CAPT. CODY'S BRITISH ARMY AEROPLANE.

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two-bladed propellers in opposite directions by means of sprockets and chain. These propellers, as noted in our former article, have blades which taper toward the tips, the widest part of the blade being at the hub. Another interesting point about these blades (which are made of aluminium) is that the arms which carry them are fastened to the rear or pressure side of the blades. These arms are inclosed by a false face, in order to avoid sharp angles, but there is a high ridge down the face of the blade, which is so great that the blade has in reality a triple curved face. From the cutting edge to the center the camber increases the pitch; then comes the reversal of the curve, where the false face rounds the arm; and finally a renewal of the sharp camber, where the false face runs off into the trailing edge. The propellers are said to give a thrust of over 20 pounds to the horse-power.

The weight of the Cody biplane complete with the aviator is about 2,000 pounds. Despite the fact that it is such a large machine, it has been designed with a view to ready portability. The main planes each divide into three sections, consisting of a central portion 20 feet in length, and two end portions each of 16 feet in length. The poles which support the rear rudder fold back against the planes, and the front rudder bamboos can be readily dismounted. The chassis also comes apart, and thus the whole machine can be easily and quickly dismounted for transport. Although no test has been made of its speed, this machine because of its powerful motor and efficient propellers, and, especially, because Capt. Cody has attempted to reduce all head resistance to a minimum, is undoubtedly a very fast one. It is probable that it will compete with the Bleriot and Antoinette monoplanes which are to race in England for a $25,000 purse next month.

For the details and drawings of the Cody biplane published in this article, we are indebted to the English weekly Flight.

Aviation Abroad.

The second foreign aviation meeting, which was held last week at Brescia, Italy, was by no means as successful as the first event at Rheims. The field was very rough, which made landing without breakage difficult, and in addition to this the weather was not always propitious. M. Lefebvre, the daring French aviator who piloted a Wright biplane at Rheims, was killed at Juvissy on September 7th when his machine plunged to the ground. This is the second fatal accident which has occurred with a Wright aeroplane. Lieut. Calderara, of the Italian army, who also had a bad fall in his Wright machine a couple of months ago, again came to grief when he took Lefebvre's place at Brescia on September 8th, the first day of the meeting. Just after starting the aeroplane tipped so badly that one runner struck the ground and was demolished. M. Bleriot struck a tree and broke his propeller. Anzani's propeller also broke while he was attempting to make a test flight. Both the latter accidents were attributed to the unevenness of the ground. Curtiss and Bleriot crossed the startling line every day in the 31-mile race for the Grand Prix, according to the regulations, but no extended flights were made up to the time of our going to press. It was much too windy on the 10th instant for any flight to be made. At Berlin Orville Wright continued to make daily flights. On September 7th he flew for 52 minutes, and on the 9th he made two flights for Crown Prince Frederick. He is teaching Capt. Englehardt to operate the machine. At Scarborough Beach, near Toronto, Can., Mr. C. F. Willard last week made two excellent flights out over Lake Ontario with the Curtiss biplane of the Aeronautic Society. Each time he started by running down an incline on the shore of the lake, and made a circle from one to two miles in circumference, landing in the water successfully upon floats fitted to the aeroplane. This is the first time a motor-driven aeroplane has been fitted with floats and made to alight without damage upon water.

RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

SHIRT-COLLAR.—J. DORF, New York, N. Y. The collar is of the turn-down type, arranged to permit the wearer to conveniently slide the necktie in the collar to the desired position, the necktie not coming in contact with the rear collar button but passing over a flap overlying the collar button and forming an integral part of the turn-down portion; permitting the wearer to draw the collar tight in front by the necktie, causing the collar to appear with a lock front and keeping the top edges close together.

Electrical Devices.

BATTERY-COVERING.—G. E. ANDREWS, Providence, R. I. The more particular purpose of the inventor is to provide a two-part covering made of rubber, and provided with means for rendering a battery cell so completely watertight that the cell may be effectively employed where moisture is excessive, or even be totally submerged under the surface of water.

SWITCH-HOOK-CONTROLLING DEVICE.—M. M. KAHN, Louisville, Ky. In operation, the weighted arm normally rests upon the hook of weight. When, however, the telephone is in use, the arm is thrown backwardly into position, and may be secured in this position by means of the set screw. After the telephone has been used, the arm is again turned forwardly into engagement with the hook.

Of Interest to Farmers.

PLANT-PROTECTOR.—E. R. DRAKE, De Land, Fla. In growing some vegetables, and particularly tomatoes, and especially in southern latitudes, great care is necessary in controlling access of the sun's rays to the plants so as to graduate their effect to a certain non-injurious degree. The north side requires no such protection as the others, but being open, it allows free access for setting the plants and for weeding, and otherwise tending them while growing.

BEET-HARVESTER.—M. J. ELY, Oxnard, Cal. An object here is to provide a device in which the plow can be raised or lowered and locked in either position so that when the digger is being used and the plow is locked in its lowered position, it cannot be lifted therefrom without lifting the entire weight of the whole frame of the machine together with the wheels and the weight of the driver.

THRESHING-MACHINE. — T. S. HAYNES, Bay City, Texas. The invention has in view a rigid frame arranged at one side of the harvester and adjustable to different elevations above the ground, the frame carrying the harvesting mechanism and braced intermediate its length by the frame of a downwardly and outwardly-inclined elevator.

Of General Interest.

CARD-INDEX CASE.—E. A. YUNGEL, New York, N. Y. In this index case it will be impossible to place a card out of its correct position, and the invention may be broadly defined as consisting of a card-holding receptacle, with the bottom thereof having card-engaging members located in relatively different positions for each card or set of cards the case is to contain and without interruption between adjacent members.

EYE-SHADE.—G. E. HENRY, Philadelphia, Pa. This improvement has reference to eye shades of the kind mounted upon spectacles, the more particular purpose being to support the shade upon the end portions of the spectacles, and also to produce certain changes in construction of the shade and its support, thereby increasing the general efficiency of the device.

Hardware.

SELF-HEATING SOLDERING-IRON. — A. HUSSON, Oshkosh, Wis. The object of the invention is to produce an iron which will operate effectively to produce a thorough vaporization of the liquid as it is admitted to the burner. The invention relates especially to the types of irons which are heated by liquid fuel.

WIRE-STRETCHER.—F. STANLAKE, Owosso, Mich. This invention pertains to improvements in stretchers, and more particularly to that type in which there are employed a ratchet member and a pivoted lever member having dogs in engagement with the ratchet member and having its pivot movable longitudinally of the ratchet.

Heating and Lighting.

HOT-WATER HEATER.—E. B. SADTLER, Richmond, Va. In the present patent the invention is an improvement in hot water heaters and it has for its object the provision of a simple and effective structure which will be durable in operation, and which will not easily get out of order or leak and will produce a maximum heating effect in operation.

BOILER.—C. E. CHAPMAN, Fort Edward, N. Y. A purpose here is to provide a stationary flash boiler in which the steam dome and water column are removed from and are practically independent of the boiler proper, and wherein the amount of water conducted to the boiler from the water column by excess air pressure in the water column over and above the boiler pressure is under complete control.

GAS-LIGHTER.—W. D. C. WRIGHT, Philadelphia, Pa. A spark coil and battery cells are disposed in a casing, to which is attached a hollow standard, at the top of which there is a stationary electrode and also a spring electrode, the latter being attached to an electrical conductive rod held in bearings in the hollow stem. The casing is of conductive metal and the rod is in electrical communication with the casing. Means provide for completing the circuits.

Household Utilities.

LIQUID-STRAINER. — M. ARRUEBARRENA, Cienfuegos, Cuba. The principal object the patent has in view, is to provide a continuously acting filter for sugar syrup, which may be operated with the minimum of power and readily cleaned. Throughout the whole of the construction, the material used is perforated, and therefore filtration is not arrested at any point.

Machines and Mechanical Devices.

CLUTCH.—J. SCHNEIDER, Ann Arbor, Mich. In the present patent the invention relates to clutches, and it has for one of its objects the provision of one which will permit of the ready engagement of the drive and driven shafts, with automatic means which will more securely connect the two shafts should there be any slip from the wearing of the parts after the clutch has been thrown into operative position.

CARD-EXHIBITING DEVICE. — A. J. THOMAS, Roubaix, S. D. Means are here provided for conspicuously displaying illustrated postal cards, or cards whereon fancy buttons or like merchandise are placed. The invention affords an apparatus of great capacity and extremely well adapted for the exhibition of cards in large number and of different design, that are brought into view by manual operation of the machine.

POT-FEEDER FOR TYPE-CASTING MACHINES.—L. A. SENGELE, Victoria, Texas. In this instance the invention relates to type-setting and type-casting machines, and more particularly to such machines as are employed to cast slugs provided with impression characters, each slug representing the line, or its equivalent, to be printed.

CENTRIFUGAL BOLTING-MACHINE. — G. CUSSON, Chateauroux, Indre, France. The invention has reference to an apparatus suitable for use in a flour mill as a flour extractor for the different grindings of wheat, as an extractor of semolina, oatmeal, or groats, as a meal-sifter, and capable also of being used in various industries.

Prime Movers and Their Accessories.

BOILER-FLUE CLEANER.—J. WIECHMANN, Albany, N. Y. In this case the object of the inventor is to provide a new and improved boiler flue cleaner, arranged to insure a thorough removal of scale and to provide the desired flexibility of the cleaner to readily pass through bent or curved tubes, flues, or pipes.

INDICATOR.—C. W. SNYDER, Hudson, N. Y. The improvements are in indicators adapted for use in connection with engines, for making indicator cards to show the variations in the pressure in the cylinder during the movement of the piston. It is especially adapted for use with internal combustion engines.

Railways and Their Accessories.

GRAIN-CAR DOOR.—P. J. A. SCHNOOR, Holstein, Iowa. This door is intended to meet the several requirements in loading or unloading grain and can be conveniently manipulated to form openings of more or less extent according to the use to which the car is to be put. It may readily be attached to the door of an ordinary car.

DUMPING CAR.—T. LAWSON, New York, N. Y. This invention pertains to dumping cars admitting of general use, and particularly railway cars of the general type described in a former patent granted to G. I. King and T. Lawson. The object of the present invention is to improve the general construction of the car, and especially of the means for tilting the box and opening the doors thereof.

MAIL-BAG CATCHER.—D. W. COUNCIL, Rutherfordton, N. C. The object of this patent is to provide a device which may be applied to the car without any changes in the same, which will take the bags from the crane or support already in use, and hold it until it is removed from the holder, and which will deliver the outgoing bag, at the time it receives the incoming one.

Pertaining to Vehicles.

VEHICLE-SPRING.—J. N. BREWSTER, New York, N. Y. The invention refers to carriages, road wagons, trucks and like vehicles, and its object is to provide a spring, arranged to yieldingly support the vehicle body and to readily compensate for the variation of the load, without danger of breaking the springs and without requiring the heavy multiple leaf springs now generally employed.

HARNESS.—D. F. BALENTINE, Greenville, S. C. An object in this case is to provide simple harness for detachably securing a draft animal to a vehicle, by means of which the horse or other draft animal can be firmly secured to the vehicle, and which permits the horse to be instantly released in case of necessity without the driver leaving his position in the vehicle.

CARBURETER FOR INTERNAL-COMBUSTION ENGINES.—P. J. GROUVELLE and E. H. ARQUEMBOURG, 71 Rue du Moulin Vert, Paris, France. The object of the inventors is to obtain an additional supply of air in a carbureter which is automatically operated by the vacuum which is created in the carbureter by the suction of the motor and to permit of varying the proportions of air and of carbureting fluid according to requirements by using the vacuum itself.

Designs.

DESIGN FOR A BADGE.—J. W. GREEN, Los Angeles, Cal. The badge has the shield form with a beaded border. Inside of this the flat surface is ornamented with a clock face at the top placed between the outspread antlers of a deer on whose collar are the capital letters B. P. O. E. A small flower is on each side of the animal's head at the lower corners.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

Legal Notices

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Wrench, A. Serfoza	932,818
Wrench, A. R. Bell	932,951
Yoke and pole strap connection, neck, C. B. Schleicher	933,001

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, provided the name and number of the patent desired and the date be given. Address Munn & Co., Inc., 361 Broadway, New York.

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