解：經過觀察人所在位置，并由此點與地面成切線的水平面。

[The horizontal plane passing through an observer's position on the earth and tangent to the earth at that point.]

horizon (artificial), 【儀】人工水平儀。

解：飛機所在高度太大，不能得到精確的天然水平線，或因天然水平線不十分明晰時，則六分儀內的水泡或擺錘是人工水平線的參考物。

[A self contained artificial reference (bubble or pendulum) within a sextant to be used for a horizon when the natural horizon is obscured, or when an airplane is at too great an altitude to determine the natural horizon with accuracy.]

horizon dip—horse-power(maximum)

horizon dip, 【飛】傾斜, 俯角。

解：目光在海面或地平線上舉起所增的高度。

[An increase in altitude caused by the elvation of the eye above sea or ground level.]

horizon (false), 【發】假水平線。

解：附近山巔與天底的接連線, 此種水平線學生若用作飛機學昇的參考極不安全。

[The apparent junction of the top of nearly hills, or mountains, with the sky. A horizon which cannot be safely used by a student for a reference line in regulating the climb of his airplane.]

horizon line, 【飛】水平線。

解：在天地交接處的水平線。

[The level horizontal line at the apparent junction of the earth and sky.]

horizon (true), 【飛】真水平線。

解：天地的明顯交接處, 距離頗遠, 此種水平線對於觀測者任何點上係直接, 并在水平面中經過地面。

[The apparent junction of the earth and sky, at a distance sufficiently far, to allow the horizon to be in a direct and level line with a horizontal plane passing through a fixed position upon the earth's surface at any point or points of observation.]

horizontal (absolute), 【力】絕對水平面。

解：液體在靜止時的水面位置, 即一大塊水的水平面。

[The position of the surface of a liquid at rest, such as the horizon indicated by a body of water.]

horn, 【機】槓桿。

解：飛機操縱翼面上所裝配的小槓桿; 例如, 副翼槓桿, 方向舵槓桿, 昇降舵槓桿等。

[A short lever attached to a control surface of an aircraft. For example, aileron horn, rudder horn, elevator horn.]

horns (aileron), 【機】副翼槓桿。

解：操縱索與副翼連接所用的槓桿臂或曲柄。

[The lever arms or cranks by which the control cable is attached to the ailerons.]

horn balance, 【機】均衡翼。

(=balanced flap)

解：此翼是在操縱面梢端, 并延伸至固定翼面上。(參閱附錄第十五圖, 28)

[The balance is confined to the tip of the control surface and extends beyond the fixed surface.]

horse latitudes, 【氣】溫帶無風帶。

解：氣候平靜, 微風輕拂, 天氣晴朗, 氣壓高爽的區域, 在南北緯三十度之間, 謂為溫帶無風帶。

[The horse latitudes are the belt of calms light winds and fine clear weather with high barometer met with at approximately 30° on either side of the equator.]

horse-power (maximum), 【力】

horsepower(one) - Hucks starter

最大馬力。

解：最大馬力高度上，全開氣門，而在最大可能 I. P. M. 工作時所發出的實馬力。

[The b.h.p. developed when running at maximum permissible r. p. m. at full throttle at maximum power altitude.]

horsepower (one), [力] 一匹馬力。

解：舉起550磅每秒鐘至1呎高度。

[The expenditure of energy necessary to raise 550 pounds one foot in one second against the action of gravity.]

horsepower of an engine

(maximum), [發] 發動機最大馬力。

解：一座發動機所能發出的最大動力。

[The maximum horsepower which an engine can develop.]

horsepower of an engine

(rated), [發] 發動機額定馬力。

解：指定式發動機在五十小時標準耐久試驗內所發出的平均馬力數。

[The average horsepower developed by an engine of a given type in passing the standard 50-hour endurance test.]

hot-air balloon, [球] 熱空氣氣球。

解：氣球的浮力係用熱空氣替代氫氮二氣而得來熱空氣的密度，較四週的大氣為小，而致成比較的浮力，常用發明人的名字稱為蒙得哥而懷氣球。

(A balloon in which buoyancy is obtained by the use of heated air instead of by hydrogen or helium gas. The density of heated air, being less than that

of the surrounding atmosphere, causes a proportional buoyancy. It is also known as a Montgolfier Balloon from the name of its inventor.)

hot baffle, [發] 熱板。

解：一種板面熱度極高，促成液體汽油的蒸發。

[A plate or surface, highly heated, for completing the vaporization of liquid fuels.]

hour angle, [氣] 時角。

解：交切指定點的子午線和交切太陽中心在天極上所成的角度。

[That angle at the celestial pole between the meridian intersecting any given point and the meridian intersecting the center of the sun.]

hour (of right ascension), [氣]

赤經度小時。

解：赤經度小時等於15弧。

[It equals 15° of arc.]

hovering, [飛] 翱翔。

解：這是較失速略高的巡航速度，以便極慢飛過地面。

[Cruising at a speed just above stalling speed in order to pass over the earth as slowly as possible.]

Hucks starter, [發] 赫克斯起動器。

解：赫克斯起動器係一種能自轉的機件。該機件有一突出的鐵柄，柄端有一爪形物，可以連接於螺旋槳殼。該機件的長度，發於機身，爪形物連接於螺旋槳藉其發動機而轉動。當螺旋槳已得其必需的推力時，此爪形物能自動落下。

hull(airship)—hydroglider

[It is a self-propelled vehicle with a contrivance consisting of a projecting arm, at the end of which is a claw which can be attached to the boss of propeller. This vehicle is run up to the machine, the claw is attached to the propeller, and is then rotated by the engine of the Hucks starter. When the propeller has been given the necessary impulse the claw automatically comes away.]

hull (airship), 【艇】氣艇船身。

解：這是硬式氣艇的主部結構，係一個有蒙蓋的長度構架，而架內裝設氣囊，并攜載艇與一切裝備等。各種浮昇器的浮昇全部亦指此物，不過時常稱曰氣囊。

[The main structure of a rigid airship, consisting of a covered elongated framework which in closes the gas cells and supports the cars and equipment. May also be applied to the complete buoyant unit of any aerostat. In this latter sense sometimes called "gas bag".]

hull(seaplane), 【機】水面飛機船身。

解：這是飛船接觸水面時供給浮力的部分。此部能容載航員和乘客，而浮筒和機身通常是成一個整個的單位。(參閱附錄第十二圖)

[The portion of a flying boat which furnishes buoyancy when in contact with the surface of the water. It contains accommodations for the crew and

passengers, usually incorporating the functions of a float and fuselage in one unit.]

humidity (absolute), 【氣】絕對濕度。

解：空氣內的水蒸氣實際總量，以每立方呎的公厘數說明之。

[The actual amount of water vapor in the air, expressed in grains per cubic foot.]

humidity (relative), 【氣】相對濕度。

解：在指定溫度情況下的空氣內的水蒸氣對空氣內的才蒸氣飽和量所成的百分率。

[The percentage of moisture in the air under given conditions of temperature compared to amount required to saturate the air.]

hump speed, 【力】界限速度。

解：水面飛機或水陸兩棲機有最大水面阻力時的速度。

[The speed at which the water resistance of a seaplane or amphibian is a maximum.]

hurricane wind, 【氣】颶風。

解：此風風力為貝福氏風力階級十二號，除熱帶颶風或托那陀風(tornadoes)外，甚少見之。

[A wind of force 12 on the Beaufort scale. Such a wind is rarely experienced except in tropical revolving storms or tornadoes.]

hydroglider, 【機】水面滑翔機。

解：這是有浮筒裝備的滑翔機，以便在水面起落。

[A float equipped glider for

hydrolith ballast — hydrovane

water landings and take-offs.)

hydrolith ballast, 【艇】水分解壓載物。

解：一種水分解的化合物名 Hydro-lith，與水接觸時即發生氫氣，此種氫氣導入氣囊內，增加額外昇力而 Hydro-lith 的餘渣，則為壓載物，此物在氣艇氣球上有二層用途，於保持昇力外並可充壓載物。

[A compound known as "Hydro-lith" liberates hydrogen gas when contacted with water. The gas, thus obtained, is conducted to the balloon, causing extra lift while the residue of the Hydrolith is discharged like ballast. This substance, therefore, performs a dual service in maintaining the lift of an airship or balloon.]

hydrometer (battery), 【儀】電池比重表。

解：一種刻有分度的浮子，用以測量儲電池內電解液的密度，電池充電的多少，是與密度成正比。

[A graduated float for determining the density of the electrolyte of a storage battery. The amount of charge in the battery is directly proportional to the density.]

hydrometer (syringe), 【儀】液體

比重表(注射式)。

解：這是刻有分度的玻璃注射器，用以測量蓄電池內電解液的比重。

[A graduated glass syringe used to ascertain specific gravity of storage battery solutions.]

hygrometer, 【儀】濕度表。

解：測量人髮的膨脹而決定空氣中相對濕度的儀器，蓋人髮對於濕氣感覺極高。

[An instrument for determining relative humidity by means of the expansion and contraction of human hairs. Human hair is very sensitive to moisture.]

hygrometry, 【氣】濕度測定術。

解：大氣中濕變的研究。

[The study of moisture conditions of the atmosphere.]

hygograph, 【儀】濕度測定表。

解：濕度計所測定的記錄。

[A recording hygrometer.]

hydrosphere, 【飛】地球水面。

解：地球周圍有水的面積。

[The water part of the earth]

hydrovane, 【設】着水板。

解：一種平面板裝在陸上飛機的底部，以便緊急時在水面降落。

[A planing surface fitted to landplanes to facilitate alighting on water in emergency.]

I

I-beam section—I.C.A.N.

I-beam section. 【材】I形樑剖面。

解：結構樑的剖面是成I字形狀。此種剖面可為實體，或由鐵片銜角物製成，且腹板可為實體，亦可為格子式的材料。I形樑亦可用木料製造。

(The cross section of a structure member which is made in the form of a capital I. This section may be solid or built up from plate and angles, and the web be solid material or latticed. I-beam section spars are also built up from wood.)

I.C.A.N. 【公】國際航空委員會。

解：這是 International Commission for Air Navigation) 的縮寫字，乃隸屬於國際聯盟 (League of Nations) 指導下之永久委員會，1919年在巴黎舉行會議，擬定航空規則，訂監簽字，各國當場指定常務委員，此機關的常務委員，有美國代表，法國代表，意大利代表，及日本代表，英國代表一人，每一英國領土代表各一人，英屬印度代表一人，其餘各國代表各一人。委員會每一會員國 (英國，英國各領土，及英屬印度，總得一票票權) 各得一票票權。其職權為執行會議所訂立的各規則。該會所駐辦事處，設於巴黎的克利波街 (Avenue Kleber) 二十號。上次集會各國，列席代表共有三十八國之多，其中十六國為非協約代表國。會議中簽字者，共有十四國，其中波斯 (Persia) 為預先通知入會者。該會被其他各國所贊成，迄今正式入會國共有二十七國之多。二十七國為比利時，大英帝國，(大不列顛及北愛爾蘭，坎拿大，澳大利亞，南非洲聯邦國，紐西蘭，印度，愛爾蘭自由邦等)

布加和亞，智利，丹麥，法蘭西，希拉，意大利，日本，荷屬，波斯，波蘭，葡萄牙，羅馬尼亞，薩爾區，(Saar Territory) 南斯拉夫，暹羅，瑞典，捷克斯拉夫，尼德蘭，(Netherlands) 烏拉圭，及巴拿馬共和國。其所訂立的規則，第一，各國均同意其國境內上空的主權完整。(所謂國境包括祖國及屬地以及鄰近的江河海洋等)，其次擬定各國航空器互相飛行於各國上空之規則。

(The I.C.A.N. is the International Commission for Air Navigation, permanent commission placed under the direction of the League of Nations. In 1919 a convention was held in Paris relating to the regulation of aerial navigation, and the signatories, known as the Contracting States, appointed a permanent commission. It is composed of representatives of U.S.A., France, Italy and Japan, one representative of Great Britain and one of each of the British Dominions and of India, one representative of each of the other contracting states. Each State represents on the commission (Great Britain, the British Dominions and India counting for this purpose as one State) has one vote.

Roughly, the duties of the I.C.A.N. are to carry out the rules of the Convention. Its per-

idler gear—immelman turns

manent headquarters are No.20, Avenue Kleber, Paris. At its last session thirty-eight States, including sixteen non-contracting States, were represented.

Fourteen countries had signed the convention and Persia had preciously notified its adhesion. But since the Convention has been retified by other countries, and it is now in force in twenty-seven States. They are Belgium, British Empire (Great Britian and Northern Ireland, Canada, Australia, Union of South Africa, New Zealand, India, Irish Free State), Bugaria, Chile, Denmark, France, Greece, Italy, Japan, Netherlands, Persia, Poland, Portugal, Roumania, Saar Territory, Yugo-Slavia, Siam, Sweden, Czechoslovakia, Holland, Uruguay and the Republic of Panama.

The signatories to the Convention made to the following rules: First, they asserted complete sovereignty over the air space above their territory. (The territory of a State includes both that of the mother country and of the colonies nad the territorial waters adjacent). Then they made rules as to the flying of aircraft over each other's states.]

idler gear.【發】緩轉齒輪。

解：這是在二齒輪中間的齒輪，用以轉移運動但不變更旋轉的方向。

[A gear placed between two other gears to transfer motion without changing the direction of rotation.]

ignition.【發】點火，發火，着火。

解：內燃燒發動機內的汽油化氣着火的方法。

[The process of setting fire to fuel or fuel vapor in the internal combustion engine.]

ignition (dual).【發】複式點火。

解：複式點火是用兩個不同的點火系，在一個氣缸裏使兩個分離的火塞點火的意義。

[Two entirely distinct and separate ignition system which serve two separate spark plugs in each cylinder.]

illuminated wind-indicator.【設】

照明風向指示器。

解：一種照明器械指示地面風向，有時亦示風速。(參閱附錄第四十五圖)

[An illuminated device for indicating the direction, and sometimes the velocity, of the surface wind.]

Immelman turns.【飛】殷麥曼轉彎，上昇反轉。

解：這是飛機在飛行時的反方向速轉動作，但方法極多，茲撮其最要三種分述於下。

(1) 須於飛機速度每小時約一百八十哩時行之。開始動作，與翻筋斗同。但拉飛機至稍過垂直地位時，即用副翼及方向舵作半側慢滾。完成此動作後，須使飛機保持其上攀角，但機頭的方

impact pressure—incidence indicator

向與開始旋轉時相反，此項轉彎較其他方法所得高度為多，且無論何時易於操縱，此即其特點。

(2) 須在飛機速度每小時二百哩時行之。翻筋斗至機身成倒飛時將操縱桿前推，藉以維持機頭於水平線上，同時并須輕動副翼與方向舵，使飛機側滾至所欲恢復的方向。如滾飛漸漸進行，飛機亦漸漸歸入側垂地位時，須用上方向舵阻止機頭轉彎，以免殷麥曼轉彎完畢時方向有所改變。

(3) 須飛機速度每小時約一百七十五哩時行之。翻筋斗使飛機過垂直地位而能望見地平線（并未至倒飛時），將方向舵完全踏滿，拉操縱桿向與方向舵同一方面的斜後方，此種動作與操縱快滾時相同；但祇需半快滾，當快滾進入後，須即用對立駕駛修正，庶飛機得依規姿式向上飛去，此轉彎亦須於飛機在上攀角時完成。

[Immelman turns are made to secure the quickest possible reversal of direction of an airplane in flight. There are several modifications of this maneuver, which vary from kicking hard rudder while in a vertical zoom to half rolling from any position beyond a vertical zoom. These variations depend upon the amount of power and maneuverability of the slip.]

impact pressure. 【力】動壓，歧點壓。

解： $\frac{1}{2} \rho V^2$ 的乘積，其中 ρ 是空氣的密度， V 是空氣的相對的速度。這種質量可用空速儀器測量得之。它的符號是 q 。

[The product $\frac{1}{2} \rho V^2$, where ρ is the density of the air and V is the relative speed of the air. t is the quantity measured by most air-speed instruments. Symbol is q .]

impeller, 【發】葉輪。

解：風扇或離心式唧筒之一部，直接使水或水發生運動。此物或盤形或扇形，或係不往復發動機內的旋轉部分；即旋轉式發動機內的活塞，與水蒸氣渦輪機內旋葉相似。

[That portion of a blower or centrifugal pump which acts directly upon air or water and sets it in motion. It consists of a disc or fan. Or the rotary part of a non-reciprocating engine; that is, the piston of a rotary engine, corresponding to the rotor of a steam turbine.]

impulse, 【力】衝動。

解：使物體增加或失去動量的力。

[A force causing a body to gain or lose momentum.]

inch, 【單】吋。

解：一吋等於 2.54 公分 (Centimeter)。

[One inch equals 2.54 centimeters.]

incidence indicator, 【儀】傾角指示器。

解：一種儀器，用以指示航空器的縱軸，和飛行路線的對稱面間的角度。

[An instrument for indicating the angle in the plane of symmetry between the flight path and the longitudinal axis of an

incidence wire—indicator(air-speed)

aircraft.)

incidence wire, 【機】傾角線, 十字線。(=stagger wire)

解：在一對前支柱平面內, 支張翼結構的張線。(參閱附錄第十五圖12)

[Wires or cables bracing the main plane structure in the plane of a pair of front and rear struts.]

inclinometer, 【儀】傾斜表。

解：這是指示飛機姿勢的儀器。此種儀器分前後傾斜, 側面傾斜, 或全能傾斜三種, 蓋即指示垂直面在前後軸上的傾斜, 在側面軸上的傾斜, 或二軸上的傾斜。

[An instrument for indicating the attitude of an aircraft. Inclometers are termed fore-and-aft, lateral, or universal, according as they indicate inclination on the vertical plane through the fore-and-aft axis, or in the vertical plane through the lateral axis, or in both planes, respectively.]

inclinometer (absolute), 【儀】絕對傾斜表。

解：這是指示飛機關於垂直面上姿勢的儀器。此種儀器是依賴旋轉儀的動作而指示。

[An instrument which indicates the attitude of an aircraft with reference to the vertical. The indications of instruments of this type usually depend on gyroscopic action.]

inclinometer (relative), 【儀】相對傾斜表。

解：這是指示飛機關於明顯重力上姿勢的儀器, 而明顯重力即飛機因重力而加速的合力。

[An instrument which indicates the attitude of an aircraft with reference to apparent gravity, i.e., to the resultant of the acceleration of the aircraft and that due to gravity.]

identification light, 【設】標誌燈。

解：一種燈, 在標誌附近, 有特殊光彩及形狀, 以資辨認。(參閱附錄第四十五圖)

[A light on or near a beacon having a character differing from, but serving to identify, it.]

index correction (sextant), 【儀】六分儀指標修正。

解：六分儀於定置時常不在零度上, 修正手續實屬必需。

[Sextant index correction is necessary because the sextant does not always read zero when so set.]

indicated horse-power, 【發】指示馬力。

解：發動機氣缸所發出馬力總數。

[The sum of the horse-powers developed in the cylinders.]

indicator (air-speed), 【儀】空速指示器。

解：指示航空器經過空氣速度的儀器。壓力由一壓力噴嘴或向一障礙物噴射, 因激起儀器的動作, 乃分列度數, 指示在標準空氣密度時的正確空速。儀器內指示的速度, 稱為儀示速度

indicator ballonet-fullness—indicator(turn)

(indicated air-speed), 儀示速度為測驗飛機在任何高度的昇力或阻力的直接方法。飛機在任何高度失速, 儀示速度的數值皆相同。

(An instrument for indicating the speed of an aircraft relative to the air. It is actuated by the pressure developed in a suitable obstruction and is graduated to give true air speed at a standard air density. The speed indicated by the instrument is termed the "indicated air speed". The indicated speed is a direct measure of the lift or drag exerted on the airplane at any altitude. Stalling at all altitude occurs for the same value of the indicated speed.)

indicator ballonet-fullness, 【儀】

空氣囊充滿指示器。

解：這是指示囊內空氣容量的儀器。
(An instrument for indicating the volume of air in a ballonet.)

indicator (flight), 【儀】 飛行指示器。

解：這是側面傾斜計, 前後傾斜計, 及轉彎指示器聯合而成的儀器。

(An instrument in which a lateral inclinometer, a fore-and-aft inclinometer, and a turn indicator are combined to form a compact unit.)

indicator (fuel-flow), 【儀】 油流指示器。

解：一種機械, 用以指示汽油供給系的流動或停止情況。

(A device for indicating whether

fuel is flowing or not in a fuel supply system.)

indicator (gyroscopic turn),

【儀】旋轉儀轉彎指示器。

解：這是依賴旋轉儀動作的轉儀指示器。

(A turn indicator dependent on gyroscopic action.)

indicator (incidence), 【儀】 傾角指示器。

解：一種儀器, 用以指示航空器的縱軸, 和飛行路線的對稱面間的角度。

(An instrument for indicating the angle in the plane of symmetry between the flight path and the longitudinal axis of an aircraft.)

indicator (pitch), 【儀】 俯仰指示器。

解：這是指示飛機俯仰速度的儀器。

(An instrument for indicating the existence of a pitching velocity of an aircraft.)

indicator (static turn), 【儀】 靜壓轉彎指示器。

解：轉彎指示器由裝在二翼梢上靜壓管(與對稱面成相等的距離, 并在側面軸平行面中)的壓力差量所激動。

(A turn indicator actuated by the difference in pressure between static tubes mounted near the wing tips equidistant from the plane of symmetry and in a plane parallel to the lateral axis.)

indicator (turn), 【儀】 轉彎指示器。

解：這是指示飛機在直軸上轉彎角度

indraft(inflow)—induction coil

的儀器。在水平飛行中，則指示偏航速度。轉轉計(turn meter)係另指一種轉轉儀器而言。

(An instrument for indicating the existence of an angular velocity of turn of an aircraft about the normal axis. In horizontal flight it indicates the presence of a yawing velocity. "Turn meter" is the term applied to certain types.)

indraft (inflow), [力] 內流, 吸入,
(=indraught)

解：空氣在螺旋槳前面向槳葉的流動。

(The flow of air from in front of the propeller into the blades.)

induced drag, [力] 誘導阻力。

解：發生昇力所誘導或致成的一部分翼阻力。

(That portion of the wing drag induced by, or resulting from, the generation of lift.)

inductance, [電] 電感, 電感係數。

解：這是電路中與任何電流變化相反的特性。

(It is that quality in an electrical circuit which tends to oppose any change in the flow of electricity.)

inductance (electromagnetic),

[電] 電磁感應。

解：導體在磁場內運動割磁感力線時，一種電流流動的趨勢。

(The tendency for electric current to flow in a conductor when the conductors is moved across a magnetic field to cut

the lines of force in that field.)

inductance (mutual), [電] 互感。

解：兩個磁力場并未實際接觸，但互相干涉，即係互感表現。兩個線圈的互感，可由繼續通電的一個線圈在另一個線圈裏移進移出而發生；或將一個線圈置在另一個線圈之內，而通以斷續不定的電流，也可產生互感。

(The mutual interference of two magnetic fields of force, but without actual contact. Mutual inductance of two coils can be obtained by moving a continuous current coil in and out of the second coil, or making and breaking the current flow in one coil placed permanently inside of the other coil.)

induction, [電] 感應。

解：導體與電力線相對運動而產生電力的方法。

(The process of creating electrical pressure or potential through the relative movement of a conductor and electrical lines of force.)

induction coil, [電] 感應線圈。

解：軟鐵心上繞有二個線圈，使鐵心磁場因一個線圈電流衰弱的影響，而感應副線圈產生電流。

(Two coils wound on a soft iron core, for the purpose in inducing a secondary current in one coil when the magnetic field about the core, excited by a current in the other coil,

induction compass—inertia starter

collapses, the exciting current being broken or interrupted.)

induction compass, 【儀】感應羅盤.

解：這種羅盤的指示方法，是因發生的電流在線圈內流動，而使線圈在地磁場內旋轉。

[A compass, the indications of which depend on the current generated in a coil revolving in the earth's magnetic field.]

induction flame-damper, 【發】誘導管阻火器.

解：一種機械裝配在誘導系上防免回火的火焰逸出。

[A device fitted in the induction system to prevent the escape of flame in the event of a "back-fire" or "blow-back".]

induction manifold, 【發】誘導歧管.

解：分配混合氣至多數氣缸的支管。

[A branched pipe for distributing the mixture to a number of cylinders.]

induction pipe, 【發】誘導管。(= intake manifold)

解：供給混合氣至一個氣缸的管子。或氧化器向誘導歧管相連的管子。

[A pipe for supplying the mixture to one cylinder only or connecting the carburettor to the induction manifold.]

induction-pressure gauge, 【儀】誘導壓力表.

解：一種指示增壓發動機內誘導管壓力的儀器。

[An instrument for indicating

the pressure in the induction pipe of a supercharged engine.]

induction (self), 【電】自感電流.

解：當電路的電路開閉時，線圈因磁線的崩潰而橫切線匝所產生的電流，則稱為自感電流。

[The current induced in a coil by the collapse of magnetic lines of force cutting adjacent turns of the coil when the switch is opened in the circuit.]

induction system, 【發】誘導系.

解：誘導系為燃料混合氣的氧化器和一切吸氣歧管。

[It includes the carburetor and all intake manifolds designed to carry a fuel mixture to the cylinders of an engine.]

inertia, 【力】慣性, 惰性.

解：這是物體一種特性，蓋若無外力加上時，此物則永續靜止或運動。

[That property of matter by virtue of which it tends to remain at rest or, if in motion, to continue in the same direction unless acted upon by an external force,]

inertia starter, 【發】慣性起動器.

解：一種機械裝置，它的功能是在小型高速飛輪內，於開動時發動機則由滑動离合器用手搖轉飛輪所傳動。

[A device in which energy is stored in a small highspeed fly-wheel and, for starting, transmitted to the engine through a slipping clutch, the flywheel being energised either by hand

inflation—initial boiling point

or otherwise.)

Inflation, 【艇】【球】充氣.

解：用氣體注入氣艇或氣球的動作。

[The act of filling a balloon or airship with gas,]

Inflation manifold, 【球】充氣歧管.

解：金屬或橡皮布製成的連接管，上面有許多支管，可以讓許多不同來源的氣體同時灌入（或從盛氣管或從盛氣罐）而達到正充氣管。

[A metal or fabric connection with numerous inlets which permits the passage of gas at the same time from a number of sources (either cylinder or gas holders) to the main inflation tube.]

Inflation net, 【球】【艇】灌氣網.

解：繩索組成的矩形網，其用途在灌氣時可以約束馬式氣球或氣艇的氣囊。有時也可應用作自由氣球網，但在灌氣之後方可移開。

[A rectangular net of cordage used to restrain the envelope of kite balloon or airship during inflation. Also applied to a free-balloon net designed to be removed after inflation.]

Inflation sleeve, 【球】【艇】充氣套管.

解：這是用球皮製成的管子或附屬物，連接在氣艇或氣球氣囊上，用作充氣管的引導管，（參閱附錄第二十四圖）

[A tubular fabric attachment to an envelope or gas bag, serving as a lead for the in-

flation tube.]

Inflation tube, 【艇】【球】充氣管.

解：球皮製成的管子，將充氣來源連接在氣囊的多數充氣接套上。

[A fabric tube leading from the inflation manifold or source of supply to the inflation sleeve of the gas cell or envelope.]

Inflow, 【力】內流, 吸入.

解：空氣在螺旋槳前面向槳葉的流動。

[The flow of air from in front of the propeller into the blades.]

Inherent stability, 【力】固有安定性.

解：這完全由於航空器上各固定部分的支配和佈置所生的安定性。故受擾亂力的影響時，無須應用操縱面，或任何機械裝置的支配而有恢復原狀的傾向。

[Stability of an aircraft due solely to the disposition and arrangement of its fixed parts, i.e., that property which causes it, when disturbed, to return to its normal attitude of flight without the use of controls or the interposition of any mechanical devices.]

Initial boiling point, 【流】最初沸點.

解：這是在一個標準式凝結器中第一滴汽油凝成的溫度。

[The temperature of which the first drop of gasoline will come over in a standard type con-

in line engine—instability (weathercock)

denser,)

in line engine, 【發】直線發動機。

解：發動機的氣缸排列為組，或向前向後的行列。

[An engine with its cylinders arranged in row (s) from front to rear.]

insolation 【氣】日射。

解：太陽的輻射短波，或太陽熱力傳至地球所用的過程。

[Short wave solar radiation, or the process by which the sun's heat reaches the earth.]

inspection port, 【艇】【球】檢查孔。

解：一種孔口，上蓋透明的圓盤，以使用作氣囊內部的檢查，(參閱附錄第二十四圖, 45, 46.)

[An opening, covered by a transparent disc, provided to facilitate inspection of the interior of an envelope.]

inspection window, 【球】【艇】
【機】檢查窗。

解：裝於氣球，氣艇，或飛機翼面上的透明小窗，以使用以檢查內部。(參閱附錄第二十四圖)

[A small transparent window fitted in the envelope of a balloon or airship, or in the wing of an airplane, to allow inspection of the interior.]

instability, 【力】不安定。

解：穩定運動的任何干涉而致增大的性質，若飛機於受干涉後而駕駛員不動操縱器，不能回至運動情況，則此種穩定運動是不安定。

[The quality whereby any disturbance of steady motion

tends to increase. A given type of steady motion is unstable if the aircraft will not return to that state of motion after disturbance without movement of the controls by the pilot.]

instability (rolling), 【力】橫側不安定。

解：因為飛機的運動於受橫滾干涉，并未平復至水平位置後，而有增大振動的不安定性。這是橫不安定的特殊情況。

[The instability on account of which the motion of an aircraft takes up an increasing oscillation after a rolling disturbance and does not settle down to a horizontal position. A special case of lateral instability.]

instability (spiral), 【力】盤旋不安定。

解：因為飛機的運動側滑和傾斜有離開直線飛行的不安定，各轉彎動作的傾斜程度又嫌過大。這是橫不安定的特殊情況。

[The instability on account of which the motion of an aeroplane tends to depart from straight flight, by a combination of side-slipping and banking, the latter being always too great for the turn. A special case of lateral instability.]

instability (weathercock), 【力】
橫風不安定。

解：因為飛機的運動聯合側滑和縱搖(於用副翼保持機身時)，而有離開直線飛行的不安定。這是橫不安定的特

殊情況。

[The instability on account of which the motion of an aircraft tends to depart from straight flight by a combination of side-slipping and yawing when kept on a level keel by the ailerons. A special case of lateral instability.]

Instrument flying, 【飛】儀器飛行，解：不用外界目視的標識，專賴飛機內部所裝備的儀器而作飛行，稱為儀器飛行。有時亦稱為盲目飛行 (blind flying)。

[Flying by the aid of instruments without visual reference to any external object.]

Interceptor plate, 【機】擾流板。

解：擾亂板又名擾器 (spoiler or interrupter) 係開縫副翼 (slotted aileron) 操縱系的延長物，其效用除使飛機在失速速度以下得保持平衡外，尚增加飛機的靈敏性 (manoeuvrability)。該種擾流板如裝用於某種軍用飛機，頗有效用，因飛機即使在上昇姿態時，該板亦可使之作小轉彎的動作。擾流板係一小板所製成，嵌裝於機翼的凹處，與其前樑相近而並行，當一邊的副翼舉起時，藉一鉸鏈機械聯絡的作用，將擾流板從凹處垂直舉起，導空氣流向上經開縫 (slot) 而去。若是則開縫的效用完全消失無餘。

[The interceptor plate, spoiler or interrupter is a development of the slotted aileron control. It is a device which increases manoeuvrability of aircraft in addition to maintaining balance

below stalling speed. It is, for example, of use for certain military aircraft, enabling them to turn sharply even in a climbing attitude.]

Intercooler, 【發】中間冷却器，

解：一種機械裝置在增壓器輸氣方面，用以降低壓縮空氣或混合氣的溫度。

[A device installed on the delivery side of a supercharger to cool either the compressed air or the mixture.]

Interference, 【力】【電】干擾。

解：【力】一個物體或數個物體的空氣動力互相影響。

【電】一處電流或電波受其他電流或電波所發生的不良影響。

① The aerodynamic influence of two or more bodies on one another. ② The bad effect of currents or waves caused by other currents or waves.]

Interference (biplane), 【力】雙翼干擾，

解：雙翼因翼間的反動所失去的昇力，例如下翼失去昇力，因氣流被上翼壓下所致。

[The loss of lift in the wings of a biplane due to reactions taking place between the two wings. The lower wing, for example, loses lift because of the air-stream forced down at it by the upper wing.]

Interim trials, 【機】臨時試驗。

解：臨時試驗係將各製造家，按同一說明書所製成的飛機舉行競賽，在此

intermediate airport—International

試驗中，被選的飛機，應再回原廠，將其不頁點，或有所變動處，一一改造之。

(The interim trials are those which the aircraft undergoes with other competition craft built by different makers to the same specification. If it is selected, it goes back to the firm that built it for modifications suggested from the interim trails.)

Intermediate airport, 【設】 中途航空站，

解：常指商業部航空署在民用航線上的中途降落場。其燈光裝備常用旋轉綠色閃光燈，白色邊界燈指示場的外形，綠色邊界燈裝在滑行道極端，而危險障礙物，則用紅色燈標誌；然洪光燈，修理設備，及棚廠等，則中途降落場常付缺如，

(Usually refers to the intermediate landing fields maintained by the Department of Commerce, Aeronautics Branch, along the civil airways. Lighting equipment generally consists of a rotating beacon flashing green, and white border lights outlining the contour of the field. Green border lights are placed at the end of each runway and dangerous obstructions near the field are marked with red obstructions lights. Flood lights, servicing facilities and hangar space are not usually at intermediate fields.)

Intermediate longitudinal, 【艇】

次要縱構架，

解：次要縱構架是硬式氣艇強度方面的次要縱樑，在兩根隣近的主要縱構架之間，但重量較輕，尺寸較小。

(An intermediate longitudinal strength member of a rigid airship, which lies between two adjacent main longitudinals and is generally of lighter weight and/or smaller dimension than the main longitudinals.)

Intermediate longitudinal girder, 【艇】 中間縱樑。

解：一條輕質補助縱樑，而在二條主縱樑的中間。

(A light auxiliary longitudinal intermediate between two main longitudinals.)

Intermediate transverse, 【艇】

副橫樑。

解：在硬式氣艇的兩個主要支張橫架間的露出橫架。

(An open unbraced transverse frame of a rigid airship which lies between two main or braced transverse frames.)

Intermittent light, 【設】 斷續燈。

解：一種燈由固定點觀之，有時明時暗的期間。

(Any light which has dark and bright periods when viewed from a fixed point.)

International Commission for

Air Navigation, 【公】 國際航空委員會。

解：見I.C.A.N.

international date line—interrupter gear

International date line, 【氣】國際日線,

解：今日變成明日的經線，因太陽經過反面經線的原故。國際公認第一百八十經線上為國際日線，然各國略有差異耳。

[That meridian on which the day instantly changes to the next, as the sun passes over its opposite meridian. Or the meridian where the day instantly changes to the day before, after, on being crossed. By international agreement the 180th meridian, with some variations, is used as the International Date Line. It is varied in some instances when some country or continent wishes to have all its territory within the same day, as Siberia on the continent of Asia, and the Aleutian Island in the territory of Alaska.]

International standard atmosphere, 【氣】國際標準大氣。

解：用來比較航空器性能的一種想像大氣。這種大氣是假定在平均海平面，溫度攝氏 15 度，氣壓 1,013.2 毫（millibars），且由海平面上昇至十一公里，則每公里垂直溫差（lapse rate）為攝氏 6.5 度。由此上昇則溫度假恆定為攝氏 56.5 度。

[An imaginary atmosphere used in comparing the performance of aircraft. It assumes at mean sea level a temperature of 15° of 6° C. and a pressure of 1,

013.2 millibars, and a lapse rate of 6.5° C. per kilometre from sea level up to 11 kilometres, above which height the temperature is assumed constant at 56.5° C.

Interplane aileron, 【機】翼際副翼。

解：副翼位置於雙翼機上下兩翼的中間，而不為上翼或下翼後緣的一部。

[An aileron supported between two wings and not a part of the trailing edge of either wings.]

Interpolation, 【應】內推法，

解：運用兩個已知數，而估計在這兩個已知數間的大概數目。

[Using known figures to estimate probable figures which lie between the known quantities. Deviation 6° W at 30°. Deviation 4° W at 60°. Interpolation determines that the probable deviation at 45° is 5° W, or half way between the two.]

Interrupter, 【電】【發】斷續器，

解：這是磁電機內正電路的斷路器。（circuit breaker）或斷路點，

[Circuit breaker or breaker points in the primary circuit of a magneto.]

Interrupter gear, 【軍】【裝】斷續齒輪。

解：防止漿葉在射擊線上時被機鎗射擊的一種機件。

[A mechanism which prevents the firing of gun when the

intersection—isotherms

air-screw (propeller) blade is in the line of fire.)

Intersection. 【應】相交點。

解：兩條或多條線的交叉共同點。二平面互相交叉時，則相交點爲一直線。若二曲面相交叉，或一個平面和一個曲面交叉時，則相交點爲一曲線。

[The common point of two or more lines which cross. When plane surfaces intersect the intersection is a straight line. When two curved surfaces or one curved and one plane surface intersect the intersection is a curved line.]

Intrastate. 州內。

解：完全在一州以內的各地之間。

[Between points wholly within one state.]

Inverted engine. 【發】倒立發動機。

解：這種發動機的氣缸是裝在曲軸的下面。

[An engine having its cylinder below the crankshaft.]

Inversion (temperature). 【氣】

溫度逆增。

解：這是在高度增大時，溫度并不降低反而昇高的大氣情況。

[A condition of the atmosphere, such that there is a rise in temperature with increased altitude instead of a drop.]

Inverted flight. 【飛】倒飛。

解：倒飛是將飛機的背面向下而飛行。駕駛員在這種動作中必須另選新的中和位置，因機翼的弧形設計和傾角的關係，在這種位置時生出完全不同的空氣動力的反應。

[It is simply flying an airplane on its back. The pilot must choose a new neutral position for the stick, because the wings, due to their cambered design and angle of incidence, have an entirely different aerodynamic reaction in such a position.]

Inverted spin. 【飛】反螺旋。

解：用平均負傾角的螺旋動作。

[A spin with negative mean angle of incidence.]

Isobars. 【氣】等壓線。

解：這是天氣圖上同等大氣壓力各地的連貫線(通常用實線畫成)。

[Lines connecting points on a weather map having equal barometric pressure (usually solid lines).]

Isogonic chart. 【應】等磁差海圖。

解：有等磁差各點連貫線的海面。

[A chart with lines (isogonic) drawn through points of equal magnetic variation.]

Isogonic lines. 【應】等磁差線。

解：這是海圖或地圖上各處同等磁針偏差數的連貫線。

[Lines on a chart or map joining places of equal variations.]

Isotherms. 【氣】等溫線。

解：這是天氣圖上同等氣溫各地的連貫線(通常用虛線畫出)。

[Lines on a weather map connecting places having equal temperature (usually dotted lines).]

J

jacket (carburettor), 【發】氣化器水套。

解：一種套室包繞氣化器，內盛清水或其他液體循環，使器內混合氣的溫度增加。

[A chamber surrounding the carburettor in which water or other medium is circulated for heating the mixture.]

Jackstay, 【艇】【球】分隔索。

解：浮昇器上專為保持接頭上各部份間有適當距離之縱索。

[A Longitudinal rigging provided to maintain the correct distance between various parts on fittings on an aerostat.]

Javelin formation, 【軍】【飛】標槍隊形。

解：一種成隊飛行的隊形，機約九架。
[One kind of formation flying, usually 9 planes.]

Jennie, 【機】克的司 JN 訓練機。

解：歐戰時稱 Curtiss JN 4D 訓練機的俚語。

[A slang term applied to the old war time Curtiss J N 4D training plane.]

Jet drain cup (carburetor),

【機】氣化器噴口漏盤。

解：這是用螺釘連接氣化器中汽油至噴口各路以下的小盤或收集小室，這

種小盤能將雜物和水聚集，并可取下清除。

[Small cups or settling chambers screwed into the carburetor under the fuel passages to the jets. These cups collect foreign substances and water, and can be removed for cleaning.]

Jet (main), 【發】主噴嘴。

解：主要的燃料噴嘴，能將液體燃料噴進文德利管或汽缸筒內。

[The main jet or nozzle which discharges liquid fuel into the Venturi chamber or barrel.]

Jet (metering), 【發】測油孔。

解：裝置在氣化器燃料路上面的一定大小的孔，藉此可以測定燃料的流量。
[An orifice of given size in the fuel passages of a carburetor designed to give the flow of fuel.]

Jettison gear, 【油】放油裝置。

解：於緊急時迅速將汽油放出的一種裝置。

[Gear for the rapid discharge of fuel in emergency.]

jig, 【工】模型架。

解：這是一種模型或架子，它的尺寸和調正法極為準確，由此可製造完全一致的構體或部份而適合一定的標準。

joiner(wood)--jury strut

[A pattern, form or framework accurately dimensioned and aligned in which identical structures or parts can be produced to meet a standard.]

joiner (wood). 【工】木工接合機。

解：這是木工機的一種，可用以修削木板的邊緣(狹小尺寸)。

[A wood working machine used to finish the edges (narrow dimension) of a board.]

Joule, 【單】【電】佳爾，朱爾。

解：這是電能或電工的單位，即在一個伏脫電壓下，能使一個庫隆電流流動所需要的電能。(等於 Erg (厄) $\times 10^7$)

[The unit of electrical energy or work done, being the amount of energy necessary to cause the flow of one coulomb of electricity under a pressure of one volt.]

Joule's law, 【電】朱爾定律。

解：電流經過導體所生之熱量，是與導體電阻成正比，電流成平方，及與電流之時間成正比。

[The law first stated by Joule, that the quantity of heat developed in a conductor by the passage of an electric current is proportional to the resistance of the conductor, to the square of the strength of the current and to the duration of the flow.]

joyhop, 【飛】樂飛。

解：此乃俚語，指娛樂的飛行而言。

[It is a flight for pleasure.]

joystick, 【操】操縱桿。(=control column)

解：這是一個桿狀物，裝於自在節頭 (universal joints) 上，藉以使這桿可向任何方向——前後左右——移動。如將操縱桿向前推動，則飛機的尾部升起向後拉動，則飛機的頭部升起；向右撥動，則飛機的左翼升起；向左撥動，則飛機的右翼升起。

jump spark, 【發】【電】跳躍火花。

解：在內燃燒發動機電氣點火系中，正電流變成副感應等圈之高電壓，在汽油內之電火花間隙中跳過的火花。

[In electric ignition for internal combustion engines, a system in which the primary current is converted by a secondary induction coil into a secondary current of sufficiently high tension to cause a spark to jump an air gap between two points carried by a spark plug screwed into an opening in the cylinder of the engine.]

junction piece, 【球】連接塊。

解：一種裝接物，主索賴以和繫留氣球或鸞式氣球的金屬 V 字形索下端連接。(參閱附錄第二十四圖, 35)

[A fitting by which the main cable is secured to the lower ends of the metallic vee of a captive or kite balloon.]

jury strut, 【機】應急支柱。

解：一種支柱插裝上面，作結構的臨時支持之用。例如飛機翼構架於摺擋時所用的支柱。

[A strut inserted to provide temporary support for a structure. A common example is the strut used to support the wing

katabatic wind—kilogram

structure of an aerodyne during folding.)

K

katabatic wind, 【氣】 頽風.

解：一種局部風，係冷空氣由高地因對流關係，向下流動所致。

[A local wind caused by the downward motion, due to convection, of cold air off high ground.]

katalobar, 【氣】 減壓區.

解：氣壓減低區域的氣象學名詞。

[It is an area over which the barometric pressure is decreasing.]

keel (airship), 【機】 氣艇龍骨.

解：半硬式或硬式氣艇艇身底部的各構材，能使艇身可以抵抗屈曲，同時亦可將集中重力分配全部。

[The assembly of members at the bottom of the hull of a semi-rigid or rigid airship which provides special strength to resist hogging and sagging and also serves to distribute the effect of concentrated loads along the hull. It may be a simple Galls chain, as in some semirigids, or a very extensive structure inclosing the corridor, as in most rigid.]

keelson, 【機】 【艇】 內龍骨.

解：一個縱構架，在飛船船底內部，而成主要構架的一部分。船邊或甲板下的相似構架，則亦稱為長桁。(stringers).

[A longitudinal member running internally along the bottom of the hull of a flying boat, forming part of the main framework. Similar members when occurring along the sides or under the deck are termed Stringers.]

keel surface, 【機】 垂直安定面.

解：飛機於側視時所見的各翼面。

[All surface to be seen in the side view of an airplane.]

khamzin (*pr. humseen*), 【氣】 庫興風.

解：埃及 (Egypt) 的乾燥南風，在低氣壓的前面沿地中海向東而過與興暖乾風 (Sirocco) 相似。大部在三、四、五月間有之。

[A hot dry southerly wind blowing over Egypt in front of depressions passing eastward along the Mediterranean, similar to the Sirocco; occurs mainly in March, April and May.]

kilogram, 【單】 公斤; 尅.

kilogram-calorie—knot

解：一公斤或尅等於一千公分或格蘭姆(簡寫作克),亦等於 2,204 磅。

[Kilogram equals 1,000 grams equals 2,204 pounds.]

kilogram-calorie (kg.-cal.) 【單】

公斤加路里。

解：一公斤加路里就是一公斤的水由攝氏溫度計的零度加熱至一百度 (100°) 所需要的熱量的百分之一。

[It is .01 of the heat required to raise the temperature of one kilogram of water from 0° Centigrade to 100° Centigrade.]

kilometer. 【單】 公里, 呎, 基羅米突。

解：一公里(呎或基羅米突)是一千公尺 (meter) 或等於 3,230.8 呎或 .62137 哩。

[one kilometer is one thousand meters or 3,230.8 feet or .62137 mile.]

kilowatt. 【單】 瓦, 基羅瓦特。

解：瓦是電力的單位, 等於一千瓦特, 或等於 1.34 馬力。

[One kilowatt is the unit of electric power, and is equal 1,000 watts or 1.34 horsepower.]

kinetic energy. 【力】 動能。

解：動能是一個動體的作工能量, 等於重量乘速度的平方(自乘), 而用兩倍重力加速率所除得的商數。

[The capacity of a moving body to perform work and is equal to the weight times the velocity squared divided by two times the acceleration of gravity.]

king post. 【機】 君柱, 支柱。

解：這是構架系中的支柱, 用以支

持承受屈曲力的單一支柱。

[The main compression member of a trussing system applied to support a single member subject to bending.]

kite. 一風箏。

解：風箏是一種比空氣重的航空器。用線拖着可以迎風在空中支持。

[An aircraft heavier than air, restrained by a towline and sustained by the relative wind.]

kite balloon. 【球】 鸞式氣球。

解：長圓形的繫留氣球, 裝有舵囊, 可使頭部迎風, 且可增加昇力。(參閱附錄第二十四圖)

[An elongated form of captive balloon, fitted with lobes to keep it headed into the wind and usually deriving increased lift due to its axis being inclined to the wind.]

kiwi. 【飛】 不飛的飛航員。

解：1918 年所設立的英國婦女航空隊, (Women's Royal Air Force of Great Britain) 中的隊員名稱, 因隊中人皆不飛行, 故用此為綽號, 此字係指紐西蘭 (New Zealand) 的一種不能離地的長嘴鳥 (apteryx)。

[A kiwi is a "groundhog" or pilot who does not like to fly. This expression is derived from the New Zealand kiwi or apteryx, a bird that cannot leave the ground.]

knot. 【單】 海哩。

解：海哩是量海面途程的單位, 合 6,080.26 英尺, 或 1.15 法定哩。惟使用時常與速度相聯繫, 不是專量距離的

knuckle pin—laminated wood

單位。

[A nautical mile (6,080.26 feet or 1.15 statute miles), but refers to speed or velocity only and is not used as a measure of distance.]

knuckle pin, 【發】關節銷。

解：將各副聯桿 (articulated rods) 聯繫到主聯桿 (master rod) 關節上面的銷，叫做關節銷。

[The pin in the bearing attachment of articulated connecting rods to the master connecting rod.]

kymograph, 【儀】角動表。

解：角動表是一種記載度數的儀器，用以記錄飛機飛行時與假定的空中直線所成的角度，至飛機航向的根據，則此旋轉儀 (gyroscope) 的某指數或一束太陽光線為準。

[An instrument for recording the angular oscillations of an aircraft in flight with respect to axes fixed in space. The reference direction is usually given by a gyroscope or a beam of sunlight.]

L

lag (air), 【力】空遲差。

解：真空彈道和實際彈道在任何高度中的水平差距。

[The horizontal difference of vacuum flight-path and actual flight-path in any altitude.]

lag (altimeter), 【儀】高度差。

解：高度差就是高度表上所表現的實際高度的差數，發生這差數的緣故是因為飛機的高度迅速改變，而高度表的靈敏性不夠，故積聚成此差數。

[The amount of difference in actual altitude reading, caused by the inability of the altimeter to accommodate itself to rapid changes in altitude.]

lag (ground), 【力】程遲差。

解：實際彈道因空遲差關係而在真空

彈道後面的平面距離，由彈着地點平面測得之。程遲差實因空氣阻力所致在射擊學中，則受空速，高度，和極限速度三種混合關係的影響。(參閱附錄第四十一圖)

lag (time), 【力】時遲差。

解：無空氣阻力的降落時間，和有空氣阻力的降落時，二者的時差，稱為時遲差。時遲差實由空氣阻力的關係，并因空速，高度，及極限速度三種混合的關係。

laminar flow, 【力】層流動。

解：黏性液體的穩定無週期運動。
[Steady aperiodic motion of a viscous fluid.]

laminated wood, 【材】疊層板。

解：將多層木片相疊用膠合成板，各層木片的木紋均係平行膠合而與層板

land breeze—landing (dead stick)

之各層木片相交錯成直角者不同。

[A product formed by gluing or otherwise fastening together a number of laminations of wood with the grain substantially parallel. Differs from plywood in that in the latter the grain of alternate plies is usually crossed at right angles; also, the plies of the latter are usually made of veneer.]

land breeze, 【氣】陸輓風, 大陸風。

解：晴夜間由陸地吹向海面的風，此因岸上空氣較水面空氣冷卻較速所致。

[An off-shore wind during a clear night, caused by the more rapid cooling of the air over land than over water.]

landing, 【飛】降落。

解：將飛機回復到地面或水面上，而停止在空中飛行的動作。

[The act of discontinuing flight by returning an aircraft to the ground or water surface.]

landing angle, 【飛】落地角。

解：飛機置放平地時，縱軸與地平線所成的直度，亦即飛機三點落地時的角度，有時也稱地面角(ground angle)。

[The acute angle between the line of thrust of an airplane and the horizontal when the airplane is resting on level ground in its natural position. Also called "ground angle".]

landing area, 【設】落地區域。

解：飛行場或氣艇站為起落所保留的

部分。

[That part of an aerodrome or airship station reserved for landing and taking-off.]

landing-area floodlight, 【設】降落區域洪光燈。

解：為照耀降落區域全部或一部地面，而設計的一種燈光。

[A device specially designed for illuminating all or part of the surface of the landing area.]

landing (blind), 【飛】盲目落地。

解：降落時環境沒有能見度 (visibility), 叫做盲目落地。

[A landing made under circumstances such that no visibility exists.]

landing crew, 【艇】落地時地面勤務人員。

解：氣艇降落時和在地面被處理所必需的一種人員。亦稱地面服務人員 (ground crew)。

[A detail of men necessary for the landing and handling of an airship on the ground. A "ground crew".]

landing (cross wind), 【飛】側風降落。

解：在側風中降落，必需將機對風側滑，以抵制偏航，故亦名橫風降落。

[A landing made in a cross-wind (side wind) in which it is necessary to side-slip the plane slightly into the wind in order to counteract the drift. Also called side wind landing.]

landing (dead stick), 【飛】停旋降落。

landing-direction light—landing(forced)

解：飛機的螺旋槳停止旋轉以後的降落，叫做停旋降落。(場地狹窄，如在航空母艦上，飛機降落時不能任意飄行，故用輪掣先把螺旋槳停止旋轉後再降落，不致需要廣大的場地。)

[A landing under circumstances such that the propellers have stopped turning. (In the early days all airplane propellers were made of wood and were often referred to as "stick", hence the term "dead stick", meaning dead propeller.)]

landing-direction light, [設] 降落方向燈。

解：一種燈係單獨或和其他燈聯合指示降落必要的方向。

[A light for indicating, wither by itself or in conjunction with others, the direction in which landings are to be made.]

landing (emergency), [飛] 應急降落。

解：因惡劣天氣情況或汽油缺乏，或因發動機及結構障故以外的原因，所必要的降落。

[An landing which is make necessary under the stress of had weather conditions, low gasoline or oil supply or for any purpose other than engine failure or structural failure.]

landing field, [設] 降落場。

解：一塊場地，它的大小及表面狀況皆足供飛機的安全起落動作。降落場有時為航空站之一部分，有時也單獨存在。

[A field of such a size and

nature as to permit of aircraft landing and taking off in safty. It may or may not be part of an airport.]

landing field (emergency), [設] 應急降落場。

解：凡水一灣或場地一方，能供航空器起落的用途，但沒有棚廠，補給，及修理航空器的設備，也不是正規的載卸空中乘客或貨物的地點。

[A locality, either of water or land, which is adapted for the landing and taking off of aircraft, but which is not equipped with facilities for shelter, supply, and repair of aircraft and is not used regularly for the receipt or discharge of passengers or cargo by air.]

landing flare (aircraft), [裝] 航空器著陸光炬。

解：一種烟火光炬，裝在飛機外面以便著陸時照耀地面。

[A pyrotechnic flare normally attached to the underside of an aircraft to enable the pilot to illuminate the earth's surface when alighting.]

landing (forced), [飛] 強迫降落，應急降落。(=emergency landing)

解：由於發動機的故障，飛機構造上的破損，燃料的缺罄，飛機失火，或天氣惡劣種種原因，使操縱飛機的駕駛員不得不把飛機即翻降落，這種降落動作則稱為強迫降落。在事實上大多數的強迫降落是因發動機發生故障所致。

[A landing forced on the pilot

landing gear—landing(simulated forced)

because of engine failure, structural failure, lack of fuel, fire, weather, etc. The majority of forced landings are a result of engine failure.]

landing gear, 【機】起落架。

(=under carriage)

解：起落架是飛機機身底下的結構，當飛機接觸地面或水面時，而能支持飛機的重量，並減少降落時的震動。起落架有五種普通型式，即船型、浮筒、滑條型、輪型、雪撬型。（水陸兩棲機的起落架，係浮筒或船身，與輪型或雪撬型的聯合應用）。

[The understructure which supports the weight of an aircraft when in contact with the surface of the land or water and reduce the shock on landing. There are five common types—boat type, skid type, wheel type, and ski type. (Amphibian may be a combination of the float or boat type with wheels or skis).]

landing gear (retractable), 【機】
可伸縮起落架。

解：是一種特別設計的起落架，它能夠於飛機飛行時縮入機身或機翼裏面，以便獲得較高的流線形 (streamline) 的効率。

[A landing gear so designed that it can be withdrawn into the body or wings of an airplane to secure better streamline efficiency while in flight.]

landing ground, 【設】降落地。

解：為飛機降落設備的一塊地面。

[A prepared piece of ground on

which aircraft may land.]

landing lamp, 【裝】著陸燈。

解：航空器上的燈光，能使駕駛員於降落時照耀地面。

[A lamp on an aircraft for enabling the pilot to illuminate the earth's surface when alighting.]

landing (pancake), 【飛】平墮落地。

解：見 Pancake, to.

landing (power stall), 【落】開勁發勁機失速降落。

解：一種落地方法，常用在無燈光的場上，或水面飛機及飛船在水面上因高度難於估計時，亦用此法降落。

[A type of landing often used when making a landing on an unlighted field at night. Also used in landing sea planes or flying boats on calm smooth water when the correct estimation of altitude above such surface is difficult.]

landing run, 【飛】降落滑走距離。
解：飛機於降落時接觸地面行動的距離。

[The distance travelled in contact with the earth during alighting.]

landing (simulated forced), 【飛】
假裝強迫降落。

解：模仿強迫降落的一種落地動作，即教官將油門關閉，試驗學生在此種情況之下，作應急落地的操縱技能。

[A landing which simulates a forced landing, i. e., a landing in which the instructor retards the throttle in order to test a

landing speed—landing(three point)

student's ability to land an airplane under the conditions of a forced landing. The pretence of a forced landing.]

landing speed, 【飛】降落速度。

解：飛機可以保持水平飛行而仍有充份操縱性的最低速度。

[The minimum speed at which an airplane can maintain itself in level flight and still be under adequate control.]

landing (speed), 【飛】迅速降落。

解：常指水面飛機用船身或浮筒的階座(step)作迅速的降落。亦指“兩點落地”(two point landing)的意義。

[Usually applies to the fast landing of a seaplane on the step of the boat or pontoons. This is analogous to a two-point landing on wheels.]

landing (stall), 【飛】失速降飛。

解：失速降落是說明水面飛機着水時，差不多失速(stalling)及其機尾極低時的情形，亦常指陸上飛機的應急降落(emergency landing)。雖然它的三點降落(three-point landing)都是半失速降落。

[Usually applies to a seaplane landing at approximately stalling speed with the tail extremely low. This represents an emergency landing with a landplane, although all three-point landings are semi-stall landing.]

landing "T", 【設】T字形降落標識。

解：在降落場上或在建築物頂上裝置一個很大的英文大楷“T”字形的標

識，用以指示操縱飛機者如何降落和起飛。此為風向指示器，所以指示駕駛員風向而知如何落地其構造長二十呎，寬十呎，用霓虹燈管(Neon tubes)鑲邊，日間示白光夜間示紅光，T字形的兩臂漆以鎘黃色，直立桿，則漆黑色，便於日間觀察，此外尚有較小而較為簡單的風向指標“Ts”適用於較小的飛行場。

[A large symbol shaped like a capital T which is laid out on a landing field or on the top of a building to guide operators of aircraft in landing and take off. It is a wind indicator which shows the pilot in which direction he must land. It is 20 feet long and 10 feet broad, and is outlined in two rows of neon tubes. It shows white lights by day and red by night. The arms are painted chrome yellow and standard black, so that it can be seen in the day. There are smaller and less elaborate forms of wind indicator "Ts" used at smaller aerodromes.]

landing (three point), 【飛】三點落地。

解：飛機落地時，它的落地輪和尾輪或尾撐(skid)同時着地，叫作“三點落地”。發生三點落地時，飛機的縱軸與地面所成的角度正如飛機停歇時與地面所成的角度一樣。

[A landing in which the wheels only touch the ground, the tail wheel or skid remaining off the ground until most of the for-

landing(two point)—lateral dihedral angle

ward speed is lost.)

landing (two point), 【飛】兩點落地。

解：兩點落地是先只兩個落地輪着地，飛機速度消失殆盡時，尾輪或尾撐方才着地。

[A landing in which the heels only touch the ground, the tail wheel or skid remaining off the ground until most of the forward speed is lost.]

landing wire, 【機】降落線。

解：降落線是多翼上的支線，從機身的上部向下外通過，而接連於支柱和下翼的接連點。降落線的功用在防止作特技飛行，降落，和飛機停止在地上時，機翼下墜。當飛機停止在地上時，降落線必在抗張力中，當飛機飛行時，飛行線必在抗張力中。

[A wire designed primary to resist forces in the opposite direction to the normal direction of the lift and to oppose the lift wire and prevent distortion of the structure by an over-tightening of those members. Sometimes called "Antilift" wire.]

landmark beacon, 【設】陸標燈。

解：指示陸標位置的燈，但飛行場或航空路標燈不包括在內。

[Any beacon other than an aerodrome or airway beacon for indicating the position of a landmark.]

landplane, 【機】陸上飛機。

解：陸上飛機是飛機的一種，它的設計構造只能使它在陸地上起落。

[An airplane designed to rise from and alight on the land.]

lapse rate, 【氣】垂直溫度差。

解：溫度對高度增高的降低率。

[The rate of decrease of temperature with height.]

lateral, 橫面的。

解：在飛機的範圍內講到“橫面的”，是指飛機的兩側而言。飛機橫面的尺寸就是翼展。

[It means crosswise. The lateral dimension of a wing is the span.]

lateral axis, 【力】橫軸。

解：穿過機身而與對稱面垂直的一條直線，它的位置方向是與一翼梢至他翼梢的連接線平行，而正方向則在機身左邊。在數理中，此軸稱為 y-軸。（參閱附錄第八圖）

[The straight line through the centre of gravity normal to the plane of symmetry: is conveniently taken parallel to a line-joining the wing tips. The positive direction is to starboard. In mathematical theory this axis is the y-axis.]

lateral axis, 【力】【機】橫軸。

解：與縱軸同在一平面內而垂直於縱軸的軸。由一翼梢而至其他翼梢，飛機可依此軸俯仰。（參閱附錄第八圖）

[The athwartship axis in a horizontal plane with the longitudinal axis, and passing from the neighborhood of wing tip to wing tip.]

lateral dihedral angle, 【力】橫上反角。

解：橫上反角是兩面翼梢在翼中心構

lateral divergence—lathe

(翼中心梢是機翼和對稱面的接合點) 以上或以下的角變。若翼梢高於翼中心梢，則這種角是正角。

[It is the angular displacement of opposite wing tips above or below the center wing tip. If the wing tips are raised above the center tip, then the angle is positive.]

lateral divergence, 【力】橫偏離。

解：橫滾，擺搖，側滑等的任何無定期的聯合。這運動的不安定，於轉彎增速中可引成螺旋或盤旋的動作。

[Any non-periodic combination of rolling, yawing, and side-slipping. The instability of motion which leads to a spin or to a spiral with increasing rate of turn.]

lateral force, 【力】橫力。

解：沿合成力橫軸的分力，并包括重心化分的分力。凡不注意重心分力的地方，則直用“橫氣壓”(lateral air force)這名詞。

[The component along the lateral axis of the resultant force including the resolved component of gravity. Where the gravity component is neglected the term "lateral air force" is preferable.]

lateral oscillation, 【力】橫振動。

解：由飛機的橫滾，偏航，及側滑的任何定期變動所造成向任何運動。

[Any motion which is made up of any periodic variation of the rolling, yawing and side-slipping of an aircraft.]

lateral resistance derivatives,

【力】側向阻力引申式。

解：這種側向阻力引申式表示力和力距在側向偏航和側滾速度中，因微小變化所致的差異。

[Resistance derivatives expressing the variation of moments and forces due to small changes in the lateral, yawing, and rolling velocities.]

lateral stability, 【力】橫向安定性。

解：這是關於發生側滾，偏航或側滑擾亂的安定性。這種擾亂情況能影響航空器的對稱面。飛機縱軸方面遇到擾亂力後，機翼有維持或恢復水平位置的傾向，橫向安定性的產生，大都為應用「橫上反角」於飛機的設計和裝配而成。

[Stability with reference to disturbances involving rolling, yawing, or side slipping, i.e., disturbances in which the position of the plane of symmetry of the aircraft is effected.]

lateral velocity, 【力】橫速。

解：相對空氣，沿橫軸的分力速度。

[The component velocity along the lateral axis, relative to the air.]

lathe, 【工】車床。

解：車床是一種機器，能夠把所欲製成的金屬物件固定地轉動，使它被鋒利的削割工具削去一些近於四周邊上的金屬。

[A machine designed to rotate the work to be machined so that metal may be removed from a

circumference by a cutting toll.)

latitude, 【飛】緯度。

解：緯度是赤道以南或以北的距離，通常以“度”為計量的單位。

[The measurement in degrees north or south of the equator.]

latitude (difference of), 【飛】緯度差。

解：在一條子午線 (meridian) 上的兩個地點，其緯度必有差別，將這兩個地點的緯度度數比較，所得的差數，即是緯度差。

[The angular or degree difference between the latitudes of two places measured on a meridian.]

latitudes (horse), 【氣】高氣壓帶。

解 在南北緯 30° 間的高壓區帶。

[Belts of high pressure at approximately 30° north and south latitude.]

latitude (parallel of), 【飛】緯線的平行線。

解：凡地球上的小圓圈所成的圓面若與赤道所成的圓面相平行，則那些小圓圈都是緯線的平行線。

[The small circles on the earth's surface whose planes are parallel to the plane of the equator.]

launching crew, 【機】昇空員。

解：用彈索 (shock cord) 把滑翔機昇到空中的一隊人，叫做昇空員。

[The crew of men who manipulate the shock cord in launching gliders.]

layer (boundary), 【力】限界層。

解：一個物體表面四週的空氣層，此層內的黏力在液體運動上而有顯著的影響。

[The thin layer of fluid adjacent to the surface of a body, in which the viscous forces exert a noticeable influence on the motion of the fluid.]

lead, 【電】導線, 【材】鉛。

解：【電】一種有絕緣包皮的電線，由電源而連接任何電氣開關，電站，儀器等，總之，此係電氣分配中的一種導體。

【材】一種棕櫚-藍深灰金屬，質軟，在紙上畫過留有黑印，有展性與柔韌性，但傳導熱與電未若他金屬。鎔點 621° F；每華氏一度之膨脹係數 .0000157；比熱 .031；傳導性 (熱與電) 8.5 (銀=100)；引伸力 (鉛管) 2,200 磅每平方吋；比重 11.35 至 11.37；重 .41 磅每立方吋。

① An insulated conducting wire which leads from an electric source to any main, feeder, station, instrument, circuit, etc. in general, one of the conductors in a system of electric distribution,

② A lustrous, blue gray metal, soft enough to be cut with a knife or to leave a mark on a piece of paper; it is malleable and ductile, but is not a good conductor of heat and electricity as compared with other metals. Melting point 621° F.; coefficient of expansion per degree F., .0000157; specific heat, .031; conductivity (heat and electri-

leading edge—Leclanche cell

city), 8.5 (silver 100); tensile strength (lead pipe), 2,200 lbs. per sq. in.; specific gravity, 11.35 to 11.37; weight, .41 lb. per cu. in.)

Leading edge, 【機】前緣。

解：翼面或螺旋槳葉的最前邊稱為前緣，有時英文稱為“entering edge”。(參閱附錄第七圖及十五圖)

[The foremost edge of an airfoil or propeller blade. Also called “entering edge”.]

Leading-edge radiator, 【發】翼前緣散熱器。

解：裝在機翼前緣上的水冷器。

[A water-cooler which forms the leading edge of a plane.]

leakage, 【艇】【球】漏氣。

解：氣囊因流散 (diffusion), 溢出 (effusion), 蒸散 (transpiration), 或球頸走氣而失去氣體。

[The loss of gas from an envelope or gas bag, whether arising from diffusion, effusion, transpiration or escape into the air through the neck of a balloon.]

leak detector, 【儀】覓漏器。

解：覓漏器本是一種儀器，能在空中測出氫氣及其他輕質氣體的存在，故可用以試驗裝滿氫氣或其他輕質氣體管子的洩漏與否。

[An instrument which detects the presence of hydrogen and other light gases in the air, and which can be adapted to find leaks in a container inflated with such a gas.]

Leclanche cell, 【電】勒克蘭社電池。

解：這是由法國電學家勒克蘭所發明的一種原電池，且是用礆砂(氯化錳)溶液第一種電池。電鈴多用之，蓋一次充電後，可經用長久之時間。其製造法，係用二瓶，外瓶為玻璃缸，內盛氯化錳之飽和溶液，名礆砂，中插鋅桿作極，內瓶為生瓷器，內盛二氧化錳及炭粉，中插炭板作極，鋅極及炭極連接後，即有電流發出。其化學反應如下：鋅由二氧化錳之氧氣而變為氯化鋅，後又因礆砂之反應而變為氯化鋅。

[An open circuit primary cell invented by Leclanche, French electrician and was the first cell in which sal-ammoniac was used. This cell is in general use for electric bells, its great recommendation being that, once charged, it retains its power without attention for a considerable time. In construction, two jars are employed; the outer one, of glass, contains a zinc rod, and is charged with a solution of ammonium chloride, called sal-ammoniac. The inner jar is of porous earthenware, containing carbon plate, and filled with a mixture of manganese peroxide and broken gas carbon. When the carbon plate and zinc rod are connected, a steady current of electricity is set up, the chemical action which takes place being as follows: the zinc becomes oxidized by the oxygen from the

manganese perioxide, and is subsequently converted into zinc chloride by the action of the sal-ammoniac.)

leeway, 【飛】 飄流。

解：飛機爲風力所吹，而向下偏航的情況，謂之飄流。“向下風”就是走向風力前進方向的意思。偏流必須用偏航來抵消。

(The lateral drift of an aircraft to leeward of its course. Leeward means away from the wind or the direction toward which the wind blows. Leeway is the allowance necessary to counteract for the lateral drift.)

left-hand airscrew, 【螺】 左轉螺旋槳。

解：由航空器後方觀之，螺旋槳是作順時針方向的旋轉。

(An airscrew revolving counter-clockwise to an observer behind the aircraft.)

left-hand engine, 【發】 左轉發動機。

解：若人由螺旋槳軸的反端面向螺旋槳時，則此機的螺旋槳軸是作反時針方向的旋轉。

(An engine whose propeller shaft, to an observer facing the propeller from the anti propeller end of the shaft, rotates in a counter-clockwise.)

left-hand magneto, 【發】【電】 左手磁電機。

解：由磁電機的軸端視去，它是作逆時針方向旋轉。

(A magneto revolving counter-

clock-wise to an observer looking at the driven-shaft end.)

left rudder, 【操】 方向舵左方操縱。
解：推動左方方向舵踏板或方向舵桿向前之謂。

(Pushing forward on the left rudder pedal, or rudder bar.)

left-side (engine), 發動機左邊。

解：觀察者若立在發動機沒有螺旋槳的那一端向有螺旋槳的那一端觀看，則其左手邊爲發動機左邊。

(That side which, to an observer looking from the antipropeller end, lies on the left-hand side.)

legend, 【應】 圖例。

解：水陸圖上所慣用的標誌和符號的說明。

(The explanation of conventional signs or symbols on a map or chart.)

lens, 【應】 鏡頭，透鏡。

解：透鏡是一塊玻璃或透明物體，一面或兩面成球面，或一面爲球面一面爲平面。透鏡的目的是用以改變光線方向；如此放大或縮小視線，或即使光線發散或收斂。

(A piece of glass or other transparent substance with one or both sides curved. Both sides may be curved, or one curved and the other flat. The object of a lens is to change the direction of rays of light, and thus magnify objects, or otherwise modify vision. That is, it causes the rays to converge or diverge in passing through the lens.)

lens classification — lever

lens classification, 【應】透鏡種類。

解：透鏡種類頗多，茲分類如下：

1. 凸面透鏡：a. 雙凸面，b. 平凸面；c. 凹凸面。

2. 凹面透鏡：a. 雙凹面，b. 平凹面；c. 凸凹面。

[There are various kinds of lenses and they may be classed as:

1. Convex: a. double convex; b. plano convex; c. concavo convex.

2. Concave: a. double concave; b. plano concave; c. convex concave.]

Lenz's law, 【電】楞次定律。

解：說明電磁感應作用中，感應電流的動向與產生該電流時的動作方向相反的第一人是楞次氏，因名楞次定律。

[It states that the direction of an induced current, in electromagnetic induction, opposes the motion producing it.]

Leste (pr. lestey), 【氣】來自忒風。

解：北非洲 (N. Africa) 及馬第來 (Madeira) 在低氣壓前面的乾熱南風。

[A hot dry southerly wind in Madeira and Northern Africa in front of an advancing depression.]

Levanter, 【氣】來梵塔風。

解：幾布羅海陀峽 (Straits of Gibraltar) 的東風。

[Easterly winds in the Straits of Gibraltar. When this wind is moderate force cloud appears over the "Rock". This

phenomenon is known as the Levant.]

Leveche (pr. leverchey), 【氣】

來維其風。

解：西班牙 (Spain) 的乾熱西南風。

[A hot dry south-west wind in Spain in front of an advancing depression.]

level (fire-control), 【裝】【軍】射擊操縱槓桿。

解：一種遠控器，能操縱固定機槍的機件。

[A remote control operating the release mechanism.]

level (fore-and-aft), 【儀】前後水平儀。

解：一種儀器指示航空器，在對稱面中的合力方向。有時亦稱為 longitudinal clinometer,

[An instrument for indicating the direction of the resultant force on an aircraft in its plane of symmetry. (Sometimes called Longitudinal clinometer.)]

level (gyroscope), 【儀】旋轉水平儀。

解：一種儀器運用旋轉儀，而指示航空器的垂直軸和真垂直所成的角度。

[An instrument employing a gyroscope, for indicating the angle between the true vertical and the normal axis of an aircraft.]

lever, 【機】槓桿。

解：在桿的一點上用力，使其藉一支點 (fulcrum) 的作用而在另一點上發生工作效能，這樣的裝置叫作槓桿。用

L-head cylinder—lift coefficient

力的那一點名為力點，工作的那一點名為重點，支持重點與力點的那一點名為支點，但須注意的，支點可在力點重點之內，也可在力點重點之外。



[Lever is a bar by means of which a force applied at one point will do work at another point through the medium of third point of rest or support (fulcrum) of the bar. The fulcrum may or may not be located between the applied force and the point where the work is done.]

L-head cylinder, [發] L形頭汽缸。
 解：這種汽缸，它的汽門在同邊平排裝置的，(參閱附錄第三十三圖)
 [A cylinder with all the valves on the same side.]

lift, [力] 昇力(飛機)浮力(氣艇)。
 解：昇力是航空器或翼面 (airfoil) 上空氣總動力的一種分力，與風力成直角，且同在一對稱平面上。昇力，有時指全航空器而言，有時僅指航空器的某部分而言，所以應用時必須加以說明。如應用到氣艇方面則稱為“動力學的昇力”(dynamic lift, 以別於靜力學的意思)。在數學方程式中運用時，昇力的符號是L。絕對昇力係數為 C_L ，為

$$C_L = \frac{L}{qs}$$

在這個方程式中，L代表昇力，q代表

衝激壓力 (impact pressure = $\frac{1}{2}\rho V^2$)，S代表空氣動力所接觸的有效面積。(參閱附錄第七圖)

That component of the total air force on an aircraft or airfoil which is perpendicular to the relative wind and in the plane of symmetry. It must be specified whether this applied to a complete aircraft or to parts thereof. In the case of an airship, this is often called “dynamic lift.” Its symbol is L. The “absolute lift coefficient” is C_L as defined by the equation

$$C_L = \frac{L}{qs}$$

in which L is the lift, q is the impact pressure ($=\frac{1}{2}\rho V^2$) and S is the effective area of surface upon which the air force acts.]

lift axis, [力] 昇力軸，

解：穿過機身重心，并在對稱面中和風向垂直的一條直線，它的正方是在正常飛行中的上方。(此種說明不適用於浮昇器)。(參閱附錄第七圖)

[The straight line through the centre of gravity and perpendicular to the direction of the relative wind in the plane of symmetry. The positive direction is upward in ordinary straight flight.]

lift coefficient, [力] 昇力係數。

解：昇力係數是以磅為單位的昇力，可由一平方呎的翼面依某角前進，

lift-drag ratio—lift(of a gas)

速度每小時一哩。其公式如下：

$$L = K_y A V^2$$

L代表以磅為單位的昇力

K_y 代表升力的係數

A代表翼面，單位平方呎

V^2 代表速度的平方

[The lift in pounds that may be derived from one square foot of wing area traveling at a speed of one mile per hour at a given angle of attack. This leads to the formula $L = K_y A V^2$ where.

L = lift in pounds

K_y = coefficient of lift

A = wing area in square foot

V^2 = velocity squared.]

lift-drag ratio, 【力】昇阻比。(= L/D)

解：昇力對阻力(drag)的比率。昇阻比依對角(angle of attack)而變化。衝角(angle of incidence)最大昇阻比的值也最大。

(The ratio of lift to drag. The lift-drag ratio varies with the angle of attack. Its value is greatest at the maximum angle of incidence.)

lift (dynamic), 【力】動力昇力。

解：氣動力作用在浮昇器上面所發生的昇力。

[The lift impressed on an aerostat by aerodynamic forces.]

lift (gross), 【艇】【力】總升力 (氣艇)。

解：總升力係航空器的“名義氣體容量”(nominal gas capacity)所含輕浮氣體體積產生的升力。求總升力的

方法，將“名義氣體容量”數值，乘所灌輕浮氣體每單位體積的升力即得。譬如“名義氣體容量”數值為100,000立方呎；每立方呎氫氣(假定所灌者為氫氣)的升力為x，則總升力為：

$$100,000 \times x = 100,000x.$$

[The lift obtained from a volume of buoyant gas equal to the nominal gas capacity of the aircraft. Obtained by multiplying the nominal gas capacity by the lift per unit volume of the gas used for inflation.]

life line. 【索】救命索。

解：吊索和裝具不直接連接所用的一種索子，凡附機式保險傘或保險對裝具祇有單點連接的，此索頗為重要。

(A cable used between the rigging lines and the harness when these are not directly connected. Essential with attached parachutes, or parachute having single point connections to the harness.)

lift (margin of), 【力】昇力限度。

解：在某一氣情況及某一時間內，飛機能昇到某高度的能力，即稱為昇力限度。

(The measured ability of an airplane to gain altitude in a given time under given atmospheric conditions.)

lift (of a gas), 【力】氣體的昇力。

解：一種氣體的密度較薄於空氣的密度，則上昇而發生氣體的昇力。但這種情形的發生，必須假定當時兩種氣體所受的溫度，壓力及其他條件皆相同

lift(static)—light(code)

方可。

[The difference of density of air and the gas. Both supposed to be under the same conditions of pressure, temperature, etc.]

lift (static), 【艇】【力】靜昇力
(浮昇器)。

解：浮昇器靜止在空中時的上昇力，是由排氣量乘空氣密度，再減去浮昇器內所含輕浮氣體的重量而得，這種數值就是使浮昇器上昇的靜昇力。

[The resultant upward force on an aerostat at rest obtained by multiplying the actual volume of the air displaced by the density of the air and subtracting the weight of the contained gas. (The volume of the air displaced, multiplied by the difference of density of the air and the contained gas.)]

lift (useful), 【艇】【力】有效昇力。

解：航空器能夠攜載燃料與滑油，乘客，貨物，食品與飲料，鎗砲，軍火與炸彈等等的昇力，就叫做有效昇力，求有效昇力，常將航空器上各種固定物的重量，從總昇力內減去即得；惟對於壓艙物，燃料及滑油；水；零件工具，勤務人員與設備等，應留相當伸縮餘地，因為沒有一定的成例作為標準。

[The lift available for carrying fuel, and oil, passengers, cargo, food and drinking water, guns, ammunition, and bombs. Usually determined by deducting from the gross lift all fixed weight; certain allowances of ballast, fuel, and oil; water;

spares and tools; crew and equipment. No standard has as yet been established.]

lift wire, 【機】飛行線，昇力線。

(=Flying wire)

解：將機翼外段的昇力向機身或短艙傳送的鋼線或鋼索。這種鋼線通常是由翼間支柱頂端延接至較近機身的第二枝支柱底。有時亦稱為“flying wire”。(參閱附錄第十五圖(9))

[A wire or cable which transmits the lift on the outer portion of the wing of an airplane in toward the fuselage or nacelle. This wire usually runs from the top of an interplane strut to the bottom of the strut next nearer the fuselage. Sometimes called ‘flying wire’.]

light (actinic), 【化】化學光線。

解：一種光線可使照相底片受影或起化學變化。

[Light rays that are capable of affecting a camera film or of causing chemical change to take place.]

light (approach), 【設】接近燈。

解：一種特殊燈光，指示飛行場內最好的接近航線。

[A light of distinctive character for indicating a favourable line of approach to an aerodrome.]

light (code), 【設】符號燈。

解：一種忽明忽滅的燈光，其明暗時間，成一符號，可資辨認。

[An intermittent light having characteristic dark and bright periods by which its individual

light(course)—lighting(aircraft)

identity can be recognised.]

light (course), 【設】 航路燈。

解：一種燈，係沿航路投射，故航空器在航路附近或在航路中，皆可視見。
[A light so projected along the course of an airway as to be visible chiefly from aircraft on or near that airway.]

light (fixed), 【設】 固定燈。

解：一種燈由固定點觀察之，其光度係恆定而不變化。
[Any light which is constant and uniform in intensity when viewed from a fixed point.]

light (flashing), 【設】 閃光燈。

解：一種忽明忽暗的燈光，但其暗時較明時為常久。
[An intermittent light in which the duration of the bright period is shorter than that of the dark.]

light (identification), 【設】 標誌燈。

解：一種燈，在標燈附近，有特殊光彩及形狀，以資辨認。(參閱附錄第四十五圖)。
[A light on or near a beacon having a character differing from, but serving to identify, it.]

light (intermittant), 【設】 斷續燈。

解：一種燈，由固定點觀之，有時明時暗的期間。
[Any light which has dark and bright periods when viewed from a fixed point.]

light (landing-direction), 【設】

降落方向燈。

解：一種燈係單獨或和其他燈聯合，指示降落必要的方向。

[A light for indicating either by itself or in conjunction with others, the direction in which landings are to be made.]

light (neon), 【設】 霓虹燈。

解：即達於白熱情況的霓虹氣，霓虹光，有閃耀的淡紅色。

[Neon gas in a state of incandescence. They are of vivid pink colour.]

light (obstruction), 【設】 障礙燈。

解：一種燈光指示飛行障礙物的所在處。(參閱附錄第四十五圖)。

[A light for indicating the presence of an object which is dangerous to aircraft in motion.]

light (occluding), 【設】 暫蔽燈。

解：一種忽明忽暗的燈光，但其明時較暗時為常久。

[An intermittent light in which the duration of the bright period is longer than that of the dark.]

lightening rib, 【機】 輕肋。

解：此種輕肋用以構成翼架的形態，支持翼面的蒙布。肋條的腹板上鑿有若干的圓孔，用以減輕重量。又稱成形肋“(form rib).”

lighting (aerodrome), 【設】 飛行場燈光。

解：飛行場內的燈光制度。

[The system of lighting on an aerodrome.]

lighting (aircraft), 【裝】 航空器

lighting (airway) — line (grab)

燈光。

解：航空器內的燈光系。

[The system of lighting on an aircraft.]

lighting (airway), 【設】 航路燈光。

解：沿航路的燈光，但飛行場的燈光則不在內。

[The system of lighting along an airway other than aerodrome lights.]

limit (elastic), 【力】 彈性限度。

解：材料如超過這個緊張的範圍，即被分裂。若它的彈性係數時常保持恆定，則彈性限度不致達到。

[The limit of strain beyond which the material will rupture. As long as the modulus of elasticity remains nearly constant the elastic limit is not reached.]

limiting velocity, 【力】 極限速度。

解：飛機沿飛行線而與水平成任何規定的角度，且在某種氣候情況并在發動機和螺旋槳工作之下，所能得的最大速度。

[The maximum velocity attainable by an aircraft along a flight path at any specified angle to the horizontal, under given atmospheric conditions and state of operation of engine and airscrew.]

line (air), 【飛】 航空線。

解：航空線即一直線，為兩點間的最短距離；故空中航行在時間上費用上均較他種交通方法為節省。

[Or a straight line, is the short-

test distance between two points: therefore, air navigation, rather than air pilotage, effects a saving in time and expense over the casual method of following irregular landmarks.]

line (bow-steadying), 【裝】 繫塔索。

解：繫塔索是氣艇頭部垂下來的繩索，當繫到繫留塔上時，可以阻止氣艇向繫留塔的兩邊偏出或擦過。

[A line dropped from the bow of an airship; when mooring to the mast, to act as a yaw line to prevent yawing and overriding the mast.]

line (chord), 【機】 翼弦線。

解：在翼剖面的前後緣間，穿過彎曲中心的一條直線。（參閱附錄第七圖）

[The chord line is the straight line through the centres of curvature at the leading and trailing edges of an aerofoil section.]

line (datum), 【飛】 【應】 基準線。

解：一條假定的水平線用以作其他高度測量的考慮。

[An assumed level to which altitude are referred. Sea level, or at Reno, Nevada, an imaginary line of 4,000 ft. altitude, may be assumed.]

line error, 【力】 線差。

解：由目標向彈道面垂直的線長。

line (grab), 【裝】 握緊索。

解：由氣艇旁面伸出來的繩索，當氣艇接近地面或已在地面時，運用這種繩索可以拉動氣艇。有時亦稱為 (hand-

line(handling)—line(mast main hauling)

ing line or drag, rope).

[A line attached along the side of an airship for use in maneuvering near and on the ground. Sometimes called "handling line".]

line (handling), 【裝】 握索，運用索，握緊索。

解：與 line (grab) 同。

line (horizon), 【飛】 水平線。

解：在天地交接處的水平線。

[The level horizontal line at the apparent junction of the earth and sky.]

line (life), 【傘】 救命索。

解：吊索和裝具不直接連接所用的一種索子。凡附機式保險傘或保險傘對裝具祇有單點連接的，此索頗為重要。
[A cable used between the rigging lines and the harness when these are not directly connected. Essential with attached parachutes, or parachutes having single point connections to the harness.]

line(main hauling), 【艇】 繫留索。

解：見 Line (main mooring)。

line (main mooring), 【艇】 繫留索。

解：懸附於氣艇頭部的繩索，可繫牢在地面或繫留塔上。

[The line dropped from the bow of an airship to be coupled to the mast main mooring line.]

line (mast bow-steadying), 【艇】

【裝】 繫艇索。

解：繫艇索是從繫留塔底的絞盤上引伸出來的繩索之一，通過滑輪 (snatch

blocks)，拖到繫留塔的下風。氣艇上的繫塔索，即連接此繫艇索上。滑輪都固定在拋錨處所，不過拋錨地點應加選擇，要以連接的繩索能夠使氣艇迎風而立，不致擦過繫留塔頭為標準。英文中有時稱此種繫艇索為 "mast yaw guys" 或 "mast yaw line"。[One of the lines led from a winch at the base of the mooring mast through snatch blocks and carried out to leeward of the mast. The airship's yaw lines are attached to these lines. The snatch blocks are fixed to anchorages selected so that the joined lines tend to keep the airship into the wind and prevent her over-riding the mast. These lines are also sometimes called "mast yaw guy" or "mast yaw line".]

line (mast main hauling), 【索】

【裝】 主要繫艇索。

解：主要繫艇索是從繫留塔的一個主要絞盤上引伸出來一條繩索，將它從塔頂的繫留附件上通過拖到塔的下風地面的一點上。氣艇的主要繫塔索就連接在這索上，氣艇藉此兩根索的連接，就可拖至塔頭停泊。英國人有時稱這種主要繫艇索為 "落地索" (ground wire)。

[A line led from the main winch of mooring mast through the mooring attachment at the top of the mast and carried out to a point on the ground well to leeward of the mast. The airship's main mooring line is

line(mast main mooring) — lines(control)

attached to this line and the airship is hauled to the mast by means of the joined lines. Sometimes called "ground wire".—British.)

line (mast main mooring), [裝]

主要繫艇索。

解：與line (mast main hauling)

同。

line (mast yaw), [裝] 繫艇索。

解：繫艇索是從繫留塔底的絞盤上引伸出來的繩索之一，通過滑輪(snatch blocks)，拖到繫留塔的下風。氣艇上的繫索塔即連接此繫艇索上。滑輪都固定在拋錨處所，不過拋錨地點應加選擇，要以連接的繩索能夠使氣艇迎風而立不致擦過繫留塔巔為標準。英文中有時稱此索為“mast yaw guys”或“mast bow-steadying lines” (One of the lines led from a winch at the base of the mooring mast through snatch blocks and carried out to leeward of the mast. The airship's yaw lines are attached to those lines. The snatch blocks are fixed to anchorages selected to that the joined lines tend to keep the airship into the wind and prevent her over-riding the mast. These lines are also sometimes called “mast yaw guys” or “mast bow-steadying lines”.)

line (mooring) [裝] 繫留索。

解：懸附於氣艇頭部的繩索，可繫牢在地面或繫留塔上。

(A line attached near the bow of an airship for securing it to

the ground or to a mooring mast.)

line (nose-steadying), [裝] 繫塔索。

解：繫艇索是從氣艇頂部垂下來的繩索，當來到繫留塔上時，可以阻止氣艇間繫留塔的兩邊偏出或擦過。繫塔索亦有稱為“bow-steadying line”或“yaw guy”，英國人尤多稱為“side guy wire”。

(A line dropped from the bow of an airship; when mooring to the mast, to act as a steadying line to prevent yawing and overriding the mast. Also called “bow-steadying line” or “yaw guy”. Or “side guy wire”—British.)

line (rigging), [索] 吊索。

解：將載重由裝具(或救命索)傳達傘身的索子。(參閱附錄第四十三圖)。(The cords which transmit the load from the harness (or life line) to the canopy.)

line (sandbag), [裝] 沙包索。

解：沿鷹式氣球的垂下索或繫留索伸展出來的繩索上，掛用許多沙包，便將氣球繫留。加用這種沙包的目的，是使氣球的垂下索不受磨損。

(A rope extending along the line of suspension ropes or bridles of a kite balloon to which are hooked the sandbag used in mooring the balloon. The purpose is to prevent wear on the suspension cordage.)

lines (control), [艇] [裝] 操縱索。

解：由駕駛艙伸至氣艇各部的單股或數股絞成的鋼索，直接或間接藉用機

lines of force—load

械操動方向舵、氣門等，而調節氣艇的速度、高度等。

[The lines of wire and/or stranded cable leading from the control car or compartment to the various parts of an airship and operating (either through mechanisms or directly) the rudders, valves, etc., which control the speed, altitude, etc., of the airship.]

lines of force, 【電】磁力線。

解：沿磁場所發出的磁力。

[The lines along which a magnetic influence exerts its force or effect.]

line squall, 【氣】線颶。

解：線颶係暴風急增後，突然停歇，風向轉變，氣溫驟降五度至十度不等，氣壓有劇升的情形。它的能見度現象，為一長條狹有雨雷的黑雲，在英國則常起自西方或西北方。

line (suspension), 【裝】懸索。

解：懸索是用以支持附在氣艇或氣球氣囊上的懸吊物。

[A line either of cordage or metal, which supports the weight attached to the envelope of a balloon or airship.]

line vortex, 【力】線形旋渦。

解：小剖面長管形，而有強烈渦動的旋渦。

[A vortex in the form of a long tube of small cross section with intense vorticity.]

line (yaw), 【裝】繫塔索。

解：繫塔索是從氣艇頭部垂下來的繩索，當索到繫留塔上時，可以阻止氣艇

向繫留索的兩邊偏出或擦過。繫留索亦有稱為“bow-steadying line”或“yaw guy”。英國人尤多稱為“side guy wire”。

[A line dropped from the bow of an airship; when mooring to the mast, to act as a steadying line to prevent yawing and overriding the mast. Also called “bow-steadying line” or “yaw guy”. Or “side guy wire”—British.]

liquid glue, 【材】流質膠。

解：流質膠常係用獸皮、骨、頭、及魚胞製成，有時為動物膠及他種雜質膠滲合而成。膠係現用情況，無需配製，但才能防禦水分，故不適用於飛機構造。

[Liquid glues are usually made from the skins, bones, heads and swimming bladders of fish. Liquid glues are sometimes of a mixture of animal glue and some other material. They come prepared ready for use. As they too are not water or moisture resistant, they are not used in the airplane.]

liter (metric system) 【單】公升。

(十進制)

解：公升是容積的單位，等於 61.02 立方英寸，略大於一夸爾(quart)。

[It equals 61.02 cubic inches or a little more than a quart.]

lithosphere, 【應】陸地，岩石圈。

解：地球的堅硬部分名為陸地或岩石圈。

[The landed parts of the earth.]

load:

dead load—loading(power)

dead load 【力】死重。

解：航空器構體，動力裝置，和固定裝備物的總重量。這裏所說的固定裝備，包括散熱器和冷卻系內的水，一切必要的儀器和設備，生熱和發光的固定電線等。若在浮昇器方面，為協助安全降落所帶用的壓載物數量亦包括在內。

full load, 【力】全載，滿載重量。

解：淨重加上有用載重等於全載。有時亦稱總重(gross weight)。

pay load, 【力】酬載。

解：酬載係有用載量的一部分，航空器的收入即由此而得，換言之即乘客，貨物和郵件。

useful load, 【力】有用載量。

解：航空器上的服務人員，乘客，滑油及燃料，壓載物（應急壓載物不在內），輻重，活動裝備等皆稱有用載量。

Dead load—See weight, empty.

Full load—Weight empty plus useful load. Also called “gross weight.”

Pay load—That part of the useful load from which revenue is derived, viz., passengers and freight.

useful load—The crew and passengers, oil, and fuel, ballast other than emergency, ordnance, and portable equipment.)

load (basic), 【力】基本載量。

解：航空器停在地面時所能載的負荷或航空器作不加速的直線飛行時所能載的負荷，兩者皆稱為基本載量。基本載量是一個抽象名詞，對動力載量而

言，基本載量是為作應力分析(stress analysis)時用的。

(The load of an aircraft when it is at rest or in a condition of unaccelerated rectilinear flight.)

load (bearing), 【力】軸承載量。

解：軸承磨擦面所受的載量，常以投射面每平方吋磅數計量之。

(The load coming on the rubbing surface of a bearing, usually expressed in terms on pounds per square inch of projected area.)

load (dynamic), 【力】動力載量。

解：航空器因加速行動的關係而發生的任何負荷，即名為動力載量，它與質量成比例。動力載量也是一個抽象名詞，對基本載量而言。

(Any load due to accelerations of an aircraft, and therefore proportional to its mass.)

load factor, 【力】載量率（簡稱L.F.）

解：一結構部分的規定載量對於相符基本載量的比率，通常應用在斷裂載量對於基本載量的比率上。

(The ratio of any specific load on a member to the corresponding basic load. Generally applied to the ratio of the breaking load to a basic load.)

loading handle, 【軍】【裝】裝彈子柄。

解：作機鎗子彈裝卸工作的一種機件。

(A device by which a gun is loaded, unloaded or cleared.)

loading (power), 【力】動力載量。

解：飛機滿載重量後的總重，除以發

loading(wing) - Local Mean Time

動機的實馬力數，即得動力載量。不過計算發動機實馬力時，空氣應合乎標準密度，否則應加以說明。

[The gross weight of an airplane, fully loaded, divided by the normal horsepower of the engine computed for air of standard density unless otherwise stated.]

loading (wing), 【力】翼載量。

解：飛機的總重(滿載之後)，除以支持面的面積，即得翼載量。計算翼載量所用的支持面面積，應把副翼的面積計算在內，但安定面及昇降舵則不在內。

[The gross weight of an airplane, fully loaded, divided by the area of the supporting surface. The area used in computing the wing loading should include ailerons, but not the stabilizer and elevators.]

load ring, 【球】【艇】負載環。

解：此環在氣艇上，有數條裝配索由氣囊達到上面，并有數索又由此環而伸展至吊籠。在自由氣球上，此環牢繫懸掛吊籠的索子，而球網亦在此環上面結牢，故有時亦稱為「集索環」“concentration ring”

[In airship, a ring to which several rigging line are led from the envelope and from which one or more lines also lead to the car. In free balloon, a ring to which are attached the ropes suspending the basket and to which the net is also secured. Sometimes called

“Concentration ring”.]

lobe, 【球】翼載量。

解：一個灌有空氣或輕氣的囊，安置在鷹式氣球尾部上，其作用是充當直尾翅(fin)或安定面(stabilizer)，使氣球獲得氣動力上的安定性。

[An air or gas inflated bag fitted at the stern of a kite balloon and acting as a fin or stabilizer to give it aerodynamic stability.]

lobe (cam), 【發】導輪突起物。

解：導輪邊緣上突出的部分，其作用在使導輪隨動部(cam follower)發生運動。

[The raised portions on the contour of a cam which cause movement of the cam followers.]

Local Apparent Time,

(簡稱L.A.T.)【航】地方太陽時。

解：由觀察者所在的地方，根據太陽而計算的時候。地方太陽時加西經，即得格林威治太陽時；減東經，亦得格林威治太陽時。

[It signifies sun time measured by the apparent sun at the place where the observer may be. Local apparent time plus west longitude equals Greenwich Apparent Time. Local apparent time minus east longitude equal Greenwich Apparent Time.]

Local Mean Time (L.M.T.) 或 Mean Solar Time (M.S.T.),

【航】平均太陽時。

解：由觀察者所在的地方根據平均太陽而由鐘錶指示的時候。平均太陽時減東經等於格林威治平均時；加西經，

location beacon—longitude

亦等於格林威治平均時。

(It signifies clock time measured by the mean sun at place where observer may be. Local mean time minus east longitude equals Greenwich Mean Time. Local mean time plus west longitude equal Greenwich Mean Time.)

location beacon, 【設】定位標燈。

解：此燈有特異光彩及性質，易與市鎮的燈光鑑別。

(A small beacon of a distinctive colour and character that can easily be distinguished from town lights.)

locking-ring (wire), 【發】線鎖環。

解：一種彈簧鋼絲的環圈，它的一端扭轉在同一平面中和本身成直角，專作扣住裝配物的用途。(參閱附錄第三十四圖)

(A locking device in the form of a ring of spring-steel wire with one end bent at right angles in its own plane.)

lodestone, 【電】磁石。

解：磁石又名磁鐵石 (magnetite)，其成分以氧化鐵居多。作用與任何磁針相彷彿，能尋指北極及引吸鐵片。

(It is a stone called magnetite, largely oxide of iron, which acts like any magnetic needle in seeking the North Pole and attracting other pieces of metal.)

logarithmic decrement, 【力】對數減弱率。

解：逐漸減弱而調和的振動，其兩次連續振幅比率的自然對數 (natural

logarithm)，叫作對數減弱率。對數減弱率，等於入 T 之積，入代表逐漸減弱地調和振動的減弱因素的係數，T 代表振動的週期。

(The natural logarithm of the ratio of two successive amplitudes in a damped harmonic motion. It is equal to the product λT , where λ is the coefficient appearing in the damping factor of damped harmonic motion and T is the period of the motion.)

log books, 【裝】航空日記簿。

解：飛行員每次飛行時用來紀錄飛行，發動機和飛機情況的簿子。

(Books for recording the pilot's record of each flight, the engine record, and the plane record.)

loggy ship, 【機】笨重飛機。

解：此乃俚語，指攜帶過重或舊式飛機，飛行和駕駛不十分靈活而言。

(A heavy, overloaded or old plane that flies and handles sluggishly.)

longeron, 【機】縱樑。

解：飛機機身或吊籃結構中，自頭至尾的骨架，叫做縱樑，沿着這縱樑上通常皆有許多支持點。(參閱附錄第十五圖)

(A fore-and-aft member of the framing of an airplane fuselage or nacelle, usually continuous across a number of points of support.)

longitude, 【航】經度。

解：以英國格林威治為起點或零度坐標，向東或西計量所得的度數，稱為經

lon gitude(degree of)—longitudinal force

度。

[The measurement in degrees East or West from the prime or zero meridian at Greenwich, England.]

longitude (degree of), [飛] 經線度。

解：經線一度常等於60海里。

[One degree of longitude at the equator equals 60 miles.]

longitude (difference of), [航] 經度差。

解：在兩個地點于午線間的赤道弧，稱為經度差。

[The arc of the equator between the meridians of two places.]

longitudinal axis, [力] 縱軸。

解：穿過機身重心，并縱列在對稱面中的一條直線。在研究飛機運動的普通理論時，此線與螺旋槳軸平行。它的正方是在重心的前面。在數理中，此軸則稱為X—軸。(參閱附錄第八圖)

[A straight line through the centre of gravity, fore-and-aft in the plane of symmetry. In general theoretical discussions of the motion of an aeroplane, this may be taken as parallel to the airscrew axis. The positive direction is forward from the centre of gravity. In mathematical theory this axis is the x—axis.]

longitudinal clinometer, [儀] 縱向傾斜表。

解：一種儀器指示航空器在對稱面中的合力方向，有時亦稱為 (fore-and-aft level)。

[An instrument for indicating the direction of the resultant force on an aircraft in its plane of symmetry]

longitudinal divergence, [力] 縱向偏離。

解：對稱面內的任何無定期增加干涉運動的不安定，可引成俯衝或失速的動作。

[Any non-periodic increasing disturbance in the plane of symmetry. The instability of motion which leads to a nose-diver or to stalling.]

longitudinal dihedral angle, [機] 縱反角。

解：主翼傾角與橫安定面傾角間的差數。如安定面傾角小於翼傾角，則稱為正縱反角。如安定面傾角大於翼傾角，則稱為負縱反角。

[The difference in angle of wing section and of stabilizer setting. This angle is positive when the angle of stabilizer setting, referred to the thrust line, is less than the angle of wing setting.]

longitudinal force, [力] 縱力。

解：沿合成力縱軸的分力，并包括重心化分的分力。凡不注意重心分力的地方，則宜用“縱氣壓”(longitudinal air force)這名詞。

[The component along the longitudinal axis of the resultant force. This includes the resolved component of gravity. Where the gravity component is neglected, the term “longit-

longitudinal girder—longitudinal stability

udinal air force" is preferable.)

longitudinal girder, 【艇】縱梁。

解：一種樑架在艇身外面，作前後位置的裝配。(參閱附錄第十九圖)

[A girder on the outside of the hull running fore and aft.]

longitudinal (intermediate),

【艇】次要縱樑架。

解：次要縱樑架是硬式氣艇強度方面的次要縱樑，在兩根隣近的主要縱樑架之間，但重量較輕，尺寸較小。

[An intermediate longitudinal strength member of a rigid airship, which lies between two adjacent main longitudinals and is generally of lighter weight and/or smaller dimension than the main longitudinals.]

longitudinal (main), 【艇】主要縱樑架。

解：硬式氣艇強度方面的主要縱樑架，與各種橫骨架相聯繫。

[A main longitudinal strength member, of a rigid airship, which connects the various transverse frames.]

longitudinal oscillation, 【力】縱振動。

解：由飛機的飛行速度，高度，及螺距角的任何定期變動所造成的任何運動 [Any motion which is made up of any periodic variation of the flight speed, altitude and angle of pitch of an aircraft.]

longitudinal resistance derivatives, 【力】縱向阻力引申式。

解：這種縱向阻力引申式表示力和力距在縱向垂直和俯仰速度中，因數小

變化所致的差異。

[Resistance derivatives expressing the variation of moment and forces due to small changes in longitudinal, normal, and pitching velocities.]

longitudinal stability, 【力】縱向安定性。

解：這是關於對稱面被擾亂的安定性即發生縱面與正常速率的俯仰和偏差擾亂。縱安定性是對橫軸的安定性，就是阻止因擾亂力而發生的俯仰 (pitching) 趨勢 (機頭向上或向下)。縱安定性以機身主翼的傾角，和固定水平尾翼的傾角上下配置為標準。機翼和水平尾翼的傾角差異，叫做縱上反角 (Longitudinal dihedral angle)。水平尾翼雖然比較小，亦有些昇力，而縱上反角保護安定性，與橫上反角保護橫安定性情形相同。

[Stability with reference to disturbances in the plane of symmetry, i.e., disturbance involving pitching and variation of the longitudinal and normal. The stability about the lateral axis, i.e., it resists disturbances which tend to cause "pitching" (nosing up or down). This is governed by the true up and down alignment of the fuselage, and the angles of incidence of the main wings and the fixed horizontal tail surfaces. Any difference in the angle of incidence of the wings and horizontal tail surfaces is called "longitudinal dihedral angle".

longitudinal velocity—loop(safety)

The horizontal tail surfaces (called tail planes). Although comparatively small, have some lift, and the longitudinal dihedral acts to preserve longitudinal stability in the same manner that lateral dihedral angle preserves lateral stability.]

longitudinal velocity, 【力】縱速。
解：相對空氣，沿縱軸的分力速度。
[The component velocity along the longitudinal axis, relative to the air.]

loom, 【機】肋腹。

解：翼肋的腹部。

[The web sections of wing ribs.]

loop, 【飛】翻筋斗。

解：翻筋斗動作，包含一攢昇動作，迨越過垂直點時，即作一與飛行方向相反的倒飛動作，然後用俯衝動作改正倒飛動作而恢復原來飛行方向。翻筋斗可以增加高度，維持高度及減低高度，概以執行動作時的操縱及發動機的馬力如何而定。(參閱附錄第六十圖)

[Loop involves a zoom, which is over past the vertical, to be followed by a moment of inverted flight in the opposite direction and a dive out of the inverted position to a normal recovery in the direction of original flight. Altitude may be maintained, gained, or lost depending upon the execution of this maneuver and the power of the engine.]

loop (ground), 【飛】地面急轉。

解：飛機在地面滑走時踏動方向舵使

飛機在地面依直軸迅速作圈形旋轉，謂之地面急轉。這是一種應急的動作，為避免與地面物事或人員相撞時用的。

[Turning a plane quickly about the vertical axis while running on the ground by means of hard ruder action. This is an emergency maneuver to prevent a collision with other objects or persons.]

loop (mooring), 【球】沙包索圈。

解：氣球氣囊上面的一套繩圈，作懸掛沙包之用。

[A system of cordage loops on the envelope of a balloon for suspending sandbags. See sand-bag loop.]

loop (outside), 【飛】反筋斗。

解：反筋斗是一個很簡單的動作，但對於駕駛員與飛機均有極大的緊張。動作是飛機俯衝 (dive) 超過垂直俯衝的姿勢，繼續前進向上環轉，迫使飛機回復到正常飛行的位置，並達到原來的飛行方向。

[It is a simple maneuver, but it imposes excessive strains on both the pilot and plane. The plane is dived beyond a vertical dive and so on ground until it has been forced up and over a normal flight position in the direction of original flight.]

loop (safety) 【球】安全繩圈。

解：撕幅索 (rib cord) 裏面結一個安全繩圈，用一根可以拉斷的繩子或一個彈簧夾子把它聯附到氣囊上的加強布片 (securing patch) 上面。這

loop(sandbag)—low pressure area

個繩圈可以結在氣囊以內附近撕幅(rip panel)的地方,也可以結在氣囊以外,靠近撕幅索通進氣囊的滑孔(gland)處。在未下令“拉動”的時候,必須先把可以拉斷的繩子拉斷,或將彈簧夾子啓開。意外的“拉動”多半不易發生,因為可以拉斷的繩子或彈簧夾子的力量,很能夠支持繩子的重量而不致發生意外。

[A loope formed in a rip cord and attached to a securing patch by a breakable cord or a spring clip. It may be formed either inside the envelope and close to the rip panel or outside the envelope near the gland by which the rip cord passes through the envelope. Before the rip panel can be “pulled” the breakable cord must be broken or the clip opened. Accidental “pulling” is thus made unlikely, as the weight of the cord is easily carried by the breakable cord or spring clip.]

loop (sandbag),【設】沙包索圈。

解：氣球的氣囊上面的一套繩索，作懸掛沙包之用。

[A system of cordage loops on the envelope of a balloon for suspending sandbag.]

loop (upside down),【飛】倒飛筋斗

解：從倒飛姿勢起，開始翻筋斗，翻完之後仍回復到倒飛姿勢，而所經過的飛行軌跡與反筋斗相同。在這兩種筋斗動作中，駕駛員都因離心力的關係，有拋出飛機的傾向，所以作動作時必須將安全帶扣緊，身體的重力全由安

全帶支持。

[A loop started from a position of inverted flight and ending in the same position, having followed the same path as that made by an outside loop. In both of the maneuvers the pilot hangs on the belt as a result of the centrifugal force which tends to throw him away from the plane.]

loose turn,【飛】放縱轉彎。

解：一種大半徑及險峻傾側的轉彎，此種轉彎的結果多成內滑。

[A turn of large radius and steep bank, The usual result of a loose turn is “slipping in”.]

low brass,【材】軟黃銅。

解：含有極低鋅成分的黃銅，鋅約19—22%。

[Brass containing a low percentage of zinc, 19 to 22 percent zinc.]

lower wing monoplane,【機】低翼單翼機。

解：一種單翼機，其機翼裝置在下機身下縱樑附近之上。

[A monoplane having its lifting surfaces attached to the fuselage at, or near, the lower longerons.]

low (polar),【氣】極地低壓。

解：南北二極附近內的低氣壓區域。

[Areas of low pressure in the vicinity of the North and South Poles.]

low pressure area,【氣】低壓區。

解：氣壓低的區域。在這區域內多將

lubber line - magnet(temporary)

有惡劣天氣發生。

[An area of low barometric pressure. Bad weather may be expected in such an area.]

lubber line, 【儀】羅盤縱線, 準線。

解：羅盤上面一根固定的指示線，也與航空器的縱軸相符合。

[The fixed indication line on a compass case which is also on the longitudinal axis of the

aircraft.]

lubrication, 【發】潤滑。

解：機器上面潤滑的設計，目的是阻止機器的軸承或活動零件直接相接觸，這樣就可減少或免除磨擦。

[Lubrication is designed to prevent direct contact between the bearings and moving parts of machinery, thus reducing or eliminating friction.]

M

machining, 【工】機器工作。

解：各種機件用機器製造，此種機器如車床，鉋床，刮床 (boring mill), 鑽床，型床 (shaper), 磨床 (grinder) 等皆是。

[Machining is the machine-lathe, planer, . proing mill, drill sharper, grinder, etc.—finishing of objects and parts.]

magnet, 【應】磁。

解：一塊物體，能吸引其他含有磁性的物體。若自由懸於空中，必指向地球的北極。

[A piece of material which attracts other magnetic materials and which, when freely suspended, points to the earth's pole.]

magnet (compensating), 【儀】對

消磁, 較偏磁。

解：在羅盤裏面的小塊磁石，作為較正偏差之用。

[small magnets in a compass used for correction of deviation.]

magnet (permanent), 【應】【材】

恆磁, 永久磁。

解：一旦受磁化，即永遠保持磁性的一塊物體。

[A piece of material which, once magnetized, retains its magnetism permanently.]

magnet (temporary), 【應】【材】

暫時磁。

解：祇在磁力感應中發生磁性的物體。[A magnet which retains its magnetism only while under the influence of a given magnetizing force.]

magnetic attraction—magnetic lines

magnetic attraction, 【應】磁吸引。

解：兩件受磁化的物體的相吸引力。磁之所以能吸引一物體，因為它先把受吸的物體磁化，然後異極互相吸引。[The force of attraction between two objects which are magnetized. This is perfectly true when a magnet attracts a piece of material, because the magnet first magnetizes the material and then opposite poles are mutually attractive.]

magnetic attraction (compass),

【儀】磁吸引(羅盤)。

解：羅盤磁針的偏差，由於飛機裏面或靠近羅盤週圍的磁性物所致。

[Deflection of the magnetic compass needle, caused by the presence of magnetic material in the airplane or immediate neighborhood of it.]

magnetic course, 【飛】磁航線。

解：由磁子午線作順時針方向測至二處相連線所得的角度。

[The angle measured clockwise from the magnetic meridian to the line joining two places.]

magnetic density, 【電】磁密度。

解：磁場內發生的磁力線的緊密程度。磁密度就是測量磁力的大小。

[The closeness with which the lines of force are packed together in a magnetic field. Magnetic density is a measure of magnetic strength.]

magnetic field, 【電】磁場。

解：磁石如發生的磁力線佔領的範圍，稱為磁場。

[That region surrounding a magnet which is occupied or permeated by lines of force.]
magnetic field (attraction and repulsion of), 【電】互相吸引

及互相推拒的磁場。

解：兩根平行導體，若通以相同流向的電流(即兩根導體同時都是陽性，或陰性，而磁力線方向相同)，則磁場互相吸引。反之，若通以流向相反的電流(即兩導體一為陽性一為陰性，而磁力線方向相反)，則磁場互相推拒。

[Magnetic fields of parallel conductors are mutually attractive if the current in both wires is flowing in the same direction, i.e., if both wires are either positive or negative with the magnetic fields of force in the same direction. The fields are mutually repellent if the currents in the two conductors are flowing in opposite directions, i.e., if one conductor is positive and the other negative with the magnetic fields of force in opposite directions.]

magnetic flux, 【電】磁流。

解：導過磁路的磁力線總量，名為磁流。

[The total of lines of force permeating a magnetic circuit.]

magnetic lines of force (direction), 【電】磁力線方向。

解：通以有電流的導電體，而電流的方向係由觀察者所立的地位，向外流動，則環繞該導電體週圍，有圓柱形磁

magnetic north—magneto

續不斷的磁力線，順時針方向旋轉，這就是磁力線方向。

[Around a current-carrying conductor form a continuous cylindrical whirl in a clockwise direction when the current is flowing away from the observer.]

magnetic north, 【應】磁北極。

解：北緯 71° ，西經 96° 。即是吸引羅盤磁力針的北極。如果某個特別羅盤的偏差是零，那末磁力北極和羅盤北極相合為一。

[Latitude 71° North, Longitude 96° West. The north pole which attracts a compass needle. Magnetic north and compass north are coincident when the deviation of a particular compass is zero.]

magnetic poles, 【應】磁極。

解：把地球當作磁石看，它的正極（或稱陽極）和負極（或稱陰極）統稱磁極。惟磁極離地理學的南北頗遠。

[The positive and negative poles of the earth, considered as a magnet. The magnetic poles are at a considerable distance from the geographical poles.]

magnetic saturation, 【電】磁性飽和。

解：本來沒有磁化的物體，使它感受磁化性(magnetizing force)而發生磁性，這磁性強度足以完全重行排列該物體的分子時，則該物體即謂達到磁性飽和。

[Results in a non-magnetized object when the magnetizing

force applied to produce magnetization is sufficiently great to completely rearranged the molecules of the object.]

magnetic track angle, 【電】磁性軌跡角。

解：指磁子午線所成的軌跡角度。

[The track angle referred to the magnetic meridian.]

magnetic variation, 【應】磁差。

解：由真子午線至磁力子午線向東或向西所量得的角度。

[The angle measured East or West from the true meridian to the magnetic meridian.]

magnetism (first law of), 【電】第一磁性定律。

解：同極相拒，異極相吸。

[Like poles repel each other. Unlike poles attract each other.]

magnetism (residual), 【電】餘磁。

解：本來沒有磁性的物體，使它感受磁化力，一旦把磁化力完全撤開，該物體上尚剩有相當少量的磁性，則此少量的磁性叫做餘磁。

[The relative small amount of magnetism which remains in an object after the magnetizing force has been withdrawn.]

magneto, 【發】磁電機。

解：能產生和分佈電壓或電位的一種裝置。這是一個旋轉的發電子(armature)，在正線圈裏(primary coil或稱第一線圈)產生低壓的電流。這種正電流(primary current)於是使副線圈內(secondary or high tension coil 第二線圈或稱高壓線圈)變成高壓電流(high potential high

magneto(booster)--main longitudinal

電位電流。

[An electrical device used for the production and distribution of electrical pressure or potential. A rotating armature produces a current of low value in a primary winding—coil. This primary current is elevated to high potential in a secondary or high tension coil.]

magneto (booster),【發】手動磁電。

機解：副助磁電機的一種，用以產生起動時的強烈火花。手動磁電機裝有加速齒輪，在手搖六十至一百轉時，即能產生極強烈的火花。

[An auxiliary magneto used for the production of a strong spark for starting purposes. Boesler magnetos are geared up to such an extent that sixty to one hundred revolutions of handturning are sufficient to create a very strong spark.]

magneto (left-hand),【發】【電】

左手磁電機。

解：由磁電機的傳動軸端視去，它是作逆時針方向旋轉。

[A magneto revolving counter-clock-wise to an observer looking at the driven-shaft end.]

magneto (right-hand),【發】【電】

右手磁電機。

解：由磁電機傳動軸端視去，它是順時針方向旋轉。

[A magneto revolving clockwise to an observer looking at the driven-shaft end.]

magneto speed of rotation,【發】

磁電機旋轉速。

解：以磁電機旋轉度數為單位的電火花發生週率，乘汽缸數目，再除以720°

（四衝循環發動機；若係二衝循環發動機，則除以360°）。

[The frequency of spark production in degrees of magneto rotation, times the number of cylinders, divided by 720° (for 4 cycle engine) (360° for 2 cycle engine).]

magnitude of stars,【應】星之等級。

解：計量星光明度的標準。

[A measure of the brightness of stars.]

main (gas),【艇】充氣總管。

解：一條球支氣管，穿過硬式氣艇總長，並有支管至各氣囊，以為充氣之用。[A fabric hose running through the length of a rigid airship having branches to the gas bags for inflation.]

main hauling line,【艇】繫留索。

解：懸附於氣艇頭部的繩索，可繫牢在地面或繫留塔上。

[The line dropped from the bow of an airship to be coupled to the mast main mooring line.]

main jet (carburetor),【發】主

噴嘴（氣化器）。

解：主要的燃料噴嘴，能將液體燃料噴進文德利管或汽缸筒內。

[The main jet or nozzle which discharges liquid fuel into the Venturi chamber or barrel.]

main longitudinal,【艇】主要縱構架。

main longitudinal girder—main supporting surface

解：硬式氣艇強度方面的主要縱結構，與各種橫骨架相繫聯。

[A main longitudinal strength member, or a rigid airship, which connects the various transverse frames.]

main longitudinal girder, 【艇】

主縱樑。

解：組成硬式氣艇主要結構的縱樑。

[A longitudinal forming an essential structural member of a rigid airship.]

main mooring line, 【艇】繫留索。

解：懸附於氣艇頭部的繩索，可緊牢在地面或繫留塔上。

[The line dropped from the bow of an airship to be coupled to the mast main mooring line.]

main mooring line (mast), 【裝】

主要繫艇索。

解：主要繫艇索是從繫留塔的一個主要絞盤上引伸出來的一條繩索，將它從塔頂的索留附件上通過拖到塔的下風地面的一點上，氣艇的主要索塔索就連接在在道索上，氣艇藉這兩根索的連接，就可拖至塔嶺停泊。英國人有時稱這種主要繫艇索為“落地索”(ground wire)。

[A line led from the main winch of a mooring mast through the mooring attachment at the top of the mast and carried out to a point on the ground well to leeward of the mast. The airship's main mooring line is attached to this line and the airship is hauled to the mast by means of the joined

lines. Sometimes called "ground wire"—British.]

main mooring-wire, 【艇】主繫留線。

解：一條繩索穿過氣艇的繫留圓錐，而與繫留柱或繫留塔的落地線相連接。

[The rope paid out through the mooring cone of an airship for connection to the ground wire from a mooring mast or tower.]

main plane, 【機】主翼。

解：飛機的支持面，並包括副翼。(參閱附錄第十五圖，十七圖)

[A supporting surface of an aerodyne, including ailerons.]

main shear wire, 【裝】主要剪力線。

解：一條對角裝置的線，用以接受硬式氣艇結構的下均剪力的。

[A diagonal wire taking up mean shear loads in the structure of a rigid airship.]

main supporting surface, 【機】

主要支持面，機翼。

解：在同一平面上由飛機的一端伸展至他端的一副翼面，例如：三翼機便有三副主要支持面，主要支持面包括副翼在內，而其他專作操縱或安定用途的各面則不在內。

[A set of wings, extending on the same general level from tip to tip of an airplane; e.g., a triplane has three main supporting surfaces. The main supporting surfaces include the ailerons, but no other surfaces intended

main tank—manganese bronze

primarily for control or stabilizing purposes.]

main tank, [油] 主油箱.

解：攜載主要汽油供給的油箱。

[The tank in which the main supply of fuel is carried.]

main transverse, [艇] 主要橫樑.

解：硬式氣艇中的主要增力橫架，架上設有張絲或支張桁，各條在氣艇全長中都有一定的間隔。

[A main transverse strengthening frame of a rigid airship provided with wire of girder bracing and spaced at regular intervals throughout the length of the airship.]

major airport, [設] 大航空站.

解：大航空站則有白色邊界燈，紅色障礙燈，綠色標誌燈，洪光燈，氣象報告，棚廠，工廠，及夜補給處等設備。

[Any large airport equipped with white border lights, red obstruction lights, green beacon light, flood lights, U.S. weather reporting service, hangar, shops and servicing facilities night and day.]

maneton, [發] 軸頭.

解：一種可拆卸的短端，裝在旋轉或星形發動機的曲柄軸上。(參閱附錄第三十二圖)

[The detachable short end of a crankshaft in a rotary or radial engine.]

maneuverability, [飛] 靈敏性.

解：飛機的一種性能，可使駕駛員藉此迅速改變飛機的各種姿勢，

[That quality in an aircraft

which makes it possible for the pilot to change its attitude rapidly.]

maneuvering valve, [艇] [球] 操縱氣門.

解：浮昇器的氣囊或空氣房上人工密閉的氣門，在必要時可以放出氣囊內的氣體。

[A manually operated valve fitted to the envelope, ballonet, or gas cell of an aerostat for the purpose of releasing gas or air from within the envelope or gas cell when desired.]

maneuvering-valve hood, [艇] 操縱氣門蓋.

解：這是硬式氣艇外殼上操縱氣門的蓋覆物，係用輕質木料或厚布所製造，并可方便氣體洩出。

[A hood, or cowl, located on the outer cover of a rigid airship just over a maneuvering valve. It is usually made of light wood or fabric and is faced to facilitate the escape of gas.]

manganese bronze, [材] 錳青銅合金.

解：此種合金內含大部銅和錳，而實係黃銅，但較普通黃銅為堅硬，錳係用以去氧，而所餘留者無幾，此種金屬可受鹽水浸蝕張力每平方吋為 70,000 磅。

[As this alloy consists largely of copper and zinc it is really a brass, but it is much stronger than the ordinary brasses. The manganese is used for

manhole(appendix)—mantissa

deoxidizing the molten metal and only slight traces remain in the finished alloy. It resists salt-water and should have a tensile strength of over 70,000 pounds per square inch.)

manhole (appendix),【球】充氣管大孔口。

解：短而直徑甚大的口門，多作進出之用，但灌氣與放氣用之者甚少。

[An appendix of large diameter and usually rather short. It is used more for access than for inflation or deflation.]

manifold (exhaust),【發】排氣集合管。

的：排氣由數氣缸經過支管，而達到的集合管。

[A pipe chamber into which exhaust gases are led from a number of cylinders through branch pipes.]

manifold (induction),【發】誘導歧管。

解：分配混合氣至多數氣缸的支管。

[A branched pipe for distributing the mixture to a number of cylinders.]

manifold (inflation),【球】充氣歧管。

解：金屬或橡皮布製成的連接管，上面有許多支管，可以讓許多不同來源的氣體同時灌入（或從盛氣管或從盛氣缸）而達到正充氣管（main inflation tube）內。

[A metal or fabric connection with numerous inlets which permits the passage of gas at

the same time from a number of sources (either cylinder or gas holders) to the main inflation tube.]

manometer pressure,【球】微壓計壓力（浮昇器）。

解：浮昇器氣囊內部超過大氣壓標準點的壓力。參考過量壓力的標準點，在氣艇上是它的氣囊底部，在膠式氣球上是它的懸籃水準線。

[The excess of pressure inside the envelope of an aerostat over the atmospheric pressure at a standard reference point. The point of reference for the excess of pressure is usually the bottom of the envelope or gas cell for airship and the level of the basket for kite balloon.]

manometer tube gland,【儀】氣壓計管壓蓋。

解：這是裝配在浮昇器氣囊內的短管，艙內氣壓計的長導管在此管上作不透氣的接頭。

[A gland fitted to the envelope of an aerostat to form a gas-tight connection for the tube leading to the manometer in the car. Same as "pressure-tube gland".]

mantissa,【數】對小數。

解：對數表中每個對數的小數點以後的數字，概稱為對小數。參看 characteristic 解法。

[The decimal places in a logarithm as shown in logarithmic tables. See characteristic.]

manual, 手動, 手作, 人工.

解：與機械或機器的動作相提並論，凡用人力去執行任何動作，皆稱為手動。用手中工具所作的事情，都屬於此類。

[Any process or operation carried on by hand or executed by a person in contrast to automatic or machine operation or control. Processes carried out with hand tools are classed as manual operations.]

map, 【應】陸圖, 地圖.

解：在一個平面上繪畫地球的一部分，其中陸多於水者為陸圖。

[A representation of a portion of the earth's surface on a flat surface, usually showing more land than water.]

map (profile), 【應】側面地圖.

解：側面用以顯示垂直投影或截面的外形，故側面地圖顯示地面對於海平面的高度截面外形。這種地圖若未印出記號，則不表示方向。

[Profiles are used to show outline in vertical projection or cross-section. Therefore a profile map shows the outline of country in a vertical cross-section of altitude of points above a reference line, usually sea level. Directions do not appear on this map except as printed notations.]

maple, 【材】楓.

解：楓木材料用做機身或機翼內需要大抵抗力的小部分，非常合用，因為楓木具有良好的強度及可靠的性質。如

用做連絡翼樑與翼肋的木料最為適宜。

[Maple has excellent qualities in strength and reliability for very small wood detail requiring resisting powers, like the block connecting ribs across a spar.]

marine distress signal, 【裝】海上緊急信號.

解：一種烟火裝置。航空器在水面作緊急降落時可以施用。

[A pyrotechnic device for use by aircraft in distress after alighting on water.]

marker (sea), 【裝】海面標誌.

解：一種器械由航空器向海面投下。指示可鑑別的路線以便決定偏航角。

[A device dropped from an aircraft on to water, providing a distinguishable path for determining the drift-angle.]

masestro (*pr. mice-straw*), 【氣】美斯杜洛風.

解：亞得利亞海(Adriatic Sea)夏季晴爽時的西北風，冬季和春季亦常有之。

[A north-westerly wind in summer in the Adriatic accompanied by fine weather; occurs most frequently in winter and spring.]

mass, 【應】質量.

解：物體的質量是量物體的多寡而言。

[The mass of a body is a measure of the quantity of material in it.]

mass of an object—master

mass of an object, [力] 物體的質量。

解：物體的重量除以地心吸力的加速率(32.174),即得物體的質量。

(The weight divided by the acceleration of gravity (32.174).)

mast bow-steadying line, [艇] 繫艇索。

解：繫艇索是從繫留塔底部的絞盤上引伸出來的繩索之一,通過滑輪(snatch blocks),拖到繫留塔的下風。氣艇上的繫塔索即連接在繫艇索上。滑輪都固定在拋錨處所,不過拋錨地點應加選擇,要以連接的繩索能夠使氣艇迎風而立,不致擦過繫留塔巔為標準。英文中有時稱此索為“mast yaw guys”。

(See Lines (mast yaw).)

mast main hauling line, [艇] 主要繫艇索。

解：主要繫艇索是從繫留塔上一個主要絞盤上引伸出來一條繩索,將它從塔頂的繫留附件上通過拖到塔的下風地面的一點上。氣艇的主要繫塔索就連接在這索上,氣艇藉這兩根索的連接,就可拖至塔巔停泊。英國有稱此主要繫艇索為“落地索”(ground wire)。

(See Line(mast main mooring).)

mast main mooring line, [艇] 主要繫艇索。

解：同 mast main hauling line。

mast (mooring), [設] [艇] 繫留塔柱, 繫留塔。

解：這是特別製造的柱子,頂端裝有接頭可使氣艇繫牢在上。柱子的結構,通常有雲梯或樓梯的設備,梯頂有台,

氣艇上的艇員與乘客可由此上下。此外,又有導管的設備,由此可以裝添燃料,氫氣與水。繫留柱有時也稱為繫留塔。(mooring tower)。

(A mast or tower at the top of which there is mounted a fitting, so that the bow of an airship may be secured. It is usually provided with a ladder or staircase and a platform at the top, so that crew and passengers may enter or leave the airship, and also with piping for the supply of fuel, gas, and water. Sometimes called “mooring tower”.)

mast yaw line, [艇] 繫艇索。

解：繫艇索是從繫留塔底部絞盤上引伸出來的繩索之一,通過滑輪(snatch blocks),拖到繫留塔的下風,氣艇上的繫塔索即連接在此繫艇索上。滑輪都固定在拋錨處所,不過拋錨地點應加選擇,要以連接的繩索,能夠使氣艇迎風而立,不致擦過繫留塔巔為標準。英文中有時稱此索為“mast yaw guys”或“mast bow-steadying line”。

(See Line (mast yaw).)

master and articulated connecting-rod assembly, [發]

主要聯桿裝置。

解：一種聯桿裝置,其中主桿聯的大端有補助聯桿銷上振搖。(參閱附錄第二十九圖)

(An assembly of connecting rods in which the big-end of the master rod carries the

maximum boost—mean effective

articulated rods oscillating on wrist-pins held in lugs or flanges on the master rod.)

maximum boost horse-power, 【發】額定馬力。

解：發動機是額定所發出馬力，在標準氣壓額定高度上，全開氣門，並在正常r, p, m.

[The b.h.p. developed by a supercharged engine when running at the maximum permissible boost pressure at normal r.p.m. under standard sea-level conditions.]

maximum horse-power, 【發】最大昇壓馬力。

解：當增壓發動機在最大可能昇壓正常r, p, m, 標準海平面情況中工作時所發出的實馬力。

[The b.h.p. developed when running at maximum permissible r.p.m. at full throttle at maximum-power altitude.]

maximum permissible boost pressure, 【發】最大可能昇壓。

解：這是不可超過的昇壓，且祇能於起飛時有之。

[The boost pressure which must not be exceeded and which is permissible only during take-off.]

maximum permissible r.p.m.

【發】最大許可每分鐘轉數。

解：不可超過或保持五分鐘時間長久每分鐘曲柄軸的轉數。

[The number of crankshaft revolutions per minute which must not be exceeded, nor

maintained for periods exceeding five minutes.]

maximum-power altitude, 【發】最大動力高度。

解：在最大許可r.p.m.能全開油門的最低高度。在增壓發動機方面，則又係額定昇壓所能保持最大許可r.p.m.的最大高度。

[The lowest altitude at which full throttle is permissible at maximum permissible r. p. m. For a supercharged engine it is also the highest altitude at which the rated boost pressure can be maintained at maximum permissible r.p.m.]

mb. 【氣】呎。

解：mb 即 millibars 的縮寫。此為計算氣壓的單位。

mean, 平均的，中間的。

解：“平均的”這幾個字的意義，在實用的各種情況中，與average (平均的) 無異，如平均有效壓力 [mean (average) effective pressure.]

[Mean is a word which, under practically all circumstances, is synonymous with the word “average”, such as mean (average) effective pressure.]

mean day, 【應】平均日。

解：太陽兩次經過同一子午線，其間的時間，稱為平均日。

[The period of time between two successive transit of the mean sun over the same meridian.]

mean effective pressure [in ternal combustion engine],

【發】平均有效壓力。

mean noon—meridian(prime)

解：活塞於循環運行中所受爆發而產的壓力的平均數。

[The average working pressure on the piston during the cycle.]

mean noon, 【應】 平均正午。

解：平均太陽時圈 (mean sun's hour circle) 與子午線重合的時候，稱為平均正午。

[The instant when the mean sun's hour circle coincides with the meridian.]

mean sun, 【應】 平均太陽。

解：假定一個太陽在天體赤道上移動，其均一的速度與真太陽在黃道線上移動的平均速度無異，則該太陽稱為平均太陽。

[A fictitious sun assumed to move in the equinoctial or celestial equator with a uniform velocity that equals the mean velocity of the true sun in the ecliptic.]

mean time, 【應】 平均時。

解：平均太陽的時角 (hour angle) 就是平均時。

[The hour angle of mean sun.]

mechanical convection, 【力】 機械的對流。

解：空氣因阻礙彎曲而上升。

[The ascension of air due to its deflection by barriers and obstacles.]

Mercator projection, 【應】 麥卡托氏投影。

解：這是一種製地圖的方法，即依照赤道上的一圓筒切線 (cylinder tangent) 而成的一種正形投影。此圓筒在展開成平面時，赤道現示為一

直線，子午線則與赤道垂直，即與赤道相交成直角的直線代表之，其間隔距離皆相等，乃按其在赤道上的實際距離的比例而分配之。此法係由 Gerhard Kramer 所發明。

[A projection from the center of the earth of portions of the earth's surface onto a cylinder wrapped around the earth.]

mercerizing cotton, 【材】 麥塞棉花。

解：麥塞棉花就是將棉纖維浸於苛性蘇打中，然後使乾拉直。此種手續可增高棉纖維的強力並使棉布發絲光。

[Mercerizing is a process of soaking the cotton fabric in caustic soda, followed by drying and stretching. This process hardens the fibres and imparts a high, silky lustre to the fabric.]

meridians, 【氣】 【應】 經線，子午線。

解：地球上經過南北極及任一特定地點的大圓圈。

[Great circles on the earth's surface passing through the North and South Poles.]

meridian of celestial sphere, 【應】 天體之經線。

解：從天體的一極至另一極的半個大圓圈，與地球的經線相似。

[It is half of a great circle extending from one celestial pole to the other and is similar to a meridian on the earth.]

meridian (prime or zero), 【應】

經度起點或經度零度。

解：通過英國格林威治的經線，經度

metal(base)—meteorology

以此點作零度向東西計量。

[The meridian passing through Greenwich, England, and from which longitude is measured East or West.]

metal (base), [材] 基本金屬。

解：基本金屬是指要銲接的金屬而言。要銲接的金屬普通是兩件相同的。
[Metal to be welded. Usually two pieces of identical metal.]

metal (ferrous), [材] 含鐵金屬。

解：凡金屬裏面含有鐵質的，均稱為含鐵金屬。

[Any metal derived from an iron base.]

metal (filler), [材] 充銲金屬。

解：充銲金屬通常是一根桿狀的物質，鎔化後可以填充銲口。在氣體銲接法及電弧銲接法中，金屬都是在桿狀物質上面鎔化下來填充銲口的。

[The material, usually in rod form, which has been melted and deposited in making the weld. Filler metal is deposited by the welding rod in gas welding and by the electrode in electric arc welding.]

metallic vee, [球] 金屬V字形索。

解：鸞式氣球吊索的下端相會一點，而主索即在此點上裝接。(參閱附錄第二十四圖)

[The lowest legs of a kite balloon rigging brought to a single point to which the main cable is attached.]

meteorograph, [儀] 測候自記器。

解：一種自記的儀器。能測量二種或數種氣候情況。如氣壓溫度濕度等，

[A self-recording instrument measuring two or more of the common meteorological quantities, such as pressure, temperature and humidity.]

meteorological ceiling, [氣] 氣象上昇限度。

解：由地面某規定點上昇至雲霧底部或上面的垂直距離，例如芝加哥氣象台報告內載氣象上昇限度1000呎，此即雲霧離地有1000呎的高度，換言之，地面能視度的高度為1000呎。

[The vertical distance from the surface of the earth, at any specified point, to the bottom, or lower surface of clouds or fog. For instance, if the weather bureau at Chicago reports a ceiling of 1000 feet, it is meant that the bottom of the clouds or fog are 1000 feet above the ground at that point; or in other words, the ground is visible from an altitude of 1000 feet.]

meteorological elements, [氣] 氣象因素。

解：氣象因素有下列幾種：1. 溫度，2. 壓力，3. 風向與風速，4. 濕度，5. 陽光，6. 雲霧，7. 降水，8. 能見度。

[1. Temperature, 2. Pressure, 3. Wind direction and velocity, 4. Humidity, 5. Sunshine, 6. Cloudiness, 7. Precipitation, 8. Visibility.]

meteorology, [氣] 氣象學。

解：研究大氣變化情況，及其變化原

meteorology(synoptic)—meter(visibility)

因的科學。

[The science which treats of the condition of the atmosphere, its changes in condition, and the causes thereof.]

meteorology (synoptic), 【氣】一覽氣象學。

解：在一指定時間內關於廣大區域的氣象情況所搜集和表示的消息。

[The collection and presentation of information regarding meteorological conditions over a wide area at a given time.]

meter, 【單】公尺。

解：一公尺等於100公分，39.37英寸。
[Meter equals 100 centimeters equals 39.37 inches.]

meter (air-speed), 【儀】空速表。

解：測量一物體經過空氣速度的儀器，空氣與此儀器接觸時即發生衝擊壓力，由衝擊壓力的大小，乃可斷定空速的大小。

[An instrument for indicating the speed of an aircraft relative to the air. It is actuated by the pressure developed in a suitable pressure nozzle or against a suitable obstruction and is graduated to give true air speed at a standard air density.]

meter (fuel-flow), 【儀】油流表。

解：一種指示汽油流動速率的儀器。
[An instrument for indicating the rate of flow of fuel.]

meter (ground-speed), 【儀】地速表。

解：這是測量飛機對地速度的儀器，現在儀器上有一種參考線，於測量速

度前，先須在飛機對地的明白運動方向上作平行的定置，定置的方法是使偏航尺校準，而地速尺能自動有正確的定向，由此則飛機對地運動的大小和方向可以決定。

[An instrument for measuring the speed of an aircraft relative to the ground. In present type of instruments some reference line in the instrument must first be set parallel to the apparent direction of motion of the aircraft with reference to the ground before the speed measurement is made. This is usually accomplished by the use of a drift meter, the adjustment of which automatically orients the ground-speed meter properly. Thus both the magnitude and direction of the motion of the aircraft with reference to the ground are obtained.]

meter (superheat), 【儀】熱差表。

解：輕航空器氣囊裏面氣體溫度與包圍四周的空氣溫度常有差別，用來測量這種差別的儀器，就稱為熱差表。

[An instrument for measurement the difference in temperature between the gas container of a lighter-than-air craft and the surrounding air.]

meter (visibility), 【儀】能見度測量器。

解：一種儀器增加天的朦朧而定能見度。

[An instrument for determining

metering jet—millibar

visibility by adding artificially to the obscurity of the atmosphere.)

metering jet (carburetor),【發】
測油孔(氣化器)。

解：裝置在氣化器燃料路上面一定大小的孔，藉此空可測定燃料的流度。
[An orifice of given size in the fuel passages of a carburetor designed to govern the flow of fuel.]

methyl-alcohol,【化】甲醇。

解：蒸溜木質纖維而得的一種酒精，性極毒，祇可專作溶劑，化學公式爲 CH_3OH 。

[A raw alcohol prepared by the destructive distillation of woody fibers. Intensely poisonous. Used principally as a solvent.]

micarta blade,【螺】梅克泰槳葉。

解：槳葉爲紙層造成飽含酚醑樹脂，而成相似電木的硬質。

[A blade built up of paper plies saturated in a phenol resin product, similar to bakelite.]

mid-wing monoplane,【機】中翼
單翼機。

解：一種單翼機，其機翼裝置在機身中央上。

[A monoplane having its lifting surfaces attached at, or near, the center of the fuselage.]

mile (nautical)【單】海哩，浬。

解：海哩等於6080呎，亦等於在赤道上的經度一分。

[It equals 6,080 feet. Also equals one minute of longitude at the equator.]

mile (statute),【單】法定哩。

解：每一法定哩等於5280呎，且大約等於 $\frac{7}{8}$ ths海哩。

[One statute mile equals 5,280 feet. It is approximately $\frac{7}{8}$ ths of a nautical mile.]

millibar,【氣】貳，千分壓。

解：貳的定義爲每平方公分有1,000達因(dynes)壓力之謂而1,000貳，仍代表地面的大氣壓力。英國的長度單位爲吋(inch)，故測星氣壓表，水銀柱的高度，以吋爲單位，大陸國的長度單位，爲公厘(millimeter)，而氣壓的計算，則以公厘爲單位，英國氣象總局(British Meteorological Office)在1914年，改用[貳]爲氣壓單位，目的在使該種氣壓單位，將來能爲國際氣壓單位，現在氣象觀測所每日的氣象報告，已直接用mb，爲氣壓單位。所以爲避免貳變爲吋，或吋變爲貳的麻煩。(33.9貳=1吋或25.40公厘的水銀柱)。

One millibar is defined as the pressure of 1,000 dynes per square centimetre. But all you need remember is 1,000 "mb" represents approximately the atmospheric pressure at the earth's surface. The barometer used to be measured in inches of mercury because the English unit of length is an inch, and a column of mercury had to be measured. For the same reason, on the Continent the millimetre was the unit of measurement; but in 1914 the British Meteorological Office

adopted the millibar in the hope that it would in time become the international unit for measuring pressure, and so do away with the inconvenience of converting millibars to inches and inches to millibars in the daily weather reports from the observation stations.)

mineral oil (lubrication), 【油】

礦產滑油。

解：生石油 (crude petroleum) 蒸提汽油，石腦油 (naphtha)，和火油後，將所剩的重石炭化氫 (渣滓) 再加提煉，即得潤滑油。

[Refined from the heavier hydrocarbon (residue) obtained by distilling off the gasoline, naphtha, and keroacene from crude petroleum.]

minimum gliding angle, 【飛】最

小滑翔角。

解：發動機停止後，飛機在平靜空氣中下降，下降的路線極平，幾同地平線平行，此路與地平線所成的角，稱為最小滑翔角。

[The acute angle between the horizontal and the most nearly horizontal path along which an airplane can descend steadily in still air when the propeller is giving no thrust.]

minimum speed, 【飛】最低速度。

解：一架飛機無論油門開至任何程度，而在大過它的機翼尺寸的高度上作平飛時所能保持穩定的最低速度。

[The lowest steady speed which can be maintained by an air

plane in level flight at an altitude larger in comparison with the dimensions of the wings, with any throttle setting whatever.]

mirror (observation), 【設】觀察鏡。

解：一種雕刻鏡，其用法與暗箱，(camera obscura.) 相似，可測定速度和航向，以作轟炸實習。

[An engraved mirror used for the same purpose as a camera obscura.]

mist, 【氣】霧。

解：因水蒸氣凝結的微霧，與霾則相反。

[Slight fog due to condensation of moisture, in contrast to haze.]

mistral, 【氣】米斯權爾風。

解：墨西哥灣 (Gulf of Mexico) 的冷燥北風。

[A cold dry wind from the N. or N. W. on the Mediterranean coast of France.]

mixture control 【發】混合氣操縱器。

解：使一種機械裝置氣化器內，因高度的變化而操縱混合氣的稀濃。

[A device embodied in the carburettor for controlling variation of mixture strength with altitude.]

mixture (fuel vapor), 【油】汽油混合化氣，燃料混合氣。

解：燃料與空氣依重量為比例所成的混合氣體。

[The proportions by weight of fuel and air.]

modulus or coefficient of elas-

ticity, 【力】彈性係數。

解：將某一物質施加應力(stresses)使它變形，則應力與無變形的比即是彈性係數。代表彈性係數的字母是E，而E等於每平方寸面積上所受的應力，除以平方寸面積上所感到的變形。E所代表的數字往往能達到每平方吋幾百萬磅之大，因為應力與變形相比較，變形是非常的小。

[The ratio between the stresses and the resulting deformations caused thereby for a given material. The symbol for modulus of elasticity is E and it equals the stress in pounds per square inch divided by the deformation per inch. Figures for run into millions of pounds per square inch, because the deformation is very small compared to the stress causing it. It has been frequently stated that a ratio is a number only (without denomination) and is true in this case, referring only to the stress applied and the unit area.]

moment (aileron yawing), 【力】

飛機偏航力距。

解：測量使飛機作左右轉動趨勢的不均衡副翼阻力。

[The measure of the tendency of unbalanced aileron drag toward turning the ship to the right or left.]

moment (bending), 【力】彎曲力距。

解：力或有效槓桿關係使樑彎曲，此係以吋磅計量，即磅數載量，乘樑的有

效槓桿長度。

[The couple or effective leverage system tending to bend a beam. It is given in terms of inch-pounds in which the load in pounds is multiplied by the effective lever length in inches.]

moment (disturbing), 【力】干涉力距。

解：能使飛機產生任何旋轉干涉的力距。

[A moment which tends to produce any rotational disturbance of an aircraft.]

moment (hinge), 【力】鉸鏈力距。

解：因空氣動力在操縱面或其他鉸鏈翼面油上所生的力距。

[The moment due to aerodynamic forces about the hinge axis of a control or other hinged surface.]

moment (pitching), 【力】縱搖力距。

解：因相對風力在偶力(couple)的橫軸上所生的分力。

[The component about the lateral axis of the couple due to the relative wind.]

moment (restoring), 【力】矯正力距，回復力距。

解：一種力距，使飛機於小量旋轉動作後，恢復至原來姿勢。

[A moment which tends to restore an aircraft to its previous attitude after any rotational disturbance.]

moment (rolling), 【力】橫側力距。

解：因相對風力在偶力(couple)的

moment(yawing)—monoplane(cantilever)

縱軸上所生的分力。

[The component about the longitudinal axis of the couple due to the relative wind.]

moment (yawing), 【力】偏航力距。

解：因相對風力在偶力 (couple) 的直軸上所生的分力。

[The component about the normal axis of the couple due to the relative wind.]

momentum, 【力】運動量。

解：定義為，“運動物體的質量與其速度相乘之積，即該物體的動量，謂為運動量。”物體運動雖受外力阻擾，然仍有繼續原來運動的趨勢，故飛機不立即轉向狂風的航向而前進者，實由飛機的前進運動量所致，如該運動量（即飛機本身前進的速度，）一刻不停，必致飛機取狂風衝擊方向，及原來航向的中間路線而前進。

[Definition: The quantity of motion in a body, measured by the product of the mass and the velocity of the moving body. It is more easily understood if described as the tendency of a body to continue on its original course in spite of forces trying to disturb it. In this case the momentum, which is the forward speed of the aeroplane, prevents it from being immediately turned into the path of the gust, but causes it (as long as the momentum lasts) to take up a middle course.]

monocoque fuselage, 【機】硬壳

機身。

解：這是機身的一種結構式樣，外用木料或金屬的薄壳，內用肋，架，帶形架，或隔框以作支持，但除薄壳本身外并無縱梁的裝設，機身全部的配置均能負担結構必有的應力。

[A type of fuselage construction wherein the structure consists of a thin shell of wood, metal, or other material, supported by ribs, frames, belt frames, or bulkheads, but usually without longitudinal members other than the shell itself. The whole is so disposed as to carry the stresses to which the structure is subjected.]

monoplane, 【機】單翼機。

解：飛機只有一個主要支持面的稱為單翼機，而這一主要支持面有時因機身分為左右兩段。

[An airplane which has but one main supporting surface, sometimes divided into two parts by the fuselage.]

monoplane (cantilever), 【機】

張臂單翼機。

解：單翼機的二昇力面（即機翼）不用外張線支撐物支持，此種單翼機可分高翼，中翼與單翼三種。

[A monoplane whose lifting surfaces are not supported by any external wires or braces. Sometimes referred to as an internally braced monoplane. A monoplane of this type may be a lowwing, mid-wing or high-wing type.]

monoplane (high wing) — mooring cone

monoplane (high wing), [機]

高翼單翼機。

解：(1) 一種轎式單翼機，其機翼裝置在上樑上，或先用特殊結構，而再裝置在上樑上。

(2) 一種敞艙式單翼機，其機翼裝置在一對支持柱上，而由機身向外向上突出，有時稱為傘型飛機。

[1. A monoplane, usually of the cabin type, which has its lifting surfaces attached either to high longerons, or to a special superstructure, which in turn is attached to the upper longerons; 2. A monoplane, usually of the open cockpit type, having its lifting surfaces attached to a set of supporting struts, projecting upward and outward from the fuselage. Sometimes referred to as a parasol monoplane.]

monoplane (lower wing), [機]

低翼單翼機。

解：一種單翼機，其機翼裝置在下機身下樑附近之上。

[A monoplane having its lifting surfaces attached to the fuselage at, or near, the lower longerons.]

monoplane (mid-wing), [機]

中翼單翼機。

解：一種單翼機，其機翼裝置在機身中央上。

[A monoplane having its lifting surfaces attached at, or near, the center of the fuselage.]

monsoons, [氣] 季候風。

解：季候風，為印度海及中國海岸的信風，自五月末至九月中吹自西南，自

十月中至十二月中吹自東北，該季候風常限於熱帶，其成因與大陸風及海洋風同。季候風這名詞，亦用於印度的雨季。蓋因雨季內有季候風吹自西南。
[They are the winds which blow over great continents in opposite directions at different seasons of the year, and are caused by the same conditions as land and sea breezes. They are generally confined to tropical regions and are most marked on the shores of India and China. The term is also applied to the rainy season in India, which sets in with the south-west monsoon.]

mooring band, [球] 繫留帶。

解：繩式氣球上部的皮條，用以連附繫留索，為繫留裝具的一部。（參閱附錄第二十四圖）

[A band of tape or webbing, over the top of a kite balloon, to which the mooring ropes are attached. It forms part of a mooring harness.]

mooring bridle, [艇] 繫留拘束索。

解：一種吊索裝配數點於球囊上，而為分散主繫留線的抗張力。

[A rigging attached to two or more points on the envelope to distribute the tension of the main mooring wire.]

mooring cone, [艇] 繫留圓錐。

解：氣艇前部兩端的圓錐形槽，與繫留柱梢的空錐形槽相吻合，且氣艇與繫留柱間備有連接頭。（參閱附錄第十九圖）

[The grooved conical member

mooring-cone outrigger—mooring mast

at the extreme bow of an airship which engages with a hollow cone at the top of the mooring mast and provides the coupling between the airship and the mooring mast.]

mooring-cone outrigger, 【艇】繫留錐架,

解：繫留錐架往往是管形物製成的，用途在支持氣艇前端的繫留錐 (mooring cone)，有時也稱為繫留軸 (mooring spindle)。

[The member, usually tubular, which supports the mooring cone at the bow of the airship. Sometimes referred to as "mooring spindle".]

mooring coupling, 【艇】繫留接頭。

解：一種接頭，使氣艇上的繩索和落地線可作迅速的連接。

[A quick attachment coupling or connecting the wires of an airship to the ground wires.]

mooring drag, 【艇】活動錨。

解：這是一個活動并可變動的重量，當氣艇在繫留柱上停泊時，可襄助艇尾抑制上下和兩側的搖動。

[A movable and/or variable weight, suspended from the after part of an airship's structure while moored at a mast, to aid in restraining the vertical and lateral motions of the stern of the airship.]

mooring guy, 【球】繫留索。

解：一種繩索為浮昇器於棚廠內，或野外繫牢的用途。(參閱附錄第二十四

圖)

(A rope used for securing an aerostat when housed in a shed or picketed down in the open.)

mooring harness, 【球】繫留裝具。

解：這是一種布帶，裝配在氣球氣囊的頂端，而繫留索則係裝接在布帶上，蹻式氣球和觀測氣球常有此種裝備。

[A system of webbing bands, fitted over the top of the envelope of a balloon, to which are attached the mooring ropes. Usually found only in kite balloons or observation balloons.]

mooring line, 【艇】繫留索。

解：懸附於氣艇頭部的繩索，可繫牢在地面或繫留塔上。

[A line attached near the bow of an airship for securing it to the ground or to a mooring mast.]

mooring loop, 【設】沙包索圈。

解：氣球氣囊上面的一套繩圈，作懸掛沙包之用。

[A system of cordage loops on the envelope of a balloon for suspending sandbags. See also sandbag line.]

mooring mast, 【設】【艇】繫留柱，繫留塔。

解：這是特別製造的柱子，頂端裝有接頭可使氣艇繫牢在上。柱子的結構，通常有雲梯或機械的設備，梯頂有月台，氣艇上的艇員與乘客可由此上下。此外，又有導管的設備，由此可以添裝燃料，氫氣與水。繫留柱有時也稱為繫留塔 (mooring tower)。

[A mast or tower at the top of

mooring point—mooring(three-wire)

which there is mounted a fitting so that the bow of an airship may be secured. It is usually provided with a ladder or staircase and platform at the top, so that crew and passengers may enter or leave the airship, and also with piping for the supply of fuel, gas, and water. Sometimes called "Mooring tower".)

mooring point, 【艇】繫留點。

解：氣艇的特別加強部分，而繫留索則由此處伸出。

[A specially strengthened part of an airship or its rigging from which mooring wires are led.]

mooring ring, 【球】【艇】繫留環。

解：一種金屬環用繩索懸在硬式氣艇的前架上，為作繫留之用。三點繫留的頂點，是繫牢在此環上。

[A metallic ring suspended from one of the forward frame of a rigid airship by wire lines and used for mooring. The vertex of a "three-point mooring" is attached to this ring.]

mooring rope, 【球】【艇】繫留索。

的：由氣球式氣艇吊下來的索子，作繫牢在地面之用，有時亦作握索的用途。

[A line attached to a balloon or airship for use in securing it to the ground. It may serve the purpose of a "handling line" or vice versa.]

mooring spindle, 【艇】繫留軸。

解：繫留軸往往是管形物製成的，用途在支持氣艇前端的繫留錐。有時亦

稱為繫留錐架。

[The member, usually tubular which supports the mooring cone at the bow of the airship. Sometimes referred to as "mooring-cone outrigger".]

mooring (three-point), 【艇】三點繫留法。

法解：繫留氣艇的一種方法，從氣艇艇身的繫留環 (mooring ring) 伸展三條繫留索，繫牢在地面的三點上。這三點在地面成等邊三角形的位置。三繫留索可繫在地面的錨上，亦可穿過滑車繫到平衡齒輪上。氣艇如用這種方法繫留，可使風速產生的動力的昇力，能夠維持氣艇常在一定不變的高度上。此法亦可代替繫留柱的作用，故通常在應急的時候，多用這種方法來替代繫留柱。

[A system of mooring an airship. It consists primarily of three lines running from a mooring ring (or point) on the airship to three points on the ground. These points are usually at the vertices of an equilateral triangle. The lines may be secured to anchorages at the points, or run over snatch blocks and to equalizing gear. The endeavor is to moor the airship in such a manner that the dynamic lift, due to the relative wind, shall keep the airship at a substitute for a mooring mast, usually an emergency substitute.]

mooring (three-wire), 【設】三索

繫留。

解：一組繩索連接地面木塊而氣艇向此索繫留，因相風力的動力昇力使氣艇保持在恆定的高度上。(參閱附錄第四十二圖。)

(A system of cables attached to blocks in the ground to which an airship is moored in such a manner that the dynamic lift due to relative wind keeps the airship at a constant height from the ground.)

mooring tower, 【設】【裝】繫留塔。

解：這是特別製造的塔頂端裝有接頭可使氣艇繫牢在上。塔的結構通常有雲梯或樓梯的設備，梯頂有胎，氣艇上的艇員與乘客可由此上下。此外又有導管的設備，由此可以添裝燃，氫氣及水。繫留塔有時也稱為繫留柱 (mooring mast)。

【See mooring mast.】

motion (eddying), 【力】渦動

解：液體的速度超過某種臨界值，和少數分子的路線由平滑線變為不規則或曲線時的一種運動，則稱渦動。

(The motion of a fluid when its speed exceeds a certain critical value and the paths of some of the particles change from smooth to irregular or looped curves.)

motion (streamline), 【力】流線運動。

解：液體的運動經過障礙物，此時各分子的路線皆平滑，並不含有突然的變化，或連合的路線。

【The motion of a fluid past an

obstacle when the paths of all particles are smooth and contain neither abrupt changes in direction nor closed curves.)

motion (uniform), 【力】等速運動。

解：一個物體用相等時間，在相等距離中經過重力中心的行程。

(The passage of the center of gravity of a body over equal distances in equal intervals of time.)

motion (variable), 【力】變速運動。

解：一個物體用不等時間，在相等距離中經過重力中心的行程。

(The passage of the center of gravity of a body over equal distance in unequal intervals of time.)

motor (electric), 【發】電動機。

解：這是將電力變為機械力的機器，它的原理係利用電壓的高低不同所致。先用磁製成一個磁場產生磁力線，再在該磁力線範圍內置一個可以旋轉的電樞，上面通以電流這機就產生電壓高低不同而致電樞旋轉，發生機械動力。

(A machine that transforms electric power into mechanical power by means of the pressure set up between the lines of a magnetic field and the field of force about the current-carrying windings of a rotating armature.)

motor-generator, 【電】電動發勁機。

解：直接連於直流電動機而產生交流電力的發電機。

mountain breeze—mushing through

[An alternating current generator directly connected to and driven by a direct current motor.]

mountain breeze, 【氣】山軟風。

解：夜間或冬季向上坡和山麓下吹的頽風。

[A katabatic wind which blows down valleys and mountain slopes at night or in winter.]

muff (heating), 【發】加熱筒。

解：一種套室環繞排氣管，而收集熱空氣。

[A chamber, surrounding an exhaust pipe, to collect hot air.]

multi-element cooler, 【發】多部
冷卻器。

解：一種冷卻器，內包剖多數冷卻機件組。

[A cooler composed of a number of cooling units.]

multi-motored aircraft, 【機】多
發動機航空器。

解：一種二架或多架發動機的航空器。

[An aircraft having two or more engines.]

multiple blade, 【螺】多葉。

解：於某種動力須由小直徑螺旋葉產力時，則常採用二個以上的葉。在大發動機上螺旋葉直徑如受結構的限制時，採用三葉或四葉為普通。

[More than two propeller blade are employed when a certain amount of power must be developed with a small diameter propeller. Three or four blades are common with large engine

where the propeller diameter is limited by structural reasons.]

multiplanes, 【機】多翼機。

解：凡飛機有兩個以上主要支持面而彼此重疊的，則稱為多翼機。

[An airplane with two or more main supporting surfaces placed one above another.]

multiple-cylinder head, 【發】多
氣缸頭。

解：一種單一集合頭，裝置在數氣缸上。

[A "monobloc" head covering a number of cylinders.]

multi-ply fabric, 【球】多層球皮。

解：數層球皮疊合而成。

[Fabric formed of more than one ply.]

municipal airport, 【設】都市航
空站。

解：都市所有或辦理的一種航空站。
[Any type of airport owned or operated by an incorporated city or town.]

mushing through, 【飛】急動飛
行。

解：企圖用飛機的操縱系作迅速的飛行動作至超過飛機的靈敏性所容許者，謂之急動飛行。譬如，企圖將一俯衝姿勢迅速拉平，至超過昇降舵的作用所能應付。

[Mushing through is caused by attempting to maneuver an airplane by sheer control faster than the maneuverability of the particular airplane will permit. For example: attempting to pull out of a dive faster than

the airplane can respond to the elevators.)

mutual inductance, 【電】互感。

解：兩個磁力場並未實際接觸，但互相干涉，即係互感表現。兩個線圈的互感，可由繼續通電的一個線圈在另一個線圈裏移進移出而發生；或將一個線圈置在另一個線圈之內，但通以斷續不定的電流也可產生互感。

[The mutual interference of two

magnetic fields of forces, but without actual contact. Mutual inductance of two coils can be obtained by moving a continuous current coil in and out of the second coil, or making and breaking the current flow in one coil placed permanently inside of the other coil.]

N

N.A.C.A. 【公】美國航空顧問委員會。

解：National Advisory Committee on Aeronautics 的縮寫字。

nacelle, 【球】吊籃。【艇】短艇。

解：攜載乘客或裝置動力的遮蔽物，即名為吊籃或短艇。短艇通常比機身短而無尾組。(參閱附錄第十二圖b.及十四圖)

[An enclosed shelter for passengers or for a power plant. A nacelle is usually shorter than a fuselage, and does not carry the tail unit.]

National Advisory Committee on Aeronautics, 【公】美國航空顧問委員會。

解：美國的一個航空工程研究所，對於航空器的各種工程有許多改進的貢獻，成績卓著。縮寫字為N.A.C.A.

[An aeronautic research institute in United States. It has

done a great improvement on aeronautic engineering work.]

nautical mile, 【單】海哩，哩。

解：海哩等於6,080呎。也等於在赤道上的經度一分。

[It equals 6,080 feet. Also equals 1 minute of longitude at the equator.]

navigation flame-float, 【裝】航行火浮筒。

解：一種烟火器械，由航空器擲至水面，用以決定偏航角度。

[A pyrotechnic device dropped from an aircraft on to water for determining the drift-angle.]

navigation flare, 【裝】航空照明炬。

解：一種烟火器械由航空器向地面投下指示，以便決定偏航角度。

[A pyrotechnic device dropped from an aircraft on to land for determining the drift-angle.]

navigation lamp, [裝] 航行燈。

解：航空器上的一種燈光，用以指示航空器的位置和飛行方向。

[A lamp on an aircraft for indicating its position and direction of motion.]

navigation radius, [力][飛] 航行半徑。

解：飛機能飛的最大距離，并餘留有充量的汽油可飛回起飛地點。航行半徑有時亦可稱為[活動半徑] (radius of action)。

(The greatest distance to which an airplane can fly and have sufficient fuel supply remaining to return to the starting point. It is also called "radius of action".)

navigation smoke-float, [裝] 航行煙浮筒。

解：一種烟火器械由航空器，擲至水面，用以指示風向或決定偏航角度。

[A pyrotechnic device dropped from an aircraft on to the water for indicating wind direction or for determining the drift-angle.]

Nb. [氣] 雨雲。

解：此即 Nimbus 的縮寫。

neck, [球] 球頭。

解：球囊底部的一條氣管，在飛行時可自動放氣，亦可作充氣和放氣的工作。(參閱附錄第二十三圖)

[A tube at the bottom of balloon envelope for the automatic discharge of gas in flight and also for use in inflation and deflation.]

needle valve [carburetor], [發] 針形氣門(氣化器的)。

解：這是簡單的氣門裝置，係用一個針頭嵌合在一個傾斜的座子裏面。接頭處非常光滑配合，關閉的時候，汽油不致漏出。

[A simple valve device consisting of a needle point which fits into a beveled seat. The joint is a ground joint to make it gasoline-tight when closed.]

negative aileron, [機] 負角副翼。

解：副翼的裝置方法，係使操縱在中和位置時略成小負角度，如此可免除偏航和不均的阻力。

[Ailerons rigged so that they make a small negative angle incidence when controls are in neutral. They eliminate yawing and unequal drag.]

Neon light, [設] 霓虹燈。

解：即達於白熱情態的霓虹氣，霓虹光有閃爍的淡紅色。

[Neon gas in a state of incandescence. They are of vivid pink colour.]

nephoscope, [儀] 量雲器。

解：一種儀器測定雲的運動方向，並對地面垂直點所成的角度。

[An instrument for determining the direction and relative motion of a cloud, produced artificially by a shellburst or by smoke emitted from an aircraft in flight.]

net: 網。

free balloon net, [球] 自由氣球網。

解：由繩索組成的裝配，由氣囊上面伸展下垂，用以支持吊籃等等的重量，并將該項重量分配到全個氣囊的表面上部。（參閱附錄第二十三圖）

gas cell [rigid airship] net,

【艇】氣囊網（硬式氣艇的）。

解：由細索組成的網，用意在於協助氣囊皮，使氣體的張力可以藉此傳達由鋼絲所組成較大的網上及縱樑上。以上兩種網部安置在各縱樑之間。氣囊網可以與自由氣球網相比較，有時也叫繩網。

inflation net, [球]【艇】灌氣網。

解：繩索組成的矩形網，其用途在於灌氣時可以約束馬式氣球或氣艇的氣囊。有時也可應用作自由氣球網，但在灌氣之後方可移開。

[free balloon net—A rigging made of ropes and twine shaped to the upper surface of the envelope, which supports the weight of the basket, etc., and distributes the load over the entire upper surface of the envelope.

gas-cell net [rigid airship]—A netting of cord of small mesh which is intended to assist the fabric of the gas cells in transmitting gas force to a wire netting of coarser mesh and to the longitudinals, both being fitted between the longitudinals. It may be compared to the net of a free balloon. Sometimes called “gas-cell netting” or “cord netting”.

inflation net—A rectangular net of cordage used to restrain the envelope of a kite balloon or airship during inflation. Also applied to a free-balloon net designed to be removed after inflation.]

net dry weight, [發] 實淨重。

解：發動機的重量，並包括下列各機件，——點火系，並有連繫與蔽護等物（bonding and screening），氣化器，和誘導系，並有發動機腳筒，排水集合管（water-outlet collector-pipes）推桿裝置而互相連接二個或數個，氣化器或磁電器，起動齒輪和發動機附屬零件，增壓器，和必要的管子，但排氣支管和歧管或短管，排水集合器，和唧筒向散熱器連接的管子，吸氣管油和水等，均不在內。以前螺旋槳殼包括在內，現因國際習慣亦不在內計算。

[The weight of an engine, including ignition system, with bonding and screening; carburetors and induction systems, with engine-driven fuel-pump; water-outlet collector-pipes; rods fitted to interconnect two or more carburetors or magnetos; starting gear and accessory drives incorporated in the engine; supercharger with necessary pipe work; but excluding exhaust branch-pipes and manifolds or stub pipes; pipes connecting water-outlet-collector and water pump to the radiator; air-intakes; oil and

netting cord—uickel

water.]

netting cord, 【艇】繩網,氣囊網。

解：同 Net, gas cell (rigid airship)

netting wire, 【艇】網線。

解：對角或和周圍的鋼絲網裝於硬式氣艇整部艇身上各縱樑間，將氣囊的昇力傳送至氣艇構體上。有時稱為“氣體壓力線”(gas pressure wire)。

[Diagonal and/or circumferential wire netting fitted between the longitudinal over the entire hull of a rigid airship, to transmit the lift of the gas cells to the structure. Sometimes called "gas pressure wire".]

neutral-angle air-intakes, 【發】

中和吸氧氣孔。

解：吸氣孔成角度的形狀，是減小氣化作用的向前增速影響。

[An air-intake with entry shaped to minimize the effects of forward speed on carburation.]

neutral lift line, 【機】中和昇力線。

解：從翼剖面的翼後緣起向前，通過翼剖面與飛機動向相關的線，稱為中和昇力線。倘飛機所處的狀態使中和昇力線與飛機移動方向相重合，那時必無昇力——僅有阻力。

[A line taken through an air-foil in a forward direction relative to the direction of motion and starting from the trailing edge. If the attitude of the aircraft is such as to make the neutral lift line coincident with the direction of motion, then no lift will result—the re-

ation consisting solely of drag.]

Newton's laws of motion: 【力】

牛頓的運動定律。

解：1. 物體在運動狀態中，如無他力加以阻擾，即永遠依直線前進。物體在靜止狀態中者，如無他力使之運動，即永遠靜止。

2. 運動量 (momentum) 的變換率，與使物體發生運動的力成正比，並且依力的作用方向成直線發生。物體不拘在運動狀態中或靜止狀態中，若受幾個力的作用，它必一個一個的反應，反應某一個力的時候，彷彿不覺其他的力的存在。

3. 力有作用必有相等的反作用，惟方向相反。

[1. If a body be in motion, it will move uniformly in a straight line until acted upon by some force. If at rest, it will remain at rest.]

2. The rate of change of the quantity of motion (momentum) is proportional to the force which causes it, and takes place in the direction of the straight line in which the force acts. If body be acted upon by several forces, it will obey each as though the others did not exist, and this whether the body be at rest or in motion.]

3. To every action there is opposed an equal and opposite reaction.]

nickel, 【材】鎳。

解：這是使鋼更變動強的一種合金。

[An alloy used to toughen and

strengthen steel.)

night bomber. 【飛】 晝寢飛航員。

解：此乃俚語，指習慣不寐的飛航員，喜作晝寢，而夜間留連於歌舞場中而言。

[A pilot who likes to sleep in daytime and visit night club and festive gatherings at night.]

nimbus. 【氣】 雨雲

解：雨雲是一層無一定形狀而邊緣參差的烏雲，常造成雨雪的下降，從此雲的孔隙中，可以窺見其上層的卷層雲或高層雲，此為其不變的特點。如雨雲層經暴風的摧殘，散成碎片時，或在大塊雨雲之下，發現散失的小塊雨雲時，可稱之為「斷片雨雲」[Fracto-nimbus (水平稱為「飛雲」Scud)]。(注意：構成雨雪的雲，不抵雨雲一種，故見有降雪降雨的雲塊，不可概以雨雲名之。除雨雲與積雨雲外，高層雲，層雲，層積雲，亦常構成雨雪，而有時高積雲，積雲或他種雲塊，亦有雨點落地面。) 雨雲的平均高度為3,000呎。(參閱附錄第五十五圖)

[Rain clouds. A thick layer of dark clouds without shape and with ragged edge, from which steady rain or snow usually falls. Through the openings in these clouds an upper layer of Ci.-St. or A.-St. may be seen almost invariably, If a layer of Nb. separates up in a strong wind into sheets, or if small loose clouds are visible floating underneath a large Nb., the cloud may be described as Fracto-nimbus (Fr.-Nb.) ("Scud"

of sailors) (Note that all rain clouds are not nimbus (nor Cu.-Nb.), but only those having the characteristics as defined. A.-St., St., and St.-Cu. frequently yield rain or snow, while precipitation occasionally reaches the ground from A.-Cu., Cu., and possibly others.) Mean height: 3,000 feet.]

nomenclature of any subject,

各科專門術語。

解：無論那一門科學內的名稱，用途，因素，特點等的說明，就稱為該科專門術語。

[A term applied to the definitions of parts, uses, factors, and features which come under the subject heading.]

nominal gas capacity, 【艇】 【力】

名義氣體容量。

解：在一定氣壓與膨脹情況之下，浮昇器氣囊的容量。名義氣體容量大都與實際氣體容量不同。欲確定此種容量極為困難，尤以硬式氣艇為甚。

[The volume of the envelope of gas cells of an aerostat under certain conditions of pressure and inflation which have been defined. It is rarely the same as the true full volume. This is usually very difficult to determine accurately, especially in the case of rigid airships. Sometimes called "volume".]

non-conductors (electrical), 【電】

非導體。

解：凡物質不傳導電流，反使電流阻

撓的，均稱為非導體。

[Materials which do not conduct, but rather hinder the passage of electricity.]

non-return flow wind tunnel.

【力】不同流式風洞。

解：一種風洞，它的液體流經過風洞及風扇後，即排放至風洞所在的屋宇內，而無其他限制物的設備，使液體回至風洞的入口。

[Any wind tunnel in which the fluid stream, after passing through the tunnel and fan, is discharged into the building in which the tunnel is housed. No other constraint to return the fluid to the entrance of the tunnel is provided.]

non-rigid airship. 【艇】軟式氣艇。

解：氣艇的形狀由氣囊或副氣囊的內部壓力所維持，而無靠硬龍骨輔助。(參閱附錄第十七圖)

[An airship whose form is maintained by the internal pressure in the gas bag and ballonets.]

noon. 【應】正午。

解：以太陽時為標準，當太陽正在觀察者所處經線位置的正上方時，就是正午。

[The apparent or solar time when the sun is directly above the observer's meridian.]

normal. 【應】正常【力】垂直線。

解：【應】凡正常的標準的事物是在普通或應有的情況中。

【力】還是垂直的意義。凡線在弧形或圓筒形的正切點上垂直，則稱為垂直線。

① It means common standard conditions.

② It means perpendicular. A line is perpendicular to a curve of cylinder when it is perpendicular to a tangent to the curve or cylinder at a given point.]

normal axis. 【力】垂直軸。

解：穿過重心，并在對稱面中和縱軸成直角的一條直線。縱軸與橫軸均水平，惟此軸則垂直。它的正方是在機身的下面。在數理中，此軸則稱為Z一軸。(參閱附錄第八圖)

[The straight line through the centre of gravity at right angles to the longitudinal axis in the plane of symmetry. Where the longitudinal and lateral axes are horizontal, the normal axis is vertical. The positive direction is forward from the center of gravity. In mathematical theory this axis is the x-axis.]

normal flight. 【飛】正常飛行。

解：普通越野飛行所包括的一切必要飛行動作。即起飛，水平直線飛行及正常上昇和滑降的飛行，水平轉彎及正常上昇和滑降的轉彎，因失去高度或相對偏航的側滑動作，及降落等。

[Includes all flying manoeuvres necessary for ordinary cross-country flying; e. g. taking-off; horizontal straight flight and flight at normal climbing and gliding angles; turns to port or starboard carried out when flying horizontally and at normal climbing and gliding

normal force—nose

angles; side-slips for purposes of losing height or counteracting drift; and alighting.)

normal force, 【力】垂直力。

解：沿合成力垂直軸的分力，并包括重心分力的分力。凡不注意重心分力的地方，則宜用“垂直氣壓”(normal air force)這名詞。

[The component along the normal axis of the resultant force. This includes the resolved component of gravity. Where the gravity component is neglected the term "normal air force" is preferable.]

normal r. p. m. 【發】正常每分鐘轉數。

解：能繼續不停的保持每分鐘曲柄軸最大的轉數。

[The highest number of crankshaft revolutions per minute which may be maintained continuously.]

normal velocity, 【力】垂直速。

解：相對空氣，沿垂直軸的分力速度。
[The component velocity along the normal axis, relative to the air.]

norte (*pr. nortey*) 【氣】滂沛羅風。

解：墨西哥灣之冷燥北風。

[A cold dry wind from the N. over the Gulf of Mexico]

north (compass), 【儀】羅盤正北。

解：羅盤指針所指的正北，這個正北有因局部磁性關係所產生的錯誤。

[The actual north point to which a compass needle points,

due to errors caused by local magnetic attraction.]

north (magnetic), 【應】磁北極。

解：北緯 71° ，西經 96° 。即是吸引羅盤磁針的北極。如果某個特別羅盤的偏差是零，那末磁北極和羅盤北極相合爲一。

[Latitude 71° North, Longitude 96° West. The north pole which attracts a compass needle. Magnetic north and compass north are coincident when the deviation of a particular compass is zero.]

north star (polaris), 【應】北極星座。

解：從北斗星的凹形內兩個星座起，劃一根幻像線，北極星就在這根線上。北極星座是一個恆星，幾乎與地球軸在一條線上，所以差不多就在地球北極上面。

[North star is on an imaginary line drawn upward from the two stars in the bowl of the Big Dipper. Polaris is a fixed star which is nearly in line with the axis of the earth and, therefore, appears to be almost coincident with the celestial north poles.]

north (true), 【應】真北極。

解：地球旋轉軸的北方極點，就是真北極。

[The north extremity of the earth's axis of rotation.]

nose, 【機】機頭。

解：飛機的前端；通常就是飛機機身或飛船船身的前端。

nose(airship) -- nosepiece radiator

[The bow of an airplane; usually the front end of the fuselage or hull.]

nose (airship), 【艇】艇頭(氣艇)。

解：氣艇的前端(bow)叫艇頭。

(Sometimes used for bow.)

nose batten, 【艇】艇頭助力材。

解：裝置在半硬式或軟式氣艇氣囊頭部的一種強硬材料，可為氣艇移動所生壓力增大抵抗。有時為“鼻助力材”或“艇鼻助板”。

[A rigid member attached to the bow of a non-rigid or semi-rigid envelope to reinforce it against the pressure caused by the motion of the airship. Some times called “nose stiffener”.]

nose cap, 【艇】艇頭罩。

解：(1)金屬或橡皮布的帽罩，用以增加硬式或半硬式氣艇的極前端。

(2)硬式氣艇最前端的圓錐或帽形物，縱樑即接合於此帽上，帽上不裝置繫泊軸。

[1. A cap of metal or fabric used to reinforce the extreme forward ends of the bow stiffeners of a non-rigid or semi-rigid airship.

2. The conical or cap-shaped structure at the extreme bow of a rigid airship to which the longitudinal girders are attached and which supports the bow mooring spindle.]

nose dive (spinning), 【飛】垂直螺旋俯衝。

解：垂直螺旋俯衝的實際情況，是當飛機垂直向下俯衝的時候，利用副翼

操縱(aileron control)使飛機繞其縱軸側滾(roll)。

[Nose dive is really causing the plane to roll about the longitudinal axis by using aileron control while a plane is diving straight downward.]

nose heavy, 【飛】【機】頭重。

解：飛機處於正常飛行狀態時，若各種力的分配達到某一階段而將縱操縱鬆放，機頭即下墜，此之謂頭重。

[The condition of an airplane in normal flight when the distribution of forces is such that, if the longitudinal controls were released, the nose would drop.]

nose-heavy (airship), 【艇】頭重。

解：氣艇停在平靜空氣中時，縱軸向頭部傾斜，謂之頭重。

[The condition of an airship which, when at rest in still air trims with its axis inclined down by the bow. This term is preferred in describing airship.]

nose-over, 【飛】顛覆。

解：飛機在軟場上，水面降落，或在麥田稻田上落下，或降落時用制動器過猛，以致機首觸地向前翻身之意。

[Refers to an airplane being turned up on its nose in landing in a soft field, in water, or in landing in heavy green wheat, or other crop, or in applying brakes too rapidly upon landing. The propeller usually is broken.]

nosepiece radiator. 【發】機首散熱器。

nose rib—obscura(camera)

解：裝在機身或短艙前部的水冷器。

[A water-cooler fitted in front of a fuselage or nacelle.]

nose rib, 【機】前緣肋。

解：主翼或操縱翼的前樑和前緣的肋。
(參閱附錄第十五圖, 34)

[The ribs between the front spar and leading edge of main plane or control surfaces.]

nose-steadying line. 【艇】繫塔索。

解：繫塔索是從氣艇頭部垂下來的繩索，當繫到繫留塔上時，可以阻止氣艇向繫留塔的兩邊偏出或擦過繫留塔。繫塔索亦有稱爲“bow-steadying line”或“yaw guy”。英國人尤多稱爲“side guy wire”。
[See Line (yaw).]

nozzle(discharge), 【發】流出噴嘴。

解：液體燃料向文德利氣流中噴出所經過的開口。

[The nozzle through which the liquid fuel is discharged into the venturi air stream.]

nozzle (pressure), 【儀】氣壓嘴。

解：這是一件儀器，與壓力計連合運用的時候，可以指示飛機的對空速度。

氣壓嘴也許是一個動靜壓管，或文德利管 (Pitot-static or Venturi tube)，或兩者聯合組成。

[An instrument which, in combination with a gauge, is used to measure the indicated speed of an aircraft relative to the air. It may be a Pitot-static or a Venturi tube, or a combination of a Pitot tube and a Venturi tube.]

nurse balloon, 【球】補助氣球。

解：有時爲定壓氣球（注：此種氣球不能列爲航空器）。

[Sometimes used to refer to a constant-pressure balloon.]

nursing tube, 【艇】【球】充氣管。

解：裝置於膠式氣球上的延長物或充氣套筒，筒端有管接至懸籃和裝設有簡便連結接頭上。這接頭又接於氣艇艙面的相類物，故氣體輸至氣艇艙面後不久便可轉至氣囊。倘須用固定壓力氣囊的氣艇，有時亦要用和這相類的充氣管，但在美國甚罕見。此管有時亦稱爲 supply tube。

[See supply tube.]

O

oak, 【材】櫟木，橡木，

解：製造發動機座多用櫟木，而飛船船身和水飛機的浮筒的的外殼也多用櫟木蒙蓋。

[Largely used for engine bed construction and the fabrication of pontoons and boat hulls.]

obscura (camera), 【設】暗箱。

observation aviation—occlusion

解：一個黑房，房頂裝有一個鏡頭，將飛機或雲的影像攝入而投射在房內屏面上，此房可測定速度和航向，以作轟炸的實習。

[A darkened hut or tent with a lens in the roof through which the image of an aircraft or cloud is projected on to a screen within; used for determining speed and direction and for bombing practice.]

observation aviation, [軍] 空中偵察術。

解：定義——空中偵察係空軍之一部分，其目的在觀察及報告敵友雙方陸海空軍之布置及活動，并操縱炮兵之炮火。空中偵察又分為「重於空氣」及「輕於空氣」二種。為執行其任務起見，空中偵察隊有時不得不與敵方陸軍及空軍作戰。

[Definition—Observation is that branch of the Air Corps organized primarily for the purpose of observing and reporting upon the disposition and activities of both enemy and friendly ground aerial, and supporting naval forces. In addition, it furnishes observation for the control of artillery fire. Within itself, it is divided into heavier-than-air and a light-than-air branch. It is combantant arm inasmuch as its mission will, from time to time, force it to engage in combat with both enemy ground and aerial forces.]

observation balloon, [球] 觀測氣

球。

解：繫留氣球的一種，供空中觀測地面之用。

[A captive balloon used to provide an elevated observation post.]

observation mirror, [設] 觀察鏡。

解：一種雕刻鏡，其用法與暗箱(camera obscura.)相似，可測定速度和航向，以作轟炸的實習。

[An engraved mirror used for the same purpose as a camera obscura.]

observation platform, [艇] 觀察台。

解：氣艇上面所裝配的小台，可作瞭望或飛航的觀測之用。

[A platform or small deck fitted on the top of an airship and used as a post for a lookout and defense or as a place from which to make observations used in navigating the airship.]

obstruction light, [設] 障礙燈。

解：一種燈光，指示飛行障礙物的所在處。(參閱附錄第四十五圖。)

[A light for indicating the presence of an object which is dangerous to aircraft in motion.]

obturator ring, [發] 緊塞圈。

解：一種L形剖面的活塞圈，

[A gas ring L-shaped in cross-section.]

obtuse angle, [力] 鈍角。

解：大於九十度的角。

[An angle greater than 90°.]

occlusion, [氣] 因綑。

解：低氣壓的冷面，越過熱面，且使熱區由地面上昇後的殘餘面。(參閱附錄

octant—oil(blended)

第四十六圖。)

[The residual front after the cold front of a depression has overtaken the warm front and the warm sector has been lifted from the surface of the earth,]

octant. 【儀】八分儀。

解：這是與六分儀類似的一種儀器，不過它的範圍只有 45° (圓周的八分之一)，而六分儀的範圍却有 60° (圓周的六分之一)。

[An instrument similar to sextant, but its range is 45° (one eighth of a circle) whereas a sextant has a range of 60° (one sixth of a circle).]

ohm. 【單】【電】歐姆。

解：量電阻的單位。

[The unit of electrical resistance.]

Ohm's law. 【電】歐姆定律。

解：在指定一電路中，電流的安培數量，等於電壓弗打，被電阻歐姆除得之數，即

$$\text{電流} = \frac{\text{電壓} \text{ 弗打}}{\text{電阻} \text{ 歐姆}}$$

其公式為

$$I = \frac{E}{R}, E = IR, \text{ 或 } R = \frac{E}{I}$$

I=電力安培數

E=電壓弗打數

R=電阻歐姆數

In a given circuit, the amount of current in amperes is equal to the pressure in volts divided by the resistance in ohms, that is:

$$\text{current} = \frac{\text{pressure}}{\text{resistance}} = \frac{\text{volts}}{\text{ohms}}$$

Expressed as a formula

$$I = \frac{E}{R} \text{ from which } E = IR$$

$$\text{and } R = \frac{E}{I}$$

In the formula

I=current strength in amperes.

E=pressure in volts.

R=resistance in ohms.

oil (asphaltic base). 【油】地質青基油。

解：石油一種，其中最多固體殘質為地質青；是油多產於墨西哥，及南美洲一帶。

[A type of petroleum oil in which the predominating solid residue is asphaltum. More correctly known as naphthenic base oil. Asphaltic base oils are found in the Southwestern and Gulf coast states, in Mexico and South America.]

oil (banana). 【油】香蕉油。

解：一種油漆係由環路塔或火藥溶解於醋酸戊烷所製成，用在最光滑的金屬上作保護面，用作鉛和青銅漆的媒液，并塗漆飛機模型。

[A lacquer or varnish made by dissolving celluloid or gun-cotton in amyl-acetate. Used as a protective surface for highly polished metals, as a vehicle for aluminum and bronze paints and for "doping" airplane models.]

oil (blended). 【油】混合油。

解：一種滑油係將多種滑油混合，以應某種目的之用。滑油常為謀得某種黏度或特性而混合之。

oil(bleached)—opposed-cylinder engine

(A lubricating oil consisting of a mixture of number of oils to attain a given purpose. Oils are frequently blended to obtain a given viscosity or other property.)

oil (bleached), [油] 無色滑油。

解：一種無色的滑油，係由日光所變成。

[Colorless lubricating oil (stainless oil) produced by sun bleaching.]

oil (heavy), [油] 重油。

解：重油爲一種無揮發性的油類，或燃火點頗高的油類，操言之，重油乃不與汽油相同的一種油類。

[In this case a non-volatile or high flash-point oil; in other words, not a spirit like petrol.]

oil (mineral), [油] 礦產滑油。

解：生石油(crude petroleum)蒸提汽油，石腦油(naphtha)，和火油後，將所剩的重石炭化氫(渣滓)再加提煉，即得潤滑油。

[Refined from the heavier hydrocarbons (residue) obtained by distilling off the gasoline, naphths, and kerosene from crude petroleum.]

oil pump, [發] 滑油唧筒。

解：這是唧筒的一種，通常係齒輪轉動式，目的在利用壓力使滑油在曲柄軸，尾輪面及附屬傳動輪等的槽隙裏面循環。

[A pump, usually of the gear type, used to circulated oil under pressure through hollow crankshafts, camshafts, acces-

sory drives, etc.)

oil-tube cooler, [發] 油管冷却器。

解：一種冷却器，滑油經過器管子，而被冷却。

[A cooler in which the oil passes through tubes exposed to a cooling medium.]

oil (vegetable), [油] 植物油。

解：普通商店發售航空發動機所用的植物油，祇限於蓖麻油一種，這種油是由蓖麻子中取來的。蓖麻油和汽油不相混合，故旋轉式發動機多採用之。

[Commercially for airplanes, is limited to castor oil, which is produced from the seeds of castor plants. Castor oil will not mix with gasoline, and was used largely in rotary engine.]

oiled track, [設] 滑軌。

解：用木料或金屬料製成的油滑軌道，滑翔機昇空時，在這種跑道上彈射，比較容易。

[An oiled runway of wood or metal used to facilitate glider launching.]

open-jet wind tunnel, [力] 放口式風洞。

解：一種風洞，經過受試驗物體的液體流，是由開口放出。(參閱附錄第十一圖)

[A wind tunnel in which the fluid stream passing the body under test is a free jet.]

opposed-cylinder engine, [發]

對置氣缸發動機。

解：發動機的氣缸排列，是在同一平面中，對置裝配，它的聯桿則在同一曲柄軸上工作。

opposed-piston engine—oscillation(lateral)

[An engine with its cylinders arranged opposite each other in the same plane, their connecting rods working on the same crankshaft.]

opposed-piston engine, 【發】對向活塞發動機。

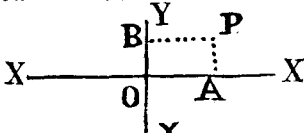
解：發動機的壓縮，是由二活塞在同一氣缸內，反動而致成。

[An engine in which the compression is effected by two pistons in the same cylinder acting in opposition.]

optical altimeter, 【儀】光學高度表
解：因光學作用而指示高度的高度表。
[An instrument, the indications of which depend on the manipulation of a suitable optical system.]

ordinates, 【應】縱坐標。

解：在曲線圖中縱軸上面的距離，名為縱坐標。例圖：



圖中P為任何一點，XX為橫軸，YY為縱軸，PA或BO為縱坐標，PB或AO為橫坐標(abscissas)。

[The distances on the vertical axes of curve diagrams.]

orientation, 【飛】定向。

解：無論在什麼時候，對於羅盤方位，風向，飛機飛行的高度及姿態等，都有正確的了解，即為定向。在作特技飛行時，無論那一瞬間所處的姿態也叫定向。

[The accurate understanding at all times of compass directions, wind direction, altitude and attitude of the aircraft. In stunting, it means to know the exact attitude of the aircraft at any moment of time.]

ornithopter, 【機】撲翼機。

解：重航空器的一種，其最主要的支持力及前進力都由於能夠撲動的翼子所發生。

[A form of aircraft heavier than air, deriving its chief support and propelling force from flapping wings.]

orographic rain, 【氣】地形性雨。

解：載帶水氣的風，為高地所阻而成的雨。

[Rain caused by the interference of rising land in the path of moisture-laden wind.]

orthogonal biplane, 【機】平齊雙翼機。

解：上下兩翼無斜單角的雙翼機。

[A biplane without stagger.]

oscillation, 【力】振動。

解：向前後搖擺的運動為之振動。鋼絲顫動的現象即是振動。

[A swinging backwards and forwards. The motion of a vibrating wire is a form of oscillation.]

oscillation(lateral), 【力】橫振動。

解：由飛機的橫滾，偏航，及側滑的任何定期變動所造成的任何運動。

[Any motion which is made up of any periodic variation of the rolling, yawing and side-slipping

oscillation(longitudinal)—overhang

of an aircraft.)

oscillation (longitudinal), [力] 縱振動。

解：由飛機的飛行速度，高度及螺距角的任何定期變動所造成的任何運動 [Any motion which is made up of any periodic variation of the flight speed, altitude and angle of pitch of an aircraft.]

oscillation (phugoid), [力] 起伏振動。

解：一種長週期的振動，其特性足以擾亂飛機縱向的運動。

[A long-period oscillation characteristic of the disturbed longitudinal motion of an aircraft. This is referred to when it is said that an aircraft “hunts”.]

oscillation(stable), [力] 安定振動。

解：凡振幅(amplitude)不逐漸增大的振動，謂為安定振動。

[An oscillation whose amplitude does not increase.]

oscillation (unstable), [力] 不安定振動。

解：振動的振幅(amplitude)繼續增長，至達到某種狀態方止，但沒有恢復到原來狀態的傾向，換句話說，運動逐漸分散了。

[An oscillation whose amplitude increases continuously until an attitude is reached from which there is no tendency to return toward the original attitude, the motion becoming a steady divergence.]

outboard bearing, [發] 外凸軸承。

解：裝置延長軸的一種軸承，且在機

器本身的外邊。

[A bearing for carrying an extended shaft and placed outside of the machine proper.]

outer cover, [艇][球] 外皮，外殼。

解：硬式氣艇的外皮普通係用布所製造，有時亦名氣艇氣囊(envelope)。(參閱附錄第十九圖)

[The outside covering of the hull of a rigid airship, usually of some kind of fabric. Sometimes called the “envelope”.]

outrigger (mooring-cone), [艇] 繫留錐架。

解：繫留錐架往往是管形物製成的，用途在支持氣艇前端的繫留錐(mooring-cone)。有時也稱為繫留軸(mooring spindle)。

[The member, usually tubular, which supports the mooring cone at the bow of the airship. Sometimes referred to as “mooring spindle”.]

over-all length, [機] 全長。

解：航空器的最前端至最後端(連螺旋槳和尾組皆在內)的長度，稱為全長。[The distance from the extreme front to the extreme rear of an aircraft, including the propeller and the tail unit.]

overhang, [機] 橫罩，外罩。

解：這用語有兩種解釋。(1)飛機的兩個重要支持面的長度之差一半。倘若兩個主要支持面的上面一個比下面一個長，就叫正外罩(positive overhang)。(2)翼間外支柱到翼梢的距離。[Used to two senses. (1) one-half of the difference in span of any

overhead suspension—oxy-acetylene welding

two main supporting surfaces of an airplane. The overhang is positive when the upper of the two main supporting surfaces has the larger span. (2) The distance from the strut attachment to the tip of the wings.]

overhead suspension, 【艇】懸架。

解：由氣艇棚廠頂上垂下的一條線索，於氣艇入廠時用以支持氣艇構體的全部，或一部的重力。

[A line leading from the roof of an airship shed and arranged to sustain the whole or a part of the weight of the structure of an airship when it is docked.]

overhead valve cylinder, 【發】頭上氣門氣缸。

解：這種氣缸的氣門均係裝在頭部。上(參閱附錄第三十三圖)。

[A cylinder with the valves in the head.]

overlap (power), 【發】動力重疊。

解：發動機上一個氣缸的動力行程(power stroke)尚沒有完全完成，而另一個氣缸的動力行程已經開始，這種現象名爲動力重疊。

[The amount which the power stroke of one cylinder overlaps the succeeding power stroke.]

overshoot a landing field, 【飛】越過降落場。

解：飛機降落時，其滑翔角竟使飛機飄過了降落場的邊界。這種現象就叫做越過降落場。

[That the gliding angle carries the airplane too far over the field to make a landing within

the limits of the field.]

overtaking, 【發】超過。

解：定義，一架飛機直接從其他一架飛機的後面或後方70°角度內接近而超越之，名爲超過；根據此義，若是超過飛機或被超過飛機兩者之中的任何一架於超過動作之後隨即改變航向，我們不能認該超過飛機爲橫過(crossing)飛機，仍須承認它爲超過飛機。

[Definition—An overtaking aircraft in one approaching another directly from behind or within 70° of that position, and no subsequent alteration of the bearing between the two shall make the overtaking aircraft a crossing aircraft within the meaning of these rules.]

oxy-acetylene welding, 【工】氧炔鎔法。

解：用相當高熱的火焰，並加上金屬材料使兩塊金屬物接合的一種方法。此種接頭名爲自己鎔接法。火焰所發出的用器，能使焰頂突出至鎔接部分，此種火焰的溫度甚高，可鎔化鎔接部分使之接合，氧炔焰溫度大約爲華氏6,300° [A method of uniting the metal pieces by means of a torch flame of appropriate temperature with the addition of metal of the same composition. The joint thus obtained is called autogenous. The torch used is an instrument in which the flames are produced and projected on the metallic parts to be welded. The flame produced by the torch is of unusually high temperature

oxygen(pure)—ozone

With the oxy-acetylene torch the metals can be welded without adding metal to the weld. The temperature of the oxy-acetylene flame is approximately 6,300°F.]

oxygen (pure). 【化】氧(純淨).

解：無色無臭的氣體，但是助燃燒的性質很強。因為氧有助燃燒的性質，故在鐸接過程中，氧對於乙炔(acetylene)氣甚有價值。在高空飛行時，必須攜帶氧以維持氧化器內混合氣體的成分，並供駕駛員呼吸之用。大氣當中，氧的成分為百分之二十一。

[A colorless and odorless gas which support combustion to a high degree. It is this high combustion level which makes oxygen so valuable in the acetylene welding process. Oxygen is also used to maintain carburetor mixtures at high altitudes and to supply the pilot with oxygen under the same circumstances. Oxygen comprises about 21% of the atmosphere.]

oxygen system, 【裝】氧氣系.

解：預備在 20,000 呎以上飛行的飛機，皆備有增壓氣，故必須設備氧氣吸入裝置(oxygen apparatus)。各氧氣罐皆用細管連接到調整門上。從調整門起，氧氣經過散熱器膨脹箱內的加熱細管圈，使氧氣的溫度增加，然後經

過一個有彈性的管子(管端有吸口)達到駕駛員。駕駛員須要氧氣的時候，他只須開啓調整門，即可盡量吸入氧氣。加熱細管圈的用途在防止氧氣的水份結冰而致阻塞細管的通行，且能夠將氧氣加熱便於吸入。

[All supercharged airplanes that are to be used at an altitude of great than 20,000 feet should be equipped with oxygen apparatus. The oxygen bottles are connected to a regulating valve by small copper tubes. From the regulating valve the oxygen goes through a coil in the radiator expansion tank where it is heated and then goes to the pilot through a flexible tube with a mouthpiece at the end. Then the pilot wishes to use oxygen he opens the regulating valve until he is getting as much through the tube as he requires. The heating coil is used to prevent water in the oxygen from freezing and clogging up the line, and to make the oxygen more pleasant to take.]

ozone, 【化】臭氣.

解：無色的氣體，但有刺戟的臭味，與氯氣相彷彿。

[A colorless gas having a pungent odor similar to chlorine.]

P

pack—panel(rip)

pack, 【傘】傘包。

解：容納保險傘的布包。(參閱附錄第四十四圖)

[The container in which the parachute is housed.]

packfong, 【材】白銅。

解：中國的一種混合金屬，內含四十分銅，二十五分錳，及三十二分銀，又名白銅。

[A Chinese alloy, containing about forty parts of copper, twenty-five of zinc, and thirty-two of nickel; also called white copper.]

P.A.N. 【飛】國際緊急信號。

解：P.A.N.，係指國際緊急信號，航空器遭遇困難，或將強迫落地，或其飛行一時遭受障礙，但其危險程度尚無需用 S.O.S. 信號請求立刻協助之時，則用無線電報，或無線電話，發出此信號，該「P.A.N.」緊急信號，祇由航空器的負責人發出之。

[This is the international urgent signal made by means of radio telegraphy or radio telephony, when an aircraft desired to signal that it is in difficulties, or about to land compulsorily or has momentarily interrupted its flight, but does not consider it necessary to ask for immediate assistance by using the signal "S.O.S." This signal may be transmitted only with the authorization of the commander or person responsible for the aircraft.]

pancake landing, 【飛】平墜落地。

解：見Pancake.

pancake, 【飛】平墜落地。

解：飛機降落時，離地高度比正常降落時較大即拉平下降，這樣使飛機失速，很險峻的下墜，衝角甚大而無顯著的傾側現象，這種落地名為平墜落地。[To level off an airplane at a greater altitude than normal in a landing, thus causing it to stall and to descend on a steeply inclined path with the wings at a very large angle of attack and without appreciable bank.]

panel (aerostat), 【球】布片(浮昇器的)【艇】方塊艇面。

解：為製造浮昇器氣囊或外皮用的布片，有時集合為片段，為尖塊，或為圓塊，概依照如何使用如何製造而定。在硬式氣艇上面，凡界乎兩根縱樑及兩根橫樑之間的面積，叫作方塊艇面(英文也名為“panel”，這個用語係借自構造工程師們的術語而來)。

[The unit piece of fabric of which the envelope or outer cover of an aerostat is made. Panels may be assembled into sections, gores, or rings, according to the method of manufacture followed. In rigid airships the area bounded by two adjacent longitudinal and two adjacent transverses is often referred to as a "panel". This is a structural panel and the expression is borrowed from structural engineers.]

panel (rip), 【球】【艇】裂幅。

panel(wing parts)—parachute(chest pack)

解：一片嵌在氣球的氣囊上方，或硬式、軟式氣艇上部的布片，在須要即刻放氣時可以拉開應急。(參閱附錄第十七及二十三圖)

[A strip of fabric inserted or fitted in the upper part of the envelope of a balloon or semirigid or nonrigid airship which is torn or ripped open when immediate deflation is desired.]

panel (wing parts), [機] 翼段。

解：如飛機的翼面係由幾組合成，每一組即稱爲一翼段，如翼中段(center panel)是。

[Where a wing surface comprises several units of construction, these units are designated as panels.]

parachute, [傘] 保險傘。

解：一種可收縮物件，能使物體降落速度減小。(參閱附錄第四十三圖)

[A collapsible device used to retard the descent of a falling body.]

parachute (attached type), [傘]

附機式保險傘。

解：保險傘的箱子直接附着在飛機上面，飛航員的掛帶(harness)與保險傘另用一根繩相連接。跳傘時保險傘直接從箱子裏面拖出，毋須飛行員自己用手拉動任何繩索，保險傘箱子則仍留在飛機上面。

[A parachute whose container is fastened direct to the aircraft, the aviator's harness being fastened to the parachute by a life line. When the aviator

jumps (bail out) the parachute is pulled out of the container without any manual operation. The container remains with the aircraft.]

parachute (automatic), [傘] 自動式保險傘。

解：保險傘包連接航空器式載重上，而降落的載重可將傘自動張開。

[A parachute whose pack is attached either to the aircraft or the load and the release of which is achieved by the falling load.]

parachute (auxiliary), [傘] 補助傘。

解：附在保險傘主傘蓋的頂端，於跳跳傘者拉動開傘索時，此傘自動展開，並將主傘拖開。(參閱附錄第四十三圖)

[A small parachute attached to the main parachute to aid withdrawal of the latter from the pack.]

parachute (back pack), [傘] 背包式保險傘。

解：保險傘的一種，裏傘的包繫在掛帶的上面，飛行員綁緊掛帶時，傘包即在背上，故可在飛機內移動或在飛機上攀爬，皆無障礙。

[The type of parachute pack which is so attached to the harness that it remains across the upper back, permitting complete freedom of movement in moving or climbing about aircraft.]

parachute (chest pack), [傘] 胸包式保險傘。

parachute diameter—parachute(harness metal parts)

解：特別設計的保險傘，包在飛行員胸部與甲掛帶連繫。胸包式保險傘常與背包式保險傘聯合運用，藉以增加表演或訓練跳傘時的安全率。

[A parachute pack designed to fasten to the harness/across the chest of the wearer. It is generally used in conjunction with a back pack for additional safety in exhibition and training jumps.]

parachute diameter, [傘] 傘徑。

解：保險傘在平面上平均張開時的傘身直徑。

[The overall diameter of the canopy when symmetrically spread in a collapsed condition on a flat surface.]

parachute (fabric), [傘] 保險傘布。

解：大都是特別織成的高等絲品，能夠承受高速高壓下墜張開時的高度衝激壓力而不破毀。保險傘布就是保險傘的頂蓋(canopy)。

[Generally a specially woven high-grade silk designed to withstand the great impact of air pressure when the parachute is opened at high speed under pressure. This fabric forms the canopy of the parachute.]

parachute flare, [裝] 照明傘。

解：一種烟火光炬，上裝小型保險傘，以便停留在空中，照耀地面。

[A pyrotechnic flare attached to a parachute for providing an illuminated region.]

parachute (free type), [傘] 自由

式保險傘。

解：保險傘完全獨立裝成一包，直接繫在飛行員掛帶上面。

[A parachute carried complete in one unit and is fastened directly to the harness of the aviator.]

parachute (harness), [傘] 保險傘掛帶。

解：特別織成的網狀布條，能承受3,000磅重的張力。掛帶對於穿帶者的身軀皆可調整，凡有金屬的部分均特別增強。

[An especially woven linen webbing harness with a tensile strength of approximately 3,000 pounds. The harness is adjustable to the wearer and reinforced on all metal parts.]

parachute (harness metal parts), [傘] 保險傘掛帶金屬件。

解：保險傘的金屬件就是套鉤(snaps)與鬆緊扣環(adapter buckles)，用途在於把掛帶適合地繫牢在飛行員身上。這些金屬件係用鉻鎳鋼(chrome nickel steel)製成，能承受5,000磅重的張力。為避免腐蝕起見，金屬件上面或加電鍍或用鎘(cadmium plated)包上均無不可。

[The snaps and adapter buckles used in securing the harness and adjusting it to the size of the wearer. Metal parts are made of chrome nickel steel with a tensile strength of 5,000 pounds, and are either galvanized or cadmium plated for protection against corrosion.]

parachute(lap pack)—parachute(rip cord)

parachute (lap pack), 【傘】膝包式保險傘。

解：保險傘包的一種，繫在掛帶上面的時候，傘包很舒適的放在膝部之上。這種保險傘包對於機關槍手及照相士特別適宜。

[The type of parachute pack which is so attached to the harness that the pack comfortable in the lap. This pack is especially adapted to machine gunners and photographers.]

parachute (lower main lateral band), 【傘】保險傘下緣主橫帶。

解：縫在保險傘邊緣裏面的粗絲帶。
[A band of heavy silk tape sewed within the hem.]

parachute(main panel or gore), 【傘】保險傘主要布片。

解：保險傘頂蓋上，界乎兩條吊傘帶(shroud-line)之間的三角形布片。

[A triangular piece of fabric between two shroud lines in the canopy.]

parachute (manually operated), 【傘】手開式保險傘。

解：係自由式保險傘，依飛行員(攜帶者)之意志而開張。開張之法係將開傘環輕輕一拉。開傘環的位置是在掛帶上面，用手容易達到。

[A free type parachute which is operated at will by the aviator (wearer) by a slight pull on a "pull ring", which is located in a readily accessible place on the harness.]

parachute (oscillation), 【傘】保險傘振盪。

解：保險傘自空中下降時，向兩側搖擺的現象，稱為保險傘振盪。這種振盪可藉拉動每次振動中向上搖擺一面的吊傘帶而制止。

[Or swinging from side to side can be checked by pulling down on the shroud lines of the high side on each swing.]

parachute (pilot chute), 【傘】引導傘。

解：與保險傘相似的小傘，附在保險傘主傘蓋的頂端。當跳傘者拉動開傘索時，引導傘即自動張開並將保險傘的主傘蓋拖開。

[A miniature parachute attached to the apex of the main canopy (Irvin air chute) designed to lead to the main canopy out of the pack when the "pull ring" is operated.]

parachute (quick connector type), 【傘】迅接式保險傘(係爾文公司 Irving Air Chute Co. 出品)。

解：迅接式保險傘係胸包式保險傘，獨立放置在飛機內，但位置離飛行員極近，一旦有事，能極易將傘的套鉤接到已穿着的掛帶上面。

[A chest pack carried independently in the aircraft in such a convenient position that an aviator wearing the harness can snap the pack on quickly with two easily accessible snaps.]

parachute (rip cord), 【傘】保險傘開傘索。

解：繩索或鋼絲，通常安放在有彈性的管子內。從開傘環起一直連到銷住

parachute(seat pack)—parachute(sub-lateral bands)

傘包的銷子爲止。拉動開傘環，開傘索即將銷傘銷拉開，而傘蓋即展開在空中了。

[A cord or wire usually encased in flexible tubing which leads from the pull ring to the pins which lock the pack. Pulling the ring allows the "rip cord" to release the locking pins, thereby releasing the canopy itself to the air.]

parachute (seat pack), [傘] 坐包式保險傘。

解：保險傘的傘包附着於掛帶上的一種式樣。這種式樣的傘包可以充當飛行員的坐墊，可以完全承受他的重量兼使他感到相當的舒適。

[The type of parachute pack which is so attached to the harness that it may be used as a cushion, relieving the aviator of all bulk and weight.]

parachute (section), [傘] 傘幅段。

解：傘幅段係保險傘主幅 (main panels) 的一段。

[A part of one of the main panels.]

parachute (service type), [傘] 通用式保險傘。

解：政府軍事機關，郵航機關及其他等等航空機關所用的保險傘，直徑爲24呎。

[A 24-foot parachute prescribed for, service operations in the military branches of the government, air mail operations, etc.]

parachute (shroud lines), [傘]

保險傘吊傘線。

解：通常爲能承受400磅張力的絲索，從附着於掛帶一面的那一端起，繼續延長，通過傘蓋越過傘頂，迤延而下，故其另一端又附着於掛帶的另一面。吊傘帶全長不能有節，亦不能有接縫。

[Usually silk cord of about 400 pounds tensile strength which are continuous from their point of attachment on one side of the harness, passing through and over the top of the canopy to the other side of the harness. The entire length should be free from knots and splices.]

parachute (side slipping), [傘]

保險傘側滑術。

解：如欲向某一方向側滑，即將某一方的吊傘索拉一把，這種側滑動作可以避免降落水面或其他危險的地面物事上。但側滑不可過道限度，離地甚近的時候，也不可作側滑動作。

[Accomplished by pulling down a group of shroud lines on the side facing the direction in which it is desired to slip. This maneuver is advantageous in avoiding water and other landing hazards. Too pronounced a side slip should be avoided. Side slipping should be avoided close to the ground.]

parachute (skirt), [傘] 保險傘裙。

解：主傘蓋的外緣，內緣均在該處。

[The outer rim of the main canopy where the hem occurs.]

parachute (sub-lateral bands),

parachute(upper main lateral band)—parasite resistance

【傘】保險傘次橫帶。

解：次橫帶是在主斜裁邊合縫處的增強縫。

[The reinforced seams where the bias sections of a main panel are joined.]

parachute (upper main lateral band), 【傘】保險傘上主橫帶。

解：傘蓋頂端，在減震孔(vent)附近的地方，將粗絲帶縫到主傘蓋上面使成夾層，這種夾層的絲帶就是上主橫帶。

[A double layer of heavy silk sewed to the main canopy at the base of the vent at the apex.]

parachute (ventage), 【傘】保險傘孔隙。

解：在保險傘頂端，把傘布織成疏鬆的狀態，并開一孔，這樣就可製成保險傘孔隙了。

[Secured by the porous weave of the canopy fabric and by a vent hole at the apex of the canopy.]

parallax, 【應】視差。

解：由地面上某點(觀測者的觀測點)及其他指定點(如地球或太陽的中心點由地心者謂每日視差或地心視差，由日心者謂每年視差或日心視差)視天體方向之角度差。當被觀測的天體在觀測者的頂點上時，視差為零，若被觀測的天體在水平線上時，視差量則最大。

[The difference in angular altitude of a celestial body as measured from the center of the earth and the observer's point

on the surface of the earth. Parallax varies from zero at the zenith to its greatest magnitude when the observed body is on the horizon.]

parallel fabric, 【球】平行球皮。

解：多層球皮內的各層絲線均出平行的組合。

[A multiply fabric with the warp threads of all the plies parallel.]

parallelogram, 【力】平行四邊形。

解：有四邊的圖形，其對邊互相平行而且相等。在計算偏差和地速的時候，常用平行四邊形代表各種速度。

[A four-sided figure whose opposite sides are equal in length and parallel. Used as a parallelogram of velocities to calculate drift and ground speed.]

parallel rulers, 【工】平行尺。

解：用兩根樞軸條，將兩條尺或兩條直邊聯合起來，使其依樞軸而活動，但無論兩條尺或兩條直邊活動得相離若干遠，仍係平行。

[Two rulers or straight edges so joined by pivoted bars that the edges remain parallel, no matter how far apart the edges may be.]

para-magnetic substances, 【電】就磁物。

解：就磁物僅有微弱的磁性。

[Feebly magnetic substances.]

parasite resistance, 【力】廢阻力。

解：在飛機上，機翼所致的阻力為翼阻力，其他部分則稱為結構阻力或廢

patch—patch(finger)

阻力。

[In the case of an airplane, that part of the drag to the wings is called "wing drag"; that due to the rest of the airplane is called "structural drag" or "parasite resistance".]

patch, [工] 補綴。

解：强有力的布料，其形狀和構造特別，嵌在球囊或潛氣囊內。補綴的地方，因為是強而有力，故附着於球囊上面的結構，往往即在此處繫牢，有時操縱氣囊的位置線也附着在補綴上面。

[A strengthened or reinforced flap or fabric of special shape and construction, which is cemented to the envelope of gas cells. It usually forms an anchor by which some portion of the structure may be attached to the envelope, or by which the positioning lines controlling the gas cell may be attached to the cell.]

parking brake, [機] 停機制動器。

解：一種機械如棘輪銷柄，可定置制動輪在一種位置，不致在軸上活動，此種制動機關祇於飛機停止時用之，或使飛機在地面不致滑動，但在滑走，起飛，與降落時，決不可採用。

[A mechanical means, such as a lever with ratchet lock, of setting the wheel brakes in such a manner that the wheels cannot move on their axles. This type of brake is used only while the airplane is parked, or remaining motionless on the ground. It is

never to be used in connection with taxiing, take-offs or landings.]

patch (chafing), [艇] 磨擦補綴。

解：浮昇器上的布料補綴，可以保護浮昇器不受磨擦。

[A patch of fabric secured to the envelope of an aerostat to protect it from abrasion.]

patch (channel), [球] 槽形補綴。

解：浮昇器氣囊上面的槽形布料補綴，從槽孔內可以使桿狀物或條形物通過而達到氣囊上面。

[A channel-shaped fabric-fitting secured to the envelope of an aerostat to allow a rod or spar to be laced to the envelope.]

patch (eta), [艇][球] 楔形補綴。

解：一種扇形的補綴球皮，因貼在氣囊上。(參閱附錄第二十七圖)

[A fan-shaped patch of fabric and webbing secured to the envelope.]

patch (finger), [球] 指形補綴。

解：特別形狀的補綴，其突出的部分類似手指，類似手指的突出物，可用粗絲，磨擦過的繩索或布片製成。這類補綴的作用，在將重負擴大的分配於球囊或氣囊的蒙布上面，免得某一處受壓力過大而致發破裂。

[A special form of patch having extensions or "fingers" extending out from the central portion. The "fingers" may be of tape, frayed out rope, or fabric. Their function is to distribute the load more widely to the fabric of the envelope or gas

patch(flight)—performance

cells.)

patch (flight),【力】飛行路徑【軍】
彈道。

解：【力】一個飛機的重心對於地球所成的路線。

【軍】炸彈在空中飛行的路線。(參閱附錄第四十一圖)

① The path of the center of gravity of an aircraft with reference to the earth.

② The path of bomb flying in the air.)

patch(suspension),【製】吊索補綴。

解：淨昇器外皮或氣囊上面的補綴，在這上面，可以附接懸掛着的繩索。

[A patch, secured to the envelope or to a gas cell of an aerostat to which a suspension line may be attached.]

payhop,【飛】酬飛。

解：此係俚語，指海陸軍飛航員為津貼飛行而言。

[A payhop is a flight made by an Army or Navy pilot to meet the requirements which entitle him to "flight pay".]

pay load,【力】酬載。

解：酬載係有用載量的一部分，航空器的收入即由此而得，換言之即乘客，貨物和郵件。

[That part of the useful load from which revenue is derived, viz., passengers and freight.]

pelorus,【飛】【儀】觀星羅盤針修正器。

解：一種圓形方位版，上分刻度數，成水平裝置，備有瞄視器，於確定方向時，可測定物標的真正與相對方向。

[A circular bearing plate graduated in degrees, mounted so that it lies horizontally and provided with sighting means, which when oriented may be used to determine true or relative directions of objects.]

pendent (sighting),【艇】瞄準錘。

解：在氣艇中線及氣艇操縱艇前方的一懸掛垂直線，用作操縱的標記，並幫助決定風向。

[A vertical wire on center line and forward of the control car of an airship, used as a mark in steering, to assist in determining wind direction.]

pendulum stability,【力】懸擺安定性。

解：飛機的重力中心點，所在位置，若低過壓力中心點，時便有懸擺安定性的存在。

[Pendulum stability exists when the center of gravity of an airplane tends to assume a position below the center of pressure.]

peppy crate,【機】良好飛機。

解：此乃俚語，指情況優良而能飛行的飛機而言。

[A plane in excellent condition that flies well.]

performance,【力】性能，動作。

解：一架飛機在指定情況下的飛行特性，如平飛速度，上昇速度，及上昇限度等。

[The flying characteristics, such as the speed of level flight, rate of climb and ceiling,

performance(ground)—phosphor bronze

of an aircraft under specified conditions.)

performance(ground), 【力】陸上性能。

解：一架航空器的起飛，降落及滑走的特性。

(The alighting, taking-off and taxiing characteristics of an aerodyne.)

performance testing, 【機】性能試驗。

解：研究飛機性能特性的方法。

(The process of determining performance characteristics.)

period, 【力】週期。

解：完成一次完全振動的時間。

(The time taken for a complete oscillation.)

periscopic drift-angle sight,

【儀】潛望式偏航測視器。

解：一種裝潛望遠鏡的偏航測量器，能使地面影像可由飛機內部探視之。

(A drift-angle sight employing a periscope device to enable an image of the earth's surface to be brought inside the aircraft.)

periscopic wind-gauge sight,

【儀】潛望式風速測視器。

解：裝用潛望鏡件的一種風速測視器，能使地面影像可由飛機內部探視之。

(A wind-gauge sight employing a periscopic device to enable an image of the earth's surface to be brought inside the aircraft.)

permanent magnet, 【應】【材】

永久磁。

解：一旦受磁化即永久保持磁性的一塊物體。

(A piece of material which, once magnetized, retains its magnetism permanently.)

permeability, 【電】透磁性。

解：此係任何物體傳導磁力線的能力，或係任何物體接受磁化的程度。

(The ability of any substance to conduct magnetic lines of force and also the degree to which any substance is susceptible to magnetization.)

petticoat, 【球】管裙。

解：一種套管，它的褶疊方法在氣體洩盡後，仍留有出氣孔道。

(A sleeve so pleated as to leave a clear passage when collapsed.)

petticoat (valve), 【球】氣門裙。

解：一種管裙在氣門和氣囊的中間，管裙緊緊後而更換氣門，然氣體不致漏出。

(A petticoat between the valve and gas container making it possible to tie off the petticoat and change valve without loss of gas.)

phosphor bronze, 【材】磷青銅合金。

解：此合金為銅，內含4%錫，并用磷去氧化。但磷量極少而增硬度。每平方吋的張力為65,000磅。質堅而能耐浸蝕與結晶。

(This alloy consists of copper with about 4 percent of tin, the molten metal being deoxidized by phosphorous. A small percentage of phosphorous adds to the hardness. It has a tensile strength of about 65,000 pounds per square inch, is tough and

phugoid oscillation—pipe(stub)

resists corrosion and crystallization.)

phugoid oscillation, 【力】起伏振動。

解：一種長週期的振動，其特性足以擾亂飛機縱向的運動。

[A long-period oscillation characteristic of the disturbed longitudinal motion of an aircraft. This is referred to when it is said that an aircraft "hunts".]

pigmented dope, 【材】有色塗料。

解：飛機塗料加有顏色的名有色塗料。這種塗料為不透明體，能保護布面不受日光所浸蝕。

[An aircraft dope to which a pigment has been added to make an opaque finish, or to protect it from the effects of sunlight.]

pilot, 【飛】駕駛員，飛行員，飛航員。

解：凡操縱航空器的男女均用此名辭。
[An operator of aircraft. This term is applied regardless of sex of the operator.]

pilotage, 【飛】空中駕駛術。

解：駕駛航空器由出發點至目的地的方法，並利用城市，河流，鐵道等地面標識為參考。

[The method of conducting aircraft from a point of departure to a point of destination, making use of known landmarks, such as towns, railroads, etc.]

pilot balloon, 【球】測風氣球。

解：由地面放起用以測驗風向與風速的小氣球。

[A small balloon sent up to show the direction and speed of

the wind.]

pin center, 【應】針點。

解：裝配針上的中心點，由此而測量張線和支柱的長度。

[The center of pin in fittings from which measurements are usually taken for wire and strut lengths.]

pin (knuckle), 【發】關節銷。

解：將各副聯桿 (articulated rods) 聯繫到主聯桿 (master rod) 關節上面的銷。

[The pin in the bearing attachment or articulated connecting rods to the master connecting rod.]

pinion gear, 【工】小緩轉齒輪。

解：這是二齒輪間的小齒輪。

[The smaller of two geared wheels.]

pipe (feed), 【發】給油管。

解：將滑油由油箱導至發動機的管子。

[A pipe leading the oil from the oil tank to the engine.]

pipe (induction), 【發】誘導管。

(=intake manifold)

解：供給混合氣至一個氣缸的管子或氣化器向誘導歧管相連的管子。

[A pipe for supplying the mixture to one cylinder only or connecting the carburettor to the induction manifold.]

pipe (scavenge), 【發】回油管。

解：將滑油發動機導回至油箱的管子。

[A return pipe leading oil from the engine to the oil tank.]

pipe (stub), 【發】短管。

pipe(tail)—pitch(angle of)

解：一種短管裝在無排氣集合管的發動機上，直接將排氣由氣缸排出。

[A short pipe which, in the absence of a manifold, conveys exhaust gases direct from a cylinder to the atmosphere.]

pipe (tail), 【發】尾管。

解：一種管子將排氣由集合管導至他處。(參閱附錄第三十九圖)

[A pipe which leads exhaust gases away from a manifold.]

pipe (tank vent), 【機】油箱通氣管。

解：一種開口管，由油箱空隙而通外面。

[An open-ended pipe leading from the air-space in an oil tank to the atmosphere.]

pistol, 【軍】爆發火(炸彈上用的)。

解：碰擊起爆管或電管而炸烈的機體。

[A mechanical device for administering a blow to the detonator.]

piston, 【發】活塞。

解：氣缸內的活動部分，由熱氣的膨脹而活動。

[The sliding unit in a cylinder to which motion is imparted by the expansion of the hot gases.]

piston displacement, 【發】活塞變位容積，活塞工作容積。

解：活塞由下死點至上死點時的排動容積，這種容積的計算是用 $3.1416 \times$ 氣缸半徑的平方 \times 行程的長度。

[The cubic volume displaced by a piston in its movement from bottom dead center to top dead center. Cubic piston displace-

ment equals $3.1416 \times$ radius of cylinder squared \times length of stroke.]

piston pin 【發】活塞銷。

解：將活塞和聯桿連接的一種圓形軸。

[A round shaft used in the pin bearing connection between the piston and connecting rod.]

piston ring, 【發】活塞環，漲圈。

解：嵌裝在活塞壁溝槽上的同中心圈上用以保住壓縮，而下圈防止過量滑油流入燃燒室內。

[Concentric rings inserted in grooves cut in the wall of a piston to hold compression (upper rings), and to prevent the passage of too much oil (lower rings) to the combustion chamber.]

piston supercharger, 【發】活塞增壓器。

解：一種增壓器，它的氣體壓縮是由氣缸所致成。

[A supercharger in which compression is effected in a cylinder.]

pitch(angle of), 【力】【飛】俯仰角。

解：以下二平面間的銳角：一平面包含飛機的橫軸與相對風向；一平面包含橫軸與縱軸。(在正常飛行中，俯仰角為縱軸與相對風向間之角。)符號為 θ ，機頭舉起的稱爲正角。(參閱附錄第二圖)

[The acute angle between two planes defined as follows: One plane includes the lateral axis of the aircraft and the direction

pitch indicator—pitch of a propeller

of the relative wind; the other plane includes the lateral axis and the longitudinal axis. (In normal flight the angle of pitch is, then, the angle between the longitudinal axis and the direction of the relative wind.) This angle is denoted by θ and is positive when the nose of the aircraft has risen.)

pitch indicator, 【儀】俯仰指示器。

解：這是指示飛機俯仰速度的儀器。
[An instrument for indicating the existence of a pitching velocity of an aircraft. Cf. turn indicator.]

pitching, 【飛】俯仰，縱搖。

解：飛機在側軸上作角度的運動。
[Angular motion about the lateral axis.]

pitching moment, 【力】縱搖力距。

解：因相對風力在偶力(couple)的橫軸上所生的分力。

[The component about the lateral axis of the couple due to the relative wind.]

pitch of a propeller, 【力】螺旋槳的螺距。

effective pitch, 【力】有效螺距。

解：螺旋槳每次旋轉使飛機在航線上前進的距離。它的符號是Pe。

geometrical pitch, 【螺】【力】幾何螺距。

解：螺旋槳本身一部分在每次旋轉中前進的距離，若係沿槳葉角相等的傾斜螺旋方向運動。

mean geometrical pitch, 【螺】【力】平均幾何螺距。

解：螺旋槳本身數部分的平均幾何螺距。它的符號為Pg。

standard pitch, 【螺】【力】標準螺距。

解：在半徑三分之二上所得的幾何螺距，亦稱為「名義螺距」。它的符號是Ps。

zero thrust pitch, 【螺】【力】無推力螺距。

解：螺旋槳無推力時每次旋轉前進的距離，有時亦稱為「實驗平均螺距」(experimental mean pitch)。它的符號是Pv。

zero torque pitch, 【螺】【力】無扭力螺距。

解：螺旋槳無扭力時每次旋轉前進的距離。它的符號是Pa。

[effective pitch—The distance which an aircraft advances along its flight path for one revolution of the propeller. Its symbol is Pe.

geometrical pitch—The distance which an element of a propeller would advance in one revolution, if it were moving along a helix of slope equal to its blade angle.

mean geometrical pitch—The mean of the geometrical pitches of the several elements. Its symbol is Pg.

standard pitch—The geometrical pitch taken at two-thirds of the radius. Also called "nominal pitch". Its symbol is Ps.

zero thrust pitch—The distance

pitch ratio—Pitot tube

which a propeller would have to advance in one revolution in order that there might be no thrust. Also called "experimental mean pitch". Its symbol is P_v .

zero torque pitch—The distance which a propeller would have to advance in one revolution in order that the torque might be zero. Its symbol is P_a .)

pitch ratio, [力] 螺距比。

解：螺距（係幾何螺距，否則必須說明）和直徑 P/D 所成的比例。

(The ratio of the pitch (geometrical, unless otherwise stated) to the diameter P/D .)

pitch speed, [力] 螺距速度。

解：平均幾何螺距和單位時間內螺旋槳旋轉次數所乘的積數，為螺距速度，此即航空器無繫滑時所得的前進速度。

(The product of the mean geometrical pitch by the number of revolutions of the propeller in unit time — i.e., the speed the aircraft would make if there were no slip.)

Pitot bomb, [儀] 動壓器。

解：這是一個風車機件，其裝配的動壓管，係用軟軸懸掛於飛機的下面，以便得降速度記錄，而此種速度記錄不為飛機的空氣擾亂所影響。

(A wind device carrying a Pitot tube which is suspended on a cable below an airplane to secure landing speed data

which is not influenced by air disturbances about the airplane.)

Pitot tube, [儀] 披托管，動壓管。

解：一個圓筒形管，它的開口端正對氣流（此即管頭正對空氣）。航空器的飛行速度每小時不過 200 哩時，此器可測量動壓 (impact pressure)。此管在飛機上裝用時，係用一同軸的外管包圍，或另裝一管在其附近與之平行，普通稱此種聯合裝置為動數壓管 (pitot static tube)。附加的管子周圍有許多小孔，因此而生數壓 (static pressure)。流質（空氣）的速度可由計量器測量得動數二壓的差數，而決定之。凡如上聯合裝配的動數壓管，普通多簡稱之為動壓管。

(A cylinder tube with an open end which is pointed upstream (i.e., so that the air meets the instrument head on or is met head-on by the instrument). When the aircraft is flying less than about 200 miles per hour, the instrument measures the impact pressure. When used on aircraft, it is usually associated either with a closed coaxial tube surrounding it or with a closed tube placed near it and parallel to it, the combination being termed a Pitot-static tube. The associated tube has perforations in its side so that it is subjected to static pressure, as distinct from impact pressure. The speed of the fluid can be determined from

pitot-static tube—planer(wood)

the difference between the impact pressure and the static pressure as read by a suitable gauge. In common terminology the Pitot-static combination, as above, is often termed a Pitot tube or Pitot.)

pitot-static tube, 【儀】動靜壓管。

解：這是二管的聯合裝置，其中動壓管接受動壓，靜壓管接受靜壓。空速指示器常與此連用。

[A combination of two tubes, the Pitot tube to receive impact pressure and the static tube to receive static pressure. Used in conjunction with the air-speed indicator.]

plain bearing, 【器】簡單軸承。

解：一種簡陋圓筒形的襯套套在軸上，而軸即在套內摩擦，此係最簡易的軸承。

[A simple cylindrical bushing placed over the shaft, the shaft rubbing inside this bushing, the simple form of bearing.]

plain view drawing, 【應】平面圖。

解：這是表示物件由上面看去的真實形狀。

[The true shape of an object as viewed from the top.]

plane (main), 【機】主翼。

解：飛機的支持面，並包括副翼。(參閱附錄第十五圖17)

[A supporting surface of an aerodyne, including ailerons.]

plane (soaring), 【機】御風機。

解：這是藉本身前進力量而可以保持自由飛行的一種航空器。

[An aircraft capable of sustained free flight without self-propulsion.]

plane (stub), 【機】附機翼。

解：(1)由機身或船身突出的短翼，它的上面則裝接主翼部。(2)飛船船身突出的部分，以便在水面得橫安定性。

[(1) A short length of plane projecting from the fuselage or hull (usually forming a part thereof) to which the main portion of the plane is connected. (2) Projections from the hulls of flying boats to give lateral stability on the water.]

plane (tail), 【機】水平尾翼。

解：一個固定水平的翼面，為尾翼組的一部分，能影響航空器運動的縱向安定性。(參閱附錄第十五圖17)

[A fixed horizontal surface forming part of the tail unit affecting the longitudinal stability of the motion of an aerodyne.]

planer (metal), 【工】鏢床(金屬用)。

解：一種機械，可將金屬零件表面鏢平。鏢刀係裝在橫樑上，而機床攜帶工作物件在鏢刀上前後滑動。

[A machine designed to plane or surface metal parts. The tool is held on a cross beam and the bed of the planer moves back and forth carrying the work past the tool.]

planer (wood), 【工】鏢床(木料用)。

解：一種機床，上裝有旋轉的刀子，高度旋轉，能將木板面全部完全鏢平。

planetary winds—plywood

[A flat bed machine which surface the flat side of a board by means of a high speed rotating cutter which surfaces the full board width at one time.]

planetary winds, 【氣】地球風。

解：大氣的普遍循環。

[The general or primary circulation of the atmosphere.]

planiform, 【應】平面的。

解：機翼的垂直投影，表示其尖削或長方形狀，及其翼梢種類。

[The vertical projection of a wing surface, showing its tapered or rectangular shape, and the wing tip shapes, etc.]

planimeter (amsler), 【工】求積器。

解：一種儀器，可用以測量不規則形狀的面積，且可直接而決定重心、惰距等，無需計算的手續。有時亦稱為機械求積器。(mechanical integrator)

[An instrument used for measuring the area of irregular figures, for determining the center of gravity, moment of inertia, etc., directly and without calculation. It is also called a "mechanical integrator".]

platform (observation), 【艇】觀察台。

解：氣艇上面所裝配的小台，可作瞭望或作飛航的觀測之用。

[A platform or small deck fitted on the top of an airship and used as a post for a lookout and defense or as a place from

which to make observations used in navigating the airship.]

platinum, 【材】白金。

解：磁電機上斷接點的混合金屬，含有75%白金。白金為最佳的導電體，若不混合變硬，則用在磁電機斷接點上，似橡略軟而不耐久用。

[A metal used (platinum about 75%) in platinum alloy for contact breaker points in magnetos. Platinum is an excellent conductor of electricity, but it is too soft for breaker points unless alloyed with some hardening agent.]

plotting, 【工】製圖。

解：在紙上繪圖方向、距離、航線、機械性能等的方法。

[The process of constructing graphically on paper, directions, distances, courses, engine performances, etc.]

plywood, 【材】層板。

解：數層木片嵌鑲而成的薄木板，每層用膠膠合，惟交疊的各木片的木紋互成直角，這是與鑲板不同之處，如此則各向的強度相等，不致折裂與彎曲。層板的中心層大都為較輕的木料，如檜、白楊(Poplar)、桃花心木，或菩提樹。中心層較輕可受釘，輕則重量不大，膠合力極佳，且能抵抗彎曲力。用造飛機的前緣，頗為適宜，中心層兩旁各層的數目，大都相等，故木片的膠合層數皆屬奇數(3, 5, 7, 等)。層板的二面外層木料，多係硬木所裝，如樺木、楓木、胡桃木，或櫻桃木(黑色)，蓋取其易於塗漆，防免摩擦，易於裝置墊圈、零件，與釘頭等。

point(boiling)—point(stagnation)

(Plywood is relatively thin laminated veneering, built up by gluing together thin sheets of veneer, but, as distinguished from laminated members, the grain of alternate layers (laminations) is right angles. This gives equal strength in all directions, thus preventing splitting and warping. The core or most central lamination is usually a soft, light wood, such as spruce, poplar, mahogany or basewood. The soft core receives nails well, is light weight, glue well, and contributes to warp resisting qualities. A soft, light core is also better adaptable to forming operations over leading edges, etc. The outside plies are usually equal in number on each side of core, so that the total layers of veneer are represented by an odd number (3,5,7. etc.). The outside surface plies are usually of hard wood, like birch, maple, walnut, or cherry (black), for finish purpose, abrasion protection, and better seating for washers, fittings, and nail heads.)

point (boiling), [力] 沸騰點.

解：液體沸騰所在的溫度，還是指定液定液體在指定壓力下的固定溫度。水的沸騰點在華氏212度(攝氏100度)但在海平線壓力，若壓力減低，沸騰溫度亦減低。液體二氧化碳沸騰在華氏

—110度。

(The temperature as which a liquid boils—fixed temperature for a given liquid and pressure. Water boils at 212°F. (100°C) at normal sea-level pressure and decreases with a decreasing pressure. Liquid carbon-dioxide boils at—110° F.)

point (breaker), [電] 斷接點.

解：電路隔斷器的接觸點。

[The contact points of circuit breaker.]

point (burble), [力] 旋渦點.

解：旋渦即擾擾困難之意，在此係指飛機，因低速度及大傾角自致機翼上面的空氣，停止其適當的流動而言，故翼空氣不再有適當的流動，飛機遂失速而各操縱面，不復發生作用。

[Burbie means trouble. In this connection it is the cessation of the proper flow of the air over the wings owing to their low speed and big angle of incidence. Thus over the top of the wing the air is no longer flowing properly, and the aeroplane becomes stalled, whilst the control surfaces no longer function.]

point (mooring), [艇] 繫留點.

解：氣艇的特別加強部分，而繫留索則由此處伸出。

[A specially strengthened part of an airship or its rigging from which mooring wires are led.]

point (stagnation), [力] 歧點.

point(trail) - polyconic projection

解：此點在無黏性液體內運動的一個物體表面上，然液體是在靜止中。此點在黏性液體內，是正壓，在物體上最大的。(參閱附錄第六圖)

[A point on the surface of a body in motion through an inviscid fluid where the fluid is at rest relative to the body. In a viscous fluid, the point at which the positive pressure on the body is a maximum.]

point (trail), [力] 退曳點。

解：退曳線和地面相交的一點。(參閱附錄第四十一圖)

[The point where the trail line meets the earth's surface.]

point vortex, [力] 點形旋渦。

解：直線旋渦在二面向(two-dimensional)運動中的剖面。

[The section of a straight line vortex in two-dimensional motion.]

polar front, [氣] 極面。

解：由極區和低緯度空氣間的適合情況所產生的不連續線。多數溫緯度的低氣壓常在極面發生。

[The line of discontinuity which is developed in suitable conditions between air originating in polar regions and air from low latitudes. The majority of depressions of temperate latitudes develop on the polar front.]

polarity (battery), [電] 電池極性。

解：電池流出電流的方向，由正連接處在原電池內，正極是銅或炭質電極，

通常正極上塗有明顯的紅色。

[The direction of current flow from a battery, positive to negative connections. In a primary battery, the positive pole is the copper or carbon electrode. It is common practice to paint the positive pole (pos) a bright red color.]

polar lows, [氣] 極地低壓。

解：南北二極附近內的低氣壓區域。
[Area of low pressure in the vicinity of the North and South Poles.]

polar projection, [應] 極地投影。
的：一部分地面投射為平面，係用對極所輻射的投影線，使在他極成正切(tangent)。

[The projection of a portion of the earth's surface onto a flat plat, tangent to the earth at one pole by means of projection lines radiating from the opposite pole.]

polar triangle, [應] 極三角。

解：三個大圓圈的弧線所組成的三角形。

[Triangle formed by the arcs of three great circles.]

poles (geographical), [應] 地極。

解：地球的旋轉軸極端，稱為地極。
[The extremities of the earth's axis of rotation.]

polyconic projection, [應] 多圓錐投影。

解：多圓錐投影法係美人Ferdinand Hassler所創始。其法係將地球面投射為一組圓錐，而與緯線成正切，投射線

均係由地心發出。此類切錐 (tangent cones) 被展開後，緯線即現示為圓周之弧，其半徑和中心均不相同，故彼等遂不能集中融合，在北半球上，緯線均向北曲凹而成拱形。中央子午線 (central meridian) 的投影則成爲一直線，其他子午線則以曲線表現之，均向中央子午線曲凹而成拱形。子午線與緯線相分不爲直角。中央子午線左右錯誤甚微，但離中央子午線漸遠，則錯誤漸變大，但小地區現示於多圓錐投影上，錯誤無幾，無關重要。

[The projection of a portion of the earth's surface onto a series of cones set down on the earth and tangent to parallels of latitude. Radial projection lines are from the center of the earth. The projected strips of the cones, when developed or unrolled, cannot be matched perfectly, and so the finished map or chart has some distortion, especially near the edges.]

polymer, 【儀】毛髮濕度計。

解：一種記錄相對溫度，絕對溫度，露點，和溫度的儀器。

[An instrument used to register relative and absolute humidities, the dewpoint and temperature.]

pontoon, 【機】浮筒。

解：此字現已廢止不用。見 Float。
[Now obsolete. See float.]

poppet valve, 【發】揚瓣。

解：一個氣門因蒂部的往復運動，而能由氣門座完全升起和回復原來位

置。整個氣門座的啓閉動作是同時的，而它的漸次啓閉作用，是因氣門從氣門座升起或回復氣門座必要的時間所調節。

[A valve which, through reciprocating motion of its stem, is caused to completely lift from and return to the valve seat. The entire valve seat is cleared or covered simultaneously, and the gradual effects of opening and closing are governed by the time required to lift the valve from the seat or return it to the seat.]

porpoise, 【飛】前後振動。

解：降落不良時的跳躍動作，特別係指水上飛機而言。

[A series of bounces when making a rough landing, especially with a seaplane.]

port (inspection), 【艇】【球】檢查孔。

解：一種孔口，上蓋透明的圓盤，以便作氣囊內部的檢查。(參閱附錄第二十四圖, 45, 46.)

[An opening, covered by a transparent disc, provided to facilitate inspection of the interior of an envelope.]

positive blower, 【發】積極吹風器。

解：一種旋轉式空氣壓縮器，發出中等的氣壓，有旋轉活塞，風翼，或突起物與器匣接觸緊密，但旋轉速度較離心式吹風器的爲低。壓力常至每平方吋 25 磅。

[A rotary air-compressor for moderate pressure which con-

positive displacement supercharger—power loading

sists of revolving pistons, vanes or lobes which make air-tight contact with the casing and which revolve at a lower speed than the centrifugal blower. Pressure up to 25 pounds per square inch.)

positive displacement supercharger, 【發】變位式增壓器。

解：一種增壓器它的空氣或混合氣體是被壓縮而脈動輸入發動機。

[A supercharger in which either air or mixture is compressed and delivered to the engine in pulsations.]

post (rudder), 【機】方向舵柱。

解：方向舵的主支持，它的上面裝有鉸鏈。(參閱附錄第十五圖, 22)

[The main vertical member of a rudder to which the rudder hinges are attached.]

post (stern), 【機】尾柱。

解：航空器的船身或機身極後端的直立柱。(參閱附錄第十五圖, 21)

[The rear-most upright member of the fuselage or hull of an aerodyne.]

power, 【力】動力。

解：能力的消耗，且常包括時間要素。一件事情在十五分鐘內可做完的，不必消耗同樣力量在三十分鐘內繼續去做它。反之，用一定的量，在三十分鐘內繼續工作可做工作的二倍。

工作的單位名呎磅，呎磅代表舉起一磅的重量相反動，經過一呎的距離的能力的消耗。動力係做工作的間速率。最普通的單位則稱為馬力。

[Power is the expenditure of

energy and always involves the element of time. It is evident that it is not necessary to expend the same amount of power continuously to do a given amount of work in thirty minutes that would be required to accomplish the same amount of work in fifteen minutes. Or conversely, a given amount of power, working continuously, will accomplish twice the work in thirty minutes that it will accomplish in fifteen minutes. The unit of work is called a foot-pound, which represents the expenditure of energy necessary to raise a weight of one pound through a distance of one foot against the action of gravity. Power is the time rate of doing work, and the most common unit with which we are familiar is the horse power.]

power eggs, 【發】卵形發動機。

解：卵形發動機為發動機本身和其裝配物 (holder or container) 的總稱。在許多情況之下，尤其將發動機裝置機翼中間時，此發動機乃成順流線形，而視其外形如圓蛋。

[An engine "egg" is the engine and its holder, or container. In many cases, especially when engines are placed between the wings, this is streamlined, giving an egg-like appearance.]

power loading, 【力】動力載量。

解：飛機滿載重量後的總重，除以發動機的實馬力數，即得動力載量。不過計算發動實馬力時，空氣應合乎標準密度，否則應加以說明。

[The gross weight of an airplane, fully loaded, divided by the normal horsepower of the engine computed for air of standard density unless otherwise stated.]

power loading.【發】【力】動力載重。

解：一架飛機的飛行重量，被發動機的額定馬力除之，其除得的商數稱為動力載量。

[The flying weight of an airplane divided by the rated horse-power of the engine.]

power (margin of ,【力】餘剩動力。

解：此係超過在最好傾角(optimum angle)上維持平飛所必須的動力量。
[The available quantity of power above that necessary to maintain horizontal flight at the optimum angle.]

power overlap.【發】動力重疊。

解：發動機上一個氣缸的動力行程(power stroke)尚沒有完全完成，而另一個氣缸的動力行程已經開始，這種現象名為動力重疊。

[The amount which the power stroke of one cylinder overlaps the succeeding power stroke.]

power stall landing.【飛】開動發

動機失速降落。

解：一種落地方法，常用在無燈光的場上，或水面飛機及飛船在水面上，因高度難於估計時，亦用此法降落。

[A type of landing often used

when making a landing on an unlighted field at night. Also used in landing sea planes or flying boats on calm smooth water when the correct estimation of attitude above such surface is difficult.]

precipitation.【氣】降水。

解：水氣凝結，變成雨，雪，雹的形狀降落，但雪和雹為水氣凍結之固體，故係固體降落(solid precipitate.)

[The fall of condensed moisture in the form of rain, snow or hail. Hail and snow are particle of frozen moisture, making a solid precipitate.]

press fit.【工】壓夾接合。

解：二塊密換的部分，係用壓力夾緊。接合此部所用的是一個喬木夾子(arbor press.)

[Two pieces of such close dimension that pressure is required to assemble the pieces. An arbor press is used to assemble such parts.]

pressure (absolute).【力】絕對壓力。

解：真空中所測量的壓力，在海平面正常情況下，大氣的絕對壓每平方吋為1.47磅，因此絕對壓力是將1.47加在氣壓表示數上而得之。

[Pressure measured above a vacuum. At sea-level, under normal conditions, the absolute pressure of atmosphere is 14.7 pounds per square inch, hence the absolute pressure is obtained by adding 14.7 to the indicated by a gauge.]

pressure alarm—pressure manometer

pressure alarm. 【艇】氣囊警報機。

解：裝置於氣囊附近，囊內氣壓將達預定限度時，即能自動警告或指示，故亦稱氣壓警報機。

[A device, fitted adjacent to a gas cell, which indicates or warns when a predetermined limiting pressure has been reached in the gas cell. Also called "pressure alarm".]

pressure (atmospheric), 【氣】氣壓。

解：海平面上大氣的壓力，用作氣壓單位，每一平方英尺約為2117磅，除以144平方英寸，則每平方英寸氣壓為14.7磅。

[The pressure exerted by the weight of the atmosphere. The pressure on one square foot of the earth's surface at sea level is approximately 2,117 pounds. This figure divided by 144 square inches gives the pressure of 14.7 pounds per square inch.]

pressure dynamic, 【力】動壓，歧點壓。

解： $\frac{1}{2}\rho V^2$ 的乘積，其中 ρ 是空氣的密度， V 是空氣的相對的速度。這種質量可用空速儀器測量得之。它的符號是 q 。

[The product $\frac{1}{2}\rho V^2$, where ρ is the density of the air and V is the relative speed of the air. It is the quantity measured by most air-speed instruments. Symbol is q .]

pressure flap, 【艇】拍擊壓力。

解：硬式氣艇的外殼上裝有一個拍擊

氣門，能使空氣有急速出進的流動，且空氣於流入時特別迅速。這個氣門裝用的目的，是使殼內空氣的壓力有極速均衡的可能。

[A flap valve fitted in the outer cover or envelope of a rigid airship and arranged to permit the rapid flow of air in and out—particularly inward. The purpose is to facilitate the rapid equalization of the pressure of the air within the envelope with that of the surrounding air.]

pressure gradient, 【氣】氣壓變化。

解：在指定地點和指定時間內，氣壓表的變化，表示將臨的風景的嚴重情況。

[The change in barometric pressure over a given distance in a given time, indicating the severity of coming storms.]

pressure height, 【力】壓力高度。

解：硬式氣艇或軟式氣艇的氣囊滿盛氣體所在的高度。

[The altitude at which the gas cells of a rigid airship are full, or the gas bag of a non-rigid airship is completely full of gas.]

pressure manometer,

【球】微壓表壓力(浮昇器)。

解：浮昇器氣囊內部超過大氣壓標準點的壓力。參考過量壓力的標準點，在氣艇上是它的氣囊底部，在硬式氣球上是它的懸籃水準線。

[The excess of pressure inside the envelope of an envelope of

pressure nozzle—primary battery

an aerostat over the atmospheric pressure at a standard reference point. The point of reference for the excess of pressure is usually the bottom of the envelope or gas cell for airship and the level of the basket for kite balloons.)

pressure nozzle, 【儀】氣壓嘴。

解：這是一件儀器與壓力計連合運用的時候，可以指示飛機的對空速度。氣壓嘴也許是一個動靜壓管，或文德利管(Pitot-static or Venturi tube)，或兩者聯合組成。

[An instrument which, in combination with a gauge, is used to measure the indicated speed of an aircraft relative to the air. It may be a Pitot-static or a Venturi tube, or a combination of a Pitot tube and a Venturi tube.]

pressure pump, 【發】壓力唧筒。

解：一種唧筒常因壓力，而將滑油向發動機供給。

[A pump which supplies oil the engine, usually under pressure.]

pressure-relief vent, 【艇】【機】

減壓孔。

解：氣艇直翅外面上一個小孔，它是用以便利直翅內外空氣壓力均衡。它亦可用作直翅內積氣的出口。

[A small opening in the covering of the fin of an airship intended to facilitate the equalization of the pressure of the air within the fin with that

of the outside air. It also provides an outlet for any gas that may collect in the fin.]

pressure tube, 【艇】【球】壓力管。

解：裝接在氣囊上的管子，而管上復配有一壓力計。

[A tube fitted to an envelope or gas bag, to which a pressure gauge may be attached.]

pressure-tube gland, 【儀】氣壓計管壓蓋。

解：這是裝配在浮昇器氣囊內的短管，艙內氣壓計的長導管在此管上作不透氣的接頭。

[A gland fitted to the envelope of an aerostat to form a gas-tight connection for the tube leading to the manometer in the car. Same as "pressure-tube gland".]

prevailing wind, 【氣】普通風。

解：在一年某季內某地面上長時間吹動的風。

[The direction from which the wind blows the greatest number of hours, during any particular seasons of the year, at a given point upon the earth's surface.]

primary battery, 【電】原電池。

解：一種化學電瓶。其中一電極於放電完畢時，完全消蝕無餘，通常負極為鋅而正極為炭或銅。普通的乾電瓶即屬是種。

[A chemical cell in which one of the electrodes is entirely consumed at the end of discharge. Usually, the negative electrode is zinc while the

primary breaker—profile map

positive electrode is carbon or copper. The ordinary dry cell is a primary battery.)

primary breaker, 【電】 正電路隔斷器。

解：點火系中正電路的自動隔斷器，用於發火時斷接正電路。

(An automatic breaker or switch in the primary circuit of an ignition system that opens the primary circuit at the time that the spark is required.)

primary cell, 【電】 原電池。

解：即各種發生電流的電池之謂，對蓄電池而言。

(A cell which generates electricity, and a unit of a storage battery.)

primary coil, 【電】 正線圈。

解：感應圈、變壓器等之內，由電源導來的電流即原電流所通過的線圈，謂為正線圈。

primary current, 【電】 原電流。

解：由電源導來而通過感應圈或變壓器的正線圈中的電流，曰原電流。其副線圈中由原電流所造的磁場感應而生的電流，曰副電流。當接合原線圈的電路時，副電流的方向與原電流方向相反；當截斷正線圈的電路時，副電流的方向與原電流方向相同。

prime meridian, 【氣】 經度起點或經度零點。

解：通過英國格林威治的經線，經度以此點作零度向東西計量。

(The meridian passing through Greenwich, England, and from which longitude is measured East or West.)

primers, 【發】 起爆裝置。

解：一種小型唧筒裝置，用以噴射汽油至進口道內或氣缸內，而使發動機開動方便。

(Usually small pumping devices used to squirt raw gasoline into the intake passages or cylinders to facilitate starting.)

profile, 【力】 翼剖面。

解：用一與指定參考平面平行的平面，將翼面切成一橫剖面，稱為翼剖面。垂直於此平面的一線，稱為翼面的軸。(參閱附錄第七圖)

(A cross section of an airfoil made by a plane parallel to a specified reference plane. A line perpendicular to this plane is called the axis of the airfoil.)

profile drag, 【力】 翼剖面阻力。

解：因為氣體磨擦和擾亂所造成的一部分翼阻力，然在無黏性氣體中則不發生。

(That portion of the wing drag which is due to friction and turbulence in the fluid and which would be absent in a nonviscous fluid.)

profile map, 【應】 側面地圖。

解：側面用以顯示垂直投影或截面的外形，故側面地圖顯示地面對於海平面的高度外形。這種地圖若未印出記號，則不能表示方向。

(Profiles are used to show outline in vertical projection or cross-section. Therefore a profile map shows the outline of country in a vertical cross-

projected area—projection (polyconic)

section of altitude of points above a reference line, usually sea level. Directions do not appear on this map except as printed notations.]

projected area, 【力】 投射面積。

解：物體的此種投影面積，乃係平面，軸的投影面積是其直徑乘長度而計算之。

[The area of the shadow cast by an object. The area projected a flat plane or plate. The projected area of a shaft or bearing is equal to the diameter multiplied by the length.]

projected area of bearing, 【力】

軸承投影面積。

解：軸承投影面積是將孔的直徑乘軸承面長度而得之，但非軸承表面。

[The projected area of a bearing is equal to the diameter of the bore multiplied by the length of the bearing surface. It is not the superficial surface.]

projectile (signal), 【設】 信號投射物。

解：由白炮射出的一種烟火光炬，襄助飛機認別飛行場所在的地點。

[A pyrotechnic flare fired from a mortar to assist an aircraft in locating an aerodrome.]

projection (gnomonic), 【力】 日晷儀投影。

解：由地面中心向地面成切線的板上投影。

[A projection from the center of the earth of the earths

surface onto a flat tangent to the earth's surface.]

projection (polar), 【應】 極地投影。

解：一部分地面投射為平面，係用對極所論射的投影線，使在他極成正切 (tangent)。

[The projection of a portion of the earth's surface onto a flat plat, tangent to the earth at one pole by means of projection lines radiating from the opposite pole.]

projection (polyconic), 【應】 多圓錐投影。

解：多圓錐投影法係保人 Ferdinand Hassler所創始。其法係將地球面投射為一組圓錐，而與緯線成正切，投射線均係由地心發出。此類切錐 (tangent cones) 發展開後，緯線即現示為圓圈之弧，其半徑和中心均不相同。故彼等遂不能集中賄合，在北半球上，緯線均向北曲凹而成拱形。中央子午線 (central meridian) 的投影則成爲一直線，其他子午線則以曲線表現之，均向中央子午線曲凹而成拱形，子午線與緯線相交不爲直角。中央子午線左右錯誤甚微，但離中央子午線漸遠，則錯誤漸變大，但小地區現示於多圓錐投影上，錯誤無幾，無關重要。

[The projection of a portion of the earth's surface onto a series of cones set down on the earth and tangent to parallels of latitude. Radial projection lines are from the center of the earth. The projected strips of the cones, when developed or

projector (bearing)—propeller blade

unrolled, cannot be matched perfectly and so the finished map or chart has some distortion, especially near the edges.]

projector (bearing), 【設】航向投光器。

解：一種固定投光器與陸標燈聯合，利用其光束而指示某種規定方向。

[A fixed projector used in conjunction with a landmark beacon for indicating a specific direction by means of its beam.]

projector (ceiling), 【儀】雲高投光器。

解：投光器使有雲部分發光，而由此測定雲高。

[A projector for producing an illuminated region on a cloud to determine its height.]

proofing, 【工】使耐水。

解：浮昇器氣囊皮於製造時，另加材料於內，使它增加防水性，或使不透氣（或減低透氣性）。

[Material incorporated in the fabric of an aerostat at the time of manufacture to increase its resistance to the weather and/or prevent the passage of gas (or decrease its permeability).]

propaganda balloon, 【球】廣告氣球，宣傳氣球。

解：小氣球的一種，上無人員，而攜帶機器一具，相隔若干時間，即投下傳單或其他宣傳文件。

[A small free balloon sent up without passengers but with a device by which papers or documents may be dropped at

intervals.]

propeller, 【螺】螺旋槳。(=airscrew)

解：一種作螺旋形狀葉面的物件，在空中旋轉時，即向軸的方向發生推力。

[A surface so shaped that its rotation about an axis produces a force (thrust) in the direction of its axis.]

propeller (adjustable pitch),

【螺】調距螺旋槳。

解：一個螺旋槳的槳葉裝置，可於未旋轉時作任何角度的定置。

[A propeller whose blades are so attached to the hub that they may be set to any desired pitch when the propeller is stationary.]

propeller area (projected), 【螺】

投射的螺旋槳面積。

解：在螺旋槳軸或垂直的平面中，螺旋槳拉過的總面積，惟槳殼蓋覆和槳根拉過的部分不在內。這種部分常係槳軸伸出最大半徑的0.2部分。

[The total area in the plane perpendicular to the propeller shaft swept by the propeller, excepting the portion covered by the boss and that swept by the root of the blade. This portion is usually taken as extending 0.2 of the maximum radius from the axis of the shaft.]

propeller blade, 【螺】槳葉前後面。

解：螺旋槳葉在前進方向之面，與翼的上面形狀相似。螺旋槳葉靠近發動機之面（拉進式飛機），與翼的下面形狀相似。

propeller-blade angle—propeller hub

[The side of a propeller blade which corresponds to the upper surface of an airfoil. The surface of propeller blade which corresponds to the lower surface of an airfoil.]

propeller-blade angle, [力][機]
槳葉角。

解：螺旋槳剖面的弦與旋轉軸的垂直面所成的銳角。通常稱為 blade angle。

[The acute angle between the chord of a propeller section and a plane perpendicular to the axis of rotation of the propeller. Usually called "blade angle".]

propeller-blade area, [螺] 槳葉面積。

解：槳葉的面積，惟槳殼和槳根不在內，此即由槳軸伸出最大半徑的 0.2 部分除外。

[The area of the blade face, exclusive of the boss and the root, i.e., of a portion which is usually taken as extending 0.2 of the maximum radius from the axis of the shaft.]

propeller boss, [螺] 螺旋槳殼心。

解：一個螺旋槳的中部，此處裝有槳殼。

[The central portion of a propeller in which the hub is formed or mounted.]

propeller-camber ratio, [力] 螺旋槳弧度此。

解：螺旋槳切面最大厚度與弦度的比率。

[The ratio of the maximum

thickness of a propeller section to its chord.]

propeller (controllable pitch or variable pitch), [螺] 變距螺旋槳。

解：一個螺旋槳的槳葉裝置，可於轉動之際作任何角度的定置。

[A propeller whose blades are so mounted that they may be turned about their axis to any desired pitch while the propeller is in rotation.]

propeller-disk area (total), [螺]
總螺旋槳圓板面積。

解：螺旋槳掠過的總面積，此即一個圓面，它的直徑是等於螺旋槳的直徑。

[The total area swept by a propeller, i.e., the area of circle having a diameter equal to the propeller diameter.]

propeller efficiency, [螺] 螺旋槳效率。

解：螺旋槳的輸入動力和發出推力的比率，符號為 η 。

[The ratio of thrust power to power input of a propeller. Its symbol is η .]

propeller etching, [螺] 螺旋槳鑄鑿法。

解：處理金屬螺旋槳表現裂痕和瑕疵的方法。

[A process of treating the surface of metal propellers to bring out the evidence of flaws and cracks.]

propeller hub, [螺] 螺旋槳殼。

解：一種金屬裝置，於發動機軸上裝接螺旋槳時，可用此物插牢。或稱

propeller interference—propeller section

airscrew hub. (參閱附錄第四十圖)
[The metal fitting inserted or incorporated in or with a propeller for the purpose of mounting it on the propeller or engine shaft.]

propeller interference, 【力】螺旋槳干擾。

解：螺旋槳附近物體（如發動機，散熱器等）所產生的紊流，致使氣流改變，螺旋槳的阻力和推力因之而發生變化。

[The amount of which the torque and thrust of a propeller are changed by the modification of the air flow in the stream produced by bodies placed near the propeller, such as engine, radiator, etc.]

propeller-load curve, 【力】螺旋槳載重曲線。

解：一種曲線圖，表示推動一種螺旋槳作各種速度的必要發動機力。這種必要的助力，大概與每分鐘旋轉數次速度的立方成正比，但 $\frac{V}{ND}$ 比須保持為恆數。

[A curve representing the engine power necessary to drive any given propeller at various speed. The power required varies approximately as the cube of the speed in B. P. M. provided the ratio $\frac{V}{ND}$ remains constant.]

propeller pitch, 【力】螺旋槳的螺距。

解：見 pitch of a propeller.

propeller (pusher), 【螺】推進式螺旋槳。

解：螺旋槳係裝配在發動機或槳軸的後面（通常是在翼間或短艙的後面），能推動航空器向前進行。

[A propeller mounted to the rear of the engine or propeller shaft. (It is usually behind the wing cell or nacelle).]

propeller rake, 【螺】螺旋槳傾度。

解：螺旋槳葉中段重心連接的線，和軸的垂直面所成的平均角。

[The mean angle which the line joining the centroids of the sections of a propeller blade makes with a plane perpendicular to the axis.]

propeller reinforcing girder, 【艇】接力樑。

解：這是加裝在硬式氣艇結構上的一種小樑，使受螺旋槳洗流的外殼面增加強度。

[A light additional member fitted in the structure of a rigid airship to reinforce these area of the outer cover which are affected by the propeller wash.]

propeller root, 【螺】螺旋槳根。

解：接近槳轂的一部分槳葉，稱為槳根。

[That part of the propeller blade near the boss.]

propeller section, 【螺】螺旋槳截面。

解：槳葉任何點上的橫截面，是在和螺旋槳旋轉軸成平行的，並和旋轉軸作中心的弧線，在重心段上成正切的

propeller thrust—pterygoid aspect

平面中。

[A cross section of a propeller blade made at any point by a plane parallel to the axis of rotation of the propeller and tangent at the centroid of the section to an arc drawn with the axis of rotation as its center.]

propeller thrust, 【力】【螺】螺旋槳
推力。

解：螺旋槳總空動力中與槳軸成平行的分力，它的符號為T。

[The component parallel to the propeller axis of the total air force on the propeller. Its symbol is T.]

propeller torque, 【力】【螺】螺旋槳
槳扭力。

解：螺旋槳向一某方向旋轉，飛機乃有傾向相反方向旋轉的趨勢，謂為螺旋槳扭力，它的符號是Q。

[The tendency of an aeroplane to turn sideways in the opposite direction to which the propeller revolves. Its symbol is Q.]

propeller (tractor), 【螺】拉進式螺旋槳。

解：螺旋槳係裝配在發動機或槳軸的前面（通常是在機身或翼短艙前面），能拉動航空器向前進行。

[A propeller mounted on the forward end of the engine or propeller shaft. (It is usually forward of the fuselage or wing nacelle.)]

propeller wash, 【螺】滑流。

解：見 slipstream。

propeller-width ratio (total),

【螺】總螺旋槳寬度比。

解：在最大槳葉寬度點上的槳葉寬度比，乘槳葉數目而得的積數。

[The product of blade-width ratio at the point of maximum blade width by number of blades.]

propulsive efficiency, 【螺】推進
效率。

解：有效推力和飛行速度的乘積，對裝在飛機上螺旋槳輸入的實際動力所成的比率。

[The ratio of the product of effective thrust and flight speed to the actual power input to the propeller as mounted on the airplane, consistent units being used throughout.]

psychrometer, 【氣】【儀】乾濕溫度
表。

解：一種有乾濕球壅的儀器，用以測量蒸發溫度，此種聯合溫度表，一球壅用濕布包蓋，一球壅則不用濕布，而有濕布的球基部分，使空氣流動，因此觀察此二溫度表的差數。

[A dry and wet bulb instrument for measuring the "temperature of evaporation"; the combination of thermometer having its bulb covered with wet muslin and a similar thermometer without covering, used for ascertaining the dampness of the air, by observing the difference between the readings of the two thermometers.]

pterygoid aspect, 【力】【飛】長邊

pulleys—pump(scavenge)

比。

解：機翼如鳥翼形狀，而長邊正對氣流。

[Appearance of a bird wing. An airplane wing in birdlike arrangement, i.e., with the long dimension entering the airstream.]

pulleys. 【工】滑輪。

解：計算滑輪的大小，係用下列公式

$$D = \frac{dr}{R} \dots\dots\dots(1)$$

其中D=傳動滑輪之直徑

d=被轉滑輪之直徑

R=傳動滑輪每分鐘之轉數

r=被轉滑輪每分鐘之轉數

由上列公式(1)而得下列各公式：—

$$h = \frac{DR}{r} \qquad r = \frac{DR}{R}$$

$$R = \frac{dr}{D}$$

[To calculate size of pulleys, the following formula is used:

$$D = \frac{dr}{R} \dots\dots\dots(1)$$

in which D=diameter of driver pulley

d=diameter of driven pulley

R=revolutions per minute of driver pulley

r=revolutions per minute of driven pulley

The following formulae are derived from equation (1)

$$d = \frac{DR}{r}$$

$$R = \frac{dr}{D}$$

$$r = \frac{DR}{R}$$

pulsate. 【發】脈動。

解：如心脈的跳動。發動機吸氣管於吸氣至氣缸的中間發生間隙時，則有這種脈動的情況。

[It means to throb or beat. Pulsation occurs in the induction system of an engine when a gap occurs between the intake of gas to the cylinders.]

pump (air). 【裝】空氣唧筒。

解：抽出或壓縮空氣的機件。一壓縮唧筒則可增加一物內的氣壓，然一真空唧筒，將空氣抽出成半空的情況。

[A device for compressing or evacuating air into or from a space. A compressor (pump) increases the air pressure in a vessel. A vacuum pump, or evacuator, removes air from a space, producing a partial vacuum. A rotary airpump employs rotating gears, impellers or vanes to produce the effect.]

pump (pressure). 【發】壓力唧筒。

解：一種唧筒常因壓力而將滑油向發動機供給。

[A pump which supplies oil to the engine, usually under pressure.]

pump (scavenge). 【發】回油唧筒。

解：一種唧筒將滑油由油槽抽出而送返油箱。

[A pump which withdraws oil from the sump and returns it

pump(windmill)—pyrometer

to the oil tank.]

pump (windmill), 【油】風車唧筒。

解：一種汽油供給唧筒由風車所驅動。

[A fuel-supply pump driven by a windmill.]

purity of gas. 【球】氣體的純粹。

解：氣囊內輕氣(或其他種浮昇留氣體)的壓力,和一切氣體總壓力的比率。

[The ratio of the pressure of the hydrogen (or ther acrostatic gas) in the container to the total pressure due to all the contained gases.]

pursuit aviation, 【軍】空中驅逐術。

解：定義——空中驅逐隊為空軍之一部分,其組織,裝備及訓練等均注重於攻勢之動作,用以毀壞敵軍在飛行中之航空器為目的。

[Definition—Pursuit aviation is that branch of military aviation which is organized, equipped, trained and employed to destroy all hostile aircraft wherever found by offensive action.]

pusher airplane, 【機】推進式飛機。

解：螺旋槳在主昇力面(機翼)之後面的飛機。(參閱附錄第十四圖)

[An airplane with the propeller of propellers in the rear of the main supporting surfaces.]

pusher airscrew, 【螺】推進式螺旋槳。

解：螺旋槳的設計是向槳軸方面產生壓縮力。

[An airscrew designed to produce compression in the airscrew shaft.]

pusher engine, 【發】推進式發動機。

解：凡發動機上裝配推進式螺旋槳的,則稱為推進式發動機。

[Any engine when fitted with a pusher airscrew.]

pusher propeller, 【螺】推進式螺旋槳。

解：螺旋槳係裝配在發動機或槳軸的後面(通常是在翼間或短艙的後面),能推動航空器向前進行。

[A propeller mounted to the rear of the engine or propeller shaft. (It is usually behind the wing cell or nacelle.)]

push rod, 【發】推桿。

解：氣門機件的一部分,用以傳遞導輪隨動部的運動,到達氣門使動搖臂。

[Part of valve mechanism which transfers motion of cam follower to valve actuating rocker arms.]

put her on hat, 【飛】速降。

解：此乃俚語,指落場太高的速降動作,或因避免場端障礙而急降的動作。

[To land fast, usually resulting in “overshooting” the field and sometimes running into obstructions at the end of it.]

pyrometer, 【儀】高熱表。

electrical pyrometer, 【儀】電氣高熱表。

解：一種用熱電交連(thermo—electric)的機件,因二塊金屬交連處的溫度差異,而產生一種電流,測電表分刻度數而測量之,它的最高限度為華氏 2,500 度。

mechanical pyrometer, 【儀】機械高熱表。

quadrant—quibli

解：一種測定熱度的機件，利用不同金屬膨脹系數的差異，使指針在規度盤上移動。它的最高限度為華氏 1,500 度。

[electrical pyrometer—A device using a thermo-electric couple wherein the difference in the temperatures at the junction of two metals produces an electric current measured on a galvanometer calibrated in de-

grees. Upper limit 2,500° Fahrenheit.]

mechanical pyrometer—A device for determining temperature, which makes use of the different coefficients of expansion of dissimilar metals to operate a hand over a graduated dial. The upper limit is about 1,500° Fahrenheit.]

Q

quadrant, 【機】【艇】扇形板，彎柄。

解：一種圓弧形的操縱桿，用以控制氣艇或飛機的操縱翼面，例如方向舵彎柄，昇降舵彎柄。

[The operating lever, made on the arc of a circle, of a control surface of an airship, e. g., rudder quadrant, elevator quadrant.]

quadrant sight, 【儀】【軍】象限瞄準器。

解：一種地面運用的瞄準器，而測定炸彈命中點，普通係有二個瞄準，分裝於已知長度基線的兩端上。

[A sight, for ground use, for determining the point of impact of the bomb. Normally two sights are used, one at each end of a base line of known

length.]

quadruplane, 【機】四翼飛機。

解：有主翼四副的飛機，一翼在他的上面。

[An airplane with four main supporting surfaces, placed one about another.]

quenching, 【工】驟冷，淬火。

解：將金屬的物件用火煎鍛，浸於清水或滑油內使之驟冷，再使硬度增高，謂為驟冷法。

[The cooling of heated metal objects in water or oil for the purpose of tempering.]

quibli, 【氣】開比利風。

解：利波里 (tripoli) 的熱燥南風與異驟乾風 (sirocco) 相似。

[A hot dry southerly wind in Tripoli, similar to Sirocco.]

quick release—radiator header-tank

quick release, 【傘】速開器。

解：跳傘者迅速使傘張開的機件。
〔A device enabling the user to clear himself from the parachute and/or the harness.〕

quinoxes (the), 【應】天球點。

解：黃道和天球赤道相交點；且太陽在此種位置上時，則地球上具有相等的

日時。

〔Those points at which the ecliptic and equinoctical intersect, and when the sun occupies either of these positions, the days are of equal length over the earth.〕

R

race rotation, 【發】空轉。

解：經過螺旋槳或使螺旋槳感受影響的旋轉氣流，而氣流的旋轉是由螺旋的槳動作所產生。

〔The rotation, produced by the action of the propeller, of the stream of air passing through or influenced by the propeller.〕

radial bearing, 【發】輻射軸承。

解：一種環形的球軸承，裝置的方法是接受橫力或即與軸承長度成直角的力，此係水平軸的軸承面。

〔A annular type of ball bearing arranged to take the transverse or load at right angles to the length of the shaft. The supporting bearing for a horizontal shaft.〕

radial engine, 【發】星形發動機。

解：這機的固定氣缸是在同一曲軸上作星形的裝設。

〔An engine having stationary

cylinders arranged radially around a common crankshaft.〕

radial wire, 【艇】輻射線。

解：由硬式氣艇橫架中心的軸接頭，伸延至構架的接合點間的鋼絲。（參閱附錄第二十二圖）

〔A wire which extends from an axial fitting at the center of the transverse frame of a rigid airship to a joint of the frame.〕

radiation, 【應】放熱。

解：光線或熱度的放射及發散，謂之放熱。

〔The emission and diffusion of rays of light or of heat. In this case the radiation of heat from the earth.〕

radiator header tank, 【發】散熱器首箱。

解：散熱器的上部，由發動機收集的水分配至冷卻部份。

〔The upper portion of a

radiator(honeycomb)—radio compass

radiator in which water is received from the engine and distributed to the cooling elements.)

radiator (honeycomb),【發】蜂巢式散熱器。

解：一種水冷器內，有一束空氣管而管外爲水環繞。

[A water-cooler consisting of a block of air-tubes surrounded by water.]

radiator (leading-edge),【發】翼前緣散熱器。

解：裝在機翼前緣上的水冷器。

[A water-cooler which forms the leading-edge of a plane.]

radiator (nosepiece),【發】機首散熱器。

解：裝在機身或短艙前部的水冷器。

[A water-cooler fitted in front of a fuselage or nacelle.]

radiator (retractable),【發】伸縮式散熱器。

解：一種冷卻器能由氣流中縮入航空器內。

[A water-cooler capable of being withdrawn from the air stream into the body of the aircraft.]

radiator shutter,【發】散熱器風窗。

解：一種機械裝置用以調節經過散熱器的空氣。

[A device for regulating the flow of air through a radiator.]

radiator (underslung),【發】下懸散熱器。

解：懸掛在航空器某部的水冷器。

[A water-cooler suspended from some part of the aircraft.]

radiator vent-pipe,【發】散熱器通氣管。

解：一條開口的管子，由水冷系空隙處，伸出至大氣外面。

[An open-ended pipe leading from the air-space in a water-cooling system to the atmosphere.]

radiator (wing),【發】翼面散熱器。

解：配置在翼面內的一種水冷器。

[A water-cooler in which wing surface is adapted for cooling.]

radio beacon,【設】無線電信標。

解：無線電波向一有限制的路線上發出，以便駕駛員接收此信號後，可在正確航路上飛航。

[Radio waves directed over a limited path to enable a pilot to follow that path by means of the signals received of the aircraft.]

radio bearing,【電】無線電方位。

解：飛機或船舶上無線電收報機的固定線，對外來無線電波方向所成的角度。

[The angle formed by the fixed line of a moving receiver on an aircraft or vessel and the direction of the incoming radio wave.]

radio compass,【儀】無線電羅盤。

解：一種指示發電站方向的儀器，用無線電方位測出所在的位置。

[An instrument to indicate the direction of transmitting stations. Used to plot position by means of radio bearings, or for homing. Also referred to as

radio(directional) - rainbow

Radio Direction Finder.]

radio (directional), 【儀】定向無線電機。

解：此機係賴無線電方位而測定位置。

[Used to plot position by means of radio bearing.]

radio direction finder, 【儀】無線探向器。

解：一種接收播送方位電波的儀器。

[A device for indicating the direction of a transmitting station.]

radio navigation, 【飛】無線電航行。

解：指示飛機由一處飛至他處，專賴無線電信標，無線電方向指示器或無線電方位的一種方法。

[The method of conducting an aircraft from one point to another by radio aids, such as radio beacon, radio direction finder or radio bearings.]

radius (bend), 【力】彎曲半徑。

解：航空器任何部分的弧形半徑。

[The radius of any curve to which a part is bent in forming the part.]

radius of action, 【力】活動半徑。

解：飛機能飛的最大距離，並餘留有充量的汽油可飛回起飛地點。活動半徑有時亦可稱為「航行半徑」(navigation radius)。

[The greatest distance to which an airplane can fly and have sufficient fuel supply remaining to return to the starting point. Radius of action is also called

“navigation radius”.]

rail (docking), 【裝】【艇】棚廠操作。

解：一種軌道或導條建築在降落場，伸入棚廠內，以便握住氣艇的側拉降落索，用軌上的小車向前拉動。普通裝用雙軌，相離甚寬，且可伸入棚廠。

[A rail or guide, constructed on the landing field and extending into the shed, which supplies a means for holding the lateral pull of an airship's docking or handling lines. The pull is transmitted to the rails from wheeled cars or trolleys which are fitted on or in the rails. Usually two rails are fitted at the greatest distance apart which will permit them to be run into the shed.]

rails (handling), 【設】【艇】地面操作軌。

解：由氣艇棚廠伸至降落區域的軌道，上引小車，可與運用索連接。

[Tracks laid along an airship shed extending out to the landing area to carry trolleys for the attachment of the handling guys.]

rain, 【氣】雨。

解：降下成水滴形狀，則稱為雨。

[Precipitation in the form of water drops.]

rainbow, 【氣】虹。

解：這是天空中的一種分光 (spectrum)，因陽光在雨點或霧 (mist) 上折光，反光和散光的關係所造成。光線本由各種色光綫組成，而各有不同的

rain gauge—range (gliding)

折光度數。雨點在天空將陽光折爲色帶，普通稱爲虹。

[A spectrum in the sky due to the refraction, reflection and dispersion of light rays on falling rain drops or mist. Light rays are a combination of all of the colors and the various colors have different degrees of refraction. Consequently the refraction power of the moisture droplets spreads the colors out in a band. See refraction.]

rain gauge, [儀] 量雨器。

解：一種測量雨量的儀器。

[An instrument for measuring rainfall.]

rake (propeller), [螺] 螺旋槳傾度。

解：螺旋槳葉中段重心連接的線，和軸的垂直面所成的平均角。

[The mean angle which the line joining the centroids of the section of a propeller blade makes with a plane perpendicular to the axis.]

ram, [裝] 衝管。

解：聯合的管子和彈簧，裝置於繫留柱上的平衡環內。外管上裝有平衡環支架，而環內滑上裏管。裏管的上端裝有空心圓錐，用以接受繫留圓錐，并使此錐能自由旋轉。裏管可滑下至外管內，壓緊粗彈簧，如此在繫留時可減小震動。

[The combination of tubes and springs which is mounted in gimbals at the top of a mooring mast. It consists of

an outer tube which carries the gimbal mounting and within which slides an inner tube. The upper end of the inner tube carries the hollow cone which receives the airship's mooring cone and which is fitted to revolve freely. The inner tube can slide down into the outer tube and compress heavy springs, thus easing the shock when the mooring is made.]

range. [飛] [力] 航程。

解：飛機裝載一次燃料所飛行的距離，即爲該飛機的航程。

[The distance it can fly on one load of fuel.]

range at economic speed, [力]

[飛] 經濟速度的航程。

解：一種飛機於一切飛行程序中，用極經濟的速度和高度所航行的最大距離。

[The maximum distance a given aircraft can cover while cruising at the most economical speed and altitude at all stages of the flight.]

range at full speed, [力] [飛]

高高速度的航程。

解：一種飛機在海平線上用極高的速度所航行的最大距離。

[The maximum distance a given aircraft can cover at full speed at sea level.]

range (gliding), [力] 滑翔範圍。

解：航空器在正常情況下由指定高度滑翔所能達到的最終點。

range(speed)—reaction

[The ultimate point that can be reached from a given height by an aircraft under normal conditions.]

range (speed), 【飛】速度範圍。

解：凡飛機最低速度與最高速度的差數，為謂速度範圍，例如一飛機的最低速度，為每小時五十哩，而最高速度為每小時一百七十哩，則速度範圍，為每小時一百二十哩，凡飛機的升力速度 (lifting speed) 為速度範圍的最低示數。

[The difference between the minimum and maximum speed of an aeroplane. The lifting speed is the lowest figure of speed range. For example, if the minimum speed is 50 m.p.h. and the maximum speed 170 m.p.h., the speed range would be 120 m.p.h.]

rated altitude, 【發】額定高度。

解：在正常 r.p.m. 能全開油門的最低高度。在增壓發動機方面，則又係額定昇壓所能保持正常 r.p.m. 的最大高度。

[The lowest altitude at which full throttle is permissible at normal r.p.m. For a supercharged engine it is also the highest altitude at which the rated boost pressure can be maintained at normal r.p.m.]

rated boost pressure, 【發】額定昇壓。

解：發動機在標準額定氣壓額定高度上，全開油門並在正常 r.p.m. 時所保持的昇壓。

[The boost pressure maintained when an engine is running at full throttle and normal r.p.m. at the rated altitude in Standard Atmosphere.]

rated horse-power, 【發】額定馬力。

解：(1) 正常吸氣發動機，在全開油門。

(2) 增壓發動機，在額定昇壓上，及

(2) 過壓發動機，在油門預定放開範圍上各於正常 r.p.m. 及標準海平面情況 (760 mm, 16°C) 中工作時，發出的實馬力。

[The b.h.p. which an engine is rated to develop at full throttle and normal r.p.m. at the rated altitude in Standard Atmosphere.]

rate of climb, 【力】【飛】上昇速度，攀昇速度。

解：一架飛機空速的垂直分力，此即對於空氣的垂直速度。

[The vertical component of the air speed of an aircraft, i.e., its vertical velocity with reference to the air.]

reach, 【發】【電】塞長。

解：電火塞本身肩部至電極端間的距離長度。

[The distance between the shoulder on the plug body and the extremity of the electrodes.]

reaction, 【力】反應。

解：由主動力量所產生的一種相反并相等的力。

Reaumur scale—registering balloon

[A force, equal and opposite to the force of the action producing it.]

Reaumur scale, 【儀】列氏溫度表。

解：列氏溫度表，以零度爲冰點，以八十度爲沸點，德俄二國多用之。

[In the Reaumur scale, still largely used in Russia and Germany, the freezing-point is marked zero, and the space between this and boiling-point is divided into 80 degrees.]

reciprocal bearing, 【飛】往復方位。

解：由現在的位置回至出發點的方位。向前方位加 180° 。如此方位小於 180° ，則欲求得往復方位可增加 180° 。如此方位大於 180° ，則欲求得往復方位可減少 180° 。任何方位在 360° 以上的，可減去 360° 。

[The bearing from present position back to the point of departure. The forward bearing plus 180° . If the bearing is less than 180° , added 180° to get the reciprocal or back bearing. If the bearing is greater than 180° , subtract 180° to get the reciprocal bearing. Otherwise, 360° must be subtracted from any answer which reads over 360° .]

reciprocal of a number, 【數】倒數，反數。

解：這是一種分數，它的分子爲1，例如5的反數 $\frac{1}{5}$ ，即爲五分之一。

[It is a fraction, i.e., 1 divided by the number, The reciprocal of five is one-fifth.]

recorder (flight), 【儀】飛行紀錄器。

解：記錄飛機某種性能的一種儀器。

[An instrument for recording certain elements of the performance of an aircraft.]

reflection, 【力】反射。

解：由一種平面將熱波回轉。

[The turning back of heat waves by a material surface.]

refraction, 【力】折光，屈折。

解：光線或熱線經過光滑面而透入密度較高的中間物時，則它的直線路徑的變更，稱爲屈折。光線經過三稜鏡變成各種色彩，此則因爲光線有各種屈折度的分光，故在不同的角度上分射出來。

[The change from a straight line which a ray of light or heat assumes when passing through a smooth surface into a medium of greater density. Refraction of light rays through a prism produces a series of colors, because the components of the light ray have different rates of refraction and are, therefore, deflected at different angles.]

regenerated cell, 【電】復極電池，重生電池。

解：原電池於成極後復極，或儲電池再充電之謂。

[A primary cell which has been depolarized after polarization. Or a storage cell which has been recharged after exhaustion.]

registering balloon, 【儀】記錄氣球。

registration—relative inclinometer

解：一種小型氣球，攜帶數自記儀器，而記錄各高度中的氣壓，溫度及濕度等。

[A small free balloon carrying self-recording instruments into the upper air to obtain readings of the pressure, temperature and humidity at different altitudes.]

registration. 【公】登記。

解：飛機領得正式許可證的手續。

[It means entry of licensed aircraft in an official license registry of the Secretary of Commerce as aircraft of the United States.]

Regnault's law, 【力】勒諾定律。

解：由勒氏的實驗所得，各種氣體的比熱在恆定壓力下是恆定的。

[Regnault determined by experiment, that the specific heat at constant pressure is constant for any gas.]

relations of temperature, volume and pressure, 【力】溫度，

體積，及壓力之關係。

解：氣體在發動機汽缸內因受熱情況之變化，其溫度，體積，及壓力之互相關係，是與固定氣體之定律相符合：

1. 若溫度不變，則氣體體積的變化，與壓力成反比例（波義爾定律）。

2. 若壓力不變，則氣體溫度的變化，與體積成正比例（給呂薩克定律）。

3. 若體積不變，則氣體溫度的變化，與壓力成正比例。（給呂薩克，勒諾—朱爾定律）。

[In conformity with the laws of permanent gases, the mutual

relations of the temperature, volume, and pressure of a gas in the cylinder of an engine vary according to the conditions which obtain at heating.

1. If the temperature of the gas be kept constant, an increase or volume results in decrease of pressure (Boyle's Law).

2. If the pressure of the gas kept constant, an increase of temperature results in an increase of volume. (Gay-Lussac's Laos).

3. If the volume of the gas be kept constant, an increase of temperature results in an increase of pressure. (Gay-Lussac's Regnault's, and Joule's Laws.).]

relative humidity, 【氣】相對濕度。

解：在指定溫度情況下的空氣內的水蒸氣，對空氣內的水蒸氣飽和量所成的百分率。

[The percentage of moisture in the air under given conditions or temperature compared to a amount required to saturate the air.]

relative inclinometer, 【儀】相對傾斜計。

解：這是指示飛機關於明顯重力上姿勢的儀器，而明顯重力，即飛機因重力而加速的合力。

[An instrument which indicates the attitude of an aircraft with reference to apparent

gravity, i.e., to the resultant of the acceleration of the aircraft and that due to gravity.)

relative wind, 【飛】【力】相對風。

解：空氣對於一個物體的運動，即是一個人留在物體上所觀測的空氣運動。故相對風的方向和速度，是由兩個方向量(vector)相加而得，其中一個方向量是空氣對地的速度，另一個是和那物體對地速度相等而方向相反的。[The motion of the air with reference to a body, i.e., its motions as observed by a man at rest on the body. The direction and velocity of the relative wind, therefore, are found by adding two vectors, one being the velocity of the air with reference to the earth, the other being equal and opposite to the velocity of the body with reference to the earth.]

relief map, 【應】浮影地圖。

解：凡地圖有各種顏色，表示海平線以上的不同高度，則稱為浮影地圖。各種高度所用的顏色，均有說明，有時圖上亦可加印高度的數字。

[One which shows variations in altitude above sea level by means of shading or layer tints of color shading. Altitude for the various tints are shown in a legend. Altitude may also be shown by printed figures over the map.]

representative scale, 【應】示例

比尺。

解：這是海圖和地圖上所刊印的分數(fraction)用以表示地圖或海圖上的距離和地面上實際距離間的比率。例如：1/63,360，就是圖上一吋的距離等於地面上63,360吋(一哩)的距離的意義。

[A fraction printed on charts and maps which indicates the ratio between distances on the map or chart and the actual distances on the surface of the earth. For example: 1/63,360 means that one inch on the map equals 63,360 inches (one mile on the earth's surface.)

repulsion of magnetic fields,

【電】互相吸引及互相推拒的磁場。

解：兩根平行導體，若通以相同流向的電流(即兩根導體同時都是陽性或陰性而磁力線方向相同)，則磁場互相吸引。反之若通以流向相反的電流(即兩導體一為陽性一為陰性，而磁力線方向相反)，則磁場互相推拒。

[Magnetic fields of parallel conductors are mutually attractive if the current in both wires is flowing in the same direction, i.e., if both wires are either positive or negative with the magnetic fields of force in the same direction. The fields are mutually repellent if the current in the two conductors are flowing in opposite directions, i.e., if one conductor is positive and the other negative with the ma-

reserve water-tank — resistance derivatives (lateral)

gnetic fields of force in opposite directions.]

reserve water tank, 【發】預備水箱。

解：預備水箱是裝置在冷却系的極高處，以備需要時放用。

[A tank containing reserve water placed at the highest point of a cooling system.]

reshabar, 【氣】黑風。

解：由南古的斯坦(Southern Kurdistan) 山麓向下吹來的東北強烈乾風。

[A strong dry squally wind from the N.E. which blows down certain mountain ranges in Southern Kurdistan.]

residual magnetism, 【電】餘磁。

解：本來沒有磁性的物體，使它感受磁化力，一旦把磁化力完全撤開，該物體上尚剩有相當少量的磁性，則此少量的磁性叫作餘磁。

[The relative small amount of magnetism which remains in an object after the magnetizing force has been withdrawn.]

resistance (air), 【力】空氣阻力。

解：物體經過空氣運動而生的抗力運動中的阻力，常以指定的速度用磅數計算，因阻力是與速度平方成正比，空氣阻力而不發生作用的，則為廢阻力。(parasite resistance)

[The opposition offered to the movement of a body through air. The resistance to motion is usually given at pounds at a given speed as the resistance varies with the square of the

velocity. Air-resistance without causing useful effect is known as parasite resistance.]

resistance (body), 【機】機身阻力。

解：機身在空氣中運動時的阻力。

[Resistance of the fuselage when moving in air.]

resistance (deadhead), 【力】頭部阻力。

解：各部結構的頭部總阻力，但昇力面的阻力不在內。

[The structural head resistance of all parts taken together, but not including the lifting surfaces. See passive drag.]

resistance derivatives, 【力】阻力引申式。

解：這種數量，用以表示飛機因穩定運動的干擾所致的力和力距的變化，它們是安定理論的實驗基礎，並飛機的滯動，因數和時間，由此計算得知。普通情況中，移動的引申式有十八個旋轉的引申式亦有十八個。

[Quantities expressing the variation of the forces and moments on aircraft due to disturbance of steady motion. They form the experimental basis of the theory of stability, and from the periods and damping factors of aircraft can be calculated. In the general case there are 18 translatory and 18 rotary derivatives.]

resistance derivatives (lateral),

【力】側向阻力引申式。

解：這種側向阻力引申式表示力和力距在側向偏航和側滾速度中，因微小

resistance derivatives—resultant

變化所致的差異。

(Resistance derivatives expressing the variation of moments and forces due to small changes in the lateral, yawing, and rolling velocities.)

resistance derivatives (longitudinal), [力] 縱向阻力引申式。

解：這種縱向阻力引申式，表示力和力距在縱向垂直和俯仰速度中，因微小變化所致的差異。

(Resistance derivatives expressing the variation of moment and forces due to small changes in longitudinal, normal, and pitching velocities.)

resistance derivatives (rotary), [力] 旋轉阻力引申式。

解：這種旋轉阻力引申式，表示力和力距在飛機旋轉速度中，因微小變化所致的差異。

(Resistance derivatives expressing the variation of moments and forces due to small changes in the rotational velocities of aircraft.)

resistance derivatives (translatory), [力] 移動阻力引申式。

解：這種移動阻力引申式，表示力和力距在飛機移動速度中，因微小變化所致的差異。

(Resistance derivatives expressing the variation of moments and forces due to small changes in the translational velocities of the aircraft.)

resistance (electrical), [電] 電

阻。

解：電流通過導體所受的阻礙。電阻的單位是歐姆(ohm)。

(The resistance offered by conductors to the passage of electrical resistance.)

resolution of forces, [力] 力的分解。

解：計算產生合成力的分力的程序。

(The process of finding the component forces which produce a given resultant force.)

resonance in radio work, [電] 諧振。

解：無線電內的諧張，是將通訊中的收報與發報配諧，使振盪相等，以便收發員對於信號明白聽得。

(The principle which demands that the receivers and transmitters in radio communication must be in tune (equal vibrations) in order that the signals may be audible in the receiver.)

restoring moment, [力] 矯正力距，回復力距。

解：一種力距，使飛機於有小量旋轉動作後，恢復至原來姿勢。

(A moment which tends to restore an aircraft to its previous attitude after any rotational disturbance.)

resultant of two or more forces acting on a body, [力] 二力或多力在一物體上動作所成的合成力。

解：這種合成力是單獨的力，若單一動作時，則可產生如多力聯合所成的相同影響。

retarded(uniformly) - revolutions(maximum)

[The single force which, if acting alone, would produce the same effect as the several forces combined.]

retarded (uniformly), [力] 等減速運動。

解：在變化運動中，每一個連續時間單位內，都有劃一的減小率。

[Uniformly retarded motion is a variable motion in which the velocity decreases uniformly with each succeeding unit of time.]

retentivity, [電] 保磁性。

解：鋼和鐵有抵抗消磁的能力，稱為保磁性。

[The power of iron and steel to resist demagnetization.]

retractable radiator, [發] 伸縮式散熱器。

解：一種水冷器，能由氣流中吸入航空器內。

[A water-cooler capable of being withdrawn from the air stream into the body of the aircraft.]

return-flow wind tunnel, [力]

回流式風洞。

解：一種風洞，它的液體流經過風洞及風扇後，即由另一孔道所限制（孔口面積普通係漸漸增加的），而使液體回至風洞的入口。

[Any wind tunnel in which the fluid stream, after passing through the tunnel and fan, is constrained in another passage, or passages, generally of gradually increasing area, to return

to the entrance of the tunnel.]

reversal, [風] 反向。

解：地面風和高空風的方向，成90°的變化。

[A change of more than 90° in direction between the surface wind and the wind in the upper air.]

reverse control, [操] 反操縱。

解：飛機運至某種範圍時，它的操縱面功用變成相反的一種情況。例如飛機在垂直傾斜飛行中，昇降舵變為方向舵，方向舵變為昇降舵。昇降舵於轉動時雖然使機頭撓起，但對地面言之，是側向的轉彎動作。

[The situation that exists when an airplane is maneuvered to such an extent that the control surfaces reverse their function. For example: In a vertical bank the elevators act as a rudder and the rudders act as an elevator. The elevators are still lifting the nose around the turn, but are acting as rudder when the turn is considered in relation to the ground.]

reverse turn, [飛] 反轉彎。

解：一架飛機反轉飛行方向的急速動作，用半滾和半筋斗所造成。

[A rapid maneuver to reverse the direction of flight of an airplane, made by a half loop and half roll.]

revolutions (maximum), [發] 最大轉數。

解：依照最大馬力的每分鐘最大轉數。

revolutions(rated) --rib(bomb)

[The number of revolutions per minute corresponding to the maximum horsepower.]

revolutions (rated), 【發】額定轉數。

解：依照額定馬力的轉數。

[The number of revolutions per minute corresponding to the rated horsepower.]

revs. 【發】每分鐘轉數。

解：每分鐘轉數的縮寫，指發動機的速度而言。

[Short term, meaning "revolutions per minute", in reference to the speed of the engine.]

rev-up. 【發】大開油門，開機。

解：在地面試驗發動機大開油門之意，而機輪已用木塊塞住。

[Meaning to open wide the throttle, usually for testing the engine power, while on the ground, with the chocks in front of the wheels.]

Reynolds number, 【力】瑞登氏數。

解：分數 $P \frac{Vl}{u}$ 的名稱，其中

P 為流質的密度；

V 為流質的相對速度；

l 為物體的直線尺寸。

u 為流質的黏性係數。

一個物體的任何特殊長度和速度的乘積，對於流質的黏性動學係數所成的比例，一個無尺寸的比例，可用以表示黏性流質相似運動的情況。

[A name given the fraction

$P \frac{Vl}{u}$ in which

P is the density of the fluid;

V is the relative velocity of the fluid;

l is the linear dimension of the body.

u is the coefficient of viscosity of the fluid.

The ratio of the product of any typical length and velocity of a body to the kinematic coefficient of viscosity of a fluid. A non-dimensional ratio used to express the condition for similar notions in viscous fluids.]

rhumb line, 【飛】方位線。

解：在海圖或地圖上，一線與各子午線在同等角度相交的，稱為方位線。麥卡托投影法的任何直線，亦是方位線。[A line on a map or chart cutting all meridians at the same angle. Any straight line on a mercator projection is a rhumb line.]

rib, 【機】肋。

解：一種構架，能使翼面或操縱翼面的覆蓋材料得所要的形狀，并在載重之下保持形狀不變。(參閱附錄第十五圖33)

[A member which gives the desired shape to the covering material of planes or control surfaces, etc., and maintains that shape under load.]

rib (bomb), 【機】炸彈架肋。

解：航空器構架的部分，而炸彈架系在上面裝配的。

[A structural member of the aircraft to which a bomb carrier

rib(box) - rigging position

is attached.)

rib (box), 【機】盒形肋。

解：在翼和機身連接處的實體盒形肋。

[A rib built in the form of a solid box at the junction of the wing and fuselage.]

rib (compression), 【機】壓縮肋。

解：翼面構架內的壓縮應力承受肋。

[The compression stress-bearing ribs in the framework of an airfoil.]

rib (false), 【機】假肋。

解：在前樑和前緣間的短肋，用以保持翼面的弧面及蒙布。

[Short form ribs between the front spar and the leading edge, used to improve and maintain the camber of the airfoil.]

rib (form), 【機】成形肋，輕肋。

解：這是一種輕肋，用以構成翼架的形態，支持翼面的蒙布。肋條的腹板上鑿有若干圓孔，用以減輕重量。又稱為輕肋(lightening rib)。

[The lighter, form-giving parts, used in airfoil constructions.]

rib (lightening), 【機】輕肋。

解：同 rib (form)。

rib (nose), 【機】前緣肋。

解：主翼或操縱翼的前樑和前緣的肋。(參閱附錄第十五圖,34)

[The ribs between the front spar and leading edge main plane or control surfaces.]

ridge, 【氣】脊形高氣壓。

解：天氣圖上的舌形高氣壓，將鞍型(eol)及反旋風相連。

[A tongue of high pressure on a

weather chart forming a connection between a col and an anticyclone.]

riding lamp, 【裝】停泊燈。

解：航空器於夜間下錨或繫留時，所張用的燈光。

[Lamps displayed by aircraft at anchor or when moored.]

rigger. 【工】裝配者。

解：雇用作飛機裝配和配準工作的人員。

[One who is employed in assembling and aligning aircraft.]

rigging, 【艇】【機】裝配。

解：氣艇吊籃，方向舵，氣門，操縱器等之連接和調整，稱為浮昇器的裝配。飛機各部的裝置調整，和配準工作，亦稱為裝配。

[The attachment and adjustment of the car, rudders, valves, controls, etc., of an airship. The assembling, adjusting, and aligning of the parts of an airplane.]

rigging band, 【球】裝配帶。

解：一種裝在氣囊上的助強帶，以便牢結吊索。(參閱附錄第二十四圖)

[A reinforced band secured to the envelope for the attachment of rigging.]

rigging line, 【傘】吊索。

解：將載重由裝具(或救命索)傳達傘身的索子。(參閱附錄第四十三圖。)

[The cords which transmit the load from the harness (or life line) to the canopy.]

rigging position, 【工】裝置位置。

解：飛機的縱軸(通常與螺旋槳軸成

平行的)與地面成水平的位置。

[The position of an airplane when the longitudinal axis (usually parallel to propeller axis) is level with respect to the ground.]

right ascension of a heavenly body, 【氣】天球的赤經度。

解：這是赤道在經度起點 (Prime meridian), 和天球于午線間相交切的弧線, 而常在經度起點以東測算之。赤經度亦是天經度 (celestial longitude)。

[The arc of the equator intercepted between the prime meridian and the meridian of the body, and is always measured to the east of the prime meridian. Right ascension is celestial longitude.]

right-hand engine, 【發】右轉發動機。

解：若人由螺旋槳軸的反端面向螺旋槳時, 則此機的螺旋槳軸是作順時針方向的旋轉。

[An engine whose propeller shaft, to an observer facing the propeller end of the shaft, rotates in a clockwise direction.]

right-hand magneto, 【發】【電】右手磁電機。

解：由磁電機傳動軸端視去, 它是作順時針方向旋轉。

[A magneto revolving clockwise to an observer looking at the driven-shaft end.]

right-hand airscrew, 【螺】右轉螺旋槳。

解：由航空器後方觀之, 螺旋槳是作

反時針方向的旋轉。

[An airscrew revolving clockwise to an observer behind the aircraft.]

righting moment or restoring moment 【力】矯正力距, 回復力距。

解：一種力距, 使飛機於有少量旋轉動作後, 恢復至原來姿勢。

[A moment which tends to restore an aircraft to its previous attitude after any small rotational disturbance.]

right rudder, 【操】方向舵右方操縱。

解：推動右方方向舵踏板或方向舵桿向前之謂。

[Pushing forward on the right rudder pedal, or rudder bar.]

right side (engine), 【發】發動機右邊。

解：觀察者由螺旋槳反端向螺旋槳端視去, 則人的右手邊即稱為發動機右邊。

[That side which, to an observer looking from the anti-propeller end, lies on the right-hand side.]

rigid airship, 【艇】硬式氣艇。

解：氣艇的形狀由外部的硬骨架所維持。(參閱附錄第十九圖)

[An airship whose form is maintained by a rigid structure.]

rime, 【氣】霧霜。

解：霜和濕霧, 同時發生時, 物體向風方向, 凍結的羽形冰塊。

[A deposit of ice of a feathery nature on the windward side of exposed objects when frost and

ring(anti-drag) - rip cord

wet fog occur together,]

ring (anti-drag),【發】減阻環。

解：一大型環套，在星形發動機的氣缸上，使氣流向某方流動，可使發動機的廢阻力減少。

[A large ring surrounding the cylinders of a radial engine which directs the airstream in such a way that there is a marked reduction in the parasitic resistance of the engine.]

ring (concentration),【球】【艇】集索環。

解：此環在氣艇上，有數條裝配索由氣囊達到上面，并有數索又由此環而伸展至吊籠。在自由氣球上，此環牢繫懸掛吊籠的索子，而球網亦在此環上面結牢，故有時亦稱為「負載環」(load ring)。

[In airship, a ring to which several rigging lines are led from the envelope and from which one or more lines also lead to the car. In free balloon, a ring to which are attached the ropes suspending the basket and to which the net is also secured. Sometimes called "load ring".]

ring (downend),【機】增速環。

解：翼剖面的圓環，裝在星形發動機四週上，使經過的氣流偏向裏面，而減低阻力。

[A ring of aerofoil section arranged round a radial engine to reduce its drag by deflecting inwards the air flowing past it.]

ring (exhaust),【發】排氣環。

解：一種環形排氣集管。(參閱附錄第三十九圖)

[A circular exhaust manifold,]

ring (load),【球】負載環。

解：與 ring (concentration) 同，亦稱集索環。

ring (mooring),【球】【艇】繫留環。

解：一種金屬環，用繩索懸掛在硬式氣艇的前架上，為作繫留之用。三點繫留的頂點，即是繫牢在此環上。

[A metallic ring suspended from one of the forward frames of a rigid airship by wire lines and used for mooring. The vertex of a "three-point mooring" is attached to this ring.]

ring (obturator),【發】緊塞圈。

解：一種L形剖面的活塞圈。

[A gas ring L-shaped in cross-section.]

ring (scraper),【發】刮油圈。

解：一種彈簧圈，能將氣缸壁上的過量滑油刮去，有時亦稱為滑油圈。(oil ring)。

[A spring ring which removes superfluous oil from the cylinder wall.]

rip cord,【球】開球索【傘】開傘索環。

解：【球】開球索就是由開口牙布(rip panel)至吊籠的一根長索，如果拉動此索裂開球布，即可使氣球的氣放去。

【傘】一種手動的索環，拉開時可將保險傘張開。(參閱附錄第四十四圖)

① The rope running from the rip panel to the car of basket,

rip panel roll(aileron)

the pulling of which tears off or rip the panel and causes immediate deflation.

② A manual operating rope which is used to open the parachute.]

rip panel, 【球】【艇】裂幅。

解：一片嵌在氣球的氣囊上方或硬式軟式氣艇上部的布片，在須要即刻放氣時可以拉開懸索。(參閱附錄第十七及第二十三圖)

[A strip of fabric inserted or fitted in the upper part of the envelope of a balloon or semirigid or nonrigid airship which is torn to ripped open when immediate deflation is desired.]

rocker arm, 【發】搖臂。

解：這是使動氣門的中間機件，裝接在推桿和氣門蒂的中間。有時在直線發動機上，搖臂是直接由導輪使動的。[Intermediate valve mechanism part which actuates valve. It is the connecting link between the push rod and the valve stem, in some cases the rocker arm works directly from the cams on in-line engine.]

rocket, 【飛】水滾式飛行。

解：當單座機與轟炸機格鬥時，頗有效用，蓋水滾式飛行，使單座機能直接由下而向上射擊，換言之，即可以佔據使敵機槍手難於射擊之位置。

[It is useful for a single-seater against a bomber, as it enables the former to bring fire to bear from directly underneath, i. e., from a position against which is

very difficult for the gunner in the enemy bomber to bring fire to bear.]

rocket (signal), 【設】信號火箭。

解：由地面射擊的一種火箭，襄助飛機認別飛行場或傳達消息。

[A rocket fired from the ground to assist an aircraft in locating an aerodrome or to convey instructions or information.]

rod (connecting), 【發】聯桿。

解：一種桿子兩端均有軸承，與活塞銷(piston pin)及曲柄軸的曲柄銷(crank pin)相連接。

[A rod with a bearing at each end connecting the piston pin (wrist pin) and an off-set(crank pin) on the crankshaft.]

rod (push), 【發】推桿。

解：氣門機件的一部分，用以傳遞導輪隨動部的運動，到達氣門使動搖臂。

[Part of valve mechanism which transfers motion of cam follower to valve actuating rocker arms.]

roll, 【飛】側滾。

解：這是一種特技飛行動作，飛機在它的縱軸上作一個完全的旋轉，但它的飛行平面方向仍保持不變。(參閱附錄第三圖)

[A maneuver in which a complete revolution about the longitudinal axis is made, the horizontal direction of flight being approximately maintained.]

roll (aileron), 【飛】副翼側滾。

解：這種特技飛行動作，飛機縱軸完全的滾轉時，是專操縱副翼；不過在

roll (angle of) — rolling instability

機翼成垂直位置的時候，略用方向舵以便保持機頭水平。

[Aileron roll can only be executed with a plane of excellent maneuverability, and is accomplished by making a complete roll about the longitudinal axis with the aileron control only, except that a little top rudder is used to keep the nose on the horizon when the wings are vertical.]

roll (angle of), 【力】側滾角。

解：飛機沿縱軸旋轉，使橫軸進入橫平面內的銳角。符號為 α ，如左翼高於右翼，則稱為正角。(參閱附錄第三圖) [The acute angle through which an aircraft must be rotated about its longitudinal axis in order to bring its lateral axis into a horizontal plane. This angle is denoted by α and is positive when the left wing is higher than the right.]

roll (barrel), 【飛】橫滾轉。

解：飛機在縱軸上由正常飛行姿勢滾轉，經過倒飛行位置而回至正常飛行姿勢。(參閱附錄第五十九圖)

[A full roll about the longitudinal axis from normal flight attitude through inverted position and on around to normal attitude again.]

roll (flick), 【飛】閃側滾。

解：速度極快的側滾動作。
[A rapid roll.]

roll (half), 【飛】半側滾。

解：飛機在縱軸上由正常飛行位置而至倒飛姿勢，或由倒飛姿勢而至正常

飛行位置。

[A half roll about the longitudinal axis from normal flight to inverted flight or from inverted flight to normal flight position.]

roll (to), 【飛】滾轉。

解：飛機在縱軸上滾轉。

[To turn about the longitudinal axis.]

roller bearing, 【發】轉條軸承。

解：一種軸承其中裝有轉條於軸及軸承的中間，而此轉條將運動變為滾轉磨擦而無平面磨擦。

[A type of bearing in which rollers are placed between the shaft and the main bearing, the rollers converting the motion into rolling friction instead of rubbing friction.]

rolling balance, 【儀】橫測天秤。

解：當飛機模型在風向平行軸上旋轉時，測量氣動力或力矩的一種天秤。

[A balance designed for measuring aerodynamic forces or moments while the model is rotating about an axis parallel to the wind direction.]

rolling instability, 【力】橫測不安定。

解：因為飛機的運動於受橫滾干涉，并未平復至水平位置後而有增大振動的不安定性。這是橫不安定的特殊情況。

[The instability on account of which the motion of an aircraft takes up an increasing oscillation after a rolling disturbance and does not settle down

to a horizontal position. A special case of lateral instability.]

rolling moment, [力] 橫側力距。

解：因相對風力在偶力 (couple) 的縱軸上所生的分力。

[The component about the longitudinal axis of the couple due to the relative wind.]

roots supercharger, [發] 轉筒式增壓器。

解：一種增壓器，它的氣體壓縮是由固定匣內的二個轉筒 (rotors) 相對運動致成。(參閱附錄第三十七圖)

[A supercharger in which compression is effected by the relative motion of two rotors in a fixed case.]

rope (drag), [球][艇] 阻力索。

解：一根長索，懸掛在氣球的外邊，於着陸時可作制動或壓載物之用。各落地索或引導索 (trail rope or guide rope)。此索懸掛在氣艇上，地面人員將此作拉下索或繫留。此索常較握索 (handling line) 粗而長，亦稱為握緊索 (grab line)。

[A long rope which can be hung overboard from a balloon so as to act as a brake and a variable ballast in making a landing. Same as "trail rope" or "guide rope". On airship a similar rope or ropes is used as a haul-down or mooring line by the landing crew. It is usually larger and longer than a regular handling line. Sometimes called "grab line".]

rope (mooring), [球][艇] 繫留索。

解：由氣球或氣艇吊下來的索子，作繫牢在地面之用，亦有時作繩索的用途。(參閱附錄第十七圖)

[A line attached to balloon or airship for use in securing it to the ground. It may serve the purpose of a "Handling line" or vice versa.]

rope (trail), [球][艇] 落地索。

解：一條索子，由氣球拖曳於地面，用以核算地速，并在接近地面時改變所載索子重量，自動調整高度。

[A rope trailed by a balloon over the ground to check the ground speed, and to regulate the height automatically when near the ground by varying the weight of rope carried by the balloon.]

rotary converter, [電] 旋轉變流機。

解：這與電動發動機頗相似，惟直流電線圈和交流電線圈均在同一發電樞上，用以變化電流。

[Similar to a motor generator except that it is a single unit with the direct and alternating current windings in the same armature.]

rotary engine, [發] 旋轉發動機。

解：這發動機的星形裝置氣缸，是在同一曲軸上旋轉。

[An engine having revolving cylinder arranged radially around a common fixed crank-shaft.]

rotary-jet cooler, [發] 旋轉噴射口冷卻器。

rotary resistance—rudder (airship)

解：一種冷却器，其中旋轉的滑油噴射口是向冷的金屬面上相衝擊。

[A cooler in which rotating oil-jets impact on a cooled metal surface.]

rotary resistance derivatives.

【力】旋轉阻力引申式。

解：這種旋轉阻力引申式，表示力和力距在飛機旋轉速度中，因微小變化所致的差異。

[Resistance derivatives expressing the variation of moments and forces due to small changes in the rotational velocities of aircraft.]

route (air). 【飛】航空路線。

解：二個或數個飛行場間的明確路線。

[A definite route between two or more aerodromes.]

Royal Air Force, 【軍】皇家空軍。

解：皇家空軍為英國的空軍，創辦於1917年11月，蓋是年皇家空軍(憲法)條例(Royal Air Force (Constitution) Act) 規定創辦空軍(Air Force) 及航空會議(Air Council)。1918年1月，航空會議即告成立，執行前航空部(Air Board)的職務。

[In November, 1917, the Royal Air Force (Constitution) Act, 1917, provided for the establishment of an Air Force and an Air Council. In January 1918, the Air Council was established, and took over the functions of the Air Board.]

rubber, 【材】橡皮。

解：起落架和尾槓的彈索係橡皮所製

造。彈索為一束橡皮筋，外用纖維物編織，紗鬆均成斜角，以便裏面的橡皮伸縮。發動機支架墊，散熱器裝置墊，軟管接頭等，均係橡皮所造。電氣系中，常用橡皮為絕緣物。

[Rubber is used for shock cord on landing gear and tail skid. Shock cord is made of a bundle of rubber bands with a woven cloth covering. The covering is woven loosely and on the bias to stretch with the rubber. Rubber is also used for engine mounting and radiator mounting pads, hose connections, etc. Rubber insulation is used extensively in the electrical system.]

rubbing velocity (bearing). 【力】

軸承磨擦。

解：軸圓周在軸承內的直線速度，此係以每秒呎計量。

[The linear speed of the shaft circumference within a bearing in terms of feet per second.]

rudder, 【操】方向舵。

解：一種活動的補助翼面，於飛機正常飛行中，能作左右的偏航動作。方向舵常安置在飛機的後部。(參閱附錄第十五圖)

[A movable auxiliary airfoil, the function of which is to impress a yawing moment on the aircraft in normal flight. It is usually located at the rear of an aircraft.]

rudder (airship), 【艇】氣艇方向舵。

rudder(angle)—rudder torque

解：一種有樞軸的面，常在氣艇後端直翅上裝接。如操動此面，即發出偏航的動作，且方向的操縱所在的平面，是與此面的樞軸成直角。

[A hinged or pivoted surface, usually attached to a fin at the after end of an airship. When operated by the pilot it produces a yawing moment and gives directional control in the hinged or pivoted.]

rudder (angle), 【力】【機】方向舵角。

解：方向舵與飛機對面所成的銳角。後緣向駕駛員正常位置的左方移動時，則稱為正方向舵角。

[The acute angle between the rudder and the plane of symmetry of the aircraft. It is positive when the trailing edge has moved to the left with reference to the normal position of the pilot.]

rudder bar, 【操】方向舵踏板。

解：這是一種踏板，可運用達到方向舵的操縱索。(參閱附錄第十六圖)

[The foot bar by means of which the control cables leading to the rudder are operated.]

rudder (bottom), 【操】方向舵下方操縱。

解：向右傾側時操用右方方向舵，向左傾側時操用左方方向舵，換言之，即操用傾側下方方向舵。

[The use of right rudder when banked to the right, or left rudder when banked to the left. In other words, the use of

rudder on the bottom, or lower side of a bank.]

rudder (left), 【操】方向舵左方操縱。

解：推動左方方向舵踏板或方向舵桿向前之謂。

[Pushing forward on the left rudder pedal, or rudder bar.]

rudder pedals, 【機】方向舵蹬。

解：一種踏板，用腳在上面操動方向舵。

[An alternative device to rudder bar.]

rudder post, 【機】方向舵柱。

解：方向舵的主支柱，它的上面裝有鉸鏈。(參閱附錄第十五圖22)

[The main vertical member of a rudder to which the rudder hinges are attached.]

rudder (right), 【操】方向舵右方操縱。

解：推動右方方向舵踏板或方向舵桿向前之謂。

[Pushing forward on the right rudder pedal, or rudder bar.]

rudder (top), 【操】方向舵上方操縱。

解：操用傾側上方的方向舵踏板，而向右傾側操用左方方向舵，向左傾側時操用右方方向舵。

[The use of rudder on the upper side of a bank, such as left rudder when banked to the right, or right rudder when banked to the left.]

rudder torque, 【力】方向舵扭力。

解：方向舵在機身上所發生的扭轉力距。方向舵面積，乘舵面中心至機身軸

run(landing)—safety loop

間的距離，所得的積數，可用作方向舵扭力的相對量。

[The twisting moment exerted by the rudder in the fuselage. The product of the rudder area by the distance from its center of area to the axis of the fuselage may be used as a relative measure of rudder torque.]

run (landing),【飛】降落滑走距離。

解：飛機於降落時接觸地面行動的距離。

[The distance travelled in contact with the earth during alighting.]

runner (central),【機】中央滑走撬。

解：滑翔機機身下的單一滑撬，用作起落架。

[A central skid below the fuselage of a glider which acts as the landing gear.]

runners or skis,【機】滑走撬。

解：飛機在冰雪地上降落多用之。

[They are used on airplanes for landing on snow and ice.]

running rigging,【球】活動吊索。

解：一系吊索，能自動調整，以便改變拉力的方向。(參閱附錄第二十六圖)

[A system of rigging which automatically adjusts itself to a change of direction of pull.]

run (take-off),【飛】起飛滑走距離。

解：飛機起飛時接觸地面行動的距離。

[The distance travelled in contact with the earth during taking-off.]

runway,【設】滑走道。

解：飛行場內一條堅硬的路道，以便航空器起飛，和降落的滑走。

[A hard surface path on an aerodrome to facilitate landing and taking-off.]

S

S.A.E.【公】汽車工程會。

解：汽車工程會的縮寫字。

[Abbreviation for Society of Automotive Engineers.]

safety belt,【裝】保險帶。

解：繫住駕駛員或乘客於座位，以免跌出機外的繫帶。

[The belt or strip which secures the pilot or passenger to his seat.]

safety gap,【發】安全間隙。

解：高壓電路(副電路)間的高阻空氣間隙，若在電路中發生故障時，能容高電壓跳過，以保安全。

[A high resistance air gap across the high tension (secondary) circuit designed to allow a discharge of high potential if the secondary circuit fails.]

safety loop,【球】安全繩圈。

safety pin—sand pillar

解：撕幅索 (rip cord) 裏面一個安全繩圈，用一根可以拉斷的繩子或一個彈簧夾子把它聯附到氣囊上的加強布片 (securing patch) 上面。這個繩圈可以結在氣囊以內附近撕幅 (rip panel) 的地方，也可以結在氣囊以外，靠近撕幅索通進氣囊的滑孔 (gland) 處。在未下令“拉動”的時候，必須先把可以拉斷的繩子拉斷或將彈簧夾子啓開。意外的“拉動”多半不易發生，因為可以拉斷的繩子或彈簧夾子的力量，很能夠支持繩子的重量而不致發生意外。

[A loop formed in a rip cord and attached to a securing patch by a breakable cord or a spring clip. It may be formed either inside the envelope and close to the rip panel or outside the envelope near the gland by which the rip cord passes through the envelope. Before the rip panel can be “pulled” the breakable cord must be broken or the clip opened. Accidental “pulling” is thus made unlikely, as the weight of the cord is easily carried by the breakable cord or spring clip.]

safety pin (or safety clip), [軍]
保險針。

解：預防炸彈偶然爆炸的機件。
[A device to prevent the bomb being rendered “live” inadvertently.]

sag, [輿] 懸垂。

解：氣艇的縱軸向上凹時，以致兩端上撓，成變形的一種情況。

[A distortion of an airship in which the longitudinal axis becomes concave upward so that both ends rise.]

sailplane, [機] 御風機。

解：滑翔機的一種。

[A soaring craft.]

sandbag line, [球] 沙包索。

解：沿鸞式氣球的垂下索或繫留索伸展出來的繩索上，掛用許多沙包，便將氣球繫留。加用這種沙包索的目的，是使氣球的垂下索不受磨損。

[A rope extending along the line of suspension ropes or bridles of a kite balloon to which are hooked the sandbag used in mooring the balloon. The purpose is to prevent wear on the suspension cordage.]

sand blasting, [工] 吹砂。

解：用以擦淨金屬器外面與鑄型，并清除氧化與蝕壞的部份。它是一個噴口，有砂粒和空氣用高速度噴出，有時它亦可將平滑的外面磨成粗糙的。

[It is used to clean metal surfaces and castings and remove oxides and corrosion. It is a high velocity jet of sand and air directed against a surface, and is also used to rough smooth surfaces.]

sand pillar, [氣] 沙卷。

解：一種小迴風，係由沙漠區域內的強烈對流所成，而使沙昇起為直形柱。
[A small whirlwind, formed by strong convection over desert regions, which raises sand in a vertical column.]

sandstorm—scale(graphical)

sandstorm. 【氣】風沙。

解：一種強風攜帶塵沙至極大區域。
[A strong wind carrying dust or sand extending over a considerable area.]

saturated adiabatic lapse rate.

【氣】飽和空氣斷熱垂直熱度差。

解：飽和空氣在斷熱情況中的垂直溫度差，然其數值對於溫度有關，在攝氏10度時，每100公尺大約為攝氏0.6度，或在華氏50度時，每1,000呎為華氏3度。

[The lapse rate of saturated air under adiabatic conditions. Its value will depend upon the temperature. At 10°C. it is approximately 0.6°C. per 100 metres or at 50°F., 3°F. per 1,000 feet.]

saturation. 【氣】飽和。

解：空氣在現有情況下含有至極量的水蒸氣時的狀況，就是飽和。

[The condition of the air when it contains all of the water vapor it can hold under existing conditions.]

saturation (magnetic). 【電】磁性飽和。

解：本來沒有磁化的物體，使它感受磁化力(magnetizing force)而發生磁性，迨磁性強度足以完全重行排列該物體的分子時，則該物體即謂達到磁性飽和。

[Results in a non-magnetized object when the magnetizing force applied to produce magnetization is sufficiently great to completely rearranged the

molecules of the objects.]

scalar quantities. 【應】無向量。

解：還是有量載的，如容量密度，和能量，但距離或方向沒有關係。

[Scalar quantities have magnitude only, such as volume, density and energy, and have no reference to distance or direction.]

scale (Beaufort). 【氣】貝福氏風力階級。

解：共分十二階級，用以說明每小時風速的英里數。(詳表見 Beaufort scale)

[A scale of number from 0 to 12 referring to a description of winds by name and also indicating the wind velocity in miles per hour. The Beaufort table see "Beaufort scale".]

scale effect. 【應】比尺效果。

解：比尺效果，是風洞模型實驗製表必要的調整，因為模型的各方面尺寸是比較的小，像這樣發生出來的效果，在預計尺度航空器性能時是必要計算的。

[The reconciliation necessary to wind tunnel model experiment tabulations due to the fact that models are comparatively small in linear dimensions, thus introducing effects which must be accounted for in calculating the performance of full scale aircraft.]

scale (graphical). 【應】圖上比例尺。

解：這種比例尺是將刻有距離單位尺度的線，來用以表示海圖或地圖上的任何距離。

scale(map or chart)—screened ignition-cables

[It refers any distance on a chart or map to a line graduated in units of distance.]

scale (map or chart),【應】比例尺(地圖或海圖)。

解：在製造地圖或海圖時所選定採用的分劃尺寸。

[The designation of the scale used in constructing the map or chart.]

scale (representative),【應】示例比尺。

解：這是海圖和地圖上所刊印的分數(fraction)，用以表示地圖或海圖上的距離和地面上的真確距離間的比率。例如1/63,360，就是圖上一吋的距離等於地面上63,360吋(一哩)的距離的意義。

[It is a fraction printed on charts and maps which indicates the ratio between distances on the map or chart and the actual distances on the surface of the earth. For example: 1/63,360 means that one inch on the map equals 63,360 inches (One mile) on the earth's surface.]

scale(statement),【應】說明比例尺。

解：這是海圖或地圖上的比例尺，用以說明製圖師製圖所選定每一哩等於一哩或其他相關的單位。

[It is a scale indication on a chart or map which states that one inch equal, one mile or expresses whatever unit relation that the cartographer has chosen,]

scavenge pipe,【發】回油管。

解：將滑油由發動機導回至油箱的管子。

[A return pipe leading oil from the engine to the oil tank.]

scavenge pump,【發】回油唧筒。

解：一種唧筒將滑油由油槽內抽出，而送返油箱。

[A pump which withdraws oil from the sump and returns it to the oil tank.]

scoop (air),【艇】【機】空氣進口。

解：浮昇器上突出於外部的戽斗，引導風或滑流入副氣囊內，以維持內部空氣壓力，飛機上時亦有此種設備，使飛機空氣流通。

[A projecting scoop which uses the wind of slip stream to maintain air pressure in the interior of the ballonnet of an aerostat. A similar device is sometimes used on airplanes to produce ventilation.]

scoop-type air-intake,【發】戽斗式吸氣孔。

解：吸氣孔成戽斗的形狀，直接向前而使氣化作用增高氣壓。

[An air-intake of scoop shape directed forward to increase the pressure in the carburettor.]

scraper ring,【發】刮油圈。

解：一種彈簧圈，能將氣缸壁上的過量滑油刮去。有時亦稱滑油圈。(oil ring)

[A spring ring which removes superfluous oil from the cylinder wall.]

screened ignition-cables,【發】

【電】蔽護點火電索。

screened sparking-plug—sea-level horse-power

解：高壓和低壓電索，有金屬鑲裝，通常係用銅絲編織而成。

[H.T. and L.T. cables provided with a metal sheathing, usually of braided copper wire.]

screened sparking-plug, 【發】【電】

蔽護電火塞。

解：電火塞完全包置在全屬蔽護罩內，而罩和發動機的地線系相通連。

[A sparking plug completely enveloped in a cowl or screen of metal connected to the earth system of the engine.]

screening, 【發】【電】 蔽護。

解：一種靜電蔽護物，包繞點火系的高壓和低壓部份，防免它爲無線電所騷擾。

[An electrostatic screen surrounding the H. T. and L. T. parts of the ignition system to prevent interference between it and wireless equipment.]

sea breeze, 【氣】 海軟風，海洋風。

解：白晝間由海面而陸地吹來的風，此因岸上空氣變熱較海面爲速所致。

[An on-shore wind during the day caused by the more rapid heating of air over land than over water.]

sea disturbance, 【氣】 海浪狀態。

解：風對海面所產生的狀態。

[The state of the sea produced locally by wind.]

seadrome, 【設】 水上飛行場。

解：水上飛行場形如水上之月台，用極堅固的鐵管支柱撐持而成，下端有沉重的壓載桶，桶的上端係一浮箱。

[It is a floating platform

supported in the water in thirty-two pillars, each of which is an immensely strong iron tube having at its base a heavy ballast tank and, about 100 feet above the tank, a buoyancy chamber.]

sea fog, 【氣】 海霧。

解：海面所成的霧，常因熱空氣流過，海面冷空氣，而將該層水蒸氣凝結所致。

[Fog formed at sea, usually due to condensation of moisture in the lower layers of a warm air current passing over a relatively cold sea surface.]

sea fret, 【氣】 英海霧。

解：東英格蘭。(England) 稱海霧的土語。

[A local name in Eastern England for a sea fog.]

sea-level horse-power, 【發】

海平面馬力。

解：(1) 正常吸氣發動機在全開油門，(2) 增壓發動機在額定昇壓上，及(3) 過壓發動機在油門預定放開範圍上，各於正常 r. p. m. 及標準海平面情況 (760mm., 15°C) 中工作時所發出的實馬力。

[The b.h.p. developed, when running at normal r.p.m. and standard sea-level condition, (760 mm. and 15°C.), by (I) normally-aspirated engine at full throttle, (II) supercharged engine at the rated boost pressure, and (III) supercompression engine at the predetermined limit of throttle open-

ing.]

sea marker, 【裝】海面標誌。

解：一種器械，由航空器向水面投下，指示可鑑別的路線，以便決定偏航角。
[A device dropped from an aircraft on to water, providing a distinguishable patch for determining the drift-angle.]

seaplane, 【機】水面飛機。

解：為在水面昇降而設計的飛機，都叫做水面飛機。這個概括的名稱無論是船體式和浮筒式都可通用，不過船體式通常多稱為“飛船”(flying boat)。

[Any airplane designed to rise from and alight on the water. This general term applies to both boat and float types, though the boat type is usually designated as a "flying boat".]

seaplane (or desert-type) air-

intake, 【發】水面飛機(或沙漠式)吸氣孔。

解：吸氣孔凸起為減少浪花或沙土的灌入。

[An air-intake with raised entry to minimize ingress of spray or sand.]

search light, 【設】探照燈。

解：一種極亮的電燈，在反光鏡及透鏡之間，有一焦點弧光燈，能射達極遠距離。弧光燈在探照燈內有各種不同的設計，炭精成斜度或水平的裝置，但弧光直接正對反光鏡，而與照耀的目標相離頗遠。如此裝置可使突射的光線均成平行，且保持光度在任何距離中均相同。

[A powerful electric lantern

containing a focusing arc lamp between a system of reflectors and lens, for projecting the light to a great distance. In the various forms of arc lamp designed for search lights, the carbons may be either inclined or horizontal, but the arc is always directed toward the reflector and away from the object illuminated. By this arrangement all the projected rays of light are made parallel with each other, and the intensity of the beam of light maintained the same theoretically at any distance from the lamp.]

secondary battery, 【電】副電池。

解：亦名儲電池。電極多係鉛質，浸於稀硫酸液內，於放電完盡時，可再充電，向池內作反向流動而恢復；故極板如此可再三用之。

[Also known as a storage battery. The plates are usually of lead in a solution of dilute sulphuric acid. When discharged, the charge is renewed by passing a "charged current" in the reverse direction through the cells. The electrodes can be used repeatedly.]

secondary cold front, 【氣】副冷面。

解：大正冷面以後的極空氣小冷面。
[A smaller cold front in polar air following a larger primary cold front.]

secondary shear wire—service ceiling

secondary shear wire, 【艇】 剪力副線。

解：加添的增力剪線。

[Additional reinforcing shear wire.]

section (center), 【機】 翼中段。

解：機翼的中間部分（上翼或下翼不定）。（參閱附錄第十五圖，5）

[The central portion of the main plane (top or bottom).]

secular variation, 【磁】 長年變化。

解：經長久歲月磁針在同一地面上所顯著的偏差變化。

[A variation in the declination of the magnetic needle at the same place on the earth's surface which may be observed during periods of time.]

seistan wind (pr. seestarn), 【氣】 十二旬風。

解：東波斯的塞伊斯坦 (Seistan, Eastern Persia) 省內的夏季猛北風。此風經時約四個月，故亦名十二旬風。

[A strong northerly wind in summer in the province of Scistan, Persia. It is known as "The wind of 120 days" and usually continues for about four months.]

self induction, 【電】 自感電流。

解：當電路的開關變開時，線圈因磁力線的崩潰而橫切各線匝所產生的電流，則稱為自感電流。

[The current induced in a coil by the collapse of magnetic lines of force-cutting adjacent turns of the coil when the

switch is opened in the circuit.]
semi-diameter correction for observations of the sun 【飛】

太陽半徑差的修正。

解：因為觀測時通常是用儀器向太陽星體的上或下半邊 (rim 或 Limb) 瞄測，所以必要太陽星體圓面的角度直徑半數修正它，修正的差數在航海日歷上已編成一表。

[It is necessary, because the observations are usually taken of the upper or lower rim or "limb" of the body, and the observation must be corrected by half the angular diameter of the body's disc. Corrections are tabulated in the Nautical Almanac.]

semirigid airship, 【艇】 半硬式氣艇。

解：氣艇的形狀，由一硬龍骨與氣囊或副翼氣囊的內部壓力所維持。

[An airship whose form is maintained by means of rigid or joined keel in conjunction with internal pressure in the gas containers and ballonets.]

sero control, 【操】 【機】 補助操縱系。

解：一種操縱機械，利用氣動力或機械的替換，襄助駕駛員操縱。

[A control devised to reinforce the pilot's effort by an aerodynamic or mechanical relay.]

service ceiling, 【飛】 【力】 實用上昇限度。

解：一種飛機假定在標準空氣情況中，不能在額定速率而上升的海平線

service load—service tank

上高度。(額定速率在英美兩國，為每分鐘上昇100呎，但各國均有不同的規定)

[The height above sea level, assuming standard air conditions, at which a given airplane ceases to be able to rise at a rate higher than a small specified one, 100 feet per minute in the United States and England. This specified rate may be different in different countries.]

service load, 【力】實用載量。

解：航員重量及可移動的武器和裝備，則稱為實用載量。然可移動的武備和裝備因非航空器結構必要的部分，是於必要時可拆卸；此即：—

- (1)機關槍和槍架(guns and mountings)
- (2)機關槍瞄準器(guns sights)
- (3)軍火(ammunition)
- (4)協調齒輪(synchronizing gear)
- (5)炸彈(bombs)
- (6)炸彈架(bomb carriers)
- (7)炸彈齒輪(bomb gear)
- (8)炸彈瞄準器(bomb sights)
- (9)魚雷(torpedoes)
- (10)魚雷齒輪(torpedo gear)
- (11)魚雷瞄準器(torpedo sights)
- (12)照相機(cameras)
- (13)照相機齒輪 (photographic gear)
- (14)保險傘(parachuts)
- (15)電氣裝備，但無久用的電線 (electrical equipment less permanent wiring)
- (16)無線電通訊裝備，但無久用的電線

(radio-communication equipment less permanent wiring)

(17)氧氣裝置(oxygen apparatus)
[The weight of the crew and removable armament and equipment. Note—Removable armament and equipment includes the following or similar service equipment which is readily removable and not part of the structure:—

- (1)Guns and mountings
- (2)Gun sights
- (3)Ammunition
- (4)Synchronizing gear
- (5)Bombs
- (6)Bomb carriers
- (7)Bomb gear
- (8)Bomb sights
- (9)Torpedoes
- (10)Torpedo gear
- (11)Torpedo sights
- (12)Cameras
- (13)Photographic gear
- (14)Parachutes
- (15)Electrical equipment less permanent wiring
- (16)Radio-communication equipment less permanent wiring
- (17)Oxygen apparatus

service tank, 【油】【機】常用油箱。

解：在每座發動機附近的固定汽油箱，它的汽油是由他油箱用唧筒送進，而發動機的燃料則由此供給。

[A fixed fuel tank near each power unit, into which fuel from other tanks is pumped and from which the fuel

servo rudder—shaft(gas)

supplying the engines is drawn.]

servo rudder, 【機】補助方向舵。

解：一種機件裝置，減小操縱力量，使駕駛員可以轉動大飛機的方向舵。

[A contrivance for reducing the power which a pilot has to exert to move the rudder on a big machine.]

sextant, 【儀】六分儀。

解：這是一種儀器，可用以臆測太陽和星球的高度，而它們的高度是由儀器上圓弧的度數和分數所鑑定。

[An instrument with which sun and star sights are taken so that the altitude thereof may be determined in degrees and minutes of arc.]

sextant (bubble), 【儀】氣泡六分儀。

解：一種六分儀，運用氣泡機件而作人工水平，普通係用以定天體的高度。

[A sextant employing a bubble device to provide an artificial horizon. Normally employed for determining the altitude of a celestial body.]

shamal (*pr. shamari*), 【氣】夏麥爾風。

解：由美索不達米平原吹來的夏季西北風。

[A north-westerly wind in summer over the Mesopotamian plain.]

shaft (climbing), 【艇】援登柱。

解：這是由氣艇艇身底部至頂部，備有小梯的一根入口柱，且此柱可裝用

於任何型式的氣艇內。

[An access shaft fitted with a ladder and leading from the bottom to the top of an airship hull. This may be fitted in an airship of any type.]

shaft (gas), 【艇】溢氣管。

解：這是氣艇內由氣囊底部至外皮的管子。它為積聚於行人路或走廊中的溢氣，或由氣囊底的氣門所排出的氣體的清除出路。通常它是在鋼索或鋼絲上相隔有相當距離的輕木環或架子，並在外面加一網而製成。它可以防止各氣囊不致相接太緊，且可使它們保持相當的距離。有時亦稱為“氣筒”，(gas trunk), “排氣管”(exhaust-gas shaft)或“排氣筒”(trunk), 然因恐和發動機排氣系的名稱相混亂，所以稱它為“溢氣管”(gas shaft)似較相宜。

[A duct or shaft leading from the bottom of the gas cells to the outer cover of an airship. It affords a clear passage for the escape of gases which have accumulated in the gangway or corridor or which are discharged from the valves at the bottom of the cells. It usually consists of light wooden hoops or frames spaced at intervals on cords or wires and is covered by a netting. It prevents the gas cells from closing hard against one another and thus keeps the passage open. Sometimes called “gas trunk”, “exhaust-gas shaft”, or “trunk”. In view of the possibility of

shaper--ship

conusion with parts of an engine-exhaust system, it is believed that "gas shaft" or "trunk" is to be preferred.)

shaper. 【工】修削器。

解：這是一種機器，藉機械工具在物體上來往推動，使金屬面修削成所必要的形狀。

[A machine designed to finish metal surfaces to the required shape by means of a machine tool which travels back and forth over the work.]

sheathing, 【螺】螺旋槳包梢。

解：一塊金屬片（或相等的材料）鑲在螺旋槳梢附近，前緣較後緣略為引長，用作外皮，保護槳葉。

[A sheet-metal (or equivalent) protective covering of the blade of a propeller near the tip, extended a short distance along the trailing edge and a considerable distance along the leading edge.]

shed, 【設】棚廠。

解：收藏氣艇所用的建築物。

[A shelter for housing airships.]

sheet (vortex), 【力】渦片。

解：液體有強烈渦動的極薄一層。

[A thin layer of fluid with intense vorticity.]

shellac, 【材】洋乾漆。

解：由熱帶樹中所得的商業樹脂物，出售時係乾片，用酒精溶解後則成外漆，電氣工作多用之以充絕緣材料。

[A commercial form of a resinous substance found upon certain tropical trees, and prepared for

the market in thin shells; when dissolved in alcohol it forms shellac varnish, which is useful in electrical work for its insulating properties.]

shell (bearing), 【發】軸承殼。

解：一種薄金屬殼，常係青銅，表面用巴比脫金屬而裝置於軸承本身中，此則替代磨擦的消耗。

[A thin metal shell, usually of bronze and faced with babbit metal, that fits into the bearing proper. They form a means of replacement against wear.]

shielding, 【電】【發】蔽護法。

解：這是保護飛機發動機的電氣系的發火，不致防礙無線電機的裝備的方法。

[A method of blanketing the electrical system of an airplane engine to prevent ignition interference with radio equipment.]

shims, 【材】填隙片。

解：調整軸承所用的一種薄鐵片。於調整時，置充分數目之薄鐵片於曲柄（或軸）兩旁之減摩銅間，免除空動。主軸及曲柄銷軸承處多用之。

[Pieces of sheet metal used to adjust a bearing. In adjusting they are placed between the brasses on each side of the crank (or shaft) in sufficient number to take up any lost motion. Used especially on main and crank pin bearings.]

ship, 【機】飛機。

解：此字本義原作“船”解。但美國俚語亦有用作“原機”解的。

shiplane—shutter(radiator)

(Slang for an airplane. In view of the confusion with "airship" it should not be used.)

shiplane, 【機】隨船飛機，艦上飛機。

解：爲軍艦甲板上起落設計的陸上飛機。

(A landplane designed to rise from and alight on the deck of a ship.)

shock absorber, 【裝】減震器。

解：是和飛機的起落架相聯合的一種機件，在降落和起飛時減少飛機構體所感受的震動力。減震器通常是裝置在飛機主要構體和着陸輪，浮筒，滑撬或尾撐的中間，使降落和滑走時有彈力反動。

(A device incorporated in the landing gear of an airship to reduce the shock imposed on the structure when alighting or taking off. Shock-absorbing device are usually interposed between the main structure and the wheels, floats, skis, or tail skids, to secure resiliency in landing and taxiing.)

shoe (tail-skid), 【機】尾軌撬。

解：一種可調換的外罩，在尾撬末端上，以免尾撬本身磨耗。(參閱附錄第十五圖19)

(A replaceable covering on the end of a tail skid to take the wear.)

shore, 【艇】撐柱。

解：硬式或半硬式氣艇於建造或入塢時，用以支持氣艇構體的一種器物，它和支艇架(cradle)相聯用(不聯用

亦可)。

(A structural member for supporting the structure of rigid or semirigid airship during building or docking, used in conjunction with (or without) a cradle.)

showers, 【氣】陣雨。

解：短期間的降水，且在降水停止時，繼有晴朗的天氣。

(Precipitation of short duration, the periods between which the precipitation ceases being usually characterised by definite clearance of the sky.)

shrinkage, 【力】【應】收縮量。

解：物體體積或尺寸的減少數量就是收縮量。絮布用塗料或含有水氣的物質自動風乾後緊張的情形，亦可稱爲收縮量。

(A reduction in the bulk or dimensions of body. Also applies to the tightening of fabric when dope is applied, moisture-laden materials is allowed to dry.)

shrink fit, 【工】緊縮接合。

解：一部受熱膨脹後，再將他部裝入。俟溫度降落因外部緊縮時，則裝接的部分遂變爲十分緊密的接合。

(The expansion of one part by heat so that the other part may be placed within it. As the outer part contracts as a result of cooling, a very tight fit is secured.)

shutter (radiator), 【發】散熱器風窗。

解：一種機械裝置，用以調節經過散熱器的空氣，分配至冷卻部份。

shutters—side-tracking skate

[A device for regulating the flow of air through a radiator.]

shutters, 【發】開閉風窗。

解：這是散熱器或發動機上的一種可調整外罩，用以調節發動機的温度。

[A adjustable covering over radiator or engine to control engine temperature.]

side-by-side connecting-rod assembly, 【發】並列聯桿裝置。

解：一種聯桿裝置數個相似的平聯桿，次第並列，而它的傘形大端常裝在軸承上，(參閱附錄第三十圖。)

[An assembly of connecting rods in which a number of similar plain connecting rods are arranged successively side by-side with narrow big-ends usually carrying roller bearings.]

side car, 【艇】旁艇。

解：在氣艇中心線以外的懸艇，與 wing car 同。

[A car suspended off the center line of an airship. It is also called "wing car".]

side elevation drawing, 【力】側面圖。

解：這圖是由側面所見的物體真確形狀。

[It shows the true shape of an object as viewed from the side.]

sidereal day, 【氣】恆星日。

解：春分點 (the first point of Aries) 經過一條子午線至下次再經過同一條子午線間的時間，就是『恆星日』。恆星時和平均太陽時 (mean time) 的互相變換，可藉航海日曆 (nautical almanac) 計算之。

[The interval between the successive transits of the first point of Aries across the same meridian. Sidereal time and mean time are convertible by means of the Nautical Almanic.]

sidereal time, 【氣】恆星時。

解：這是春分點 (The first Point of Aries) 即 (Vernal equinox) 的時角 (hour angle)，且亦是赤經度 (right ascension) 的一切坐標的起點。它是一個固定點，故具有恆星所備的性質，所以稱它為恆星時。

[The hour angle of the first point of Aries (vernal equinox), and is the origin of all co-ordinates of right ascension. This is a fixed point and, therefore, has the properties of the fixed stars, thus giving rise to the statement that sidereal time is time by the stars.]

side slipping, 【飛】側滑。

解：飛行的橫軸傾斜，而飛機有向橫軸下端滑動的動作，是稱為側滑。當它在轉彎時發生，則是和橫滑 (skid) 動作相反。

[Flight in which the lateral axis is inclined and the airplane has a component of velocity in the direction of the lower end of the lateral axis. When it occurs in connection with a turn, it is the opposite of skidding.-q.v.]

side-tracking skate, 【設】側道滑鞋。

解：航空器在地面，作兩側滑動的器械。

sight(bomb)—signalling lamp

[A device to facilitate moving an aerodyne sideways on the ground.]

sight (bomb), [儀] 轟炸瞄準器。

解：一種測定炸彈投下角的儀器。

[An instrument for determining the dropping angle of a bomb.]

sight (compensating), [儀] [軍]

補償瞄準器。

解：此種瞄準器有對於飛機和目標相對運動的設備。

[Sight in which provision is made for the relative motion of the aircraft and the target.]

sight (drift-angle), [儀] 偏航角測視器。

解：一種決定偏航角度的儀器。

[An instrument for determining the drift-angle.]

sight (periscope drift-angle),

[儀] 潛望式偏航角測量器。

解：一種裝用潛望遠鏡的偏航角測量器，能使地面影像，可由飛機內部探視之。

[A drift-angle sight employing a periscope device to enable an image of the earth's surface to be brought inside the aircraft.]

sight (periscope wind-gauge),

[儀] 潛望式風速測視器。

解：裝用潛望機件的一種風速測視器，能使地面影像，由飛機內部探視之。

[A wind-gauge sight employing a periscope device to enable an image of the earth's surface to be brought inside the aircraft.]

sight (quadrant), [儀] [軍] 象限

瞄準器。

解：一種地面運用的瞄準器，而測定炸彈碰炸點，普通係有二個瞄準，分裝於已知長度基線的兩端上。

[A sight, for ground use, for determining the point of impact of the bomb. Normally two sights are used, one at each end of a base line of known length.]

sight (torpedo), [軍] [儀] 發射魚雷瞄準器。

解：一種儀器，襄助魚雷得正確瞄準的方向。

[An apparatus designed to assist in laying a course for the correct aiming of the torpedo.]

sight (wind-gauge), [儀] 風速測視器。

解：一種器械，在二個或數個航向上，決定軌跡，且能使空速，風速及地速，用方向量代表之。

[A device which, by determining the track on two or more courses, enable the air, wind and ground speed to be represented by vectors.]

sighting pendant, [艇] 瞭望鐘。

解：在氣艇中線及氣艇操縱縱前方的一根懸掛垂直線，用作操縱標記，並幫助決定風向。

[A vertical wire in center line and forward of the control car of an airship, used as a mark in steering, to assist in determining wind direction.]

signalling lamp, [裝] 信號燈。

解：一種作目視信號的燈光。

[A lamp for making visual

signal projectile—sirocco

signals.)

signal projectile, [設] 信號發射物。

解：由白炮射出的一種烟火光炬，襄助飛機認別飛行場所在的地點。

[A pyrotechnic flare fired from a mortar to assist an aircraft in locating an aerodrome.]

signal rocket, [設] 信號火箭。

解：由地面射擊的一種火箭，襄助飛機認別飛行場或傳達消息。

[A rocket fired from the ground to assist an aircraft in locating an aerodrome or to convey instructions or information.]

signal star, [裝] 信號星。

解：一種烟火星光，有明顯的特性，而由彈筒內發出。

[A pyrotechnic star of distinctive character emitted from a signal cartridge.]

simoom (*pr. simmoon*), [氣] 西
颶風。

解：由亞爾金利亞，塞利亞，及阿刺伯 (Algeria, Syria and Arabia) 沙漠吹來的乾熱南風，并與巽暖乾風相似。

[A hot dry southerly wind in desert of Algeria, Syria and Arabia, similar to Sirocco.]

simulated forced landing, [飛]
假裝強迫降落。

解：模仿強迫降落的一種落地動作，即教官將油門關閉，試驗學生在此種情況之下，作應急落地的操縱技能。

[A landing which simulates a forced landing, i.e., a landing in which the instructor retards the throttle in order to test a student's ability to land an

airplane under the conditions of a forced landing. The pretence of a forced landing.]

sine of an angle, [力] 角度的正弦。

解：這是以直角三角形的斜邊除垂直邊所得的商數。由1至4度的正弦為決定翼梢撓起的橫上反角所常用的角度，翼樑上任何一點所撓起的吋數，是等於該點與中點間的距離的吋數，和所要的角度的正弦相乘所得的積數。

1度的正弦 = .0174

2度的正弦 = .0349

3度的正弦 = .0523

4度的正弦 = .0698

[The vertical leg of a right triangle divided by the hypotenuse. The sines of the angles 1° to 4° are useful in determining the rise of a wing tip for lateral dihedral. The rise in inches of any point along the spar is equal to the distance of that point in inches from the center times the sine of the angle of rise desired.]

Sine of 1° = .0174

2° = .0349

3° = .0523

4° = .0698

sirocco, [氣] 巽暖乾風。

解：由西至東沿地中海吹來的熱南風，此風係由塞哈那 (Sahara) 沙漠達到非洲北岸而為熱乾風，但經過地中海攜帶水蒸氣達到南意大利 (Italy) 時則成熱濕風，因其使能見度惡劣，為其特點。

[A warm southerly wind in front of a depression passing

skate(side-tracking)—skid fin

from west to east along the Mediterranean. This wind, coming from the Sahara desert, reaches the north coast of Africa as a hot dry wind, but in crossing the Mediterranean evaporation occurs, and the Sirocco reaches Southern Italy as a warm moist wind. It is usually characterised by a marked deterioration in visibility.)

skate (side-tracking), 【設】側道滑鞋。

解：航空器在地面作兩側滑動的器械。

[A device to facilitate moving an aerodyne sideways on the ground.]

skew aileron, 【機】斜副翼。

解：這種副翼的樞軸由機翼後緣的副翼內端起，漸漸向前面與翼梢延展，成10或15度的角。副翼的最大面積離飛機縱軸(longitudinal axis)最遠，故在高衝角(high angles of attack)中能發生最大的橫操縱(extreme lateral control)。

[An aileron whose hinge line bears forward from the inner end of the aileron at the trailing edge and towards the wing tip at an angle of perhaps 10° or 15°. This arrangement places the bulk of the aileron area at the maximum distance from the longitudinal axis, thus giving extreme lateral control at high angles of attack.]

skid, 【機】撐柱。

解：這是裝用在起落架上的一種滑走器材，而它的設計是協助飛機的降落或滑走。

tail skid, 【機】尾撐。

解：這是飛機接觸地面時用以支持機尾的一根撐柱。

wing skid, 【機】翼梢撐。

解：這是裝在翼梢附近的一根短撐柱，用以保護機翼，免與地面接觸。

[A runner used as a member of the landing gear and designed to aid the aircraft in landing or taxiing.]

tail skid—A skid used to support the tail when in contact with the ground.

wing skid—A skid placed near the wing tip and designed to protect the wing from contact with the ground.]

skidding, 【飛】橫滑，平滑。

解：飛機於轉彎時脫離弧線中心向外滑動的動作，則稱橫滑。這種情況通常多因傾斜不足所致，且它是和側滑動作相反。

[Skidding sidewise away from the center of curvature when turning. It is usually caused by banking insufficiently, and is the opposite of side slipping.]

skid fin, 【機】翼上直翅，主翼上的垂直面。

解：這是一片由前至後的垂直面，通常裝設在上翼的上面，特為供應一個垂直隆起面，致使橫面安定性有增高的設計。

[A fore-and-aft vertical surface, usually placed above the upper

skin frictionsl—iding valve

wing, designed to provide vertical keel surface and so to increase lateral stability.)

skin friction, 【力】表面摩擦。

解：流體在物體外面的一點上的正切分力。

[The tangential component of the fluid force at a point on a surface.]

sky writing, 【飛】【應】空中題字術。

解：這是用飛機散佈濃烟或其他能見物體痕跡的動作，且飛機的飛行動作是使這種物體留在空中成字樣或符號的痕蹟。

[The act of emitting from an aircraft a trail of smoke or other visible substance, the flight of the aircraft being so directed as to cause the trail to assume the form of letters or symbols.]

slat, 【機】縫翼條。

解：一種補助翼面，裝在開縫前方，并在翼縫的前面。（參閱附錄第十五圖25）

[An auxiliary aerofoil forming the forward portion of a slotted aerofoil with forwardly located slot.]

sleet, 【氣】霽。

解：雨和雪同時的降落。

[Precipitation of rain and snow together.]

sleeve (conical), 【球】錐形接套。

解：這是一個球皮造成的錐形物，裝配在氣囊中，有一根管子從中通過。它可使氣囊和管間的連接部分緊密不漏氣，且同時又有相當的活動。

[A cone-shaped fabric, fitting

in a bag or cell through which a line passes. It provides a gas-tight connection of the bag or cell to the line and yet permits both some degree of freedom to move.]

sleeve (deflation), 【球】【艇】放氣套管。

解：常係用球皮所造成的一個接套或附屬物，專為便利浮昇器放氣而用的。放氣套管亦指馮式氣球舵囊下部所裝接的套管或附屬物，且於氣球扯下時可使氣體迅速排洩。

[Generally a sleeve or appendix made of fabric provided for the special purpose of facilitating the deflation of an aerostat. Also applied to the sleeve or appendix fitted in the lower lobe of a kite balloon and used to permit the rapid escape of air in the lobes when the balloon is hauled down.]

sleeve (filling), 【艇】【球】充氣套管。

解：與 sleeve (inflation) 同。

sleeve (inflation), 【艇】【球】充氣套管。

解：這是用球皮製成的管子或附屬物，連接在氣艇或氣球氣囊上，用作充氣管的引導管。

[A tubular fabric attachment to an envelope or gas bag, serving as a lead for the inflation tube.]

sliding valve, 【發】滑動氣門。

解：滑動氣門是一個氣門，由於往復運動而在氣門口上滑動啓閉。

sling psychrometers—slots

[A valve which covers or uncovers a valve port by sliding back and forth over the port with a reciprocating motion.]

sling psychrometers, [儀] [氣]

懸掛乾濕溫度表。

解：這是測驗絕對濕度，水氣壓力，露點和相對濕度的一種儀器。

[An instrument for determining absolute humidity, vapor pressure, dewpoint, and relative humidity.]

slip, [螺] [力], 滑流。

解：滑流是平均幾何螺距和有效螺距的差數。亦可用平均幾何螺距的百分數或直線尺寸說明。

[The difference between the mean geometrical pitch and the effective pitch. Slip may be expressed as a percentage of the mean geometrical pitch or as a linear dimension.]

slip fuel tank, [機] [艇] 滑落油箱，拋擲油箱。

解：汽油箱裝有一種器械，使在緊急時將油箱連同裏面的汽油全部脫落。飛機和氣艇均可裝用。

[A fuel tank which is provided with a device permitting the quick dropping of the tank and contents as a whole in case of an emergency. Fitted on both airships and air planes.]

slip function [力] 滑流函數。

解：這是平靜空氣中的前進速度，對螺旋槳直徑和一個單位時間內轉式相乘的積數所成的比率，此即公式 $\frac{V}{ND}$ 。

滑流函數就是支配螺旋槳動作的基本因素。它是用 π 和螺旋槳前進速度和槳梢速度的比率相乘而得。

[The ratio of speed of advance through the undisturbed air to the product of propeller diameter by the number of revolutions in unit time, i.e., $\frac{V}{ND}$]

The slip function is the primary factor controlling propeller performance. It is π times the ratio of forward speed to the tip speed of the propeller.]

slipper-type connecting-rod

assembly, [發] 滑動式聯桿裝置。

解：一種聯桿裝置，每一聯桿有一滑動物，由凸緣扣住，而在大端軸承表面，或在環形槽道內滑動。（參閱附錄第三十圖）

[An assembly of connecting rods in which each rod has a slipper, held in plane by flanges, riding on the outer surface of the big-end bearing, or in an annular groove.]

slip stream, [螺] 滑流。

解：被螺旋槳激動向後流動的氣流，就是滑流。（有時內流 indraft 亦包括在內）。

[The stream of air driven astern by the propeller. (The indraft is sometimes included also.)]

slots, [機] 翼縫。

解：這是裝在翼前緣上的自動或固定補助面，使更有實效的氣流成大衝角向翼面流過，而令失速角 (Burble

slotted aerof oil—slotted wing

angle)有增大的設計。

[Slots are automatic or fixed auxiliary surfaces at the leading edge of wings designed to increase the burble angle by directing a more efficient air stream over the wings at higher angles of attack.]

slotted aerofoil. 【機】開縫翼面。

解：翼面上有一空氣縫道向後，由下而上。此縫口的形狀，是使翼面被分開的一部，而自成一翼面。當翼縫裝在前面時，縫前的一部翼面則成一補助翼，可將它的下部作固定的裝置，或可作相對的活動。(參閱附錄第十五圖24)

[An aerofoil having an air passage (or slot) rearwardly directed from its lower to its upper surface. This slot is so shaped that the portions of the aerofoil separated by it are themselves of serofoil section. When the slot is forwardly located the portion forward of the slot forms an auxiliary aerofoil which may be rigidly attached to the rear portion or be capable of movement relative to it.]

slotted aileron. 【機】開縫副翼。

解：開縫副翼是裝置在飛機的翼前緣(leading edge)前面的小翼(winglet)，該小翼約與主翼後緣(trailing edge)的副翼等長，飛機達到某種大傾角時(主翼在該傾角時則失速)，該小翼自動張開形成一裂縫，而增加副翼的效用，使其作用雖在速度低至不

能維持飛機的平飛時亦能發生。

假設飛機失速，翼縫必已張開，如飛機將滾向一邊時，駕駛員可將操桿移向相反一邊，此動作將下傾機翼的副翼壓下，上傾機翼的副翼上舉，翼縫自動關閉，則上傾機翼的昇力減小，而下傾機翼仍盡力上昇，翼縫張開，終於使飛機回復均衡。

[A machine with this contrivance has a small winglet arranged in front of the leading edge of the main plane, equal, roughly, in length to the aileron at the trailing edge. At certain large angles of incidence (at the angle at which the main plane stalls) the winglet opens automatically, forming an aperture, or slot. This increases the effectiveness of the ailerons, so that they function at speeds less than the lowest at which the machine can maintain horizontal flight.]

slotted wing. 【機】開縫副翼。

解：開縫副翼者，指機翼前緣的略後處，有一狹長裂縫的機翼而言，該縫因飛機飛行時，傾角的增減能自動關閉，當裂縫張開時，雖阻力不免增大，然同時給機翼以額外的昇力，當裂縫關閉時，仍為一尋常機翼(該種開縫翼的裂縫僅當飛機近於失速點時，方始張開。)

[The aperture opens and shuts automatically, according to the angle of incidence at which the aircraft is flying. When open it gives a additional lift to the

wing, although at cost of increased resistance, or drag. When the aperture is closed the wing is then a normal wing (opening only when the machine approaches stalling point.)

small circle, 【氣】小圓圈。

解：不用地球直徑的球面圓圈，即稱小圓圈。緯線為與赤道平行的小圓圈。[Any circle having less than the earth's diameter as its own diameter. The parallels of latitude are small circles, with the exception of the equator.]

small-end, 【發】小端。

解：聯桿的活塞端。(參閱附錄第二十九圖)

[The piston end of a connecting rod.]

smoke-float (navigation), 【裝】航行烟浮筒。

解：一種烟火器械，由航空器擲至水面，用以指示風向或決定偏航角度。

[A pyrotechnic device dropped from an aircraft on to the water for indicating wind direction or for determining the drift-angle.]

smoke fog, 【氣】烟霧。

解：因大氣間的烟塵所致成的霧，一種濃霧。

[Fog due to particles of smoke in the atmosphere. A thick haze.]

smoke generator, 【裝】發烟器。

解：一種烟火器械由航空器向地面擲下，用以指示風向或以決定偏航角度。

[A pyrotechnic device dropped

from an aircraft on to land for indicating wind direction or for determining the drift-angle.]

snatch-block anchorage, 【設】滑輪錨。

解：置於地下的錨，上裝數輪，可容繫留塔上的繫艇索穿過。滑輪錨用混凝土或木料造成，散置於塔的四週成一圓圈，各錨間的距離大致相等。繫住一氣艇或露式氣球時，可隨意選擇一相當滑輪錨。

[An anchorage set in the ground for a snatch block used with a yaw line from a mooring mast. The anchorages may be of concrete or timber and are usually arranged at equal intervals around the circumference of a circle whose center is the mast; may also be applied to any anchorage for a snatch block used in hauling down an airship or kite balloon.]

snow, 【氣】雪。

解：羽狀冰結晶的降落。

[Precipitation in the form of feathery ice crystals.]

soar, 【飛】翱翔。

解：不用本身前進力量而能保持自由飛行的動作就是翱翔；若在直昇氣流中進行的，名為“直昇氣流翱翔法”(up-current soaring)；反之便是“動力翱翔術”(dynamic soaring)。

[To perform sustained free flight without self-propulsion; it is called "up-current soaring" if performed in ascending air; "dynamic soaring" in other

cases.)

soaring, 【飛】翱翔術。

解：凡不用本身前進力量而能在高過出發點的天空保持自由飛行的技術，便是翱翔術。

[Sustained free flight above starting point without self-propulsion.]

soaring, 【飛】翱翔飛行。

解：因在滑翔角度所減失的高度，小於直昇氣流或空氣流動的動力反動作所增大的高度時的空氣情況下，翱翔飛行便是可能的。

[Soaring is possible under air conditions such that the loss of altitude because of the gliding angle is less than the increase of altitude because of rising currents of air or dynamic reaction to air movements.]

soaring (blind), 【飛】盲目翱翔。

解：在雲霧中不能觀察時用滑翔飛行。

[Soaring without visibility in clouds or mist.]

soaring (cloud), 【飛】雲上翱翔術。

解：這是利用雲附近的上昇氣流翱翔。在大積雲附近下面的上昇氣流翱翔，就是此種翱翔術。關於此點，應注意御風機是繼續常在滑翔的姿勢，它的高度的保持或增高，皆因氣流上升的緣故。

[Soaring by utilizing the up-currents near clouds. Soaring in the up-current just below large cumulus clouds is a notable example of cloud soaring. In this connection it is noted

that a soaring machine is continuously in a gliding attitude, and that altitude is held or increased because the whole body of air is moving upward.]

soaring (dynamic), 【飛】動力翱翔術。

解：這種翱翔術，是因風速變更所得的昇力而利用翱翔速度的動能。

[It is accomplished by utilizing the kinetic energy of the soaring velocity to obtain lift from changes in the wind velocity.]

soaring plane, 【機】御風機。

解：這是藉本身前進力量而可以保持自由飛行的一種航空器。

[An aircraft capable of sustained free flight with self-propulsion.]

soaring (static), 【飛】靜力翱翔術。

解：這是在直昇氣流中（如空氣的對流，和溫暖的直昇氣流）而翱翔的技術。

[Soaring on the up-currents of air, such as convection currents and thermic up-currents.]

soft hail, 【氣】霰。

解：小形白色不透明的軟球冰霰，則稱為霰。

[Small, white, opaque soft pellets of hail.]

solar day, 【氣】太陽日。

解：太陽連續兩次經過同一條子午線間的時間就是「太陽日」。太陽中心的時角是用以計量太陽時 (apparent or solar time.)。

[The time between two succes-

soldering flux—sound-ranging altimeter

sive passages of the sun across the same meridian. The hour angle of the center of the sun is the measure of apparent or solar time.)

soldering flux, 【工】 錫劑。

解：用在金屬上使錫藥易於流動的物體，此劑的效用是使外表清潔，同時減除氧化而顯出金屬本質，下列之表為管形之各種錫劑：—

鐵用硼砂。

白鐵用樹脂。

銅與黃銅用硼砂。

鋅用氯化鋅。

鉛用脂肪或樹脂。

鉛與錫用樹脂與甜油。

[A substance applied to a metal to make solder flow readily on its surface. The action of a flux is largely that of cleaning the surface, and of reducing any oxide on the surface to the metallic state. The various fluxes and their use are given in tabular form in the accompanying tables:

For iron, use borax.

For tinned iron, use rosin.

For copper and brass, use sal-ammoniac.

For zinc, use chloride of zinc.

For lead, use tallow or rosin.

For lead and tin, use rosin and sweet oil.

solo, 【飛】 單獨飛行。

解：獨自一人飛行或自行指揮一架飛機。

[To fly alone or to be in com-

mand of the aircraft.]

solstices (solstitial points), 【氣】 至點。

解：在黃道上和晝夜平分點 (equinoxes) 成九十度角距離的兩點，且太陽在這兩點上時達到最大的傾斜度。這兩點因太陽經過時的季節，而分為夏至點和冬至點。

[Points of the ecliptic at a distance of 90° from the equinoxes and at which the sun attains its highest declination. They are called the summer and the winter solstices, according to the season in which the sun appears to pass their points in its path.]

sonic altimeter, 【儀】 聲學高度表。

解：高度表的一種，由航空器，向地面發出聲浪俟回音收接後，而計算往返的時間，測驗離開地面的高度。

[A height measuring instrument based upon the time required for a sound wave to reach the earth and then be reflected back to the aircraft. This gives the height above earth or a body of water.]

sounding balloon, 【球】 【氣】 高空測候氣球。

解：小氣球的一種，上無人員，而攜帶各種自記氣象儀器。

[A small balloon sent up without passangers but with recording meteorological instruments.]

sound-ranging altimeter, 【儀】 聲學高度表。

解：高度表的一種，由航空器向地面

sound(velocity) — spark(advanced)

發出聲浪，計算往返的時間，測驗離地的高度。

[An altimeter, the indications of which depend on the measurement of the time required for a sound wave to travel from the earth and back.]

sound (velocity), 【應】空中音波的速率。

解：空中音波速率每秒鐘 1,090 呎。
[Velocity of sound in air equals 1,090 feet per second.]

southerly burster, 【氣】南向急轉風。

解：東及東南澳大利亞 (Australia) 稱線颶的名辭，風向係由東北而變為東南或正南，雨季常有此風。

[A name given in East and South-east Australia to line squalls, the wind changing from north-east to south-east or south; occurs most frequently during the rainy season.]

span (airfoil), 【機】翼面寬度。

解：翼面的橫面尺寸，亦即垂直於翼弦的尺寸。它的符號是 b。

[The lateral dimension of an airfoil, i.e., its dimension perpendicular to its chord. Its symbol is b.]

span (airplane), 【機】翼展。

解：由一邊翼梢至他邊翼梢而與飛機橫軸平行的最大距離，副翼亦包括在內。(參閱附錄第十四圖)

[The maximum distance measured parallel to the lateral axis from tip to tip of an airplane inclusive of ailerons.]

spar, 【機】樑，翼樑。

解：翼面或操縱面上的主要縱向支柱，用以支持補助部分。(參閱附錄第十五圖)

[A principal longitudinal member of an aerofoil or control surface which supports auxiliary members.]

spar (aileron), 【機】副翼樑。

解：一種補助樑或翼樑，用以支持副翼。

[An auxiliary spar or wing beam used for the support of the ailerons.]

spar frame, 【機】樑架。

解：一種特別堅強的構架，在飛船船身前後翼樑內作橫向的裝接，而翼主翼結構的載重。

[A specially strong frame fitted transversely in the hull of a flying boat in the plane of the front or rear spar to take the loads from the main plane structure.]

spark advance and retard, 【發】

火花先發和延遲。

解：即活塞未至和已過上死點期間上所爆發的火花。

[The range of spark occurrence before and after top dead center.]

spark (advanced), 【發】先期火花。

解：汽油發動機的點火，火花在活塞到達壓縮行程以前發火的，則謂先期火花。

[An ignition spark, in a gasoline engine, that occurs before the piston has reached the end

sparking-plug(screened)—spectrum

of the compression stroke.)

sparking-plug (screened), 【發】
蔽護電火塞。

解：電火塞完全包置在金屬蔽護罩內，而罩和發動的地線系相連。

[A sparking plug completely enveloped in a cowl or screen of metal connected to the earth system of the engine.]

spark plug, 【發】電火塞。

解：這是在燃燒室內構成火花間隙，而成陰陽電極的整個電氣零件。

[A unit holding the positive and negative electrodes which form the spark gap in a combustion chamber.]

speaking tube, 【機】通話管。

解：一種橡皮或金屬軟管，於飛行時可使教官與學生通消息。

[Usually a rubber or flexible metal tube used for communication between the instructor and the student while flying.]

specific consumption, 【油】消耗率。

解：每實馬力小時的派因脫汽油或滑油的消耗量。

[The quantity of fuel or oil consumed, stated in pints/b.h. p. hr.]

specific fuel (or oil) consumption, 【油】燃料(或滑油)消耗率。

解：每匹實馬力每小時所消耗的汽油(或滑油)重量。

[The weight of fuel(or oil)consumed per brake horsepower-hour.]

specific gravity, 【力】比重。

解：這是一單位容積物體和同一單位水的相對密度。若水的密度每立方公分(厘)重一克(gram)，則汽油每立方公分重.75克，是以汽油的比重為.75。比重是一種比例，故可用數字代表之。

[The relative density of substances per unit volume compared to the density of water for the same unit volume. Thus, if the density of water is one gram per cubic centimeter and one cubic centimeter of gasoline weight .75 grams, then the gasoline is said to have a specific gravity of .75. Specific gravity is a ratio and is, therefore, represented as a number only.]

specific heat, 【力】比熱。

解：將一磅任何物體的熱度增高華氏(Fahrenheit)溫度表一度所需的熱力量，就是比熱，并亦稱為英國的熱量單位(British Thermal Unit or B.T.U.)。

[Any heat necessary to raise the temperature of one pound of any substance one degree Fahrenheit and is expressed in B.T.U.]

spectrum, 【力】光譜，景。

解：如天虹所顯現的有色和其他的光線，是因光線被屈折後而分析出來的。各種光線都具有各彩色，但它只能被三稜鏡(prism)屈折或分析後方能視見。在天虹內的水點便有三稜鏡的作用，故能將各景屈折而分析出來。

[The colored and other rays of

speed(critical)—speed(landing)

light such as appear in a rainbow and which have been separated from light rays by refraction. Light rays possess all of the spectrum colors, but they are only visible when refracted or broken up by a prism. In a rainbow the water droplets furnish the prismatic agent for refraction.)

speed (critical),【飛】臨界速度。

解：飛機仍能保持操縱的最低速度。
[The lowest speed of an aircraft at which control can be maintained.]

speed (cruising),【飛】儉航速度，
巡航速度。

解：這是正常極合經濟的速度，蓋飛機的最高速度，消耗燃料甚多，不合經濟，僅免於失速的最低速度，燃料消耗率雖低，然延長旅途時間亦不合經濟。
[The normal economical speed. Maximum speed is uneconomical. Speed that only just escapes stalling is also uneconomical because, although the rate of fuel consumption is low, the journey is unduly prolonged.]

speed (economic),【飛】經濟速度。

解：在靜止空氣中飛過每個距離單位而用最小燃料消耗量的速度。
[The speed at which the fuel consumption, per unit of distance covered in still air, is a minimum.]

speed (gliding),【飛】滑翔速度。

解：飛機縱軸傾側在正確滑翔角度，

在空中滑翔時的前進速度。飛行學生的安全滑翔速度，是大過飛機臨界速度一半。

[The forward speed at which the airplane glides through the air when the longitudinal axis is inclined at the correct gliding angle. A good safe gliding speed for student pilots is considered as being 50 per cent greater than the critical speed of the airplane.]

speed (ground),【飛】對地速度。

解：飛機對地的水平方面的分速。
[The horizontal component of the velocity of an aircraft relative to the earth.]

speed(hump),【力】界限速度。

解：水面飛機或水陸兩棲機有最大水面阻力時的速度。

[The speed at which the water resistance of a seaplane or amphibian is a maximum.]

speed landing,【飛】迅速降落。

解：常指水間飛機用船身或浮筒的階座(step)降落。亦指兩點落地(two-point landing)的意義。

[Usually applies to the fast landing of a seaplane on the step of the boat or pontoon. This is analogous to a two-point landing on wheels.]

speed(landing),【飛】降落速度。

解：飛機可以保持水平飛行而仍有充份操縱性的最低速度。

[The minimum speed at which an airplane can maintain itself in level flight and still be under

speed(minimum)—sphere(celestial)

adequate control.]

speed(minimum), 【飛】最低速度。

解：一架飛機無論油門開至任何程度，而在大過它的機翼尺寸的高度上作平飛時，所能保持穩定的最低速度。

[The lowest steady speed which can be maintained by an airplane in level flight at an altitude large in comparison with the dimensions of the wings, with any throttle setting whatever.]

speed of electrical waves, 【電】

電波速度。

解：無線電通訊所用，與光的速度相同(每秒鐘186,000哩)。

[As used in radio communications, is the same as the speed of light(186,000 miles per second).]

speed range, 【飛】速度範圍。

解：凡飛機最低速度與最高速度的差數，謂為速度範圍，例如一飛機的最低速度為每小時五十哩，而最高速度為每小時一百七十哩，則速度範圍為每小時一百二十哩，凡飛機的昇力速度(lifting speed)為速度範圍的最低示數。

[The difference between the minimum and maximum speed of an aeroplane. The lifting speed is the lowest figure of speed range. For example, if the minimum speed is 50 m.p.h. and the maximum speed 170 m.p.h., the speed range would be 120 m.p.h.]

speed(stalling), 【飛】失速速度。

解：航空器第一次達到失速情形的速度，通常在臨界速度某分數之下。

[The speed, or velocity, at which an aircraft first reaches a stalled flight condition; usually a fraction below the "critical speed".]

speed(turning), 【飛】轉彎速度。

解：飛機沿轉彎半徑上移動的速度，其顯明速度，係水平線經過機首而移動。

[The rate at which the airplane moves around the radius of a turn. The apparent rate at which the horizon line seems to move past the nose of the airplane.]

sphere, 【力】球體。

解：一個實心物體。它的外面的任何各點都和它的共同中心有相等的距離。

[A solid body, all points on the surface being equidistant from a common center.]

sphere, (celestial), 【氣】天球。

解：這是一個想像的空圓球，圍繞地球，并以地球作中心。天球的南北極和赤道，均係地球的南北極和赤道的投影，換言之，天球的南北極，是垂直在地球的南北極上，且天赤道上各點，亦垂直在地赤道各點上。

[An imaginary hollow globe surrounding the earth and having the same center as the earth. The north and south poles and the equator of the celestial sphere are projections of the north and south poles and the equator of the earth upon the celestial sphere, i.e.,

spigot bearing—spinner

the north pole of the celestial sphere is vertically over the north pole of the earth, the south celestial pole is vertically over the south pole of the earth, and each point on the celestial equator is vertically over the corresponding point of the earth's equator. See delineation and right ascension.]

spigot bearing. 【發】軸承柱。

解：軸承的一點小突出端，用以插入他軸端內，以便二軸配準。

[A small projected end of shaft that is inserted into the end of another shaft for holding the two shafts in alignment.]

spin. 【飛】螺旋。

解：操縱術的一種，飛機的縱軸向下傾斜甚直，包含側滾 (roll) 和偏航 (yaw) 相聯動作。飛機成螺旋形的轉落，而旋轉半徑甚小，俯角 (pitch) 頗大，飛機的上面是向螺旋形的內邊，且內翼的衝角仍然保持着極大價值。

[A maneuver consisting of a combination of roll and yaw, with the longitudinal axis of the airplane inclined steeply downward. The airplane descends in a helix of large pitch and very small radius, the upper side of the airplane being on the inside of the helix, and the angle of attack on the inner wing being maintained at an extremely large value.]

spin (flat), 【飛】平螺旋。

解：平螺旋就是以垂直軸為中心，而縱軸幾近至水平的自轉情況。此時副翼已失效用。因飛機已在失速狀態中，下墜飛機的降落路徑和自轉致使機尾的操縱組離開滑流以外。於恢復飛機常態時，可將重量移前，顛覆飛機的均衡力。

[A condition of rotation about the vertical axis while the longitudinal axis is nearly level. Aileron are ineffective because the airplane is in a stall and the downward path of the falling airplane and the rotation carries the tail control group away from the slip stream. To recover, upset the balance of the airplane by moving weight forward.]

spindle (mooring), 【艇】繫留軸。

解：繫留軸往往是管形物製成的，用途在支持氣艇前端的繫留錐 (mooring-cone)。有時也稱為繫留錐架。

[The member, usually tubular, which supports the mooring cone at the bow of the airship. Sometimes referred to as "out-rigger, mooring-cone".]

spin (inverted), 【飛】反螺旋。

解：用平均負傾角的螺旋動作。

[A spin with negative mean angle of incidence.]

spinner. 【螺】槳殼整流物。

解：一種整流物成圓錐或拋物線形狀，和槳殼同裝一軸，並同螺旋旋一同旋轉。

[A fairing of approximately

conical or paraboloidal form, which is fitted coaxially with the propeller boss and revolves with the propeller.)

spiral, [飛] 盤旋。

解：操縱技術的一種。飛機以小俯角和大半徑成螺旋形的降落。機翼的衝角則在平常飛行角度範圍以內。

[A maneuver in which an airplane descends in a helix of small pitch and large radius, the angle of attack being within the normal range of flight angles.]

spiral glide, [飛] 盤旋滑翔。

解：飛機不用發動機的推力，而繼續作傾斜滑翔轉彎的動作。

[A banked continuous gliding turn with the engine(S) giving no thrust.]

spiral instability, [力] 盤旋不安定性。

解：某種航空器有種固有不安定性。當飛機因偏航的結果，而有過度的傾斜和側滑；且傾斜動作繼續增大，轉彎半徑則反變減小。

[A type of instability inherent in certain airplanes which becomes evident when the airplane, as a result of a yaw, assumes too great a bank and side slips; the bank continues to increase and the radius of the turn to decrease.]

spirits, [材] 酒精。

解：盛滿羅盤碗內所用的不凍結的液體。

[Non-freezing liquid used for

filling compass bowls.]

spirit level, [儀] 酒精水平表。

解：一根玻璃管，內盛酒精，並有一個氣泡。這氣泡對於分度的位置可以表示飛機的水平。

[A glass tube filled with spirits and containing an air bubble. Position of bubble in reference to calibration marks indicates level attitude.]

splice, [材] 絞接。

解：兩條繩索，鋼索或木條末端的接合方法，能使絞接處有如該物本身一樣的堅牢。

[The joining of the end of two pieces of rope, wire, or wood in such a manner that the splice (joint) is just as strong as the material spliced.]

spoilers (aileron), [機] 副翼擾流器。

解：一種小型副翼裝在機翼前緣，用以減少機翼一端的阻力。

[Small auxiliary flaps or baffles used at the leading edge of the wing to reduce the lift on one end of the wing.]

spring (valve) [發] 氣門彈簧。

解：阻礙氣門開啓而用的彈簧（通常繞在氣門蒂外面。）

[Spring used to resist opening of valves (usually coiled about the stem).]

spruce, [材] 銀樅。

解：木材的一種，有明顯的銀紋，挺直，和平滑，且無節孔或局部涸乾的缺點。它是量輕，質強，實係製造飛機的普通材料中最滿意的一種。凡在有接頭的

squadron—St.

處所，必須纏成線圈管以防分裂。若用作翼樑，翼肋，支注等，則有柔順，量輕和強力三種聯合特性。

(Spruce is of clear silver grain, straight, smooth, and free from knot holes or sap pockets. It is the lightest, strongest and most generally satisfactory material for airplane construction available. It must be properly ferruled where fittings are attached to prevent splitting. As a material for spars, ribs, struts, etc., it gives splendid combination of flexibility, lightness and strength.)

squadron, 【軍】中隊。

解：單發動機飛機三小隊(flight)或多發動機飛機，兩小隊為一中隊，所謂中隊，係行政上的單位，可與步兵營相比擬。

(A squadron consists of three flight of single-engine machines or two of multi-engine machines. The squadron is an administration unit, and may be compared to a battalion.)

squadron in echelon port, 【軍】

左舷梯形中隊。

解：左舷梯形中隊，則每架飛機位於其前一架的左舷後方，各機飛行方向亦均同，故一中隊飛機，一一向左後方斜列而成為對角線。

(The machines are in one long diagonal line, the rearmost to the left and behind.)

squadron in echelon starboard,

【軍】右舷梯形中隊。

解：右舷梯形中隊，每架飛機位於前一架的右舷後方，各機飛行方向均同，故一中隊飛機，一一向右後方斜列，而成為對角線。

(The machines are in one long diagonal line, the rearmost to the right and behind, all the machines going in the same direction.)

squall, 【氣】颶。

解：時間較短而突然發生的一陣急風。它是隨起隨止的，兩個鄰接地區內的大氣壓力相差甚大時，則最易發生。(A sudden blast of wind of comparatively short duration. A squall subsides as rapidly as it occurs. Squall occurs when there is a large difference in atmospheric pressure of adjacent areas.)

squall line, 【氣】線颶。

解：線颶係暴風急增後，突然停歇，風向轉變，氣溫驟降五度至十度不等，氣壓有劇昇的情形。它的能見現象，為一長條狹有兩雲的黑雲，在英國則常起自西方或西北方。

square root of a number, 【數】

一個數目的平方根。

解：一個數目的自乘所得的積數，等於另一個數，故這個數目便是另得一個數目的平方根。是以，4 的平方根就是 2，因為 $2 \times 2 = 4$ 。

(That number which, when multiplied by itself, will equal the number. Thus the square root of 4 is 2, because $2 \times 2 = 4$.)

St. 【氣】層雲。

解：此即 stratus 的縮寫。

stability—stability(inherent)

stability, 【力】安定性.

解：物體所具備的一種性質，當由一種均勢或穩定運動情況所擾亂時，它便發出一種力量或力距 (moment)，使這物體恢復至原來的情況。當飛機受擾亂時，維持機身在原來位置，或恢復它的原來位置的傾向，則稱為安定性。

[That property of body which causes it, when disturbed from a condition of equilibrium or steady motion, to develop forces or moments which tend to restore the body to its original condition.]

stability (automatic), 【力】自動安定性.

解：凡藉機械自動運用操縱面而得來的安定性，就是自動安定性。

[Stability dependent upon movable control surfaces automatically operated by mechanical means.]

stability (directional), 【力】方向安定性.

解：這是關於直軸自轉的安定性，此即飛機如發生很小的偏航角度 (angle of yaw) 時而有復元力距起作用，那就是飛機具有方向安定性的最簡單的方式，因為對稱的關係，方向安定性和橫面安定性極為密切。除駕駛員的操縱外，順直軸移動叫做偏航 (yawing)。

[Stability with reference to rotations about the normal axis, i.e., an airplane possesses directional stability in its simplest form if a restoring moment

comes into action when it is given a small angle of yaw. Owing to symmetry, directional stability is closely associated with lateral stability.]

stability (dynamic), 【力】動力安定性.

解：假如飛機由穩定的運動而改為飛行動作時，則這種特性能將飛機的運動恢復穩定，且復元力距 (restoring moment) 所致的震動亦被消失。靜力安定性和動力安定性的普通鑑別方法，就是靜力安定性專賴復元力距，而動力安定性則有滯動因數的作用。

[Stability of such a character that, if the airplane is displaced from steady motion in flight, it tends to return to that steady state of motion, the oscillations due to restoring moments being damped out. In a general way, the difference between static stability and dynamic stability is that the latter includes the action of damping factors.]

stability (inherent), 【力】固有安定性.

解：這完全由於航空器上各固定部分的支配和佈置所生的安定性，故受擾亂力的影響時，無須應用操縱面或任何機械裝置的支配，而有恢復原狀的傾向。

[Stability of an aircraft due solely to the disposition and arrangement of its fixed parts, i.e., that property which causes it, when disturbed, to return

stability(lateral)—stabilizer(aerostat)

to its normal attitude of flight without the use of controls or the interposition of any mechanical devices.]

stability (lateral), [力] 橫向安定性。

解：這是關於發生側滾，偏航或側滑擾亂的安定性，這種擾亂情況能影響航空器的對稱面。飛機縱軸方面遇到擾亂力後，機翼有維持或恢復水平位置的傾向。橫向安定性的產生，大都為應用「橫上反角」於飛機的設計和裝配而成。

[Stability with reference to disturbances involving rolling, yawing, or side slipping, i.e., disturbances in which the position of the plane of symmetry of the aircraft is effected.]

stability (longitudinal), [力] 縱向安定性。

解：這是關於對稱面被擾亂的安定性，即發生縱面與正常速率的俯仰和偏差擾亂。

[Stability with reference to disturbances in the plane of symmetry, i.e., disturbances involving pitching and variation of the longitudinal and normal.]

stability (pendulum), [力] 懸擺安定性。

解：飛機的重力中心點所在位置，若低過壓力中心點時，便有懸擺安定性的存在。

(Pendulum stability exists when the center of gravity of an airplane tends to assume a

position below the center of pressure.)

stability (static), [力] 靜力安定性。

解：假如飛機在它的重力中心軸上轉動（如在風洞中實驗時所作的），而將正常姿勢略有改變時，則有將這飛機恢復原態的一種力距發生，這種力距的特性就是靜力安定性。

[(Stability of such a character that, if the airplane is displaced slightly from its normal attitude by rotation about an axis through its center of gravity (as may be done in wind-tunnel experiments), moments come into play which tend to return the airplane toward its original attitude.)]

stabilizer, [機] 安定面。

解：一片正常裝置的翼面，它的作用是減少俯仰運動，普通是在航空器的後部，大約與飛機的縱軸和橫軸或平行的位置，有時亦稱為「尾翼」tail plane。

[A normally fixed airfoil whose function is to lesson the pitching motion. It is usually located at the rear of an aircraft and is approximately parallel to the plane of the longitudinal and laterlletl axes. Also called "tail plane".]

stabilizer (aerostat), [球] [艇] 浮昇器安定面。

解：與飛機的直翅相同。蹼式氣球的舵蹼有時亦稱為安定面。（參閱附錄第二十四圖）

stabilizer(mechanical)—staggered biplane

(Same as fin. The lobes of a kite balloon are sometimes referred to as stabilizers.)

stabilizer (mechanical),【機】機械安定器。

解：這是一種機械裝置，用以防止飛機陀螺平衡穩定運動的狀況，或者因這種運動被擾亂時，將它回復至原來的穩定情況。旋轉安定器(gyroscopic stabilizer)，懸擺安定器(pendulum stabilizer)，慣性安定器(inertia stabilizer)等都屬此種。

(A mechanical device to prevent an aircraft from departing from a condition of steady motion, or, in case such a motion is disturbed, to restore it to its steady state. Includes gyroscopic stabilizers, pendulum stabilizers, inertia stabilizers, etc.)

stabilizer setting (angle of),【力】【機】安定面裝角。

解：飛機推力線與安定面弦間的銳角。

(The acute angle between the line of thrust of an airplane and the chord of the stabilizers.)

stabilizer (vertical),【機】垂直安定面。

解：一片翼面作垂直位置裝在飛機上，它的作用是減小垂直軸上的偏航影響。

(A vertically fixed auxiliary airfoil whose function is to lessen yawing effects about the vertical axis.)

stable oscillation,【力】安定震動。

解：凡振幅(amplitude)不逐漸增大的振動謂之安定震動。

(An oscillation whose amplitude does not increase.)

stagger,【機】斜單。

解：雙翼機，三翼機，或多翼機的上翼前緣超過下翼的數量。它是用翼隔的百分數或各用角度的度數(這角度的正切 tangent 就是上面所說的百分數)來計算。上翼前緣放置在下翼前緣的前面，是正斜單(positive)，它是沿着上翼弦和下翼前緣所劃的垂直線的交叉點而測量，各線都是在和對稱面相平行的平面中繪畫的。(參閱附錄第十三圖)。

(The amount of advance of the leading edge of an upper wing of a biplane, triplane, or multiplane over that of a lower, expressed either as a percentage of gap or in degrees of the angle whose tangent is the percentage just referred to. It is considered positive when the upper wing is forward and is measured from the leading edge of the upper wing along its chord to the point of intersection of this chord with a line drawn perpendicular to the chord of the upper wing at the leading edge of the lower wing, all lines being drawn in a plane parallel to the plane of symmetry.)

staggered biplane,【機】交錯雙翼機。

解：雙翼機的一翼前緣是在他—翼的

stagnation point—stalling speed

前方。

[A biplane in which the leading edge of one wing is set ahead of the other wing.]

stagnation point, [力] 歧點。

解：此點在無黏性液體內運動的一個物體表面上，然液體是在靜止中。此點在黏性液體內，是正壓在物體上最大的。(參閱附錄第六圖)

[A point on the surface of a body in motion through an inviscid fluid where the fluid is at rest relative to the body. In a viscous fluid, the point at which the positive pressure on the body is a maximum.]

stall, [飛] 失速。

解：無論由於任何原因，使飛機有失去支持本身或操縱所必要的空中速度時的情況，就是失速。

[The condition of an airplane when from any cause it has lost the air speed necessary for support or control.]

stall landing, [飛] 失速降落。

解：失速降落是說明水面飛機着水時，差不多失速(stalling)及其機尾極低時的情形，亦常指陸上飛機的應急降落(emergency landing)。雖然它的三點降落(three-point landing)都是半失速降落。

[Usually applies to a seaplane landing at approximately stalling speed with the tail extremely low. This represents an emergency landing with a landplane, although all three-point landings are semi-stall landing.]

stall (whip), [飛] 機頭急墜失速。

解：飛機於完全失速後，以橫軸為中心的猛急縱面轉動，而此種動作是由飛機機鼻部重力所致。當飛機接近失速的極頂時若將油門關閉，則稱為「關閉發動機失速」(cut-power stall)。發動機架在此動作中，易受極度的緊張力。當飛機機鼻部向上盪動尚未完畢以前，若用猛力將方向舵蹬住，亦可防止這種危險。

[A violent longitudinal rotation about the lateral axis following a full stall, and is due to the nose-heavy balance of an plane. Called a cut-power stall when the throttle is closed near the peak of the stall. Severe strains occur on the engine mounting. Hard rudder before the upswing is completed will prevent.]

stalling turn, [飛] 失速轉彎。

解：頗與半測滾相似，但所不同者是在正在轉彎之前，飛機失速急踏方向舵與急拉操縱桿，飛機由俯衝飛出後，飛行方向與前相反。

[It is somewhat similar to the half-roll, but in this case the aeroplane loses flying speed immediately before the turn. A kick on the rudder and a jerk with the control lever flicks the aeroplane on to its back, and it comes out of the resulting dive travelling in the opposite direction.]

stalling speed, [飛] 失速速度。

解：航空器第一次達到失速情況的速度。通常在臨界速度某分數之下。

standard air—starter(gas)

[The speed, or velocity, at which an aircraft first reaches a stalled flight condition; usually a fraction below the "critical speed".]

standard air, 【氣】標準空氣。

解：空氣作為參考標準的，標準空氣是在海平面溫度 59°F . (15°C) 每立方呎重 0.07651 磅。質量密度為 0.002378 比體積為 13.07 立方呎。

[Air taken as a standard for reference. Standard air at scale level and at 59°F . (15°C) weighs 0.07651 pound per cubic foot. The mass density is 0.002378 and the specific volume is 13.07 cubic feet.]

standard time (civil time), 【氣】標準時。

解：即吾人鐘表所指示的時間，標準日劃分為二十四小時，習慣上分為二段，一由半夜至正午為上午，一由正午至半夜為下午。地球分為若干標準時區，每區有 15° ，而即每區中午線兩旁 $7\frac{1}{2}^{\circ}$ 由格林威治經度零點起，每旁 $7\frac{1}{2}^{\circ}$ 包括零時區，在第十五經度子午線上為秒的中點，即一小區，西經區指示正區，東經區指示負區，例如美國華盛頓京，是在第七十五西經度區上，是為正五區，即較格林威治時間遲五小時。

[Standard time is the time that is indicated by our clock and watches. The Standard Day is divided into twenty-four hours, and by custom is indicated in two series of twelve hours each, from midnight to noon-A. M., and from noon to mid-

night-P.M. The earth is divided into Standard Time Zones of 15° each, $7\frac{1}{2}^{\circ}$ each side of the center meridian of each zone. Beginning with the Prime Meridian at Greenwich, $7\frac{1}{2}^{\circ}$ each side includes the zero hour zone, the 15th meridian of longitude being the center of the second, or 1 h zone. Zones in west longitude are indicated as plus zones, and those in east longitude as minus zones. Thus, Washington, D.C., which is in the west 75th meridian zone, would be in the +5 zone, or 5 hours later than Greenwich time.]

standing wire, 【工】固定索。

解：索的長度已由量妥於結頭接畢後，使用者稱為固定索。

[The measured length of wire which will be used when completed.]

stars (fixed), 【氣】恆星。

解：在天空間的傾斜角常時恆定不變的星體。

[Stars whose declination is always the same-constant.]

starter (compressed-air), 【發】

壓縮空氣起動器。

解：一種機械裝置，是利用壓縮空氣在氣缸內膨脹而開動發動機。

[A device for starting an engine by utilizing the expansive energy of compressed-air, in the cylinders or otherwise.]

starter (gas), 【發】氣體起動器。

starter(ground)—static ceiling

解：一種機械於動力行程時，供給受壓力的燃燒混合氣體至氣缸內，轉動發動機，而作開動的動作。

[A device whereby an engine is rotated for starting, by supplying gaseous combustible mixture under pressure to the cylinders during the power stroke.]

starter (ground), 【設】地面起動機。

解：一種開動發動機的機件，不攜載於飛機內。

[Any device not carried in an aircraft for starting an aero-engine.]

starter (Hucks), 【發】赫克斯起動器。

解：赫克斯起動器。係一種能自動的機件，該機件有一突出的鐵柄，柄端有一爪形物，可以連接於螺旋槳殼，該機件的長度，發於機身，爪形物連接於螺旋槳藉其發動機而轉動，當螺旋槳已得必需的推力時，此爪形物能自動落下。

[It is a self-propelled vehicle with a contrivance consisting of a projecting arm, at the end of which is claw which can be attached to the boss of propeller. This vehicle is run up to the machine, the claw is attached to the propeller, and is then rotated by the engine of the Hucks starter. When the propeller has been given the necessary impulse the claw automatically comes away.]

starter (inertia), 【發】慣性起動器。

解：一種機械裝置，它的動能是儲藏在小型高速飛輪內，於開動時，發動機則由滑動离合器用手搖轉飛輪所傳動。

[A device in which energy is stored in a small highspeed flywheel, and, for starting, transmitted to the engine through a slipping clutch, the flywheel being energised either by hand or otherwise.]

statement scale, 【應】說明比例尺。

解：這是海圖或地圖上的比例尺。用以說明製圖師所選定每一吋等於一哩或其他相關的單位。

[It is a scale indication on a chart or map which state that one inch equal one mile or expresses whatever unit relation that the cartographer has chosen.]

static balance, 【力】靜力均衡。

解：靜止時的均衡，一靜止均衡的物體，在各位置皆成均衡，且於運動時，無需再使均衡。

[Balanced when at rest. A statically balanced body will stand in equilibrium in any position but it is not necessarily balanced when in motion.]

static ceiling, 【力】靜力上昇限度。

解：浮昇器於移去活動重量後，在靜力平衡中的高度（在標準大氣中）。

[The altitude in standard atmosphere, at which an acrostat is in static equilibrium after removal of all discharge-

able weight.)

static lift, 【力】靜昇力(浮昇器)。

解：浮昇器靜止在空中時的上昇力，是由排氣量乘空氣密度，再減去浮昇器內所含輕淨氣體的重量而得，這種數值就是使浮昇器上昇的靜昇力。

[The resultant upward force on an aerostat at rest obtained by multiplying the actual volume of the air displaced by the density of the air and subtracting the weight of the contained gas. (The volume of the air displaced, multiplied by the difference of density of the air and the contained gas.)]

static soaring, 【飛】靜止翱翔術。

解：在直昇氣流中(如空氣的對流，和溫暖的直昇氣流)而翱翔的技術。

[Soaring on the up-currents of air, such as convection currents and thermic up-currents.]

static stability, 【力】靜力安定性。

解：假如飛機在它的重力中心，軸上轉動(如在風洞中實驗時所作的)而將正常姿勢略有改變時，則有將這飛機恢復原狀的一種力距發生，這種力距的特性，就是靜力安定性。

[Stability of such a character that, if the airplane is displaced slightly from its normal attitude by rotation about an axis through its center of gravity (as may be done in wind-tunnel experiments), moments come into play which tend to return the airplane toward its original attitude.]

static thrust, 【力】靜止推力。

解：螺旋槳在一固定點上旋轉所生的推進力。

[The thrust developed by a propeller when rotating at a fixed point.]

static trim, 【飛】靜力俯仰配平。

解：因為靜力情況或因它們的改變的配平。

[Trim, or trimming, due to static conditions or their changes.]

static turn indicator, 【儀】靜壓轉彎指示器。

解：轉彎指示器由裝在二翼梢上(與對稱面或相等的距離，并在側面軸平行面中)的壓力差量所激發。

[A turn indicator actuated by the difference in pressure between static tubes mounted near the wing tips equidistance from the plane of symmetry and in a plane parallel to the lateral axis.]

station (airship), 【設】氣艇站

解：地面的設備有棚廠，繫留柱，製氣廠，修理廠，降落場和一切運用氣艇所需要的各項裝備與供給。凡有上列各項設備或僅有其中一部份的就是氣艇站。而運用氣艇就以此為根據地。

[The complete assembly of sheds, masts, gas plants, shops, landing fields, and supply their needs. A station may include all or a part of the items enumerated. The base from which airships are operated.]

statoscope, 【儀】微動氣壓表。

解：測驗航空器變更微小高度的儀

statute mile—stern-heavy

器。這儀器通常是憑藉空中靜止壓力的微小變動而指示的。

[An instrument for detecting minute changes of altitude of an aircraft. The indications of the instrument usually depend on small changes of the static pressure of the air.]

statute mile, 【力】法定哩。

解：每一法定哩等於 5270 呎，且大約等於 $\frac{1}{8}$ th 海里。

[One statute mile equals 5,280 feet. It is approximately $\frac{1}{8}$ th of a nautical mile.]

stay, 【機】支索。

解：一種鋼絲或其他抗張力物；例如機翼支線和機身構架索。

[A wire or other tension member; for example, the stays of the wing and body trussing.]

St. Cu., 【氣】層積雲。

解：此即 Strato-Cumulus 的縮寫。

steel (Bessemer), 【材】比斯默鋼。

解：將熱空氣吹入鎔化鐵內，而將生鐵攪成鋼。此法係燒去其中的游離碳，而將必要的百分率化合碳留下。

[Steel produced from cast iron by blowing heated air through the molten metal. This burns out the free carbon and leaves only the required percentage of combined carbon.]

stem (valve), 【發】氣門蒂。

解：揭瓣式氣門的軸或蒂，裝在氣門蒂導空內。

[Shaft or stem of poppet type valve, located in valve stem guide.]

step, 【機】階座。

解：浮筒或船身下段的突然橫斷之處，是為浮筒或船身在水中進行速度增高，浸水面積減小時，使阻力變小而設計的。此階座亦可免除吸引作用。

[A break in the form of the bottom of a float or hull designed to reduce resistance when under way by rapidly reducing the wetted surfaces as speed increases. It also serves to eliminate suction effects.]

stern droop, 【艇】尾墜。

解：氣艇的變形，它的縱軸後端折墜向下。

[A deformation of an airship in which its longitudinal axis bends downwards at the after end.]

stern framing, 【艇】尾部構架。

解：完成硬式氣艇十字形樑後方外形的一切構架。

[All framework, aft of the cruciform girder, necessary to complete the shape and contour of a rigid airship.]

stern-heavy, 【飛】尾重。

解：在正常飛行中，氣艇的後端有下沉趨勢的情況，此則必須藉賴水平操縱系改正之。氣艇在這種情況中，稱為「尾重」(trim by the stern)。尾重的情況是由於空氣動力，或空氣靜力關係，或由兩者聯合所致。

[The condition of which, in normal flight, the after end of an airship tends to sink and which requires correction by means of the horizontal controls.]

In this condition an airship is said to "trim by the stern". It may be due to either aerodynamic or static conditions, or to both.)

stern post, 【機】尾柱。

解：航空器的船身或機身極後端的直柱。(參閱附錄第十五圖21)

[The rearmost upright member of the fuselage or hull of an aerodyne.]

stiffener (bow), 【艇】艇頭助力材。

解：裝置在半硬式或軟式氣艇氣囊頭部的一種堅硬材料，可為氣艇移動所生壓力增大抵抗。有時亦稱為“艇鼻助力材”(nose-stiffener)或“艇鼻助力板”(nose-batten)。

[A rigid member attached to the bow of a non-rigid or semi-rigid envelope to reinforce it against the pressure caused by the motion of the airship. Sometimes called "nose stiffener" or "nose batten".]

sting, 【力】架針。

解：一種輕質桿，固定裝在物體上，向後方延伸，以便在風洞內支柱而作試驗。

[A light rod attached to and extending backwards from a body for convenience of mounting for test in a wind tunnel.]

stop (arming-vane), 【軍】備炸風車制子。

解：當炸彈裝置在飛機上時，防止爆炸尖針的備炸風車旋轉。

[A stop for preventing the rotation of the arming vanes of the pistol while the bomb is in

position of the aircraft.)

storage battery (aviation), 【電】蓄電池(航空用)。

解：為防漏而設計的電池，在猛烈的飛行動作中，池內液體不致漏出。

[A battery of leak proof design which will not discharge its liquid contents during violent maneuvers.]

strain, 【力】緊張。

解：物體因應力而變形的趨勢。

[A tendency to deformation of a member produced by stress.]

strainer screen (carburetor),

【發】濾器(氧化器)。

解：這是用細鋼絲編成的篩形物，普通裝在供油管和針形氣門聯合處，用以防雜質滲入氧化器碗內。

[A fine wire mesh screen usually placed at the union of the fuel feed line and the needle valve, to prevent the introduction of foreign substances into the carburetor.]

strato-cumulus, 【氣】層積雲。

解：層積雲為大型球塊，或成捲的黑雲，時常遮蔽全部天空，尤以冬季為最甚。就一般情形而論，層積雲常為一層灰色殘斷不齊的雲堆，四緣的雲塊較小，常呈水波狀態，很像高積雲。有時此類雲狀，可呈大捲形雲塊互相平行排列和擁擠的特奇現象。中央的卷雲都成暗色，蒼穹的蔚藍色，可從暗色稍遜的各捲雲間的隙縫中窺見。層積雲的球形或捲形的現象，以及與雨不相聯絡的特性，是為雨雲不同之處。平均高度為9,000呎。(參閱附錄第五十三圖)

[A large globular mass or rolls

stratosphere—streamline form

of dark clouds often covering the whole sky, especially in winter. Generally, St.-Cu. presents the appearance of a grey layer irregularly broken up into masses of which the edge is often formed of smaller masses, often of wavy appearance resembling A.-Cu. Sometimes this cloud-form presents the characteristic appearance of great rolls arranged in parallel lines and pressed up against one another. In their centers these rolls are of a dark colour. Blue sky may be seen through the intervening spaces, which are of a much lighter colour. St.-Cu. clouds may be distinguished from Nb. by their globular or rolled appearance, and by the fact that they are not generally associated with rain. Mean height: 9,000 feet.)

stratosphere, 【氣】同溫層。

解：超離地面四萬呎 (40,000) 高度的大氣層，此層內溫度對高度的變化有極少的差異。

[The upper layer of atmosphere above an altitude of about 40,000 feet, in which there is little variation with height.]

stratus, 【氣】層雲。

解：層雲為一層均勻的雲，其狀和霧相似，惟不停留於地面，而散佈空間，此種雲層，一旦被風吹破，或被峯巒截散，則稱為斷片層雲，以與層雲區別。(層雲雖是均勻的雲層，有時亦是波狀或

花綵的狀態。層雲的高度很低，所以易與纖維狀的高層雲區別)。平均高度為 2,000 呎。

[A uniform layer of cloud resembling a fog but not resting on the ground. When this sheet is broken up into irregular shreds in a wind, or by summits of mountains, it may be distinguished by the name Fracto-stratus (Fr.-St.). (St. may be undulated or festooned, even though "uniform". Its evident low height (under 1,000 meters) distinguishes it from non-fibrous A.-St.). Mean height: 2,000 feet.]

streamline, 【力】流綫。

解：一小部液體相對實體物纏繞運動的路綫。此名詞常指這種毫無渦流的路綫。(參閱附錄第六圖)

[The path of a small portion of a fluid, assumed continuous, moving relatively to a solid body. The term is commonly used only of such paths as are not eddying, but the distinction should be made clear by the context.]

streamline flow, 【力】順流。

解：流體經過固體的穩續流動，(即每點方向的流動，都是不受時間的限制)。

[Steady flow past a solid body, i. e., a flow in which the direction at every point is independent of time.]

streamline form, 【力】流綫形。

streamline motion—stress(working)

解：能產生順流的一種固體。

[A solid body which produces approximately streamline flow.]

streamline motion. 【力】流線運動。

解：液體的運動經過障礙物，此時各分子的路線皆平滑，並不含有突然的變化，或連合的路線。(參閱附錄第六圖)

[The motion of a fluid past an obstacle when the paths of all particles are smooth and contain neither abrupt changes in direction nor closed curves.]

street (vortex), 【力】渦道。

解：直線旋渦在二平行組中成有規則的排列，並產生在圓筒體後面。(參閱附錄第九圖)

[A regular arrangement of rectilinear vortices in two parallel rows, which is formed at times behind cylindrical bodies.]

stress, 【力】應力。

解：物體上的負擔或載重。

[Burden or load on a member.]

stresses are of five kinds, 【力】應力分爲五種。

解：壓縮應力 (compression), 抗張應力 (tension), 剪斷應力 (shear), 彎曲應力 (bending) 和扭轉應力 (torsion)。壓縮應力是緊夾一個物體的力量。抗張應力是引伸一個物體的力量。剪斷應力是剖開物體的力量。彎曲應力是物體在支點以外所受的力量。扭轉應力是扭歪一個物體的力量。[Compression, tension, shear, bending, and torsion. Compres-

sion is the squeezing of member. Tension is caused by forces which tend to stretch a member. Shearing tends to cut across a member. Bending is caused by forces which are applied on a member at other than the supporting points. Torsional stress is caused by forces which tend to twist a member.]

stresses (breathing), 【力】通氣應力。

解：浮昇器由於通氣所生的應力。因為氣囊通氣時，氣囊和龍骨的互相作用的緣故，這種應力對於半硬式氣艇的氣囊和龍骨極關重要。

[Stress produced in an aerostat by breathing. Of importance in the envelope and keel of a semirigid airship due to the interaction of envelope and keel when the envelope "breathes".]

stress(temperature), 【力】溫度變化應力。

解：防止由於溫度改變的自然變形(膨脹或收縮)所生的應力。

[It is caused by preventing the deformations (expansion or contraction) which would naturally occur as a result of temperature changes.]

stress (working), 【力】作用應力。

解：作用應力就是構體上各部份要受到應力單位的最數。

[Working stress is the maximum unit stress to which the parts

striation—strut(aileron)

of a structure are to be subjected.)

striation, [氣] 大氣結構切面紋。

解：圍繞地球各種氣象構體的垂直切面。

[A vertical cross section of the bands of varying atmospheric structures which surround the earth.]

striking velocity, [力] 碰擊速度。

解：炸彈在碰擊時的速度。

[The velocity of a bomb at the moment of impact.]

stringer, [機] 長桁。

解：一種輕質樑與主樑成平行或縱向的裝置，以便保持主翼面，機身，或其他部分的外形。

[A light auxiliary member parallel to the main spars or longitudinals to assist in preserving the external form of a main plane, fuselage or other component.]

strip (cap), [機] 帽條。

解：沿翼肋輪廓的平條，他的功用好像翼肋薄腹板的突緣。

[The flap strip along the contour of a wing rib. It acts as a flange to the thinner web(loom) of the rib.]

strip (drip), [球][艇] 滴水帶。

解：這是一條布帶裝在浮昇器外殼的一邊，能使雨水由此布帶流下，而不致滴落於吊籃或懸艇內。這種布帶能保護懸索乾燥不導電。有時亦稱滴水條 drip flap, or drip band.

[A strip of fabric attached by one edge to the envelope of an

aerostat so that rain runs off its free edge instead of dripping into the basket or car. It also assists in keeping the suspension ropes dry and non-conducting. Also called "drip flap" and "drip band".]

stroke, [發] 行程。

解：氣缸內的活塞由上死點至下死點間的推動距離(通常以吋或公分(cm)量度)。

[The amount of travel of the piston between top dead center and bottom dead center (usually measured in inches or centimeters).]

structural drag, [力] 結構阻力。

解：見 drag (參閱附錄第七圖)

strut, [機] 支柱。

解：構架內的柱。例如雙翼機翼面構架的垂直柱(翼間支柱)，和分隔機身各大樑間的橫直短柱等。

[A compression member of a truss frame. For instance, the vertical member of the wing truss of a biplane (interplane struts) and the short vertical and horizontal member separating the longerons (q.v.) in the fuselage.]

strut (aileron), [機] 副翼支柱。

解：一種直立桿，將雙翼機上下翼的副翼連接，以便使上下兩副翼同時運動。

[A vertical rod used for connecting the ailerons on the upper and lower wings of a biplane so that the ailerons will work

strut(drag)—sump(crankcase)

together.]

strut(drag), 【機】阻力支柱, 阻力柱(=Compaession member)

解: 機翼內部支張系的前後縱柱。

[A fore-and-aft compression member of the internal bracing system of a wing.]

strut (interplane), 【機】翼間支柱。

解: 裝在兩翼間的短柱, 通常亦稱為“翼支柱”(wing struts)。(參閱附錄第十五圖)

[The struts between planes (wings), and are usually called “wing struts”.]

strut (jury), 【機】應急支柱。

解: 一種支柱插裝上面, 作結構的臨時支持之用。例如飛機翼構架於摺擺時所用的支柱。

[A strut inserted to provide temporary support for a structure. A common example is the strut used to support to wing structure of an aerodyne during folding.]

stub pipe, 【發】短管。

解: 一種短管裝置在無排氣集合管的發動機上, 直接將排氣由氣缸排出。

[A short pipe which, in the absence of a manifold, conveys exhaust gases direct from a cylinder to the atmosphere.]

stub plane, 【機】附根翼。

解: (1)由機身或船身突出的短翼, 它的上面則裝接主翼部。(2)飛船船身突出的部分, 以便在水面得橫安定性。

① A short length of plane projecting from the fuselage or

hull (usually forming a part thereof) to which the main portion of the plane is connected. ② Projections from the hulls of flying boats to give lateral stability on the water.]

sublimation, 【熱】昇華。

解: 固體受熱蒸發直接氣化, 而無須經過液化的過程。

[A direct conversion of solids to vapor by heat evaporation without passing through any process of liquefaction.]

subsidence, 【力】沈下, 低下。

解: 一種干涉因無振動而消滅。

[A disturbance which dies out without oscillation.]

sub-stellar point, 【氣】星下點。

解: 正對所測星體下面在地球上的地點。

[The place on the earth directly beneath the star in question.]

sumatra, 【氣】蘇邁塔颶風。

解: 麻六甲海峽 (Straits of Malacca) 的西南颶風, 挾有雷電驟雨, 並由五月至十月間常有之。

[A squall moving from the South-west in the Straits of Malacca accompanied by thunder, lightning and rain and occuring most frequently from May to October.]

sump (crankcase), 【發】機箱槽。

解: 機箱內的一部分, 滑油在此處集合, 而引至滑油唧筒系。

[That portion of the crankcase in which lubricating oil is collected and led to the oil—

sump(dry)—supercharger(positive-driven type)

pumping system.]

sump (dry),【發】乾槽。

解：僅有小滑油槽的發動機，而滑油是由這裏用唧筒送至外面的蓄電池或油箱裏。

[An engine having only small oil collecting cups from which the oil is pumped to an outside reservoir or tank.]

sump (wet),【發】濕槽。

解：發動機底部的油槽，為盛載發動機滑油的主要部份。

[An oil sump in the base of the engine which carries the main supply or body of oil.]

supercharged engine,【發】增壓發動機。

解：這種發動機有增壓的機件，能在正常氣壓及溫度以外，使氣缸的充氣增高。

[An engine with mechanical means for increasing the cylinder charge beyond that normally taken in at the existing atmospheric pressure and temperature.]

supercharger,【發】增壓器。

解：一種機械裝置，能供給發動機在正常氣壓和溫度情況以外時的汽油化氣。

[A mechanical device for supplying the engine with a greater weight of charge than would normally be induced at the prevailing atmospheric pressure and temperature.]

supercharger (centrifugal type),【發】離心式增壓器。

解：一種增壓器械，裝有一具或兩具發生離心力的旋轉葉輪，而利用以相對阻力將空氣壓縮後送入發動機內。(參閱附錄第三十六圖)

[A supercharging device equipped with one or more rotating impellers generating centrifugal force which is utilized for the compression and the transmission of the air against resistance.]

supercharger (exhaust-driver),

【發】排氣運動式增壓器。

解：一種增壓器，它的旋轉輪是由發動機的排氣轉動渦輪所運動。

[A supercharger in which the impeller is driven by a turbine operated by the exhaust gases from the engine.]

supercharger (piston),【發】活塞增壓器。

解：一種增壓器，它的氣體壓縮是由氣缸所致成。

[A supercharger in which compression is effected in a cylinder.]

supercharger (positive displacement),【發】變位式增壓器。

解：一種增壓器，它的空氣或混合氣體是被壓縮而脈動輸入發動機。

[A supercharger in which either air or mixture is compressed and delivered to the engine in pulsations.]

supercharger (positive driven type),【發】聯動式增壓器。

解：一種增壓器是經過齒輪或其他方法，由發動機軸作一固定速度比率的

supercharger(roots)—superheat meter

聯動。

[A supercharger driven at a fixed speed ratio from the engine shaft by gears or other positive means.]

supercharger (roots), 【發】轉筒式增壓器。

解：一種增壓器，它的氣體壓縮是由固定匣內的二個轉筒，(rotors) 相對運動致成。(參閱附錄第三十七圖)

[A supercharger in which compression is effected by the relative motion of two rotors in a fixed case.]

supercharger (rotary-blower type), 【發】旋轉吹風式增壓器。

解：包含一具或多具相對低速旋轉器在一個固定的匣內轉動，而供給直接移置的一種增壓器。

[A supercharging device comprising one or more relatively slow-speed rotors revolving in a stationary case in such a way as to provide a positive displacement.]

supercharger (turbo type), 【發】渦輪式增壓器。

解：由發動機排氣所推動的渦輪而運轉的增壓器。

[A supercharger driven by a turbine operated by the exhaust gases from the engine.]

supercharger (vane), 【發】轉翼式增壓器。

解：一種增壓器，它的氣體壓縮，是由固定匣內的二個轉翼對向運動所致成。(參閱附錄第三十八圖)

[A supercharger in which com-

pression is effected by the motion of vanes relative to a fixed case.]

super compression engine, 【發】最高壓縮發動機。

解：發動機有高壓縮比率，除超過預定高度外，無需全開油門工作，然在預定高度以下時，則油門的開放大小，是由汽油門所限制。

[An engine of high compression ratio which is designed not to be run at full throttle except at or above some predetermined altitude. Below this altitude the throttle opening is usually limited by the use of a throttle gate.]

superheat, 【艇】【球】超熱。

解：浮昇器氣囊內的氣體熱度高過週圍空氣的熱量。假如囊內的熱度較低，那稱負超熱。

[The amount by which the temperature of the gas in the envelope or gas cell of an aerostat is higher than the temperature of the surrounding air. If the contained gas has a lower temperature, the superheat is said to be negative.]

superheat meter, 【儀】熱差表。

解：輕航空器氣囊裏面的氣體溫度，與包圍四周的空氣溫度常有差別，用來測度這種差別的儀器，就稱為熱差表。

[An instrument for measurement the difference in temperature between the gas container of a lighter-than-air craft and the surrounding air.]

supply balloon—surface loading

supply balloon, [球] 供給氣球。

解：用重機布製成的氣囊，內藏低壓力的輕質氣體，攜帶極為便利，重量較大，縱不繫住，也不致升起。（注：此種氣球不能列為航空器。）

[A container made of heavy fabric employed as a portable of storing gas at low pressure. It is usually too heavy to rise, even if free.]

supply tube, [艇][球] 充氣管。

解：裝置在壽式氣球上的延長物或充氣套筒，筒端有管接至懸籃和裝設有簡便聯結接頭上，這接頭又接於氣艇艙面的相類物，故氣體輸至氣艇艙面後不久便可轉至氣囊，倘須用固定壓力氣囊的氣艇，有時亦要用和這機相類的充氣管，但在美國甚罕見，此管亦稱為“nursing tube”。

[An elongated appendix or inflation sleeve, fitted on a kite balloon, which is brought down to the basket and fitted with a quick-connection coupling. This coupling can be attached to a similar piece on the deck of the airship and gas may be sent into the balloon shortly after it has reached the deck. A similar tube is sometimes used with airships where constant pressure nurse balloons are used. This is rare in the United States. Also called “nursing tube.”]

supporting surface (main), [機]

主要支持面，機翼。

解：由飛機在同一平面上—端伸展至

他端的一副翼面。例如，三翼機僅有三副主要支持面。主要支持面包括副翼在內，但其他專作操縱或安定用途的各面則不在內。

[See Surface (main supporting).]

surface (adjustable), [機] 調整面。

解：調整面就是一個在飛行中可以調整的翼面。例如調整安定面可以調整飛機的縱面均衡性。

[A surface which may be adjusted while in flight. An adjustable stabilizer which may be adjusted to balance the airplane longitudinally is the most notable example.]

surface (bearing), [力] 軸承面。

解：承受壓載的任何物。

[Any surface supporting a compressive load.]

surface (control), [機][艇] 操縱面。

解：一個活動的翼面，可由駕駛員轉動而使飛機或氣艇的姿勢改變。

[A movable airfoil designed to be rotated or otherwise moved by the pilot in order to change the altitude of the airplane or airship.]

surface (fixed), [機] 固定面。

解：這是飛機上的一個固定翼面，與縱軸成平行，用以保持飛機的安定性，例如尾翅，阻滑翅 (skid fin) 等。（參閱附錄第十五圖）

[A fixed surface, attached to a part of the aircraft, parallel to the longitudinal axis, in order to secure stability; for example, tail fin, skid, etc.]

surface loading, [力] 翼面載量。

surface(main supporting)—suspension winch

解：某種翼面在規定氣動力情況下，所載的每單位面積平均力。

[The mean force per unit area carried by a particular aerofoil under specified aerodynamic conditions.]

surface (main supporting), [機]

主要支持面，機翼。

解：由飛機在同一平面上—端伸展至他端的一副翼面。例如三翼機便有三副主要支持面。主要支持面包括副翼在內，但其他專作操縱或安定用途的各方面則不在內。

[A set of wings, extending on the same general level from tip to tip of an airplane; e.g., a triplane has three main supporting surfaces. The main supporting surfaces include the ailerons. But no other surfaces intended primarily for control or stabilizing purposes.]

suspension band, [球] [艇] 懸帶。

解：橫平的橡皮布帶，固繫於氣球或氣艇的氣囊上，懸籃或懸艇，或為式氣艇的繫留索，即用此帶懸吊。

[A horizontal fabric band, securely fastened to the envelope of a balloon or airship, and to which are attached the main suspensions of the basket or car, or the captive cable of kite balloon.]

suspension bar, [球] 吊架。

解：繫住氣球懸籃支索的架，上裝有繩索與扣索棍，可使懸籃與氣球連附。亦稱為鞦韆架(trapeze bar)。

[A bar to which the support-

ing rope or the basket of a balloon are secured. It is also fitted with ropes and toggles for attaching to the basket suspensions from the balloon. Also called "trapeze bar".]

suspension line, [艇] 懸索。

解：懸索是用以支持附在氣艇或氣球氣囊上的懸吊物。

[A line either of cordage or metal, which supports the weight attached to the envelope of a balloon or airship.]

suspension (overhead), [設] 懸

架，吊樑。

解：由氣艇棚廠頂上垂下來的一條線索，於氣艇入廠時用以支持氣艇構體的全部或一部的重力。

[A line leading from the roof of an airship shed and arranged to sustain the whole or a part of the weight of the structure of an airship when it is docked.]

suspension patch, [艇] 吊索補綴。

解：浮昇器外皮或氣囊上面的補綴，在這上面，可以附接懸掛着的繩索。

[A patch, secured to the envelope or to a gas cell or an aerostat, to which a suspension line may be attached.]

suspension winch, [設] 支持絞盤。

解：為式氣球的昇和阻力由氣囊而傳達引索的配備。

[The rigging by means of which the lift and drag of a kite balloon is transmitted from the envelope to the towing or traction cable.]

sweep back—symbols

sweep back, [機] 掠後。

解：飛機橫軸和突出的主翼軸，在包括橫軸和縱軸平面，向後定置所成的銳角。(翼軸就是翼切面中經過重心所劃的線)。

(The acute angle between the lateral axis of an airplane and the projection of the axis of the wing on the plane which includes the lateral and longitudinal axes. (The axis of a wing is a line through the centroids of the section of the wing.))

sweep-back (angle of), [機] 掠後角, 後退角。

解：飛機橫軸和突出的主翼軸，在包括橫軸和縱平面，向後定置所成的角度。(翼軸就是翼切面中心經過重心所劃的線)(參閱附錄第十四圖, 18)

(The angular set back of the main planes relatively to the fuselage or hull.)

sweet pilot, [飛] 優良飛航員。

解：此乃俚語，指飛行優良的飛航員，有時亦指良好的飛行家(ace)。

[A sweet pilot is a good one; so is an "ace".]

swerve, [飛] 轉向。

解：飛機在地面時沿直軸的轉動，特別在起飛或降落中有之。

(Rotation about the normal-vertical-axis while on the ground, particularly while taking off or landing.)

swing, [傘] 擺動。

解：墜落的物體因傘身傾斜而有的擺錘運動。

(A pendulum-like motion of the falling load usually due to the tilting of the canopy.)

swinging base, [設] 羅差修正座。

解：它是一個盤面，上劃有度數分段，飛機放置上面轉動，藉可修正羅差，并可獲得偏差表的必要材料。

(A base or table divided into degree intervals on which aircraft may be placed to adjust compasses for deviation, and so obtain the necessary data for a deviation card.)

swishtailing, [飛] 擺尾。

解：擺尾動作是在飛機未降落以前，輪流運用左右方向舵，而殺減前進速度，且方向舵動作的操縱，要使飛機在垂直軸上作左右的擺動，但前進方向沒有明顯的改變。

(It is used to kill forward speed before landing by alternately using hard left and right rudder, the rudder action being controlled so that the plane swings right and left over the ground about the vertical axis without any noticeable change in the direction of forward motion.)

swivelling airscrew, [螺] 迴轉螺旋槳。

解：螺旋槳的旋轉能在固定面中，傳遞推力至各方向。

(An airscrew capable of being turned so as to transmit thrust in any direction within a fixed plane.)

symbols, [應] 符號。

symmetry(plane of)—tail boom

解：符號是代表各種不同因數的字母，多半是用希臘字母。例：V字是用以代表速度(velocity)。

[Symbols are letters (often letters from the Greek alphabet) used to denote various factors. For example: V is symbol used to denote velocity.]

symmetry (plane of), [力] 對解面。

解：通過縱軸的垂直面，將飛機分兩個對稱的部份。

[A vertical plane through the longitudinal axis about which the parts of an airplane are symmetrical.]

synchronizing gear, [軍] [裝] 協調齒輪。

解：節制機槍射擊和螺旋槳旋轉速度協調的一種機件。

[A gear which controls the firing mechanism of a gun by synchronizing it with the rotation of the airscrew.]

synoptic meteorology, [氣] 一覽氣象學。

解：在一指定時間內關於廣大區域的氣象情況所搜集和表示的消息。

[The collection and presentation of information regarding meteorological conditions over a wide area at a given time.]

synoptic weather chart, [氣] 一覽天氣圖。

解：顯示一指定時間一廣泛區域內天氣情況圖。

[A chart showing the weather conditions prevailing at a given time over a wide area.]

syntoniser, [電] 合調器。

解：一種協調的儀器並上有分度表，顯示週率 and 波長的公尺數。

[An instrument used as a heterodyne and equipped with calibration charts showing frequency and wave-length in meters.]

T

tachometer, [儀] 轉數表。

解：這種儀器用以表示發動機每分鐘的轉數。

[An instrument to register the revolutions per minute of the engine.]

tail (airship), [艇] 氣艇尾部。

解：氣艇尾部原為 stern，但亦有時用 tail 的。

[Sometimes used for stern.]

tail boom, [機] 尾部架樑 (=tail outrigger)。

解：連接尾部各面和主要支持面的架樑或叉架，因無機身以作是種裝接。

tail droop—tail-setting angle

(參閱附錄第十四圖)

[A spar or outrigger connecting the tail surfaces and main supporting surfaces.]

tail droop, [飛] [艇] 尾墜.

解：氣艇的變形，它的縱軸後端折墜向下。

[A deformation of an airship in which its longitudinal axis bends downward at the after end.]

tail group (or tail unit), [機]

尾組(=empennage).

解：航空器後端上的安定面和操縱面，包括安定面，方向舵，和升降舵。

[The stabilizing and control surfaces at the rear end of an aircraft, including stabilizer, fin, rudder, and elevator.]

tail-heavy, [飛] 尾重.

解：重航空器在平飛狀態時，假如將操縱放弛，尾部有下沉的狀態，此即駕駛員要用力將操縱桿推前以保持正當的姿態。

[In heavier-than-air craft, the condition in which, in normal flight, the tail sinks if the longitudinal control is released, i.e., the condition in which the pilot has to exert a push on the control stick to keep the given attitude.]

tail-heavy (airship), [艇] 尾重.

解：在正常飛行中，氣艇的後端有下沉趨勢的情況。此則必須藉賴水平操縱來修正之，氣艇在這種情況中，稱為「尾重」(trim by the stern)尾重的情況是由於空氣動力，或空氣靜力

關係，或由兩者聯合所致。

[The condition of which, in normal flight, the after end of an airship tends to sink and which requires correction by means of the horizontal controls. In this condition an airship is said to "trim by the stern". It may be due to either aerodynamic or static conditions, or to both.]

tail pipe, [發] 尾管.

解：一種管子，將排氣由集合管導至他處。(參閱附錄第三十九圖)

[A pipe which leads exhaust gases away from a manifold.]

tail plane, [機] 安定面，尾翼.

解：一片正常裝置的翼面，它的作用是減少俯仰運動，普通是在航空器的後部，大約與飛機的縱軸和橫軸成平行的位置，有時亦稱為(stabilizer)。

[A normally fixed airfoil whose function is to lessen the pitching motion. It is usually located at the rear of an aircraft and is approximately parallel to the plane of the longitudinal and lateral axes. Also called "stabilizer".]

tail-setting angle, [機] 尾裝角.

解：機翼的翼弦線和尾翼的翼弦線間的銳角，若尾翼對水平面的傾斜度大過機翼時，則此角為正數。

[The acute angle between the chord line of the main plane and the chord line of the tail plane. If the latter is at a greater inclination to the hori-

tail skid—tank cooler

zontal than the former the angle is said to be positive.)

tail skid, [機] 尾撐, 尾撐.

解：一根撐柱，是飛機接觸地面而時用以支持機尾的。

[A skid used to support the tail when in contact with the ground.]

tail-skid bar, [機] 尾撐橫條.

解：可操縱的尾撐橫裝物。

[The crosspiece on a steerable tail skid.]

tail-skid shoe, [機] 尾撐靴.

解：一種可調換的外罩，在尾撐末端上，以免尾撐本身磨耗。（參閱附錄第十五圖，19）

[A replaceable covering on the end of a tail skid to take the wear.]

tail slide, [飛] 尾部滑落.

解：某種飛機由垂直上昇而至失速位置後，尾部即向後和向下滑動。

[The backward and downward motion, tail first, which certain airplanes may be made to take momentarily after having been brought into a stalling position by a steep climb.]

tail unit, [機] 尾翼組.

解：安定面和操縱面，在航空器後端的聯合裝置。

[The combination of stabilizing and controlling surfaces situated at the rear of an aerodyne.]

tail wind, [飛] 順風.

解：由航空器飛行方向對方吹來的風勢，亦即和飛機的飛行方向相同的風勢。在對地速度而言，還是有助的風力。

但是對於起飛極為不利。

[A wind blowing "from" a direction opposite to the heading of the aircraft, i.e., blowing in the same direction as the heading. This is helping wind as far as ground speed is concerned, but it is a distinct disadvantage on the take off.]

take off, [飛] 起飛.

解：航空器由陸上或水面的開始位置而達到飛行的過程就是。

[Attaining flight with an aircraft from a starting position on land or water.]

take-off run, [飛] 起飛滑走距離.

解：飛機於起飛時接觸地面行動的距離。

[The distance travelled in contact with the earth during taking-off.]

tandem airplane, [機] 串翼飛機.

解：飛機型式的一種，有同樣面積的機翼二副（尾翼組不在內），前後並列，成串字形。

[An airplane with two or more sets of wings of substantially the same area (not including the tail unit) placed one in front of the other and on about the same level.]

tank (auxiliary), [油] 副油箱.

解：攜載預備汽油供給的油箱。

[A tank in which a reserve supply of fuel is carried.]

tank cooler, [發] 油箱冷卻器.

解：冷卻器和滑油箱聯合的一種裝置。

tank(fixed fuel)—temperature(absolute)

[A cooler and oil tank combined.]

tank (fixed fuel), [油]【機】固定汽油箱。

解：汽油箱為滑落而裝設。對滑落汽油箱正相反。

[A fuel tank which is not intended or fitted to be dropped, as "slip" tanks are.]

tank (gravity), [機] 重力油箱。

解：因重力供給發動機的一種油箱。

[A tank from which the engine is supplied by gravity alone.]

tank (main), [油] 主油箱。

解：攜載主要汽油供給的油箱。

[The tank in which the main supply of fuel is carried.]

tank (service), [油]【機】常用油箱。

解：在發動機附近的固定汽油箱，它的汽油是由他油箱用唧筒送達，而發動機的燃料則由此供給。

[A fixed fuel tank near each power unit, into which fuel from other tanks is pumped and from which the fuel supplying the engines is drawn.]

tank (slip fuel), [油]【機】【艇】滑落汽油箱。

解：汽油箱裝有一種器械，使在緊急時可將油箱連同裏面的汽油全部脫落。飛艇和飛機均可裝用。

[A fuel tank which is provided with a device permitting the quick dropping of the tank and contented as a whole in case of emergency. Fitted on both airships and airplanes.]

tank vent-pipe, [油] 油箱透氣管。

解：一條開口的管子，由汽油箱，或滑油箱的空隙處，伸出至大氣外面。

[An open-ended pipe leading from the air space in a fuel tank to the atmosphere.]

tare weight, [力] 自載重。

解：航空器在能飛情況，并有水在散熱器內的重量，然航員，汽油，滑油，及可移動的裝置和酬載均不在內。

[The weight of an aerodyne complete in flying order with water in the radiators, but no crew, fuel, oil removable equipment or pay load.]

taxi, [飛] 滑走。

解：滑走是以飛機本身的動力在地上或水面行動。

[To run an airplane over the ground, or a seaplane on the surface of water under its own power.]

taxying, [飛] 滑走。

解：飛機用本身的動力在地面行動。

[Movement of an aircraft, under its own power, in contact with the earth.]

temperature, [氣] 溫度。

解：一種物體或氣體對於它傳熱至別一個物體或氣體的本能的受熱情況。

[The thermal or heat condition of a body or gas with reference to its ability to transmit heat to other bodies or gases.]

temperature (absolute), [力] 絕對溫度。

解：由無熱度存生點測起的溫度，華

temperature(atmospheric)—tension(belt)

氏溫度表,是在零度下 461 度,攝氏溫度表,是在零度下 273 度,故計算絕對溫度時,華氏溫度表的示數,須加 461;而攝氏溫度表的示數,須加 273。

[Temperature measured from the point where heat ceases to exist. This is 461° F. below the zero on the Fahrenheit thermometer, or 273° C. below the centigrade zero. Thus, 461 is added to the readings of a Fahrenheit scale and 273 to the readings of a centigrade thermometer to obtain the absolute temperature.]

temperature (atmospheric),

【氣】大氣溫度。

解：大氣溫度自海平線起,在正常情況中,上昇每 1,000 呎,平均減低 3° F,以至同溫層(大約 36000 呎),低至一 67° F. 再由此點起,上昇的溫度保持恆定,或略有增高(因逆增情況)。

[Starting at sea-level, the temperature of the atmosphere decreases at the average rate of 3° F per 1,000 feet, under normal conditions, until the temperature of 67° F. is reached at the stratosphere (approximately 36,000 feet). From this point and above temperature remains nearly constant or may increase slightly (upper inversion).]

temperature inversion, 【氣】溫度熱增。

解：這是在高度增大時溫度并不降低,反而昇高的大氣情況。

[A condition of the atmosphere,

such that there is a rise in temperature with increased altitude instead of a drop.]

temperature stress, 【力】應溫力。

解：防止由於溫度改變的自然變形(膨脹或收縮)所生的應力。

[It is caused by preventing the deformations (expansion or contraction) which would naturally occur as a result of temperature changes.]

tempering, 【工】煨煉,淬理。

解：這個概念應用於工具硬度煨煉的火力處理,或金屬物件的火力處理。

[Term generally applied to heat treating of tools for hardness, or the heat treating of metal parts.]

template, 【工】模型版。

解：各種結構的剖面,鉚釘孔,鑽空,單,蓋等都從這塊模型劃出。

A pattern from which structural sections, rivet holes, drilled holes, cowlings, coverings, etc., are marked out.]

temporary magnet, 【電】暫性磁石。

解：祇在磁力感應中,發生磁性的物體。

[A magnet which retains its magnetism only while under the influence of a given magnetizing force.]

tension (belt), 【力】帶張力。

解：帶所受的載量在傳動帶上,它的初張力,係機件於靜止時所受的張力。

[The load placed upon a belt.

tenuity factor—thermodynamics (first law of)

In a belt-drive, the initial tension is the tension in the strands when the system is at rest.]

tenuity factor, [力] 稀薄因數。

解：射擊計算中的修正數，容有大氣密度因高度的差異。

[A correction employed in ballistic calculations to allow for the variation of atmospheric density with height.]

terminal nose-dive, [飛] 極限速度俯衝。

解：飛機用極限速度，機首向下俯衝的動作。

[A dive at terminal velocity.]

terminal velocity, [力] 極限速度。

解：極限速度為炸彈的阻力係數·空氣對於炸彈的阻力，是賴炸彈的式樣，外表的摩擦，突出翅部與耳部的摩擦，及其每單位重量的切面等關係。

若無空氣的阻力，則各種大小，重量，或型式的炸彈因其引力，向垂直方面降落有一定的加速（每秒的加速為23.16呎），但在空氣中其速度略有阻礙，空氣對炸彈的阻力，為經過空氣的速度平方，放在某種速度中，空氣阻力與彈重平衡，此後其平衡時的速度不能再增，即謂極限速度。然在普通高度中投下炸彈不能達到該種速度。故極限速度用以指明彈道的特性，且使程遲差及時遲差於各種高度及空速中能計算之。

例：炸彈在某種高度投下，不注意較小的時遲差。在其極限速度對於乘速的公式中8.02高度。其高度可求出於下式：—
2,000磅 炸彈一枚

極限速度 = 1,800ft/sec.

$$\text{則 高度} = \frac{(1800)^2}{(8.02)^2} = 50,000\text{ft}$$

25磅炸彈一枚

極限速度 = 775ft/sec.

$$\text{則 高度} = \frac{(775)^2}{(8.02)^2} = 9,350\text{ft.}$$

test bench, [工] 試驗台。

解：發動機的工廠試驗，或實驗試驗。

[A factory test or laboratory test made upon a machine]

testing (performance) [應] 性能試驗。

解：研究性能特性的方法。

[The process of determining performance characteristics.]

T-head cylinder, [發] T形頭氣缸。

解：這種氣缸的氣門是分在兩旁裝置。（參閱附錄第三十三圖）。

[A cylinder with the valves on opposite sides.]

theodolite, [儀] 經緯儀。

解：觀測氣球專為測量而設的一種儀器。

[An instrument especially adapted to the surveying of observation balloon.]

thermic up-currents, [氣] 直昇熱氣流。

解：這種氣流是由地球發出太陽輻射熱力所致成。

[Caused by the radiation of the sun's heat by the earth.]

thermodynamics (first law of),

[力] 熱力學第一定律。

解：若機械能由熱所產生，則每個單位工作（尺磅）由消失定量的熱所成就，反之，若熱由機械所產生，則定量的

thermodynamics(second law of)—three-point mooring

熱由耗去每個單位工作所得來。

[When mechanical energy is produced from heat, a definite quantity of heat goes out of existence for every unit of work done and conversely, when heat is produced by the expenditure of mechanical energy, the same definite quantity of heat comes into existence for every unit of work spent.]

thermodynamics (second law of), 【力】熱力學第二定律。

解：若物體所含類似與一致的热量實際總數分爲若干相等部分，則每部所致成之工作亦各相等。

[If the total actual heat of a homogeneous and uniformly hot substance be conceived to be divided into any number of equal parts, the effect of these parts in causing work to be performed are equal.—Rankin.]

thermograph, 【儀】溫度自記器。

解：一種自己記錄的溫度表。

[A self-recording thermometer.]

thermometer, 【儀】溫度計。

解：測定溫度的一種儀器。

[An instrument for determining temperature.]

thimble, 【機】嵌環。

解：一個有凹槽的圓形，梨形，或心形環，多用金屬製成，夾嵌於繩索的眼中，以防繩眼的擦傷或變形。

[A grooved ring of circular, pear, or heart-shaped form, generally of metal, which is inserted in the eye of a rope or

wire to prevent chafing or deformation of the eye.]

thimble, 【機】短管。

解：這是索端環內的小金屬部份，此物能保持索環的平滑圓形，不致彎曲過促而折斷。

[The small metal part over which the loop of a wire terminal is made. The thimble preserves a smooth curve in the wire loop and prevents a sharp bend in the wire.]

three-point landing, 【飛】三點落地。

解：飛機落地時，它的落地輪和尾輪或尾撐(skid)同時著地，叫作“三點落地”。發生三點落地時，飛機的縱軸與地面所成的角度，正與飛機停歇時與地面所成的角度一樣。

[A landing in which the wheels and tail wheel or skid contact the ground at the same time. This occurs when the longitudinal axis of the airplane is at the landing angle with respect to the ground.]

three-point mooring, 【艇】三點繫留法。

解：繫留氣艇的一種方法，從氣艇艇身的繫留環(mooring ring)伸展三條繫留索繫牢在地面的三點上，這三點在地面成等邊三角形的位罝。這幾條索可繫在地面的錨上，亦可穿過滑繫到平衡齒輪上。氣艇如用這種方法繫留，可使風速產生的動力的昇力，能夠維持氣艇常在一定不變的高度上。此次亦可代替繫留柱的作用，故通常在應急的時候多用這種方法來代替繫留柱。

three-wire mooring—thrust(static)

[A system of mooring an airship. It consists primarily of three lines running from a mooring ring (or point) on the airship to three points on the ground. These points are usually at the vertices of an equilateral triangle. The lines may be secured to anchorages at the points, or run over snatch blocks and to equalizing gear. The endeavor is to moor the airship in such a manner that the dynamic lift, due to the relative wind, shall keep the airship at a constant height from the ground. May be considered as a substitute for a mooring mast, usually an emergency substitute.]

three-wire mooring. 【設】三索繫留。

解：一組繩索連接地面木塊，而氣艇向此索繫留，因相對風力的動力昇力使氣艇保持在恆定的高度上。(參閱附錄第四十二圖。)

[A system of cables attached to blocks in the ground to which an airship is moored in such a manner that the dynamic lift due to relative wind keeps the airship at a constant height from the ground.]

throttle. 【機】油門，汽油門。

解：駕駛員的操縱扳手，用以運動氣化器內的蝶形氣門。

[Pilot's control lever to operate butterfly valve in carburetor.]

throttle gate. 【發】油門出入口。

解：汽油門動作的一種限制，在規定範圍內，防止超過預定高度以外的動作(參閱附錄第三十五圖)。

[A check on throttle movement beyond a specified limit to guard against further opening below a predetermined altitude.]

thrust bearing. 【發】推力軸承。

解：這個軸承的設計，是將螺旋槳的推力經過曲軸而達槳匣。

[A bearing designed to transmit the propeller thrust acting through the crankshaft to the crankcase of the engine.]

thrust (effective). 【力】有效推力。

解：螺旋槳裝架於飛機上所出的淨數推動力量。此即裝在飛機上的螺旋槳所發生的實際推進力，減去螺旋槳作用所增的飛機阻力而得的餘數。

[The net driving force delivered by a propeller when mounted on an airplane, i. e., the actual thrust given by the propeller, as mounted on the airplane, minus any increase of resistance of the airplane produced by the action of the propeller.]

thrust face. 【螺】推力面，槳葉面。

解：螺旋槳葉靠近發動機之面(拉達式飛機)，與翼的下面形狀相似。

[The surface of a propeller blade which corresponds to the lower surface of an airfoil. Sometimes called "blade face."]

thrust (static). 【力】靜止推力。

解：螺旋槳在一固定點上旋轉所生的推進力。

[The thrust developed by a pro-

thrust wire(balloon)—time lag

PELLER when rotating at a fixed point.]

thrust wire (balloon), [艇] 推力線。

解：由動力組後方行達艇身或氣囊的一條線，用以傳遞推力。(參閱附錄第十七圖)

[A wire led aft from a power unit to the hull or envelope to transmit thrust..]

thunderstorms, [氣] 雷雨。

解：陸地或海上的一小地帶的氣溫度高，較其四周的空氣溫暖得多，於是該地帶的空氣，乃發生縱橫的擾亂，其上層空氣順利情形，為產生大雷雨的必要條件，即高度漸增，其溫度須削減，各種不同的低氣壓，按各降落速率而活動，速行的狂風，則疾來疾去，緩行的預告，雷雨為時必短促。(long foretold, long last, short notice, soon past) 又鐵雲，(Anvil cloud) 或積雨雲 (cumulo-nimbus.) 的發生，尤其假雷雲雲絲，(filaments of fake curreus) 自其旁面，或頂點發生，為雷雨將至的最預告。

[Thunderstorms are caused by a small area on land or sea becoming much warmer than the surrounding part, giving cause for lateral and vertical disturbance. Favourable upper air conditions are necessary for the development of thunderstorms the most important condition being a high rate of fall of temperature with altitude. Different depressions move at

very different rates. A storm which approaches slowly is likely to move away rapidly, while one which approaches slowly is likely to make its presence felt for a considerable time. Hence the "Long foretold, long last, short notice, soon past". The best indication of an approaching thunderstorm is the development of an anvil cloud or cumulo-nimbus, especially if filaments of false curreus are seen issuing from its side or summit.]

ties cross, [機] 交叉構材。

解：側面橫過機身上部和底部的主要構結材料。

[The main structural members laterally across the top and bottom of the fuselage.]

tight turn, [飛] 險峻轉彎。

(=Flipper turn)

解：一種險峻傾側的轉彎，其衝角增加極大。

[A steeply banked turn in which the angle of attack is increased considerably. Formerly referred to a a flipper turn.]

time lag, [力] 時遲差。

解：無空氣阻力的降落時間，和有空氣阻力的降落時間，二者的時差，稱為時遲差。時遲差實由空氣阻力的關係，并因空速，高度，及極限速度三種混合的關係。

[The difference between the actual time of fall of a bomb and the time of fall from the

time(mean) — tipping(propeller)

same height in vacuum.)

time (mean), 平均時。

解：平均太陽的時角，就是平均時。
[the hour angle of mean sun.]

time (reference points); 基準點時間。

solar time, 【氣】太陽時。

解：太陽時以太陽的中心為基準點。

mean time, 【氣】平均時。

解：“平均太陽”mean sun為基準的假定點。

sidereal time, 【氣】恆星時。

解：以春分 vernal equinox or first point of aries 點為基準點。

[Solar-Center of the sun.

Mean-Imaginary point called the “mean sun”.]

Sidereal-Vernal equinox or first point of Aries.]

time (sidereal). 【氣】恆星時。

解：以恆星測定的時間。

[Time by the stars.]

time (solar), 【氣】太陽時。

解：以太陽測定的時間或稱為真時 (apparent time).

[Time by the sun or apparent time.]

time (unit of), 【氣】時的單位。

解：時的單位為“日”，此係一個基準點在一條子午線上連續兩次經過所須的時間，稱為一「日」。一日分為二十四分(小時)，每小時分為六十分，而每分又分為六十秒。

[The unit of time is the day, which is the period between two successive transits over the same meridian of the point of reference. The day is divided into

twenty-four equal parts(hours), each hour is divided into sixty minutes and each minute is divided into sixty seconds.]

timing (advanced), 【發】先期正時。

解：將機件調整，使其較正常略早，發生動作，如發動機的汽門作先期的正時，則其開啓提早發生。

[Adjusting the mechanism so that the events occur earlier than normal. Thus, the valve of an engine may be advanced so that they open earlier.]

timing (breaker), 【電】隔斷器正時。

解：點火系中隔斷器斷接電路而致火花的時間。此是以發動機活塞的位置而定。先期一則在壓縮行程末期以前之謂。延期一則在壓縮行程末期以後之謂。

[The time at which the breaker of an ignition system opens and causes the ignition spark. This is in terms of the piston position of engine—ADVANCED when taking place before the end of the compression stroke and—RETARDED when taking place after the end of the compression stroke.]

timing (valve), 【發】正時氣門。

解：正時氣門是相對曲軸的旋轉而修正氣門的啓閉。

[Adjusting valve openings and closings in relation to crank shaft rotation.]

tipping (propeller), 【螺】包梢 (

TNT or T.N.T.—tornado

螺旋槳)。

解：一塊金屬片(或相等的材料)鑲在螺旋槳梢附近，前緣較後緣略為引長，用作外皮，保護槳葉。

[A sheet-metal (or equivalent) protective covering of the blade of a propeller near the tip, extended to a short distance along the trailing edge and a considerable distance along the leading edge.]

TNT or T.N.T. 【化】【軍】三硝基甲
烴。

解：全寫字為 Trinitro-toluence or trinitro-toluol，係歐戰時著名的劇烈炸藥。

toggle，【機】接棍。

解：嵌放繩端的木質或金屬短橫棍。該棍纏過橫棍中間的凹槽。用這短棍插於別係繩端的眼內或環內，可以很迅速將那兩段繩索連接或分脫。

[A short cross bar of wood or metal which is fitted at the end of a rope. The rope passes around the mid length of the bar in a shouldered groove. By slipping it through as eye in the end of another rope, the two length of rope can be quickly connected or disconnected.]

tolerance，【力】預寬量。

解：在名義尺寸數目上所預留的許可變化量。

[In measurements, it is the allowable variation in dimensional accuracy from the nominal figure stated.]

top dead center，【發】上死點。

解：活塞在離開曲軸最遠的位置一反動作時則在氣缸頂部內的最盡頭位置。

[The position of the piston when farthest removed from the crankshaft—extreme position at top of cylinder when direction of motion is reversed.]

topography，【應】地形學。

解：一個特殊區域或地方的性質詳述。

[The description of the features of a particular region or locality.]

topping up，【艇】【球】【機】充氣，
充油。

解：浮昇器已有一部份氣體而再充氣的動作。對於氣油箱加添油量的動作，亦可應用。“nursing”一字，有時用作此解，頗為不當。

[The operation of filling up with gas an already partially full aerostat. Also applied to a similar operation with fuel tanks. Incorrectly called “Nursing”.]

top rudder，【操】方向舵上方操縱。

解：操用傾側上方的方向舵踏板，即向右傾側，操用左方方向舵，向左傾側時操用右方方向舵。

[The use of rudder on the upper side of a bank, such as left rudder when banked to the right or right rudder when banked to the left.]

tornado，【氣】小旋風，托那陀。

解：(1)一種小半徑的猛烈旋風，在地面前進，而風的破壞力集在中心，成一

torpedo carrier—tower(mooring)

個極強的高昇氣流區域。

(2) 在西非洲則爲颶風，附有雷雨。此風在雨季過度內發生最多。

[1. A violent whirl of small radius advancing over the land in which winds of destructive force circulate round a centre which forms a region of strong ascending currents.]

2. In West Africa the squall accompanying a thunder-storm it occurs most frequently during the transition months between rainy and dry seasons.]

torpedo carrier, 【軍】【裝】魚雷架。

解：航空器上攜載魚雷的機件。

[A device for carrying torpedoes on aircraft.]

torpedo-release control, 【軍】【裝】水雷發射操縱器。

解：由魚雷架上投下魚雷的機件。

[A device for operating one or more torpedo-release slips.]

torpedo sight, 【軍】【儀】發射魚雷瞄準器。

解：一種儀器，襄助魚雷得正確瞄準的方向。

[An apparatus designed to assist in laying a course for the correct aiming of the torpedo.]

torque, 【力】扭力。

解：螺旋槳迅速旋轉所生的旋轉方向相對的扭轉力距。用正梢角 (wash-in) 和負梢角 (wash-out) 或垂直安定面的調整可以消滅。

[The turning moment developed in the opposite direction to pro-

pellor rotation and caused by the rapid rotation of the propeller. Counteracted by "wash-in" and "wash-out", or by adjustment of the vertical stabilizer.]

torque (propeller), 【力】【螺】螺旋槳扭力。

解：螺旋槳向一某方向旋轉，飛機乃有傾向相反方向旋轉的趨勢，謂爲螺旋槳扭力。

[The tendency of an aeroplane to turn sideways in the opposite direction to which the propeller revolves.]

torsional stress, 【力】扭轉應力。

解：在較扭的一部份中產生的應力。

[The stress produced in a part by twisting.]

toss, 【飛】上冲。

解：使機尾向下的一種動作。

[In airplane operation, to plunge tail down.]

total propeller-width ratio, 【螺】總螺旋槳寬度比。

解：在最大槳葉寬度點上的槳葉寬度比，乘槳葉數目而得的積數。

[The product of blade-width ratio at the point of maximum blade width by number of blades.]

tower (mooring), 【艇】繫留柱，繫留塔。

解：這是特別製造的柱子，頂端裝有接頭可使氣艇繫牢在上。柱子的結構通常有雲梯或樓梯的設備，梯頂有月台，氣艇上的艇員與乘客可由此上下。此外，又有導管的設備，由此可以添裝燃料輕氣與水。

tower(transporter)—trade wind

[A mast or tower at the top of which there is mounted a fitting, so that the bow of an airship may be secured. It is usually provided with a ladder or staircase and a platform at the top, so that crew and passengers may enter or leave the airship, and also with piping for the supply of fuel and water. Sometimes called mooring mast.]

tower (transporter), 【設】運輸塔。

解：繫留柱裝置在活動台上以便地面操動氣艇。

[A mooring mast mounted on a movable platform for handling an airship on the ground.]

townend ring, 【機】增速環。

解：翼剖面的圓環，裝在星形發動機四週上，使經過的氣流偏向裏面，而減低阻力。

[A ring of aerofoil section arranged round a radial engine to reduce its drag by deflecting inwards the air flowing past it.]

track, 【飛】軌跡。

解：航空器在地上所經過的真實路線。

[The track is the actual path of the aircraft over the ground.]

track angle, 【飛】軌跡角度。

解：由正子午線順時針方向(向右)至軌跡間的角度。

[The track angle is the angle measured clockwise from the true meridian to the track.]

track (oiled), 【設】滑軌。

解：用木料或金屬料製成的油滑軌道，滑翔機昇空時在這種跑道上彈射，比較容易。

[An oiled runway of wood or metal used to facilitate glider launching.]

tractor airplane, 【機】拉進式飛機。

解：螺旋槳在主昇力面(機翼)之前的飛機。(參閱附錄第十五圖)

[An airplane with the propeller or propellers toward of the main supporting surfaces.]

tractor airscrew, 【螺】拉進式螺旋槳。

解：螺旋槳的設計是向槳軸方面，產生曳張力。

[An airscrew designed to produce tension in the airscrew shaft.]

tractor engine, 【發】拉進式發動機。

解：凡發動機上裝配拉進式螺旋槳的，則稱為拉進式發動機。

[Any engine fitted with a tractor airscrew.]

tractor propeller, 【螺】拉進式螺旋槳。

解：螺旋槳係裝配在發動機或槳軸的前面(通常是在機身或翼短倉的前面)，能拉動航空器向前進行。

[A propeller mounted on the forward end of the engine or propeller shaft. (It is usually forward of the fuselage or wing nacelle).]

trade wind, 【氣】信風，貿易風。

解：平均約二哩厚的空氣，在北半球

trail angle—trail point

由東北吹起，在南半球由東南方吹起，是爲信風，其流動範圍，不出於南北緯三十度地帶，與赤道近旁無風地帶之間，由東北吹起的信風，將吹越大西洋。終年平均風速，爲每小時十哩，由東南吹起的信風速度略高，平均每小時十五哩。

[Great currents of air averaging nearly two miles in depth blowing from the north-east in the northern hemisphere and from the south-east in the southern hemisphere between the horse latitudes and the equatorial doldrums. The north-east trade wind blows across the Atlantic at an average speed of 10 miles an hour during the whole year. The south-east trade wind has a slightly higher velocity, averaging something like 15 m.p.h.]

trail angle, 【力】退曳角。

解：飛機用恆定速度作直線飛行時的垂直線後面的彈着點觀察角。此角是因高度，飛機的空速，和大氣情況而變化。

$$\text{退曳角} = \tan^{-1} \frac{\text{退曳程}}{\text{高度}}$$

(參閱附錄第四十一圖)

[The angle by which the bomb, as viewed from an aircraft in rectilinear flight at constant speed, is observed to trail behind the vertical. This angle varies with height, air speed of aircraft and atmospheric conditions.]

trail distance, 【力】退曳程。

解：實際彈道在直線飛行恆定速度的飛行垂直線後面的水平距離。(參閱附錄第四十一圖)。

[The horizontal distance by which a bomb trails behind the vertical from an aircraft in rectilinear flight at constant speed.]

trailing aerial, 【電】垂下式天線。

解：一種天線在活動端繫有一錘，當飛機飛行時可在空中垂下。

[An aerial with a small weight or drogue secured to its free end, trailing from an aircraft in flight.]

trailing edge, 【機】【螺】後緣。

解：翼形物或槳葉的最後邊緣。

[The rearmost edge of an airfoil or propeller blade.]

trailing vortex, 【力】後緣渦。

解：由一物體表面彈動，而引伸至下流(down-stream)的旋渦。

[A vortex springing from the surface of a body and extending down-stream.]

trail line, 【力】退曳線。

解：直線飛行恆定速度的飛機，對彈着地時的瞄準線。(參閱附錄第四十一圖)

[The line down which the bomb appears to fall when released from an aircraft in rectilinear flight at constant speed.]

trail point, 【力】退曳點。

解：退曳線和地面相交的一點。(參閱附錄第四十一圖)

[The point where the trail line

trail rope—transporter tower

meets the earth's surface.)

trail rope, 【球】【艇】落地索.

解：一條索子由氣球拖曳於地面，用以核算地速，并在接近地面時改變所載索子重量，自動調整高度。

[A rope trailed by a balloon over the ground to check the ground speed and to regulate the height automatically when near the ground by varying the weight of rope carried by the balloon.]

trajectory band, 【艇】座帶.

解：氣艇囊面部的特殊弧形膜帶，用以分配懸吊懸艇的張力。

[A band of webbing carried in a special curve over the surface of the envelope of an airship to distribute the stresses due to the suspension of the car.]

tramontana, 【氣】托拉芒太那風.

解：意大利 (Italy) 山地向下吹來的北風。

[A northerly wind which blows down from the mountains in Italy.]

transformer, 【電】變壓器.

解：變壓器是交流電的一種裝置，應用互感的原理而起作用。它有兩個分離電路的線圈，繞纏於一條鐵或薄鐵片組成的線心上，第一線圈中的交流電能使第二線圈產生對向的交流電，在第二線圈中所生的電動力 (electromotive force) 數值是否多於或少於第一線圈，多半以這兩個分離線圈上所繞纏的電絲匝數的相對數目而定，因為變壓器有將電壓加高或

減低的用途。

[An alternating current device operating on the principle of mutual inductance, being in the form of two separate circuit coils wound on a single soft iron or laminated core. The alternating current in the primary coil will produce an alternating current in the opposite direction in the secondary coil. Whether the value of the electromotive force produced in the secondary coil is greater or less than that in the primary coil depends largely on the relative number of turns of wire in the separate coils, because transformers are used to step up the voltage or step down the voltage.]

translatory resistance derivatives, 【力】移動阻力引申式.

解：這種移動阻力引申式，表示力和力距，在飛機移動速度中，因微小變化所致的差異。

[Resistance derivatives expressing the variation of moments and forces due to small changes in the translational velocities of the aircraft.]

transmission, 【應】傳送.

解：熱浪通過一種物質，而無阻礙的過程。

[The process whereby heat waves pass through a substance with little or no resistance.]

transporter tower, 【設】運輸塔.

transverse(main) --trim, to

解：繫留柱裝置在活動台上以便地面操動氣艇。

[A mooring mast mounted on a movable platform for handling an airship on the ground.]

transverse (main), [艇] 主要橫架。解：硬式氣艇中的主要增力橫架，架上設有張絲或支張桁，各條在氣艇全長中都有一定的間隔。

[A main transverse strengthening frame of a rigid airship provided with wire or girder bracing and spaced at regular intervals throughout the length of the airship.]

trapeze bar, [球][艇] 鞦韆式橫木。解：一種水平橫木，正在藤式氣球的吊籃上方，而它的左右兩端有吊索繫牢；且吊籃的裝置可自由擺搖，然不能對氣球作橫滾。此種橫木有時裝在氣艇上，用以繫掛航空器。(參閱附錄第二十四圖)

[(I) A transverse horizontal bar, immediately above the basket of a kite balloon, to the ends of which the port and starboard riggings are led; so arranged that the basket can move freely in pitch but not in roll relative to the balloon. (II) A bar to which aerodynes are attached to or released from an airship.]

triangle (polar), [應] 極三角。

解：三個大圓圈的弧線所組成的三角形。

[Triangle formed by the arcs of three great circles.]

triangulation balloon, [球] 瞄視氣球。

解：三角測量法中用為視察標識的小氣球(注：非航空器)。

[A small captive balloon used as a mark on which to sight in a triangulation survey.]

trim, [艇][球] 俯仰角。

解：浮昇器相對前後水平面的姿態。

如前段低下那浮昇器說是“頭重”(trim by the bow); 若後段低下說是“尾重”(trim by the stern). [The attitude of an aerostat relative to a fore-and-aft horizontal plane. If the forward end is down, the aerostat is said to have "trim by the bow"; if the after end, it has "trim by the stern".]

trim (dynamic), [飛] 動力俯仰配平。解：因為動力情況或因它們的改變的配平。

[Trim (or trimming) due to dynamic conditions or their change.]

trim (static), [飛] 靜力俯仰配平。解：因為靜力情況或因它們的改變的配平。

[Trim (or trimming) due to static conditions or their change.]

trim, to, [球][艇] 配平, 配正。

解：浮昇器的前後水平面相對姿態的改正。假如努力使艇頭沉低便是“以頭配平”(trimmed by the bow); 若將艇尾沉低便是“以尾配平”(trimmed by the stern)。倘浮昇器的頭端有下沉的趨勢，便說是“頭重”(trim by

triplane—troposphere

the bow 或 bow heavy);若尾端有下沉趨勢,便說是“尾重”(trim by the stern 或 stern heavy).

[To alter the attitude of an aerostat relative to a fore-and-aft horizontal plane. If the endeavor is to force the bow down, the aircraft is “trimmed by the bow”, if the stern, it is “trimmed by the stern”. If the aircraft shows a tendency to sink by the bow end, it is said to “trim by the bow”, or to be “bow heavy”; if the tendency is to sink by the stern, it is said to “trim by the stern” or to be “stern-heavy”.]

triplane.【機】三翼機。

解：飛機有三副主要支持面，一副在別副之上。

[An airplane with three main supporting surfaces, placed one above another.]

trolley (docking).【設】【艇】棚廠小車。

解：裝置在棚廠鐵軌上的小車，用以拉動氣艇入廠索，車上裝輪，內有抗摩擦的軸承，所以可在鐵軌上自由滾動。車上通常亦裝有速脫器，能將入廠索放脫方便。

[A car or trolley fitted on (or in) docking rails to transmit the pull of an airship docking line. It is fitted with wheels having antifricition bearings so it can move freely in the rail. Usually some sort of

quick-release device for letting go the line is also fitted.]

tropical revolving storm.【氣】

熱帶颶風。

解：一種小旋風低氣壓，常由經過熱帶海洋的颶風所產生，而颶風在北半球作反時針方向的旋轉，在南半球作順時針方向的旋轉，在西印度(West Indies)稱為颶風，在印度洋，(Indian ocean)中稱為旋風，在中國稱為颶風，在澳洲(Australia)稱為畏來畏來風。

[A small cyclonic depression originating over tropical oceans with strong winds, often of hurricane force, circulating counterclockwise in the northern and clockwise in the southern hemisphere. Known as Hurricane in the West Indies, Cyclone in the Indian Ocean, Typhoon in the China seas and Willy-Willy in Australia.]

tropopause.【氣】對流上限。

解：同溫層與對流層的分界處。

[The boundary between the stratosphere and the troposphere.]

troposphere.【氣】對流層。

解：大氣的較低層，離地約四萬尺。此中溫度通常隨高度而迅速減低，因此成雲，對流頗為活潑。

[The lower layer of the atmosphere up to an altitude of above 40,000 feet, in which the change of temperature with height is relatively large.]

trough—tube(supply)

trough, 【氣】 低氣壓線, 槽形低氣壓。

解：經過低氣壓的運動中心，並與中心前進線，垂直的一條線，最普遍的是一種谷形低氣壓，而與脊形高氣壓相反。

[(I) The line through the center of a moving depression perpendicular to the line of advance of the center. (II) More generally, a "valley" of low pressure, the opposite of Ridge.]

true course, 【飛】 真航線。

解：由真子午線作順時針方向，測至二處相連線所得的角度。

[The angle measured clockwise from the true meridian to a line joining two places.]

true north, 【應】 真北極。

解：地球旋轉軸的北方極點，就是真北極。

[The north extremity of the earth's axis of rotation.]

true track angle, 【飛】 真軌跡角度。

解：指真子午線所成真軌跡角度。

[The track angle referred to the true meridian.]

trunk (gas), 【艇】 氣幹管。

解：氣囊氣門和氣管蓋間的管子。

[A duct between a gas-bag valve and a gas hood.]

T-sections, 【材】 T形切面。

解：T字形切面的構材。通常T形的垂直邊為腹板，橫面的部份為雙凸緣。

[Structural sections shaped like a capital T. The vertical leg usually acts as a web

while the cross is a double flange.]

tube (inflation), 【艇】 【球】 充氣管。

解：球皮製成的管子，將充氣來源連接在氣囊的多數充氣接套上。

[A fabric tube leading from the inflation manifold or source of supply to the inflation sleeve of the gas cell or envelope.]

tube (nursing), 【機】 【艇】 充氣管。

解：見 tube (supply)。

tube (pressure), 【艇】 【球】 壓力管。

解：裝接在氣囊上的管子，而管上復配有一壓力計。

[A tube fitted to an envelope or gas bag, to which a pressure gauge may be attached.]

tube (supply), 【艇】 【球】 充氣管。

解：裝置於鸞式氣球上的延長物或充氣套筒，筒端有管接至懸籃和裝設有簡便聯結接頭上。這接頭又接於氣艇繪面的相類物，故氣體輸至氣艇繪面後不久便可轉至氣囊。倘須用固定壓力氣囊的氣艇，有時亦要用和這相類的充氣管。但在美國甚罕見。此管亦稱為“nursing tube”。

[An elongated appendix or inflation sleeve, fitted on a kite balloon, which is brought down to the basket and fitted with a quick-connection coupling. This coupling can be attached to a similar piece on the deck of the airship and gas may be sent into the balloon shortly after it has reached

tungsten—turn(flat)

the deck. A similar tube is sometimes used with airship where constant-pressure nurse balloons are used. This is rare in the United States. Also called "nursing tube".]

tungsten, 【材】鎢。

解：一種合金能使鋼類具有極大硬性和耐熱性的特質。

[An alloy which gives extreme hardness and heat resisting properties to steel.]

tuner box, 【電】調諧匣。

解：一種尋覓方位儀器，用“最大和最小”方法 (maximum and minimum) 而使信號重復。

[An instrument used for direction-finding by which the reception of signals is effected on the "maximum and minimum" method.]

turbulent flow, 【力】擾亂流。

解：液體的不規則週期運動。

[Irregular periodic motion of a fluid.]

true horizon, 【飛】真水平線。

解：天地的明顯交接處，距離頗遠，此種水平線對於觀測者任何點上係直接，并在水平面中經過地面。

[The apparent junction of the earth and sky, at a distance sufficiently far, to allow the horizon to be in a direct and level line with a horizontal plane passing through a fixed position upon the earth's surface at any point or points of observation.]

turn (aileron), 【飛】副翼轉彎。

解：不用方向舵，而專運用兩副翼的不同阻力，使飛機作水平轉彎動作。

[Turning the airplane horizontally by employing the unequal drag of the ailerons, the vertical rudder not being used.]

turnbuckle, 【機】鬆緊套。

解：使張絲張緊的一種製作，該套兩端各有一桶形扣子，而扣子旋轉在一有眼螺釘上。因為桶形扣子兩端的螺紋是分爲左右旋轉的，所以使生出鬆緊的作用。

[A form of wire tightener, consisting of a barrel into each end of which is screwed an eye bolt. The tightening or loosening effect results because the threads, in opposite ends of the barrel, are right and left hand.]

turn (down wind), 【飛】下風轉彎。

解：飛機於滑走或飛行時，對風向右或向左作180度轉彎，即稱爲下風轉彎。

[When an airplane is taxiing, or flying, against a head wind and turns to the right, or to the left, 180 degrees—half turn, it is said to be a "down wind turn".]

turn (flat), 【飛】水平轉彎。

解：一種轉彎在垂直軸上，并使側軸及樞軸保持水平，且與地面成平行，此種轉彎祇用方向舵於表演作之，平時多無此種動作也。

[A turn about the normal—vertical axis—with the lateral

turn(flipper) — turret

axis and longitudinal axis remaining level and parallel with the surface of the earth. A turn in which only the rudder is used. A turn of this kind is not used except for demonstration purposes while instructing.)

turn (flipper),【飛】垂直傾側轉彎。

解：一種險峻垂直傾側轉彎。歐戰時昇降舵名“Flipper”是以用昇降舵所作之轉彎，故有此名，此兩名辭現均廢止不用矣。

[A tight vertically banked turn. This term was used during the World war at a time when the elevators were termed “flippers”. Both terms are now obsolete.]

turn indicator,【儀】轉彎指示器。

解：這是指示飛機在直軸上轉彎角度的儀器。在水平飛行中則指示偏航速度表。轉彎計(turn meter)係另指一種轉彎儀器而言。

[An instrument for indicating the existence of an angular velocity of turn of an aircraft about the normal axis. In horizontal flight it indicates the presence of a yawing velocity. “Turn meter” is the term applied to certain types.]

turning speed,【飛】轉彎速度。

解：飛機沿轉彎半徑上移動的速度。其顯明的速度，係水平線經過機首而移動。

[The rate at which the airplane moves around the radius of a turn. The apparent rate at

which the horizon line seems to move past the nose of the airplane.]

turn (loose),【飛】放鬆轉彎。

解：一種大半徑及險峻傾側的轉彎，此種轉彎的結果多成內滑。

[A turn of large radius and steep bank. The usual result of a loose turn is “slipping in”.]

turn (reverse),【飛】反轉彎。

解：一架飛機反轉飛行方向的急速動作，用半滾和半筋斗所造成。

[A rapid maneuver to reverse the direction of flight of an airplane, made by a half loop and half roll.]

turn (tight),【飛】險峻轉彎(= flipper turn)。

解：一種險峻傾側的轉彎，其衝角增加極大。

[A steeply banked turn in which the angle of attack is increased considerably. Formerly referred to as a flipper turn.]

turn (up wind),【飛】逆風轉彎。

解：於飛行或滑走遇有尾風時，作180度之轉彎，以便改變航向，而對風行動。

[The act of making a half turn—180—when flying or taxiing with a tail wind, in order to change the heading of the airplane so as to travel against the wind.]

turret,【機】轉台。

解：飛機上的一種機座，專為槍手而設備的。(參閱附錄第十五圖,3)

[A form of cockpit primarily

turtle back—uniform acceleration

intended for the use of a gunner.]

turtle back, 【機】龜背形。

解：座艙後方機身上的罩。

[The cover over the fuselage, back of the cockpits.]

two point landing, 【飛】兩點落地。

解：兩點落地，是飛機先只兩個落地輪着地，迨飛機的前進速度消失迨盡時，尾輪或尾撐方才着地。

[A landing in which the wheels only touch the ground, the tail wheel or skid remaining

off the ground until most of the forward speed is lost.]

typhoon, 【氣】颶風。

解：中國的小旋低氣壓，由經過熱帶海洋的颶風所產生。

[See Tropical revolving storm.]

typical, 【應】典型。

解：符合一般公認慣例或習常圖樣的意義。

[A word which denotes conformity to generally accepted practices or customary designs.]

U

ultimate strength, 【力】最大應力。

解：一種物質在抗張應力，壓縮應力或剪斷應力中足致破裂的力量單位，且等於致破裂的最大應力，被物質橫切面的原面積除得的商數。

[A material in tension, compression or shear is that unit stress which is just sufficient to break it, and is equal to the maximum stress causing rupture divided by the original area of the cross section.]

undercarriage, 【機】起落架。

解：飛機上的一組，包括輪胎，輪子，制動器，彈索，減震器和支持支柱等。(參閱附錄第十五圖)

[The unit of an airplane, consisting of tires, wheels, brakes

chock cord, and absorbers, supporting struts, etc.)

undershoot a landing field, 【飛】

落地過低。

解：飛機降落時，不能在滑翔中飄至降落場中。

[It means failure to reach the field in the glide which was intended to bring the airplane in for a landing.]

underslung radiator, 【發】下懸散

熱器。

解：懸掛在航空器某部的水冷器。

[A water-cooler suspended from some part of the aircraft.]

uniform acceleration, 【力】不變

加速率。

解：在變化運動中，每一個連續時間

uniformly retarded motion—up-wind turn

單位內都有劃一的速度增加率。
[Variable motion is which velocity increases uniformly with each succeeding unit of time.]

uniformly retarded motion, 【力】等減速運動。

解：在變化運動中，每一個連續時間單位內都有劃一的減小率。
[A variable motion in which the velocity decreases uniformly with each succeeding unit of time.]

uniform motion, 【力】等速運動。
解：一個物體的用相等時間，在相等距離中經過重力中心的行程。
[The passage of the center of gravity of a body over equal distances in equal intervals of time.]

uninhabited regions, 【飛】無居民區域。

解：無居民區域者，非無人居住之意，乃指該區域之無天然地上標識，或缺乏詳細地圖，或居民稀少之謂。在無居民區域中，關於航行方向的困難不亞於在大海上(high sea)。

[A region where, owing to the absence of natural landmarks or the insufficiency of the maps, or the sparsity of the population, the difficulties of navigation are similar to those met with over the high seaa.]

unit, 【公】單位。
解：凡能單獨實行職務的小組織謂之一單位。
[The smallest self-contained organization capable of carrying

out its functions independently.]

unit (tail), 【機】尾翼組。
解：安定面和操縱面，在航空器後端的聯合裝置。

[The combination of stabilising and controlling surfaces situated at the rear of an aerodyne.]

unstable oscillation, 【力】不安定振動。

解：振動的振幅(amplitude)繼續增長至達到某種狀態為止，但沒有恢復到原來狀態的傾向，換句話說，運動逐漸分散了。

[An oscillation whose amplitude increases continuously until an attitude is reached from which there is no tendency to return toward the original attitude, the motion becoming steady divergence.]

up and down control, 【操】上下操縱。

解：飛機上的一條橫桿，與尾柱成直角的裝置，成丁字形，可使襟翼或升降舵作上下的操縱運動。

[On an airplane a transverse piece placed at right angle to the tail post forming a T and to which the up and down control flaps or elevators are hinged.]

up-wind, 【飛】逆風。
解：於滑走或飛行時對風行動之謂。
[Traveling against the wind, either when taxiing or when flying.]

up-wind turn, 【飛】逆風轉彎。

useful lift—valve(automatic)

解：於飛行或滑走遇有尾風時，作180度之轉變，以便改變航向，而對風行動。

[The act of making a half turn-180° when flying or taxiing with a tail wind in order to change the heading of the airplane so as to travel against the wind.]

useful lift, 【力】 有效昇力。

解：航空器能夠攜載的燃料與滑油，乘客，貨物，食品與飲料，槍砲，軍火與炸彈等等的昇力，就叫有效昇力。求有效昇力，常將航空器上各種固定物的重量，從總昇力內減去即得；惟對於壓艙物，燃料及滑油；水；零件與工具；勤務人員與設備等等應留相當伸縮餘地，因為沒有一定的成例作標準。

[The lift available for carrying fuel, and oil, passengers, cargo,

food and drinking water, guns, ammunition, and bombs. Usually determined by deducting from the gross lift all fixed weight; certain allowances of ballast, fuel, and oil; water; spares and tools; crew and equipment. No standard has as yet been established.]

useful load, 【力】 有用載重。

解：航空器上的服務人員，乘客，滑油及燃料，壓載物（應急壓載物不在內），輻重，活動裝備等皆稱為有用載重。

[The crew and passengers, oil and fuel, ballast other than emergency, ordnance, and portable equipment.]

V

vacuum flight path, 【力】【軍】 真空彈道。

解：炸彈假定在真空中飛行的路線。（參閱附錄第四十一圖）

valley breeze, 【氣】 谷秋風。

解：日間因太陽使地面變熱時，向山谷和山坡上吹的颶風。（anabatic wind）

[A anabatic wind which blows up valleys and mountain slopes during the day when the sun

warms the ground.]

valve, 【發】 氣門。

解：特為節制發動機中氣缸排出和進入氣流而設計的部份。

[Parts designed to control the flow of intake and exhaust gases to and from the cylinder.]

valve (automatic), 【艇】【球】 自動氣門，彈簧氣門。

解：裝在浮昇器的氣囊，或空氣房上有彈簧重力調壓的氣門，預先決定在

valve(automatic)—valve(crab-pot)

某量的壓力下門放，而為防止內部壓力過大作用而設的。某種浮昇器上在預先決定容量或船身尺寸限度而放的氣門，亦可應用此名。

[A spring-loaded relief valve fitted to the envelope, ballonet, or gas cell of an aerostat and set to open at a predetermined pressure for the purpose of preventing excessive internal pressure. Also applied to a type of valve used on some aerostats which opens at a predetermined contained volume or hull dimension.]

valve (automatic),【發】自動氣門。

解：通常是指內燃機的進氣門而言，這氣門係由彈力頗弱的彈簧壓着，但活塞的吸入行程的力量，足使它開放而吸入一劑汽油混合燃料。

[Usually an intake valve in an internal combustion engine which is held closed by spring sufficiently weak to allow the suction of the intake stroke to open the valve in order to draw in a charge of vapor.]

valve (butterfly),【發】蝶形氣門。

解：任何氣門形狀與煙囪內的蝶形瓣相似，即氣門軸的兩旁各有一翼。此係節制發動機速度的氧化器氣門。(阻氣門 choke valve 係節制空氣供給量) [Any valve similar in design to the damper in a stove pipe, i. e., a valve which appears to have a wing on each side of the axis. It is carburetor valve which governs engine speed.

Choke valve governs air supply.]

valve (choke),【發】阻氣門。

解：這通常是蝶形氣門，橫置於氧化器的進氣口前，於發動機起動時用以限制空氣的吸入。

[Usually a butterfly type valve which is used across the air intake of a carburetor to limit the air intake at the time of starting the engine.]

valve clearance,【發】氣門間隙。

解：氣門蒂至激動氣門部份間的間隙——這間隙是為發動機在各不同溫度情況下膨脹和收縮而設計的。

[The clearance between the valve stem and the part which actuates the valve—designed to allow for expansion and contraction of the engine under varying temperature conditions.]

valve cover,【艇】【球】氣門蓋。

解：這是成傘形的一種蓋覆物，可保護氣艇或氣球的氣門不為雨水所浸入。亦名 valve hood or bonnet。

[The appliance, having the form of a hood or parasol, which protects the valve of an airship or balloon against rain. Also called “valve hood” or “bonnet”.]

valve (crab-pot),【球】【艇】捕蟹式氣門。

解：一種特殊式樣的球皮套管，係用手握線操縱之。(參閱附錄第十八圖)

[A special form of fabric sleeve, the operation of which is controlled by a hand line.]

valve event—valve spring

valve event, 【應】氣門動作情形。

解：氣門動作情形，是對於氣門在上下死點的啓閉情形而言。

[It refers to the opening and closing of valve in relation to top and bottom dead center.]

valve hood, 【發】氣門蓋。

解：見 valve cover.

valve line, 【艇】氣門線。

解：用手操動氣門的線索。

[A cord for the manual operation of a valve.]

valve (maneuvering), 【艇】【球】
操縱氣門。

解：浮昇器的氣囊或空氣房上人工啓閉的氣門，在必要時可以放出氣囊內的氣體。

[A manually operated valve fitted to the envelope, ballonet, or gas cell of an aerostat for the purpose of releasing gas or air from within the envelope or gas cell when desired.]

valve, needle (carburetor), 【發】

針形氣門。(氣化器的)

解：這是簡單的氣門裝置，係用一個針頭嵌合在一個傾斜的嗒子裏面。接頭處非常光滑磨合，關閉的時候，汽油不致漏出。

[A simple valve device consisting of a needle point which fits into a beveled seat. The joint is a ground joint to make it gasoline-tight when closed.]

valve petticoat, 【球】氣門裙。

解：一種管裙在氣門和氣囊的中間，管裙緊繫後而更換氣門，然氣體不致漏出。

[A petticoat between the valve and gas container making it possible to tie off the petticoat and change valves without loss of gas.]

valve (poppet), 【發】揚瓣。

解：一個氣門因帶部的往復運動，而能由氣門座完全升起和回復原來位置。整個氣門座的啓閉動作是同時的，而它的漸次啓閉作用，是因氣門從氣門座升起或回復氣門座必要的時間所調節。

[A valve which, through reciprocating motion of its stem, is caused to completely lift from and return to the valve seat. The entire valve seat is cleared or covered simultaneously and the gradual effects of opening and closing are governed by the time required to lift the valve from the seat or return it to the seat.]

valve seal, 【艇】氣門封蓋。

解：球皮做的蓋，在硬式氣艇收入棚廠時用以封閉自動氣門。

[A fabric cover used to seal the automatic valves of a rigid airship when docked in the shed. Jam pot cover-British.]

valve (sliding), 【發】滑動氣門。

解：滑動氣門是一個氣門由於往復運動而在氣門口上滑動啓閉。

[A valve which covers or uncovers a valve port by sliding back and forth over the port with a reciprocating motion.]

valve spring, 【發】氣門彈簧。

valve stem—variable camber

解：阻礙氣門露開而用的彈簧（通常繞在氣門蒂外面）。

[Spring used to resist opening of valves (usually coiled about the stem).]

valve stem 【發】氣門蒂。

解：揭瓣式氣門的軸或蒂，裝在氣門蒂導孔內。

[Shaft or stem of poppet type valve, located in valve stem guide.]

valve stem guide, 【發】氣門蒂導孔。

解：氣門導孔是用以引導氣門蒂的往復運動。

[Used to guide the reciprocating motion of valve stem]

valve timing, 【發】氣門正時。

解：氣門正時是相對曲軸的旋轉而修正氣門的啓閉。

[Adjusting valve openings and closings in relation to crank shaft rotation.]

vanadium, 【材】鈦。

解：一種使鋼腐力增大的合金。

[An alloy which gives great strength to steel.]

vane supercharger, 【發】轉翼式增壓器。

解：一種壓器，它的氣體壓縮，是由固定匣內的二個轉翼，對向運動而致成。（參閱附錄第三十八圖）

[A supercharger in which compression is effected by the motion of vanes relative to a fixed case.]

vapor capacity, 【氣】水氣容量。

解：空氣能含著水氣的容量，而水氣

容量有由攝氏表零下二十度時每立方呎空氣含五分之一噸（克冷grain），而昇至攝氏表一百十度時每立方呎空氣中含二十噸的不同。

[The capacity of air to hold water vapor. Vapor capacity varies from about 1/5 of a grain per cubic foot at 20° C. below zero to about 20 grains per cubic foot at 110° C.]

vaporizer, 【儀】蒸發器。

解：儲藏和蒸發液體氧氣的器具。

[A vessel for storing and evaporating liquid oxygen.]

variable, 【應】變換的。

解：任何改變數值的因數。昇阻比是一個變數，故數值是和函角相同而改變。昇力和阻力的係數亦相隨而變換的。

[It means any factor which undergoes a change in values. Lift-drag ratio is a variable whose value changes with angle of attack. Also the coefficients of lift and drag.]

variable area, 【機】可變翼面積。

解：以機械方法（駕駛員的操縱）在飛行中變換翼面的面積。

[It represents mechanical means (pilot's control) of changing the area of airfoils while in flight.]

variable camber, 【機】可變弧線。

解：以機械方法（駕駛員的操縱）在飛行中改變機翼弧度。

[It represents mechanical means (pilot's control) of changing the camber of airfoils while in

variable incidence—vegetable glue

flight.)

variable incidence, [機] 可變傾角。

解：以機械方法（駕駛員的操縱）在飛行之中對飛機縱軸改變傾角。

[It represents mechanical means (pilot's control) of changing the angle of incidence with respect to the longitudinal axis while in flight.]

variable motion, [力] 變速運動。

解：一個物體用不等時間，相等距離中，經過重力中心的行程。

[The passage of the center of gravity of a body over equal distances in unequal intervals of time.]

variable-pitch airscrew, [螺] 變距螺旋槳。

解：一種螺旋槳，它的槳葉裝配能於旋轉時轉動葉軸改變螺距。

[An airscrew whose blades are so mounted that they may be turned about their axes to a desired pitch while the airscrew is in rotation.]

variation (magnetic), [飛] 磁差。

解：由真子午線至磁力子午線向東或向西所量得的角度。

[The angle measured East or West from the true meridian to the magnetic meridian.]

vaseline, [油] 凡士林。

解：一種比較稠濃的石油，用以填塞轉筒軸承，鋼珠軸承，搖臂匣等。凡士林是膠黏稠濃的，除遇到很高的熱度外，不易流動。

[A comparatively thick petroleum product used for packing

roller bearings, ball bearings, rocker boxes. etc. Vaseline is sticky and thick, and does not readily flow away from a part unless excessive heating occurs.]

vector, [力] 方向量。

解：方向量是一條直線，以箭頭表示方向，長度表示速度的大小。

[A straight line indicating the direction by an arrow-head and the magnitude of velocities by its length.]

vector computer, [儀] 方向量計算器。

解：一種器械可將方向量三角形現示出來，它所決定的數量，為風速風向，空速，航向，地速及軌跡對數比例尺 (logarithmic scales)，通常時間和距離加入計算內。

[A device which enable vector triangles to be represented. (Colloquially: Course-and-distance calculator and Course-and-speed computer).]

veering, [氣] 順轉。

解：風作順時針方向的變動。

[A change of wind in a clockwise direction. Cf. Backing.]

vegetable glue, [材] 植物膠。

解：植物膠係用一種植物澱粉製成，為乾粉形狀。用鹼質則以冷水調和即可，然常加溫熱，使膠合工作簡易。此種膠液不能防禦水分浸入，與物動膠及流質膠相似，故不適用於飛機構造。

[Vegetable glues are usually of Cassava starch and are procured in dry powdered form. Combined with alkali, they may be mixed

vegetable oil—velocity(longitudinal)

with cold water; however, they are usually prepared by heating, which makes them smoother and more easily worked. Vegetable glue lack water and moisture resistance and therefore, like animal and liquid glues, are undesirable for airplane use.]

vegetable oil, [油] 菜油, 植物油.

解：普通商店發售航空發動機所用的菜油，祇限於蓖麻油一種。這種油是由蓖麻子中取出的。蓖麻油和汽油不相混合，故旋轉式發動機多採用之。

[Commercially for airplane engines, it is limited to castor oil, which is produced from the seeds of castor plants. Castor oil will not mix with gasoline, and was used largely in rotary engines.]

velocity (angular), [力] 角速度.

解：圓圈路線中，一點的速度係以每分鐘轉數 (r.p.m.) 每秒鐘轉數 (r.p.s.) 或每鐘弧度 (radians) 計量之，設(N)為每分鐘轉數，則每秒鐘弧度的角速為 $0.104172 \times N$ 。以角度表示之，則一弧等於57.3角度 (angular degrees)。

[The velocity of a point in a circular path which can be expressed in revolutions per minute (r. p. m.), revolutions per second (r.p.s.), or in radians per second. It (N) is the number of revolutions per minute, then the angular velocity in radians per second is:

$0.104172 \times N$. Expressed as an angle, a radian is equal to 57.3 angular degrees.]

velocity (blade-tip), [螺] 葉梢速度.

解：葉梢端或外梢的直線速度常以每秒呎數計量。速度須在每秒 950 呎以下，因螺旋槳效率在此種速度以外降落極速。

[The linear velocity of the outer tip or end of a propeller blade, generally in terms of feet-per-second, This should be kept below 950 feet per-second, as the efficiency of the propeller drops off rapidly above this speed.]

velocity (lateral), [力] 橫速.

解：相對空氣，沿橫軸的分力速度。
[The component velocity along the lateral axis, relative to the air.]

velocity (limiting), [力] 極限速度.

解：飛機沿飛行線而與水平成任何規定的角度，且在某種氣候情況并在發動機和螺旋槳工作之下，所能得的最大速度。

[The maximum velocity attainable by an aircraft along a flight path at any specified angle to the horizontal, under given atmospheric conditions and state of operation of engine and airscrew.]

velocity (longitudinal), [力] 縱速.

解：相對空氣，沿縱軸的分力速度。
[The component velocity along

velocity (normal)—vent (pressure-relief)

the longitudinal axis, relative to the air.)

velocity (normal), 【力】垂直速。

解：相對空氣，沿垂直軸的分力速度。
〔The component velocity along the normal axis, relative to the air.〕

velocity of sound in air, 【應】

空中音波的速率。

解：空中音波速率每秒鐘1,090呎。
〔It is 1,090 feet per second.〕

velocity (striking), 【力】碰擊速度。

解：炸彈在碰擊時的速度。
〔The velocity of a bomb at the moment of impact.〕

velocity (terminal), 【力】極限速度。

解：極限速度為炸彈阻力係數。空氣對於炸彈的阻力，是賴炸彈的式樣，外皮的摩擦，突出翅部與耳部的摩擦，及其每單位重量的切面等關係。

若無空氣的阻力，則各種大小，重量，或形式的炸彈因其引力，向垂直方向降落，有一定的加速（每秒的加速為32.16呎），但在空氣中其速度略有阻礙，空氣對炸彈的阻力，為經過空氣的速度平方，故在某種速度中空氣阻力與彈重平衡，此後其平衡時的速度不能再增，即謂極限速度。然在普通高度中投下炸彈不能達到該種速度，故極限速度用以指明彈道的特性，且使程遲着及時遲差於各種高度其空速中能計算之。

例：炸彈在某種高度投下，不注意較小的時遲差，在其極限速度對於垂速的公式中 8.0^2 屬度

其高度可求出於下式：—
2,000 磅炸彈一枚

極限速度=1,800ft/sec.

則 高度 = $\frac{(1800)^2}{(8.02)^2} = 50,000\text{ft.}$

25磅炸彈一枚

極限速度=775ft/sec.

則 高度 = $\frac{(775)^2}{(8.02)^2} = 9,350\text{ft.}$

vendavales (*pr. vendavarles*)

【氣】帆達危爾斯風。

解：幾布羅陀海峽 (Straits of Gibraltar) 的西南風。
〔South-west winds in the Straits of Gibraltar.〕

vener, 【材】木片。

解：用刀或用鋸切成的薄木片。

〔Thin sheets of wood, either sliced with a knife or sawed.〕

vent-pipe (radiator), 【發】散熱器通氣管。

解：一條開口的管子，由水冷室空隙處伸出至大氣外面。

〔An open-ended pipe leading from the air-space in a water cooling system to the atmosphere.〕

vent-pipe (tank), 【油】油箱透氣管。

解：一條開口的管子，由汽油箱或滑油箱的空隙處，伸出至大氣外。

〔An open-ended pipe leading from the air space in a fuel tank to the atmosphere.〕

vent (pressure-relief), 【艇】機減壓孔。

解：氣艇直翅外面上一個小孔，它是用以利便直翅內外空氣壓力均衡。亦可用作直翅內積氣的出口。

〔A small opening in the cover-

ing of the fin of an airship intended to facilitate the equalization of the pressure of the air within the fin with that of the outside air. It also provides an outlet for any gas that may collect in the fin.)

Venturi, 【發】文德利管。

解：電化器筒形喉門中的一管，管口甚小，特為增高空氣速度而設計，因此在文德利管喉門中的壓力可以減低。
[A tube in the barrel of a carbureter with a restricted passage designed to increase the velocity of air flow, thereby securing a pressure drop in the throat of the Venturi.]

Venturi (power), 【儀】動力文德利管。

解：用以運行旋轉式轉導指示器，(gyroscopic turn indicator) 的文德利管。

[A Venturi tube used to operate gyroscopic turn indicators and other instruments.]

Venturi (speed-indicating), 【儀】

指示速度文德利管。

解：一個文德利管和披托管 (Pitot tube) 或靜壓管相聯合而成為一壓力組，用以測定航空器在空中的速度指示。壓力差數是用一個適當的測量器計算的。

[A Venturi tube may be combined with a Pitot tube or with a tube giving static pressure to form a pressure nozzle which may be used to determine the indicated speed of an aircraft through the air. The pressure difference

is measured by a suitable gauge.)

Venturi tube, 【儀】文德利管。

解：兩端張開的細管，兩端的中間為狹窄或收緊的管身，管身中又開一旁管。當流體流過文德利管時，收緊的管身內的壓力便減低，而它的減低數量是流體流動速度的函數。

[A short tube with flaring ends and a narrow or constricted section between them, into which a side tube opens. When fluid flows through the Venturi, there is a reduction of pressure in the constricted section, the amount of the reduction being a function of the velocity of flow.]

vernier, 【儀】遊尺。

解：一種小型活動比例尺，由 Pierre Vernier 於 1631 年發明，用此計量固定比例尺上之分數。

遊尺是一種小滑尺，其分格與固定尺的略有不同。儀器的分格為吋，每吋分為十格，而每格又分為四，故每吋共計 40 分。滑尺上分為廿五分一名 0.5, 10, 15, 20, 25。遊尺上的 25 分是與尺上的 40 相比，故遊尺上的一分格為 $1/40$ 的 $1/25$ ，或 $1/1000$ 吋較小於比例尺的一分格。

若遊尺的 0 數與尺上的 0 數相符合時，則右邊的二線相差為 $1/1000$ 吋，每分格相繼增加 $1/1000$ ，以至遊尺上的與尺上的相合為止。

[A small moveable scale invented by Pierre Vernier in 1631, and used for measuring a fractional part of one of the equal divisions on the graduated fixed scale.]

vertical(absolute)—vertical stabilizer

The vernier consists in its simplest form of a small sliding scale, the divisions of which differ from those of the fixed primary scale. On the scale of the tool is a line of gradations divided into inches and numbered 0, 1, 2, etc., each inch being divided into ten parts, and each tenth divided into four parts, making forty divisions to the inch. On the sliding jaw is a line of divisions of twenty-five parts, numbered 0, 5, 10, 15, 20, 25. The twenty-five divisions on the vernier corresponds, in extreme length, to twenty-four divisions, or $24/40$ of an inch, on the scale; each division on the vernier is, therefore, $1/25$ of $1/40$ of $1/1000$ of an inch shorter than the corresponding division on the scale.

If the vernier be moved until the line marked O on the vernier coincides with that marked O on the scale, then the next two lines to the right will differ from each other by $1/1000$ of an inch; and the difference will continue to increase $1/1000$ of an inch for each division, until the line 25 on the vernier coincides with a line on the scale.)

vertical (absolute), 【力】絕對垂直。

解：放射線如鉛錘所示，經過地球中心為絕對垂直線，此線是與水平面成

直立的位置。

[A radial line passing through the center of the earth as shown by a plumb-bob line. It is perpendicular to the horizon.]

vertical axis, 【機】垂直軸。

解：與飛機縱軸及橫軸構成的平面成直角的軸，並穿過縱橫二軸的相切點。飛機可依此線向左右偏轉。

[An axis at right angles to the horizontal plane of the longitudinal and lateral axes, and passing through their intersection.]

vertical engine, 【發】直立發動機。

解：這種發動機的氣缸分二排裝置，末端成V字形狀。

[An engine having its cylinder arranged vertically above the crankshaft.]

vertical gusts, 【氣】垂直陣風。

解：風常有局部向上或向下的傾斜力，尤其在氣溫劇變之際，或雷擊情況下，常發生對流。(convection current)風。

[In wind there is often an upward or downward slant locally, whilst especially in thundery conditions or when great changes of temperature are experienced there are strong up draughts or convection currents.]

vertical interval, 【氣】垂直間距。

解：地圖上兩條連續等高線間的高度差數。

[The difference in altitude between two successive contour lines on a map.]

vertical stabilizer, 【機】垂直安

vertimeter—voltage(battery)

定面。

解：一片翼面作垂直位置裝在飛機上，它的作用是減小垂直軸上的偏航影響。

[A vertically fixed auxiliary airfoil whose function is to lessen yawing effects about the vertical axis.]

vertimeter, [儀] 垂直表, 垂直計。

解：一個指浮昇器昇高及降落率用的儀器，通常是一個棒式的微動氣壓計 (statoscope)。上昇速度表 (rate of climb meter) 雖然方式各異，但亦可供相同的作用。

[A device for indicating the rate of rise and fall of an aerostat, usually a special form of statoscope. A rate-of-climb meter serves the same purpose, although of a different form.]

vibration, [應] 振動。

解：凡顛簸，搖動，震動，前後擺動或波動的。

[To oscillate, shake, quiver, swing back and forth or waver.]

Vic, [軍] V字隊形。

解：Vic 即V字形隊的意義，因Vic 在電話中，V音易於聽明。

[The formation in the shape of "V", because it is easier to understand the "V" over the telephone.]

viscosimeter (Saybolt universal), [儀] 黏度計 (通用舍布爾脫式)

解：一種測定油類黏度用的儀器，而測定方法是將已定油量在一個已定溫度下流過一個已定大小的孔。

[A device used to determine the

viscosity of oils by measuring the time required for a given quantity of oil at a given temperature to flow through an orifice of given size.]

viscosity (absolute), [力] 絕對黏性。

解：液體流動所生的阻力，而此係一秒鐘經過一平方公分(厘米)物體剪力的達因數(dynes.)

[The resistance offered by a fluid to flowing. It is the force in dynes required to shear through a square centimeter of the substance in one second.]

visibility (atmospheric), [氣]

天氣能見度。

解：見 atmospheric visibility.

visibility meter, [儀] 能見度測量器。

解：一種儀器，增加天氣的糜暗而定能見度。

[An instrument for determining visibility by adding artificially to the obscurity of the atmosphere.]

volplane, [飛] 滑降。

解：飛機滑翔下降的動作。

[In airplane operation, a gliding descent.]

volt, [電] 電壓, 伏脫。

解：電壓或電位的單位。

[The unit of electrical pressure or potential.]

voltage (battery), [電] 電池電壓。

解：原電池的電壓由0.50弗打至2.2弗打，但視種類而定，單一儲電瓶於充電最足時，它的電壓為0.2弗打，多數

voltmeter—volumetric efficiency

電瓶連接成排，以致總電壓或總電流，較單一的爲大。

[The voltage of a primary battery cell ranges from 0.50 volt to 2.2, volts, depending upon type. The voltage of a single storage cell, fully charged is 2.0 volts. A number of cells can be connected up to form a "battery" so that to total voltage or the total current is greater than that of a single cell.]

voltmeter, 【電】電壓表。

解：用以計量電路中的電壓低落或電位差的儀器。

[An instrument for measuring the voltage drop or potential difference in an electrical circuit.]

volume, 【獎】【球】排氣量；【力】變度；【應】容積。

解：【艇】【球】充氣用的氣體排氣容積。

【力】無線電揚聲器所發出聲音的大小。

【應】在一規定表面上的空間，即長寬高相乘得之數，故立體的容積，如一邊爲二呎，則 $2 \times 2 \times 2 = 8$ 立方呎的容積。

① The volume of the air displaced by the gas used for inflation.

② In radio, the degree of loudness of sound produced by a loud speaker.

③ A definite amount of space included by limiting surfaces being the product of length \times

breadth \times thickness, thus the volume of a cube whose sides measure 2 ft. is $2 \times 2 \times 2 = 8$ cu. ft.]

volume, aerodynamic (airship),

【艇】【球】氣囊容積。

解：在空氣中推動氣艇形狀的排氣量。與 air volume 相同。

[The volume of the form which must be driven through the air. Same as "air volume".]

volume, air (airship), 【艇】氣艇氣囊容積。

解：氣艇的氣囊或外罩形成物體的排氣量。氣助力的推算要用這個容積。參閱 volume, aerodynamic (airship)。

[The volume of air displaced by the body formed by the outer cover or envelope of an airship. It is this volume which enters into aerodynamic computations. See aerodynamic (airship) volume.]

volume, gas (airship), 【艇】氣體容積。

解：氣囊中所載氣體的容積。參閱 capacity。

[The volume of the contained gas. See capacity.]

volumetric efficiency, 【發】容積效率。

解：容積效率就是吸入行程中吸入氣缸內的汽油化氣 (fuel vapour) 量，和在怠速情況中所能吸入的量所成的比率。

[The ratio of the amount of fuel vapor taken into a cylinder on the intake stroke to the amount

vortex—V-wires

which might be taken in under ideal conditions.)

vortex, 【力】旋渦。

解：有渦動的任何液體極界區域。

(Any limited region of fluid possessing vorticity.)

vortex (line), 【力】線形旋渦。

解：小剖面長管形，而有強烈渦動的旋渦。

[A vortex in the form of a long tube of small cross section with intense vorticity.]

vortex (point), 【力】點形旋渦。

解：直線旋渦在二面向(two-dimensional)運動中的剖面。

[The section of a straight line vortex in two-dimensional motion.]

vortex sheet, 【力】渦片。

解：液體有強烈渦動的極薄一層。

[A thin layer of fluid with intense vorticity.]

vortex street, 【力】渦道。

解：直線旋渦在二平行組中成有規則的排列，並產生在圓筒體後面。(參閱附錄第九圖)

[A regular arrangement of rectilinear vortices in two parallel rows which is formed at times behind cylindrical

bodies.]

vortex (trailing), 【力】後緣渦。

解：由一物體表面彈動，而引伸至下流(downstream)的旋渦。

[A vortex springing from the surface of a body and extending down-stream.]

vorticity, 【力】渦動。

解：流動在液體的任何點上，是較環繞此點的液體小部的平均角速大二倍。

[The vorticity at any point of a fluid is twice the mean angular velocity of a small element of fluid surrounding the point.]

V-type engine, 【發】V形發動機。

解：這種發動機的氣缸，分為二排裝置，末端成V字形狀。

[An engine having its cylinders arranged vertically above the crankshaft.]

V-wires, 【球】V字形懸索。

解：鸞式氣球的支持絞盤的下部懸索，在接合件(junction piece)處會合而成為V字形狀，因此而名。

[The lower lines of the winch suspension of the kite balloon. They meet at the junction piece and form V's; hence the name.]

W

wake—washer

wake, [力] 洗流。

解：物體後面的液體區域，其中的總壓高因物體的運動而變化。

[The region of fluid behind a body, in which the total pressure head has been changed by the motion of the body.]

walking beam, [機] 動樑。

解：動樑是機身內的一條橫軸。此軸裝有搖臂或傾桿，而由操縱桿接收運動傳至昇降舵。

[A lateral axle in the fuselage. The axle is fitted with rocker arms or horns which receive motion from the control stick and transmit the control motion to the elevators.]

walkway girder, [艇] 走道樑。

解：在硬式或半硬式氣艇中經過龍骨或其他部份的走道的支持樑。

[The girder forming the support of a walkway through the keel or in other localities in a rigid or semirigid airship]

walnut and mahogany, [材] 胡桃木及桃花心木。

解：這兩種木材在製造螺旋槳中採用甚廣，因其表面光滑，質地堅韌，使這種用途結果甚優。

[They are used extensively in propellers. Their uniformity in finishing and strength gives excellent results for this purpose.]

warm front, [氣] 熱面。

解：前進熱空氣及在它上面上升的冷空氣間的界線。

[The boundary line between

advancing warm air and a mass of colder air over which it rises.]

warm sector, [氣] 熱區。

解：在最近時間所成活動低氣壓內的熱空氣區域，而四周為熱冷面所繞圍。

[A sector of warm air found in a recently formed active depression bounded by the warm and cold fronts.]

warm-up time, [發] 加熱時間。

解：在地面時使發動機轉動的時間，特別是使發動機溫熱所費的時間。

[The number of hours or minutes the engine is allowed to run, while on the ground; particularly for the purpose of allowing the engine to be warm-up.]

warp. [應] 反撓。

解：機翼因扭轉而改變形狀。有時要利用之，使飛機的橫面平衡。

[To change the form of a wing by twisting it. Warping is sometimes used to maintain the lateral equilibrium of an air-plane.]

wash, [力] 洗流。

解：一個翼面在空中經過後所生出的混亂，和任何固體方面的普通“留跡”wake 名詞相同。

[The disturbance in the air produced by the passage of an airfoil. Also called the “wake” in the general case for any solid body.]

washer, [工] 墊圈。

解：金屬，皮革，或其他種材料的環圈，

用以減低磨擦，或使接頭緊密，或作其他用途。

[A ring of metal, leather or other material, used to relieve friction, to secure tightness of joints or for other purposes.]

washin, 【機】 正梢角。

解：向翼梢處將翼的衝角漸漸增大，而使機翼成永遠反撓的結果。

[Permanent warping of the wing which results in an increase in the angle of attack near the tip.]

washout, 【機】 負梢角。

解：向翼梢處將翼的衝角漸漸減小，而使機翼成永遠反撓的結果。

[Permanent warping of wing which results in a decrease in the angle of attack near the tip.]

washout, 【飛】 淘汰。

解：飛行學生，由技術不佳，而被取消飛行資格之謂，又飛機失事後損壞過劇，不能修理時亦用此字。

[Student is eliminated from flying due to the failure of flying test. Plane damaged beyond repair.]

wash (propeller), 【螺】 滑流。

解：見 slipstream

waste gate, 【發】 廢氣口。

解：增壓量是由廢氣口節制的，而該口裝設在排氣歧管處，直接由裝在火花及油門節制器下的槓桿駛動。若槓桿向前推動，則將廢氣口關閉，使增壓量加增。

[The amount of supercharging is controlled by a waste gate,

located in the exhaust manifold, which is operated by a lever mounted directly under the spark and throttle control. Moving this lever forward closes the waste gate and increases the amount of supercharging.]

water cooled engine, 【發】 水冷式發動機。

解：水冷式發動機，有水套環繞氣缸，使燃燒時之熱度散去，設不將熱度散去，則滑油受熱氣化，而發動機本身因熱高而發生危險，水的循環是賴唧筒，或虹吸管的動作。

[Gas engines are said to be water cooled when a water jacket surrounds the cylinders to carry off the heat of combustion, which, if unchanged would volatilize the lubricant and heat the engine to a dangerously high temperature. The circulation is maintained either by a pump or by thermo-syphonic action.]

water (distilled), 【材】 蒸溜水。

解：蒸溜水是由沸水的蒸氣凝結而成，沸水化氣後便昇騰流入凝結器中，將所有不潔物，特別是金屬物質，均遺留在蒸氣器中。

[The condensed steam from boiling water. The steam will rise and flow through the condenser, leaving all impurities, especially metallic particles, in the steaming container.]

water-outlet (inlet) collector—pipe, 【發】 出水(進水)集合管。

解：一種集合管，上有支管能將清水

water pump - wattmeter

向發動機氣缸輸出或導入。

[A manifold pipe with branches leading water from or to the cylinders of an engine.]

water pump, [發] 水唧筒。

解：水唧筒是一種唧筒，通常是離心推進器式，用以激動冷却流質在發動機的水套中循環。

[A pump, usually of the centrifugal impeller type, used to circulate cooling fluids through the water jackets of an engine.]

water-recovery apparatus, [艇] 還水機。

解：氣艇上用以凝結內燃發動機排出氣體中的水份，以抵償汽油消耗所損失的重量。有了此種設備，則氣艇無須常常放出輕氣體。

[Apparatus carried on an airship for condensing and recovering the water contained in the exhaust gases of internal combustion engines in order to avoid the necessity of valving gas as the fuel is consumed.]

water-recovery condenser, [發] 還水凝結器。

解：這是還水器的一部份，可以將排氣中的水氣凝結成冰。此器為多數金屬管所組成，或係一個布製匣，內有適當的進氣，出氣孔，與阻氣門等。

[That part of the water-recovery apparatus which is devoted to the condensing of water in the exhaust gases. It may consist of a number of metal tubes or of a fabric box with appropriate inlets, outlets and baffles.]

waterspout, [氣] 海龍卷。

解：小半徑的猛烈旋風吹過水面所致，而成破壞的情況。

[The counterpart of a Tornado over water. (The core is made visible by the condensation of water-drops from adiabatic cooling produced by the lowering of pressure in the core).]

water vapor, [氣] 水蒸氣。

解：水點化或目力不能見的氣體。

[Water in an invisible or gaseous state.]

watt [電] [單] 瓦, 瓦特。

解：電力的工率單位，即一安培(ampere)電量在一伏脫(volt)電壓上所表出的工作率(瓦特數)，是電壓和安培相乘得的商數。(一每秒10 ergs或0.00134匹馬力)

[The unit of electrical power and is the power due to a current of one ampere under a pressure of one volt. Therefore power(in watts) is the product of volts and amperes.]

watt-hour, [電] 瓦時。

解：電工的單位，等於一小時內所費去一瓦。瓦時係代表一安培電流，在一伏脫電壓下經過一小時。

[A unit of electrical work, equal to a rate of one watt expended for one hour. The watt hour represents the amount of work done by an electric current of one ampere strength flowing for one hour under a pressure of one volt.]

wattmeter, [電] 瓦特表。

wave length - weather report

解：瓦特表是一種儀器，用以計量一個回路內連續消耗的電力。

[An instrument used to measure the power being continuously expended in an electrical circuit.]

wave length, [電] 波長。

解：無線電中，電氣變形與磁流線的速度如光速，每秒鐘為 186,300 哩，或為 300,000,000 公尺，此即最大連續間向一方的距離，而波長 = 300,000,000 ÷ 每秒鐘波次，其公式如下：—

$$\text{波長} = \frac{300,000,000}{\text{每秒鐘週波率}}$$

由上公式而知波長愈短，則週率極高，而成一種反比例。

[In radio since the electric strain and flux lines move with the velocity of light, 186,300 miles per second, or 300,000,000 meters per second, the distance between two successive maxima of electric strain directed in the same direction, or, wave length = 300,000,000 ÷ number of waves per second. As usually expressed

$$\text{wave length} = \frac{300,000,000}{\text{wave frequency in cycles per sec.}}$$

From the formula it is seen that the shorter the wave length the higher the frequency.]

waves (speed of electrical), [電] 電波速度。

解：無線電通訊所用，與光的速度相同（每秒鐘 186,000 哩）。

[Used in radio communication, is the same as the speed of light (186,000 miles per second).]

wave train, [電] 波列。

解：斷續中間的一系列連續的無線電電波。

[The series of continuous radio waves between interruptions.]

weather, [氣] 天氣，氣象。

解：一個較小區域在短促時間內的溫度，濕度，和氣流的大氣現象。

[The state of the atmosphere relative to temperature, humidity and motion over a short period of time and a relatively small area.]

weathercock instability, [力] 風橫不安定。

解：因為飛機的運動，聯合側滑和縱搖（於用副翼保持機身時），而有離開直線飛行的不安定。這是橫不安定的特殊情況。

[The instability on account of which the motion of an aircraft tends to depart from straight flight by a combination of sideslipping and yawing when kept on a level keel by the ailerons. A special case of lateral instability.]

weather report, [氣] 天氣報告。

解：關於某地點，經過某區域，或沿航線在指定時間內的氣象情況說明表。

[A statement of the meteorological conditions existing at a particular place, over a particular area or along a particular route at a given time.]

web—weight(empty)

web, 【機】腹板, 【發】平腕增力板。

解：【機】I 字型切面柱材的直而部份，特為該柱材（樑等）承受垂直方面的必要重力而設計的。I 字型切面柱材凸緣的專有作用，使其直立不致偏斜。

【發】鑄造物上的突出部份，用以增大力量，同時且可裝配軸承和附件，即所謂平腕增力板。

① The depth unit of an I-beam section and furnishes the necessary strength for the vertical loads for which beams (spars, etc.) are designed. The sole purpose of the flanges of an I-beam are to keep the web straight in its length dimension.

② Projections on castings and parts to add strength and carry bearings and accessories, are also called webs.)

wedge, 【氣】楔形高氣壓。

解：在二低氣壓間的高壓區，故等壓線在圖上成倒V字形。

[A region of high pressure between two depressions, the isobars being usually in the shape of an inverted V.]

weight, 【力】重量。

解：地心對一物體的吸力（重力）的度量。美國以磅為度量的標準單位。

[A measure of the force of the earth's attraction (gravity) upon a body. The standard unit of weight in the United States is one pound.]

weight (atomic), 【力】原子量。

解：由原子的相對量可計算各化合物

的重量。如氫氣的原子量為1，氧氣為16，碳為12等。

[The relative weight of the elementary atoms by which the weights of various compounds are calculated. Thus, the atomic weight of hydrogen is 1, oxygen is 16, carbon is 12 and so on through of the elements.]

weight dischargeable (consumable weight)(airship), 【力】

【艇】氣艇可卸重量（氣艇消耗重量）。

解：氣艇除預留汽油，滑油，壓載水，食物，裝備，和艇員外，可以起卸或消耗而使氣艇可以在安全情況運行的一切重量。

[All weight which can be consumed or discharged and still leave the airship in safe operating condition with a specified reserve of fuel, oil, water ballast, and provisions, and her normal crew.]

weight, disposable (airship),

【艇】氣艇自由重量；氣艇的可使用重量。

解：氣艇中除固定重量外的一切重量，即包括與固定重量相反的可起卸重量。

[All weight other than fixed weight, including dischargeable weights contrasted with fixed weights, q. v.]

weight (empty). 【力】空重，機體自重，本身重量。

解：航空器構體，動力裝置，和固定裝備物的共重量。這裏所說的固定裝備，

weight, fixed (airship)—weight per brake horse-power

包括散熱器和冷卻系內的水，一切必要的儀器和設備，生熱和發光的固定電線等。若在浮昇器方面，為協助安全降落所帶用的壓載物的數量亦要包括在內。

[The structure, power plant, and fixed equipment of an aircraft. Included in this fixed equipment are the water in the radiator and cooling system, all essential instruments and furnishings, fixed electric wiring for lighting, heating, etc. In the case of the aerostat the amount of ballast which must be carried to assist in making a safe landing must also be included.]

weight, fixed (airship), 【艇】

(氣艇)固定重量。

解：艇身機械和一切固定位置而不消耗的裝備物的總重量。氣艇在工作情況下的一切恆定和不消耗部份的重量(英國標準)。發動機中冷卻系的液體亦包括在內。

[The weight of the hull machinery and all equipment and parts which are fixed in position and nonconsumable. All constant and nonconsumable weights which an airship would carry under all conditions of service (British). Liquids in cooling system of engines are included.]

weight, fixed power-plant, for

a given airplane, 【機】為已

定一種飛機的動力裝置固定重量。

解：就是發動機的重量，其中包括發火，氧化器，感應各系的全套，螺旋槳和

槳轂，排氣歧管，熱散器和器內的水(若係水涼式)，一切互相連接的電線，操縱器，油箱，管子，滑油溫度調節器，發動機機匣內的滑油，和附連在發動機的起動裝置各件的重量，但汽油，滑油和發動機儀器則不在內。

[The weight of an engine, including ignition, carburetor, and induction systems complete, propeller and hub, exhaust manifolds, radiator and water, if used, with all interconnecting wires, controls, tanks, and pipes, lubricating-oil temperature regulators, the oil contained in the engine crankcase and the starting gear attached to the engine but excluding fuel, oil and engine instruments.]

weight in running order, 【發】

運轉狀態的重量。

解：總淨重外加下列各機件：——一切互連接管，操縱器，內部機件在正常滑油情況中，但油箱，汽油，滑油，預備水，排氣歧管，及發動機儀器等均不在內。

[The gross dry weight with the addition of radiator and water; all interconnecting pipes and controls; and the internal parts in their normal oily condition; but excluding tanks, fuel, oil; reserve water; exhaust tail pipes; and engine instruments.]

weight per brake horse-power,

【發】每匹實馬力重量。

解：發動機重量，用額定實馬力除之而得，但發動機的重量，是實重或總重

weight per horsepower—weld(gas)

亦須明白指出。

[The weight of a engine divided by the rate b. h. p. Whether the weight referred to is the net or gross dry weight or weight in running order should be specified.]

weight per horsepower, [力] 每匹馬力重量。

解：以額定馬力除發動機自重所得的商數。

[The dry weight of an engine divided by the rated horsepower.]

weld (atomic hydrogen arc), [工] 氫原子弧銲接。

解：鎔解銲接的方法，這方法中的銲接熱力是憑藉兩電極間的電弧而得。在這種銲接方法的進行中，基本金屬不在電路之內，而電弧可以如乙炔氣炬(acetylene torch)一樣的週圍移動。
[A fusion weld in which the welding heat is obtained by means of an electric arc between two electrodes. In this process the base metal is not in the electrical circuit and the arc can be moved around the same as an acetylene torch.]

weld (automatic), [工] 自動銲接。

解：由自動銲接裝備物造成的銲接工作。

[A weld made with automatic equipment.]

weld (butt joint), [工] 衝頭接合銲接。

解：兩件物體無論由兩端或兩旁衝頭接合，然後銲接的。

[A weld joining two members which are butted together, end to end or side to side.]

weld (fillet), [工] 小緣銲接

解：在兩塊重疊面，角面或丁字形接合的交接處上的銲接。

[A weld made at intersections of two surfaces of lap, corner, or tee joints.]

weld (flush), [工] 平坦銲接。

解：衝頭接合的銲接，但它的外面沒有過剩的充銲金屬的痕跡，因為疊接物的邊緣都是斜切形的，將充銲的金屬都藏入。

[A butt weld which shows no excess filler metal at the surface, because the abutting members were beveled to receive the filler metal.]

weld (fusion), [工] 鎔解銲接。

解：金屬部份在鎔解狀態中結合，而不應用機械的壓力或敲打的力量使它們聯合。

[The union of metal parts in molten state without the application of mechanical pressure or blows.]

weld (gas), [工] 氣炬銲接。

解：鎔解銲接的一種方法，但它的銲接熱力是從氧氣中燃燒的乙炔火焰(乙炔氣炬)或氧與氫混合而燃燒的火焰中得來。

[A fusion weld in which the welding heat is obtained from an acetylene flame burning in oxygen (acetylene torch) or a burning mixture of oxygen and hydrogen.]

weld(manual)—wet sump engine

weld (manual), 【工】人工銲接。

解：由人力所造成而無須借助機械裝備的銲接。

[A weld made by an operator without the use of mechanical equipment.]

weld (metal arc), 【工】金屬電弧銲接。

解：鎔解銲接的一種方法，但它的銲接熱力是憑藉一個電極和基本金屬間的電弧而得的。這種銲接方法中，基本金屬便作為完成電路的傳導體。

[A fusion weld in which the welding heat is obtained by means of an electric arc between the base metal and an electrode. In this process the base metal acts as a conductor to complete the electrical circuit.]

weld (plug), 【工】塞子銲接。

解：兩件物體由填充其中一件上的一孔而成的銲接。

[A weld joining two members by filling in a hole in one of the members.]

weld (tack), 【工】分段銲接。

解：將兩件相連物體接合的銲接法，它是將填充的金屬分成多段放置在接合處上，但不是連續的銲接。

[A weld joining adjacent members by spotting deposit filler rod metal at various points along the joint. Not a continuous weld.]

weld (tee joint), 【工】T 字型接合銲接法。

解：兩件物體銲接合成為 T 字型的。
[A weld joining two members

in the form of a T.]

well (accelerating), 【發】加速井。

解：在氧化器 (carburetor) 內，用以貯藏汽油，油門 (throttle) 驟然放開時能造需要的濃厚混合氣。油門關閉時此井即滿盛汽油，以備油門驟然開放時之用。

[In a carburetor is a small well of fuel which is made available to the main jet for the richer mixture desired when the throttle is opened quickly. When the throttle is closed this well fills up so that it is always primed with fuel for sudden throttle openings.]

wet fog, 【氣】濕霧。

解：挾有極高濕度的霧，凡與之接觸的即變潮濕。

[Fog, accompanied by a very high relative humidity, which wets objects exposed to it.]

wet sump, 【發】濕槽。

解：發動機底部的油槽，為盛載發動機滑油的主要部份。

[An oil sump in the base of the engine which carries the main supply or body of oil.]

wet sump engine, 【發】濕油槽發動機。

解：濕油槽發動機的滑油主體是裝在油槽或發動機機箱的裏面。滑油盡了潤滑作用以後，又漸漸流回油槽，從這裏又因唧筒壓力繼續循環去作潤滑工作。Curtiss OX-5 發動機就是濕油槽的一種發動機。

[The wet sump engines the main body of oil is carried in the

wetted area—whip stall

base or crankcase of the engine. After performing the lubrication function, the oil drains back to the base from which it continues to be circulated by the oil pump. The Curtiss OX-5 is an example of the wet sump engine.]

wetted area【力】 沒水面積，氣流面積。

解：船身與水接觸的面積，有時亦指航空器與活動氣流接觸的面。

[The area of a boat hull in contact with the water. Often the surface of aircraft in contact with moving air is (comparatively) called the "wetted surface".]

w.h.【電】 瓦時。

解：這是 watt-hour 的縮寫。

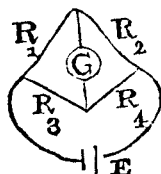
Wheatstone bridge，【電】 電阻測量器； 威斯吞橋。

解：用以測量電阻力的一種電氣器械。它的測量方法是以 R_1 作為未知數，用直列連接法接於已知電阻的電路 R_2 ，然後將這一對電路（即 R_1 與 R_2 ）用平行聯接法接於另一對已知電阻的電路 R_3 和 R_4 ，而 R_3 和 R_4 亦是以直列聯接法相接的。由 R_1 與 R_2 直列聯接電路間的一點用另一電路通過一電流表 (galvanometer) 接至 R_3 與 R_4 直列聯接電路間的另一點。然後將 R_2 、 R_3 、 R_4 三個電路的電阻調度，直至沒有電流通過電流表為止。這樣便可以算出 R_1 電路的電阻；公式是

$$R_1 \text{ (未知數)} = \frac{R_2 \times R_3}{R_4}$$

那三個已知電阻力的電路上都劃有分

度，所以調變後所求的電阻便能一目了然，從公式中化算出來。



G—電流表

[Wheatstone bridge is an electrical device used to measure resistances, R_1 , the unknown resistance, is connected in series with R_2 , a known resistance, and this pair (R_1 and R_2) are connected in parallel with another pair of known resistances, R_3 and R_4 , in series. A galvanometer is connected from a point between R_1 and R_2 to a point between R_3 and R_4 . Adjust R_2 , R_3 and R_4 so that no current flows through the galvanometer. Then R_1 (unknown) = $R_2 \times R_3$ divided by R_4 . The three known resistances are calibrated so that the adjusted resistances may be read off for the equation.]

whip stall，【飛】 機頭急墜失速。

解：飛機於完全失速後，以橫軸為中心的猛急縱面轉動，而此種動作由飛機鼻部重力所致。當飛機接近失速的極頂時若將油門關閉，則稱為「關閉發動機失速」(cut-power stall)。發動機架在此動作中，易受極度的緊張力。當飛機鼻部向上動盪尚未完畢以

whirling arm—wig-wag signaling

前，若用猛力將方向舵踏住，亦可防止這種危險。

(Stall (whip) is a violent longitudinal rotation about the lateral axis following a full stall, and is due to the nose— heavy balance of an airplane. Called a cut-power stall when the throttle is closed near the peak of the stall. Severe strains occur on the engine mounting. Hard rudder before the upswing is completed will prevent.)

whirling arm, 【力】旋轉臂。

解：作氣動力試驗的一種器械，臂的極端攜載飛機模型或儀器，在水平面中旋轉。

[An apparatus for making aerodynamic experiments by carrying models or instruments at the extremity of an arm rotating in a horizontal plane.]

whirlwind, 【氣】迴風，颶風。

解：在—有限區域內，空氣沿低氣壓中心旋轉極速，有時上昇至數百呎高度。

[A limited region in which the air revolves rapidly round a core of low pressure, sometimes extending upwards many hundred feet.]

white brass, 【材】白銅。

解：銅與鋅的合金，然鋅為最多，或鍍鉛等物而致白色。銅的最大力為每平方吋30,000磅。若鍍質加多，則白愈白，故亦名鍍銅。

[An alloy of copper and zinc, with sufficient of the latter, or

of nickel, lead, etc., to give it a white color. Brass should have an ultimate strength of 30,000 lbs. per sq. in. The higher the nickel content, the more permanent will be the color. Also called white nickel brass.]

white heat, 【工】白熱。

解：熱度增高能使物體發出白光。鎔爐鍛中，鐵的白熱大約為華氏2,200°。據何氏研究，各種物質達到此高熱時，均發出相似之白色。凡物體發出相同之光，雖質，面，及銳度不同，亦不易鑑別，常爐中各部降至相同之黃色光，則各物（大磚，砂，白金，鐵）均不能視見矣。[An intense heat which causes a substance to become incandescent and emit a white light. In forge work the white heat of iron is approximately 2,200 F. According to Howe, different substances heated to the same temperature give out the same tints. Objects which emit the same tint and intensity of light cannot be distinguished from each other, no matter how different their texture, surface, or shape may be. When the temperature at all parts of a furnace at a low yellow heat is the same, different objects inside the furnace (firebrick, sand, platinum, iron) become absolutely invisible.]

wig-wag signaling, 【軍】信號通信術。

解：陸海軍所用的一種目視信號方

willy-willy—wind gauge sight

法，消息係用小旗依照預定之符號傳達。

[A system of visual signaling employed in the army and navy, in which messages are transmitted by the waving of small flags according to code.]

willy-willy, 【氣】畏來畏來風。

解：西澳大利亞 (Australia) 內猛颶風的土名。

[See Tropical revolving storm.]

winch suspension, 【球】絞盤吊索。

解：一種裝置線，將鸞式或繫留氣球的昇力，和阻力由氣囊而傳遞至主索。

[The rigging wires through which the lift and drag of a captive or kite balloon is transmitted from the envelope to the main cable.]

winch (suspension), 【設】支持絞盤。

解：鸞式氣球的昇力和阻力由氣囊而傳達引索的配備。

[The rigging by means of which the lift and drag of a kite balloon is transmitted from the envelope to the towing or traction cable.]

wind, 【氣】風。

解：空氣的任何動作皆為風，普通言之，空氣由較大密度的地帶或高氣壓區域，是謂之風，若某地位於高氣壓區域，或低氣壓區域，當空氣由前者流向後者時，則某地必有風吹過，並非由高氣壓區域，流向低氣壓區域，成直線的進行，然在北半球必偏向右方，在南半球必偏向左方，這是因為受地球旋轉的影響。

[Any movement of the air, but generally it is the flowing of the air from a region of greater density, or high barometric pressure, to a region of less density or low barometric pressure. If a place lies between two areas of barometric pressure, the air flows from the area of high pressure to that of low pressure, and wind is experienced at that place. It does not flow straight from the area of high pressure to the area of low pressure, but is deflected to the right in the northern hemisphere and to the left in the southern hemisphere.]

wind (avalanche), 【氣】崩落風。

解：由於峭壁峻巖上的地崩，雪崩或冰崩落所成的風。

[A wind caused by violent land snow or ice slides on steep slopes.]

wind cone, 【設】風錐。

解：指示地面風向和風力的一種器械。

[A device for indicating the direction and strength of the surface wind.]

wind (continental), 【氣】大陸風。

解：大氣的副循環。

[The secondary circulation of the atmosphere.]

wind-gauge sight, 【儀】風速測視器。

解：一種器械在二個或數個航向上決

wind(head) — wind-rose(baric)

定軌跡，且能使空速，風速，及地速用方向量代表之。

[A device which, by determining the track on two or more courses, enables the air, wind and ground speed to be represented by vectors.]

wind (head), 【氣】逆風，頂風。

解：由機頭方向吹來的風。

[A wind blowing from the direction of the airplane's heading.]

windmill, 【裝】風車，風渦輪。

解：以空氣運轉的旋轉器，用以轉動航空器上的附屬器械。

[An air-driven screw used to drive auxiliary apparatus on an aircraft.]

windmill pump, 【油】風車唧筒。

解：一種汽油供給唧筒，由風車所駛動。

[A fuel-supply pump driven by a windmill.]

window (inspection), 【縱】【球】
【機】檢查窗。

解：裝於氣球，氣艇或飛機翼面上的透明小窗，以便用以檢查內部。

[A small transparent window fitted in the envelope of a balloon or airship, or in the wing of an airplane, to allow inspection of the interior.]

wind (planetary), 【氣】地球風。

解：大氣的普遍循環。

[The general or primary circulation of atmosphere.]

wind (prevailing), 【氣】普通風。

解：在一年某季內某地面上長時間吹

動的風。

[The direction from which the wind blows the greatest number of hours, during any particular season of the year, at a given point upon the earth's surface.]

wind (relative), 【飛】【力】相對風。

解：空氣對於一個物體的運動，即是一個人留在物體上所觀測的空氣運動。故相對風的方向和速度，是由兩個方向量(vector)相加而得，其中一個方向量是空氣對地的速度，另一個是和那物體對地速度相等而方向相反的。

[The motion of the air with reference to a body, i.e., its motions as observed by a man at rest on the body. The direction and velocity of the relative wind, therefore, are found by adding two vectors, one being the velocity of the air with reference to the earth, the other being equal and opposite to the velocity of the body with reference to the earth.]

wind rose, 【氣】風速向標誌。

解：刊印於海圖和地圖上用以表示平均風速和方向的標誌。風由各已定方向吹來的時間百分率，是用箭的長度去表示。

[Engraved on charts and maps to show average wind velocity and direction. The percentage of time that the wind blows from given directions is shown by the length of the arrows.]

wind-rose (baric), 【氣】氣壓風向

wind sock—wind tunnel(non-returnflow)

標。

解：圖上的一種符號指示各方的風次，及該時的平均氣壓。

[A radial or rosette form chart that shows the frequency of winds blowing from different directions and the average barometric pressures during this time.]

wind sock, 【設】風袋。

解：蒙布造的圓錐形袋，尖頂處開有一孔，因為有樞軸裝置的，所以可利用測定風向。

[A fabric bag of conical section, vented at the apex, and used to determine wind direction because of its pivot mounting.]

wind-T, 【設】T字形風向指示器。

解：一種T字形器械能自動定向，指示地面的風向。

[A T-shaped device orientated automatically or otherwise to indicate the direction of the surface wind.]

wind tunnel, 【力】風筒，風隧。

解：一個延長的室，通常是兩端散開的管子，其中有氣流連續，不斷地吹過或吸過。航空器，螺旋槳，或翼面的模型可以放置於風洞中部，這中部名為實驗室(experiment chamber) 或工作段(working section)，且在氣流外有適當的天秤支持穩定，如是模型外空氣的流動所生力量，力距等可以計量得之。

[An elongated chamber, usually a tube divergent at the ends, through which a steady air

stream may be drawn or forced. Models of airfoils, of aircraft, or of propellers may be placed in the middle portion of the tunnel, called the experiment chamber or working section, and supported by suitable balances placed outside the air stream, so that the forces, moments, etc., due to the moving air may be measured.]

wind tunnel (closed—jet), 【力】
封口式風洞。

解：一種風洞，其中經過試驗物體的液體流，是由硬壁所限制。(參閱附錄第十圖)

[A wind tunnel in which the fluid stream passing the body under test is bounded by rigid walls.]

wind tunnel (compressed-air), 【力】壓縮空氣式風洞。

解：一種風洞其中平均氣壓可增加，以使得瑞麟氏數(Reynolds number)的最高值，有時稱為變密度風洞(Variable-density wind tunnel)。[A wind tunnel in which the mean pressure can be increased in order to obtain higher values of the Reynolds number. (Sometimes called Variable density wind tunnel.)]

wind tunnel (non-returnflow), 【力】不同流式風洞。

解：一種風洞它的液體流經過風洞及風扇後，即排放至風洞所在的屋宇內，而無其他限制物的設備，使液體同至風洞入口。

wind tunnel(open-jet)—wing car

[Any wind tunnel in which the fluid stream, after passing through the tunnel and fan, is discharged into the building in which the tunnel is housed. No other constraint to return the fluid to the entrance of the tunnel is provided.]

wind tunnel (open-jet), [力] 放口式風洞。

解：一種風洞，經過受試驗物體的液體流，是由開口放出。（參閱附錄第十一圖）

[A wind tunnel in which the fluid stream passing the body under test is a free jet.]

wind tunnel (return-flow), [力] 回流式風洞。

解：一種風洞，它的液體流經過風洞及風扇後，即由另一孔道所限制（孔口面積普通係漸漸增加的），而使液體同至風洞的入口。

[Any wind tunnel in which the fluid stream, after passing through the tunnel and fan, is constrained in another passage, or passages, generally of gradually increasing area, to return to the entrance of the tunnel.]

wing, [機] 翼。

解：飛機的主要支持面的全部或一部分，但在通常是指一部分而言，如右翼、左翼，上翼，或下翼等。

[A general term applied to a whole or a portion of the main supporting surfaces of an airplane, but in the latter

case is usually qualified as right wing, left wing, upper wing, or lower wing, etc.]

wing, [軍] 大隊。

解：兩中隊(squadron)或兩中隊以上為一大隊。

[A wing consists of two or more squadrons.]

wing (arched), [機] 拱面翼。

解：氣面上凸作曲形而下面則中凹。

[A chambered wing or lifting surface of curved section with the concave side at the bottom. See airfoil.]

wing area, [機] 翼面積。

解：機翼的投射面積，即等於翼面積，亦等於機翼長度（翼展）乘平均寬度（翼弦）。

[The projected area of a wing or airfoil. This is equal to a flat projection or is equal to the length (span) multiplied by the mean width (chord).]

wing beam, [機] 翼樑。

解：機翼結構的主樑，常稱為翼樑“wing spars”，此樑將翼面的載量傳遞至機身。

[The main beams in a wing structure, commonly called “wing spars”. These beams transmit the loading from the wing surface to the fuselage or load.]

wing car, [艇] 旁艇。

解：在氣艇中心線以外的懸艇。與 side car 同。

[A car suspended off the center line of an airship. It is also

wing-dihedral angle—wing radiator

called "side car".)

wing-dihedral angle, [力][機] 翼反角.

解：翼面橫基準線與飛機橫軸所成的銳角。兩翼上部的鈍角如小於 180° ，則稱爲正翼反角。(參閱附錄第十二圖a) [The acute angle between the transverse reference line in the wing surface and the lateral axis of the airplane projected on a plane perpendicular to the longitudinal axis. (The dihedral angle is positive when the upper obtuse angle for the two wings is less than 180° .)]

wing drag, [力] 翼阻力.

解：飛機或機翼上總空氣動力中的相對風力的平行分力。阻力的符號是D，絕對阻力係數是 C_p ，如下列公程式：

$$C_p = \frac{D}{qs}$$

其中D=阻力

q=衝擊的壓力(= $\frac{1}{2}\rho V^2$)

s=空氣動力有效的面積。

在飛機上，機翼所致的阻力爲翼阻力。

[The horizontal component of reaction produced when airfoils are thrust through the air.]

wing-heavy, [飛] 翼重.

解：如將橫面操縱系弛放時，飛機的右(或左)翼(在平常飛行中)有下墜趨勢的情況。此即駕駛員必要在操縱桿上橫面，施力量才能將飛機橫軸保持在水平狀況中。

[The condition of an airplane in which (in normal flight) there is a tendency for the

right (or left) wing to drop, if the lateral control is released, i.e., the condition in which the pilot has to exert a lateral force on the control stick to keep the lateral axis horizontal.]

wing loading, [力] 翼載量.

解：飛機的總重(滿載之後)，除以支持面的面積，即得翼載量。計算翼載量所用的支持面面積，應把副翼的面積計算在內，但安定面及升降舵則不在內。

[The gross weight of an airplane, fully loaded, divided by the area of the supporting surface. The area used in computing the wing loading should include ailerons, but not the stabilizer and elevators.]

wing-over turn, [飛] 橫轉.

解：徐徐將一個轉彎和傾側的操縱增大至飛機達到攢昇姿態的最高點時，然後急促將操縱動作減小，使飛機跌入俯衝動作，再從俯衝動作回復平飛，而此時飛機的方向已與原來的完全相反。(參閱附錄第五十六、第五十七圖)

[Wing-over turn is executed by gradually increasing a turn and bank control movement up to the peak of a zoom and then rapidly decreasing this control movement until the airplane drops into a dive, from which normal recovery stick to keep the lateral axis horizontal.]

wing radiator, [發] 翼面放熱器.

解：配置在翼面內的一種水冷器。

[A water-cooler in which wing

wing rib—wing(slotted)

surface is adapted for cooling.]

wing rib, 【機】翼肋。

解：飛機翼構體內由前至後的構成部份，它的用途是造成翼切面的外形，且將機翼的重力由蒙布傳送至翼樑。

rib (compression), 【機】壓縮肋。

解：一種堅厚的翼肋，它的設計是要具有翼肋的功用，同時又作為抵抗內部阻力構架中的鋼絲拉力的支柱。名“阻力支柱”(drag strut)

rib (former or false), 【機】成形肋或假肋。

解：一種不完好的翼肋，多半是一木條由前緣延展至前樑。這種假肋的用途就是保持一個翼面的最尖銳部份的形狀。

[A fore-and-aft member of the wing structure of an airplane, used to give the wing section its form and to transmit the load from the fabric to the spars.]

rib (compression)—A heavy rib designed to have the function of a wing rib and also to act as a strut opposing the pull of the wires in the internal drag-truss. Also called “drag strut”.

rib (former or false)—An incomplete rib frequently consisting only of a strip of wood extending from the leading edge to the front spar, which is used to assist in maintaining the form of the wing where the curvature of the

airfoil section is sharpest.]

wing root, 【機】翼附根。

解：翼的內端（在翼樑有接頭處），由此裝連於翼中段，機身等上面。

[The inner end of wings (fittings at spars) where attachment is made to center sections, fuselage, etc.]

wing setting (angle of), 【力】

【機】翼裝角。

解：飛機推力線與翼弦間的銳角。兩翼的翼裝角有時各不相同。

[The acute angle between the plane of wing chord and the line of thrust. It may differ for each wing.]

wing skid, 【機】翼撐。

解：這是裝在翼梢附近的一根短撐柱，用以保護機翼免與地面接觸。

[A skid placed near the wing tip and designed to protect the wing from contact with the ground.]

wing (slotted), 【機】開縫翼。

解：開縫翼者，指機翼前緣的略後處有一狹長裂縫的機翼而言，該縫因飛機飛行時傾角的增減，能自動開閉，當裂縫開張時，雖阻力不免增大，然同時給機翼以額外昇力，當裂縫關閉時，仍為一尋常機翼，（該種開縫翼的裂縫僅當飛機近於失速點時方始張開）。

[The aperture opens and shuts automatically, according to the angle of incidence at which the aircraft is flying. When open it gives additional lift to the wing, although at cost

wing spar—wire(anti-rolling)

of increased resistance, or drag. When the aperture is closed the wing is then a normal wing (opening only when the machine approaches stalling point.)

wing spar, 【機】翼樑.

解：飛機機翼裝配的主要橫構體。

[The principal transverse structural member of the wing assembly of an airplane.]

wing tip vortex, 【力】翼梢渦.

解：翼梢渦是由機翼下面高壓區至上面低壓區的漏氣所成。

[It is caused by the leakage of air from the high pressure area of the lower surface to the low pressure area of the upper surface.]

wing truss, 【機】翼構架.

解：將飛機重力傳遞至機身的構架。它是由支柱，鋼絲，張索，連結桿和架樑所組成。

[The framing by which the wing loads of airplane are transmitted to the fuselage. It comprises struts, wires, cables, tie rods, and spars.]

wire, 【材】線.

解：專指航空學中拉成的實體線，

[In aeronautics, refers specifically to drawn solid wire.]

wire (anti-drag), 【機】翼內張線.

解：一種鋼線，專為抵抗對飛機翼弦平行而與飛機飛行方向相同方向的力量而設計的。這種張線普通都是包藏在機翼的真面。

[A wire designed primarily to resist forces acting parallel to the chord of the wing of an airplane and in the same direction as the direction of flight. It is generally enclosed in the wing.]

wire (anti-drag), 【力】抗力線.

解：凡和阻力方向對抗的張線，則稱為抗力線。(參閱附錄第十五圖,37)

[Wires to resist forces in the opposite direction to the drag.]

wire (anti-flutter), 【艇】減震線.

解：在氣翼外皮平面中的一條鋼線，用作該處外皮的局部增力，并減去在飛行中因空氣壓力或螺旋槳洗流所生的震動。又名外皮支線。(outer cover support wire).”

[A wire in the plane of the outer cover for locally reinforcing the outer cover in that part of the airship and reducing fluttering in flight due to air pressure or propeller wash. Also called “outer cover support wire”.]

wire (anti-lift), 【機】落地線 (= landing wire).

解：凡和昇力方向對抗的張線，則稱為落地線。(參閱附錄第十五圖,8)

[Wires to resist forces in the opposite direction to the lift. (Sometimes called Landing wires.)]

wire (anti-rolling), 【艇】制搖線.

解：防止艇身或氣囊滾搖的裝線。

[A wire to prevent rolling of

wire(chord)—wire(fairing)

any component relative to the hull or envelope.]

wire (chord),【艇】弦線。

解：氣艇內主橫架的多角架的各尖頂連接線。

[A wire joining the vertices of the polygonal frame of the main transverse frame.]

wire (diametral),【艇】經線。

解：在主橫架中心或附近通過的弦線，通常這線附接於軸接頭。

[A chord wire which passes through or near the center of the main transverse frame. It is usually attached to the axial fitting.]

wire (drag),【機】阻力線。

解：線的主要功用，是將翼面的昇力傳遞至機身或其他結構部分上，則稱為阻力線。(參閱附錄第十五圖。36)

[Wires or cables the principal function of which is to transfer the drag of the planes to the body or other part of the structure.]

wire (drag),【機】阻力線。

解：任何鋼線或鋼索，專為抵抗阻力而設計。

internal drag wire, 內阻力線。

解：隱藏於機翼以內的阻力線。

external drag wire, 外阻力線。

解：由機翼引至機身或飛機其他部份的阻力線。

[Any wire or cable designed primarily to resist drag forces.]

internal drag wire—A drag wire concealed inside the wing.

external drag wire—A drag

wire run from a wing to the fuselage or other part of the airplane.]

wire drawing,【應】金屬線拉條法。

解：金屬線（無論拉成的實體金屬線或金屬絲編成的纜索）通常是隨着它的作用而定名，例如操縱線，降落線或飛行線等。金屬線的拉條方法，是將金屬從一固定大小的孔中分段抽過。此法可以用熱拉或冷拉，而小體積的線由必要的拉條次數所預決，因為每次拉條減少線的直徑有限制的。金屬線在冷拉條的過程中，小孔處的摩擦足能產生充分熱力，使金屬線的直徑平滑減小。

[A wire (drawn solid metal wire or woven metal wire) is usually named after its function, such as control wire, landing wire or flying wire. Wire drawing is accomplished by drawing sections of metal through eyelets of given size. The drawing may be done hot or cold, and the small size of the wire determines the number of drawings necessary, because the amount of diameter reduction for drawing is limited. In cold wire drawing, friction at the eyelet creates enough heat to allow a smooth reduction in wire diameter.]

wire (fairing),【艇】順流線。

解：特為保護氣囊的外形，而作為外皮附接點用的線。

[A wire provided as a point

wire(ground)—wire(radial)

of attachment for the outer cover to maintain the contour lines of the envelope of an airship.)

wire (ground), 【設】【艇】地面索。

解：一種線索由絞盤引出，穿過繫留柱或繫留塔頂的繫留裝接物，並於至繫留索由氣艇降下時與之相連。

[A cable led from a winch through the mooring attachment at the top of a mooring mast or tower and connected to the main mooring wire when this is lowered from an airship.]

wire (incidence), 【機】傾角線，十字線(=stagger wire)。

解：在一對前後支性平面內支張異結構的張線。(參閱附錄第十五圖,12)

[Wires or cables bracing the main plane structure in the plane of a pair of front and rear struts.]

wire (landing), 【機】落地線。

解：落地線就是專為抵抗昇力正常方向相反的力量，而與飛行線(lift wire)相反，和防止由這各部份的過度收緊致使構體斜歪為基本而設計的。有時亦名為“anti lift wire”。

[A wire designed primarily to resist forces in the opposite direction to the normal direction of the lift and to oppose the lift wire and prevent distortion of the structure by an over-tightening of those members. Sometimes called “anti-lift” wire.]

wire (lift), 【機】飛行線，昇力線(=

flying wire)。

解：將機翼外段的昇力向機身或短艙傳送的鋼絲或鋼索。這種鋼線通常是由翼間支性頂延接至較近機身的第二枝支柱底，有時亦名為“flying wire”。(參閱附錄第十五圖,9)

[A wire or cable which transmits the lift on the outer portion of the wing of an airplane in toward the fuselage or nacelle. This wire usually runs from the top of an interplane strut to the bottom of the strut next nearer the fuselage. Sometimes called “flying wire”.]

wire (main shear), 【艇】剪力正線。

解：一條對角裝置的線，用以授受硬式氣艇構體的平均剪力的。

[A diagonal wire taking up lean shear loads in the structure of a rigid airship.]

wire (netting), 【艇】網線。

解：對角或和周圍的鋼絲網，裝於硬式氣艇整部艇身上各縱樑間，將氣囊的昇力傳送至氣艇構體上，有時稱為“氣體壓力線”(gas pressure wire.) [Diagonal and/or circumferential wire netting fitted between the longitudinal over the entire hull of a rigid airship, to transmit the lift of the gas cells to the structure. Sometimes called “gas pressure wire”.]

wire (radial), 【艇】輻射線。

解：由硬式氣艇，橫架中心的軸接頭，伸延至構架的接合點間的鋼線。(參閱

wire(safty) - wood(laminated)

附錄第二十二圖)。

[A wire which extends from an axial fitting at the center of the transverse frame of a rigid airship to a joint of the frame.]

wire (safty), [機] 安全鋼絲, 保險鋼絲。

解: 防止螺帽, 螺釘, 和鬆緊套桶形扣子的轉動所用的鋼絲。

[A wire used to prevent the turning of nuts holes and turn-buckle barrels.]

wire (secondary shear), [艇] 剪刀副線。

解: 加添的增力剪線。

[additional reinforcing shear wire.]

wire (stagger), [機] 外單線。

解: 連接飛機上翼, 而實際在對稱面平行面中的鋼絲。又名傾角線 (incidence wire)。

[A wire connecting the upper and lower surface of an airplane and lying in a plane substantially parallel to the plane of symmetry. Also called "incidence wire".]

wire (standing), [工] 固定索。

解: 索的長度已自量妥, 於結頭接畢後使用者, 稱為固定索。

[The measured length of wire which will be used when completed.]

wires (yaw-guy), [艇] 繫塔吊索。

解: 氣艇首部垂下的纜索, 以便與地面的繫塔索相連接。

[Ropes dropped from the bow of an airship and attached to

the yaw guys on the ground.]

wood for airplane construction.

[材] 構造飛機的木材。

解: 構造飛機的木料具有各種特性, 最佳者即為破裂處易於覺察。因此在飛機木料上加以油漆, 實為最大的錯誤, 因為油漆或塗料雖具有防腐作用, 但亦是隱沒損壞部份的痕跡。木料亦具有吸收震動的能力。震動力發生於木料結構的某一部份, 不能傳至其他部分。木料用於受壓力的結構部份, 最為適宜。木料具有極佳的張力和重量比, 但從不用於直接的抗張部份, 因其強度不能承受剪力與橫木紋的壓縮力, 故不能用作兩端的接頭(接頭必須用金屬品)。木料在順木紋方向具有極大的壓力, 故用為支柱和壓縮部份, 極為適宜。翼樑採用木料最佳, 因抗張力對於彎曲力的抵抗大有裨益。木料的縱剪力(順木紋的剪力)並不大, 故翼樑內的木料應有相當的厚度, 以免裂開。木料對於扭力的抵抗力很小。

[Wood for airplane construction has peculiar virtues and one of the best in the case with which flaws can be detected. In this connection it is a great mistake to paint wooden parts of an airplane, since varnish or dope will give equal preservation and yet bring out clearly any evidence of defective parts. Wood also has the capacity to absorb vibration. Vibrations produced at a given point in a wooden structure are not readily transmitted to other parts of the structure.]

wood (laminated), [材] 疊層板。

work—yaw(aileron)

解：將多層木塊相疊用膠黏合，或結牢而組成板片，但各層木塊的木紋，均係平行。（它和層板不同，因為層板通常各層的木紋是各層輪流互相交錯成直角的；但疊層板通常每層都是用薄片疊合的）。

[A product formed by gluing or otherwise fastening together a number of laminations of wood with the grain substantially parallel. (Differs from plywood in that in the latter the grain of alternate plies is usually crossed at right angles; also, the plies of the latter are usually made up of veneer).]

work, 【工】 工作。

解：應用或發放能（energy）的結果就是工作。力（power）就是完成這工作的工率（rate）。

[Work is the result of the application or release of energy. Power is the rate of doing such work.]

working stress, 【力】 作用應力。

解：作用應力就為構體上各部份受到應力單位的最大數。

[Working stress is the maximum unit stress to which the parts of a structure are to be subjected.]

wrist pin, 【發】 活塞銷。

解：聯桿和活塞相連的銷針。與piston pin相同。（參閱附錄第二十九圖）

[It is the pin in a bearing which joins a connecting rod to a piston. Same as piston pin.]

wrist-pin end, 【發】 活塞銷端。

解：補助聯桿的曲柄軸端（參閱附錄第二十九圖）。

[The crank-pin end of an articulated rod.]

W-type engine, 【機】 W型發動機。

解：這種發動機的氣缸分之排裝置，末端成W字形狀。此機有時亦名“寬箭頭式”（broad-arrow type）。

[An engine having its cylinders arranged in three rows, forking, in the end view, the letter “W”. Sometimes called the “broad—arrow type”.]

Y

yaw (aileron), 【飛】 副翼偏航。

解：機翼的不均衡副翼，若無直立方向舵，保持直線飛行，則有使飛機作水平搖擺的趨勢。

[The tendency of unbalanced

ailerons at the ends of the wings to swing the ship around in a horizontal plane, requiring the use of the vertical rudder to maintain a straight flight.]

yaw(angle of) - yield point

yaw (angle of), 【飛】偏轉角。

解：相對風向 (direction of the relative wind) 與飛機的對稱面 (plane of symmetry) 間的角度。符號爲 Ψ ，向右偏轉則稱爲正偏轉角。

[The acute angle between the direction of the relative wind and the plane of symmetry of an aircraft. This angle is denoted by Ψ and is positive when the aircraft has turned to the right.]

yaw guy, 【艇】繫塔索。

解：繫塔索是從氣艇頭部垂下來的繩索，當繫到繫留塔上時，可以防止氣艇向繫留塔的兩邊偏出或擦過繫留塔。

[A line dropped from the bow of an airship, when mooring to the mast, to act as a steadying line to prevent yawing and overriding the mast.]

yaw-guy wires, 【艇】繫塔吊索。

解：氣艇首部垂下的繩索，以便與地面的繫塔索相連接。

[Ropes dropped from the bow of an airship and attached to the yaw guys on the ground.]

yawing, 【飛】偏航。

解：飛機鼻部依着它的垂直軸向左方或右方的移位。(參閱附錄第五圖)

[Displacements of the nose of an airplane to the right of left about the vertical axis.]

yawing moment, 【力】偏航力距。

解：因相對風力在偶力(couple)的直軸上所生的分力。

[The component about the normal axis of the couple due to

the relative wind.]

yaw line, 【艇】繫塔索。

解：與上 yaw guy 相同。

yawmeter, 【儀】偏航表。

解：測計偏航角度而用的儀器。

[An instrument for measuring the angle of yaw.]

yellow brass, 【材】黃銅。

解：此種黃銅極合商業鑄物之用。普通彎角之處多用此銅，且無需堅牢強力之處，亦多用之。汽車工程會規定，銅 62.00至65.00；鉛2.00至4.00；鋅 31.00至36.00；錫最多爲1.00；磷最多爲.50；雜質.25；最大力每平方吋爲25,000磅。

[A brass suitable for commercial castings. It is used for the commoner class of turned and other work, also for name plates and similar castings where durability and strength are not essential. S. A. E. specifications: copper, 62.00 to 65.00; lead, 2.00 to 4.00; zinc, 31.00 to 36.00, tin, maximum, 1.00; iron, maximum, .50; impurities, .25; ultimate strength, 25,000 lbs per sq. in.]

yield point, 【工】屈服點。

解：試驗材料時，在此點上所用之壓力張力相等，而成永久的變形，此點上之壓力是與受試驗材料之伸縮力相等。

[In testing materials, the point at which the stresses and strains become equal, so that deformation or permanent set occurs. The point at which the stresses equal the elasticity of a test piece.]

Z

zenith, 【氣】天頂,

解：在天球上正對觀測人頂上的一點，通常以Z代表。

[The point on the celestial sphere vertically overhead from the observer, usually denoted by the letter Z.]

zenith distance, 【氣】頂距.

解：頂距就是由一個天體至觀測者的頂點間的角度距離。星體高度和頂距是互為餘角 (complementary angles)，且兩者相加的總和常時等於九十度。

[It is the angular distance from heavenly body to the point directly overhead. The altitude and zenith distance are complementary angles and always total 90°.]

zephyr, 【氣】吹菲爾風.

解：地中海的和暖西軟風。

[A warm westerly breeze in the Mediterranean.]

zeppelin, 【艇】徐伯林式氣艇.

解：一種硬式氣球，係圓筒形有覆蓋的框架，支持中間氣囊，配有推進與駕駛之機件，可作長途的飛航；初次使用者為 Ferdinand, Count von Zeppelin, 因有 Zeppelin airship 之稱。

[A large dirigible airship de-

signed for long sustained flights. Incorrectly spelled zepalin and zepelin.]

zero (absolute), 【應】絕對零度.

解：攝氏溫度表的零度下二百七十三度 (-273°C) 或華氏溫度表零下四百五十九度點四 (-459.4°F)。

[-273° below Centigrade zero or 459.4° below Fahrenheit zero.]

zero-lift angle, 【力】【飛】無昇力角.

解：在昇力零度時的翼面衝角。

[The angle of attack of an airfoil when its lift is zero.]

zero-lift line, 【力】無昇力線.

解：無昇力線是在昇力數值等於零時，而通過翼切面後緣於與風向平行的一條線。

[A line through the trailing edge of an airfoil section parallel to the direction of the wind when the lift is zero.]

zero pressure, 【電】【儀】零壓.

解：【電】地面電壓定為零數；凡物受正電與地面相較為高壓，受負電為低壓。

【儀】在儀器規面上，無壓之點為真空點，此即絕對零壓。

〔The pressure of the earth's surface taken as an arbitrary zero; so that bodies positively

electrified are said to be of higher pressure and those negatively electrified of a lower pressure than that of the earth.

② On an indicator card, the point of no pressure, as in a perfect vacuum, that is zero pressure absolute.]

zinc. 【材】鋅。

解：略帶藍線的白色金屬，它的原子量為 65.4；鎔點在華氏 780°。堅而有展性，可以鍍鐵，并作各種合金，如黃銅，青銅，及洋銀等。在原電池內為負極，其導電性為 29，導熱性為 36（銀=100）。

[A white metal with a faint bluish tinge. A tomic weight 65.4; melts at 780° F. It is ductile and melleable. It is used in making galvanized iron, and in the preparation of many alloy such as brass, bronze and German silver. It forms the negative pole of nearly all primary cells. The electrical conductivity of zinc is 29 and heat conductivity 36 (silver=100).

zodiac. 【氣】黃道帶。

解：天空的虛帶，廣十六度至十八度，其中包含月蝕，與太陽進行之道。黃道帶共分十二宮。

[An imaginary belt in the heavens, 16° or 18° broad, in the middle of which is the ecliptic, or sun's path. It comprises the twelve constellations which once constituted, and from which are named, the twelve signs of the

zodiac.]

zone. 【氣】帶。

解：地球的五分之一部，與緯線熱度有關，帶分一熱帶即在赤道兩邊 46° 56'，或 23° 28'。二溫帶位於熱帶兩邊與寒帶之間；二寒帶在二極之間。

[One of the five great divisions of the earth, with respect to latitude and temperature, They are the torrid zone, extending from tropic to tropic 46° 56', or 23° 28', on each side of the equator; two temperate or variable zones, situated between tropics and polar circles; and two frigid zones, situated between the polar circles and the poles.]

zoom. 【飛】攢昇。

解：以較大於連續飛行所能保持的角度作短時間的攢昇，飛機是用動能（kinetic energy）而向上昇高的。這字有作為實字用，代表飛行途徑的上向斜坡突然增大的意義。

[To climb for a short time at an angle greater than that which can be maintained in steady flight, the airplane being carried upward at the expense of its kinetic energy. This term is sometimes used as a noun, to denote any sudden increase in the upward slope of the flight path.]

