গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পেটেন্ট, শিল্প-নকশা ও ট্রেডমার্কস অধিদপ্তর
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নং-৩৬.০৮.০০০০.২০০.১৬.০০১.২২. ৯৪৮২ তারিখঃ ২৩/০৩/২০২৫ খ্রি.

বিষয়ঃ দাখিলকৃত পেটেন্ট আবেদনসমূহ ওয়েবসাইটে প্রকাশ।

বাংলাদেশ পেটেন্ট আইন, ২০২৩ এর ধারা ১৭ অনুযায়ী ডিপিডিটিতে পেটেন্ট আবেদন দাখিলের পর ১৮ (আঠার) মাস অতিবাহিত হওয়ায় ২০২৩ সালে দাখিলকৃত পেটেন্ট আবেদন নং ১৯৮, ২০০-২০৩, ২০৫-২১৪, ২১৮-২২০, ২২৩ মোট ১৯ (উনিশ) টি আবেদন নিম্নবর্ণিত তথ্যাদি সহ অধিদপ্তরের ওয়েবসাইটে (www.dpdt.gov.bd) প্রকাশ করা হল।

(ক) উদ্ভাবনের শিরোনাম;
(খ) পেটেন্ট আবেদনকারী ও উদ্ভাবকের নাম, ঠিকানা ও জাতীয়তা;
(গ) আবেদন দাখিলের তারিখ ও নম্বর;
(ঘ) অগ্রাধিকার নম্বর ও তারিখ, যদি থাকে;
(ঙ) পেটেন্ট এর শ্রেণিবিন্যাস;
(চ) মূল উদ্ভাবনের উপাদান লেখচিত্র বা অংকন, প্রযোজ্য ক্ষেত্রে;
(ছ) বিষয়বস্তুর সার-সংক্ষেপ।

সংযুক্তিঃ ৩০ (ত্রিশ) পাতা।

২৩/৩/২৫

মোঃ জিল্লুর রহমান
পরিচালক (পেটেন্ট ও শিল্প-নকশা)
ফোনঃ +৮৮২২৩৩৫৭৮০২

অনুলিপিঃ
১। পরিচালক (সকল), পেটেন্ট, শিল্প-নকশা ও ট্রেডমার্কস অধিদপ্তর, ঢাকা।
২। সিস্টেম এনালিস্ট, পেটেন্ট, শিল্প-নকশা ও ট্রেডমার্কস অধিদপ্তর। (ওয়েবসাইটে প্রকাশের জন্য)
৩। উপ-পরিচালক (পেটেন্ট) (সকল), পেটেন্ট, শিল্প-নকশা ও ট্রেডমার্কস অধিদপ্তর, ঢাকা।
৪। মহাপরিচালক মহোদয়ের ব্যক্তিগত সহকারী, পেটেন্ট, শিল্প-নকশা ও ট্রেডমার্কস অধিদপ্তর, ঢাকা।

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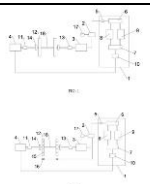
1.	INERTIAL FLYWHEEL MAGNETIC ENERGY SELF-CIRCULATING GENERATOR	Gaofeng NING	03/08/2023 BD/P/ 2023/198	CN 202211035181.2 26/08/2022	F 03D 9/12	The invention discloses an inertial flywheel magnetic energy self-circulating generator, wherein the first intelligent charging controller is connected to the input ends of the first energy storage battery and the second energy storage battery and intelligently selects one to input current; the second intelligent power supply controller is connected to the output ends of the first energy storage battery and the second energy storage battery and intelligently selects one to output current; the output end of the second intelligent power supply controller is connected to the inverter; the inverter converts the direct current output from the first energy storage battery into alternating current; the output end of the inverter is connected to the motor; the output end of the motor is connected to a transmission shaft through an input coupling to drive the flywheel; the flywheel component is connected to the generator, the output end of the generator is connected to the voltage stabilizer, and the output end of the voltage stabilizer is connected to the rectifier; the rectifier converts the stabilized alternating current into direct current, and inputs the direct current into the first	

						intelligent charging controller. The whole device has the advantages of simple structure, practicality, low maintenance and low cost.	

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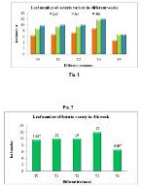
2.	Novel plant tissue culture medium incorporating of Ammonium Chloride (NH4Cl) as an alternative of Ammonium Nitrate (NH4NO3)	Sher-E-Bangla Agricultural University (SAU) Dr. Md. Ekramul Haque, Professor	07/08/2023 BD/P/ 2023/200		A 01H 4/00	The present invention relates to the field of plant tissue culture medium for in vitro regeneration and large scale plantlet production of potato, sweet potato and Aloe vera. The culture medium as according to the present invention comprises the composition and concentration of ammonium chloride (NH4Cl) as an alternate source of explosive chemical ammonium nitrate (NH4NO3) use in stock solution-A of macro nutrient. The concentration of other major salt viz. Potassium Nitrate (KNO3) , Magnesium Sulphate (MgSO4. 7H2O), Calcium Chloride (CaCl2.2H2O) and Potassium di Hydrogen Phosphate (KH2 PO4) of stock solution-A of culture medium also changed from the MS (1962) basal medium. The concentration of two ingredients of micro nutrient viz. Cupper sulphate (CuSO4.5H2O) and Cobalt chloride (CoCl2.6H2O) also modified in newly invented medium. Hence, the formulation of new culture medium is totally different from the MS (1962) medium and the new formulation of medium is coined as “SAU tissue culture medium (Hoque Medium)”. The new invented medium showed excellent result for in vitro regeneration of	

						potato. All the phenotypic parameter like-node number, leaf number, shoot length, root lengths were highest in SAU tissue culture medium. The plantlets were healthy, robust and strong than the plantlets regenerated from check treatments MS (1962) and MS powder (Duchefa, The Netherlands). The regeneration potentiality of SAU medium was validated with two other crops viz. Sweet potato and Aloe vera. The highest regeneration percentage was recorded in the SAU medium as compare to the check media. All phenotypic parameters (number of shoot, leaf number, shoot length, and root length) were highest in the SAU medium. The new formulation of tissue culture medium is used friendly and environmentally safe. It is a low cost medium which can be use for large scale plantlet production of any crop. The medium has commercial application on tissue culture base seed industry under Bangladesh condition.	

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3.	Method of Image Pearl Production in Freshwater Mussel in Bangladesh	The researchers of Bangladesh Fisheries Research Institute Dr. Yahia Mahmud, Director General; Dr. Mohosena Begum Tanu, Chief Scientific Officer; Arun Chandra Barman, Senior Scientific Officer; Mohammad Ferdous Siddique, Senior Scientific Officer; Sonia Sku, Senior Scientific Officer and Md. Nazmul Hossen, Scientific Officer	08/08/2023 BD/P/ 2023/201		A 01K 61/56	Iamge pearl is the precious and wondrous gem which is biologically produced in the living animal. Pearl's jewelry is one of the most attractive objects considered as symbol of beauty, love, purity and aristocracy; it added unique levels of all style and fashion. Not only for jewelry but also it has other uses like, raw materials of medicine, cosmetics etc..Image pearl is a newtheme in the pearl world because most people know about pearl with different structure (round, oval, drop, half) but image pearls is a new item. Image pearl can culture with fish as an integrated culture system. Image pearl-producing mussel is a biological indicator and its acts as a filter feeder to the water ecosystem. So the freshwater mussels at the same time can produce an image pearl and act as a biological indicator of the fish culture pond. During image pearl culture farmers don't need to apply extra input because what farmers apply for fish production is sufficient for the image pearl culture. On the other hand, the people who can't buy real pearl because of their high price that people can buy real pearls at aaffordable rate. Image pearl can be culture in two ways including the net bag hanging	

						method and the grazing method. By following these method image pearl can be produce commercially in large scale. Iamge pearl can be used in ornaments at different ways like, locket, bracelet, earring bruch, coat pin etc. based on the customer demand. Image pearl production is the method that is directed to produce image pearls in freshwater mussels by using a fish culture pond through which women's empowerment and economic solvency are possible in the unemployed.It is possible to produce precious image pearls from neglected indigenous freshwater mussel. Through this, the issue of making non-conventional products useful will be realized and the way of the possibility of a new product will be opened.The present invention comprises the procedures of image pearl production and the image pearl jewelry product can add a new item on jewlry world through which we can change the unemployee and women economic status.	

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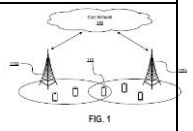
4.	CONDITIONAL HANDOVER CONFIGURATION STORAGE	Telefonaktiebolaget LM Ericsson (publ) Marco Belleschi; Ali Parichehrehteroujeni; Pradeepa Ramachandra and Sakib Bin Redhwan	08/08/2023 BD/P/ 2023/202	US 63/396, 473 09/08/2022	B 28C 1/12	A communication device in a communications network receives (1410) a conditional handover configuration (“CHO”) from a first network node. The CHO can include an indication of a second network node. The communication devices stores (1420) the CHO. Subsequent to storing the CHO, the communication device determines (1430) a radio link failure (“RLF”) associated with the first network node or a handover failure (“HOF”) associated with a handover procedure towards the second network node. Subsequent to determining the RLF or the HOF, the communication device selects (1440) a third network node while a timer is running. The communication device transmits (1450) an indication to the third network node indicating that the communication device selected a cell hosted by the third network node as part of a cell selection procedure while the timer was running.	

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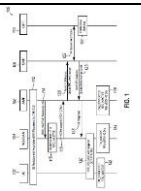
5.	SIGNALLING UE CONTEXT AND DATA FROM NG-RAN TO CORE NETWORK.	Telefonaktiebolaget LM Ericsson (publ) Nianshan Shi; Yazid Lyazidi and Qian Chen	08/08/2023 BD/P/ 2023/203	US 63/396, 132 08/08/2022	H 04L 67/563	A wireless system, such as a 5G system, accommodates user equipment (UE) capable of entering an inactive state by signalling a radio access network (RAN)-specific UE context from a RAN node to the core network (CN) when the UE changes to the inactive state. In some embodiments, the RAN node buffers data intended for the UE, and if the context is transferred to the CN while the UE is still inactive, the RAN sends the buffered data to the CN, and the CN takes responsibility for the buffering. If the UE changes to an active state in the area of the RAN node, the CN since the buffered data to the UE through the RAN node. If the UE changes to an active state in the area of a different RAN node, the new RAN node obtains the user context and any buffered data directly from the CN.	

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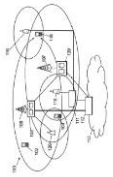
6.	METHOD AND APPARATUS TO ACCESS CORE NETWORKS VIA GATEWAY FUNCTIONS	Nokia Technologies Oy Bighnaraj PANIGRAHI; Saurabh KHARE; Georgios GKELLAS and Laurent THIEBAUT	09/08/2023 BD/P/ 2023/205	IN 202211045684 10/08/2022	H 04W 92/06	Techniques for accessing a core network via access points and gateway functions are provided. For example, a method comprises: determining one or more candidate gateway functions for accessing the core network via the access point; transmitting, to the one or more candidate gateway functions or to a core network function, a request for use of the one or more gateway functions to access the core network; and receiving, from the gateway function or from the core network function, a request response per candidate gateway function, the request re-sponse being configured to indicate whether the access to the core network via the respective gateway function is rejected and, in the case of rejection, to indicate a cause of rejection. The method may be performed by the terminal device (e.g., a user equipment, UE). Corresponding methods that can be performed by a network device are also provided.	

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7.	GREL Solar Smart Agro Dryer	Global Renewable Energy Ltd.	10/08/2023 BD/P/ 2023/206		F 26B 23/00	The introduction presents the concept of Smart Bangladesh Vision 2041, emphasizing its focus on inclusivity and innovation in various sectors. GREL, a company committed to supporting this vision, introduces the GREL Smart Agro Dryer as a solution for food preservation in Bangladesh. The current drying methods, such as open-air drying and conventional dryers, have limitations in terms of quality, energy efficiency, and environmental impact. The GREL Smart Agro Dryer addresses these issues by providing a healthy drying process, safety management, and portability. It utilizes solar energy and incorporates an IoT-based system for control and monitoring. The dryer supports the drying of various foods, including fish, fruits, vegetables, and spices. It offers benefits such as improved product quality, reduced drying time, environmental friendliness, health benefits, energy efficiency, safety, and integration with modern technology. The dryer holds significant export potential and contributes to the development of a smart society and economy in Bangladesh. The abstract also highlights the importance of hygienic and cost- effective food	

						drying for both domestic and international markets. Overall, the GREL Smart Agro Dryer presents a viable and sustainable solution that aligns with the objectives of Smart Bangladesh Vision 2041. The GREL Smart Agro Dryer is a solar-operated, eco-friendly, and energy-efficient solution designed to revolutionize the food drying process in Bangladesh. Traditional methods of food preservation, such as sun drying, suffer from various limitations including contamination, time constraints, space requirements, and health hazards. Conventional mechanical or electrical dryers are not environmentally friendly, cost-effective, or suitable for rural communities. In line with the vision of Smart Bangladesh, the GREL Smart Agro Dryer offers a sustainable and smart solution for food, agricultural, and fishery industries. This innovative dryer ensures a healthy drying process, eliminating harmful contaminants and providing grade (A) quality dried products. With its IoT-based system, the dryer allows users to monitor and control the operation remotely, providing real-time updates on the product's condition and quality. Powered by solar energy, the dryer is energy-efficient, portable, and has no adverse impact on the environment. It reduces drying time significantly, enabling quick and efficient drying of various food items. The GREL Smart Agro Dryer caters to a wide range of products, including fish, fruits, vegetables, and spices. It addresses the challenges associated with the current drying system in Bangladesh, offering improved quality, reduced time and space requirements, enhanced health benefits, energy efficiency, and safety. By harnessing the potential of solar power and incorporating modern technology, this dryer promotes a smart and sustainable	

						approach to food preservation, contributing to the development of a smart society and economy in Bangladesh. The Smart Agro Dryer is an innovative and efficient solution for drying agricultural products, fish, and fruits using solar energy. It offers a controlled and hygienic drying environment, ensuring high-quality dried products while minimizing energy consumption and environmental impact. Key Features and Advantages: Solar-Powered Operation: The Smart Agro Dryer harnesses solar energy to power the drying process, making it cost-effective and environmentally friendly. IoT Integration: The dryer incorporates an Internet of Things (IoT) system for monitoring and controlling the drying process remotely, providing real-time updates and ensuring optimal efficiency. Enhanced Drying Performance: With advanced temperature control and uniform heat distribution, the Smart Agro Dryer reduces drying time significantly compared to traditional methods, preserving the nutritional value and quality of the dried products. Portable and Versatile: The compact design of the dryer makes it portable and suitable for various locations, allowing farmers and agro-based industries to efficiently dry their produce without requiring a large space or extensive infrastructure. Safety Measures: The dryer is equipped with safety features to prevent accidents, ensuring user safety during operation. We firmly believe that the Smart Agro Dryer addresses the challenges faced by traditional drying methods, particularly in terms of quality, energy efficiency, and environmental impact. Our invention has the potential to revolutionize the agricultural sector by empowering farmers, enhancing food	

						preservation, and promoting sustainable practices.	

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8.	FRAGRANCE COMPOSITION AND METHODS THEREOF	DABUR INDIA LIMITED Amit Umesh Sirdesai; Prasun Bandopadhyay; Suryaji Tanaji Jadhav and Boby Khan	10/08/2023 BD/P/ 2023/207	IN 202211045690 10/08/2022	C 11B 9/00	The present disclosure provides a fragrance composition comprising a) a polymeric additive in a weight range of 1 to 99% with respect to the composition, preferably in a weight range of 3 to 10% with respect to the composition; b) an adsorbent in a weight range of 1 to 10% with respect to the composition, preferably in a weight range of 1 to 5% with respect to the composition; and c) a fragrance component is in a weight range of 5 to 99% with respect to the composition, preferably in a weight range of 90 to 95% with respect to the composition.	

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9.	A smart device of data acquisition with emergency safety features for laboratory furnaces	Bangladesh Council of Scientific and Industrial Research (BCSIR) Md. Saidul Islam, SSO; Md. Sadequl Azam, SSO; Mahedi Hassan, SO; Dr. Shahin Aziz, director, IFRD and Professor Dr. Md. Aftab Ali Shaikh, Chairman	13/08/2023 BD/P/ 2023/208		B 60Q 7/00	Laboratory furnaces are found in forensic, scientific, medicinal, and material processing labs. They provide precise temperature control and homogenous heating for samples in industrial and research applications but can't measure the sample's interior temperature and most of them don't have the facility to store temperature data. Moreover, a furnace cannot promptly shut off if a sample or the furnace catches fire due to overheating or an electrical failure. To solve these problems, in this work, an intelligent, automated add-on device with wireless monitoring and emergency safety features to use with any commercial furnace is presented. The device can individually measure furnace and sample temperatures at the same time using a two-channel K-type thermocouple unit. The system can store the real-time temperature data generated by the thermocouples, display it on an LCD display and give the facility to observe this real-time data from anywhere within 800–1000-meter radius of the furnace using the portable wireless monitor device without the need for Wi-Fi or internet. Additionally, the device can quickly detect fire or overheating, immediately	

						cuts the power automatically, activates a loud alarm, and dials the user's phone itself using GSM (Global System for Mobile communication) technology to warn them.	

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10.	BROWN RICE QUALITY IMPROVING AGENT AND QUALITY IMPROVING METHOD	Ishihara Sangyo Kaisha, Ltd. Taketo SUGANUMA; Chitoshi MUKAI; Kenji IZAKURA and Yousuke KOBAYASHI	13/08/2023 BD/P/ 2023/209	JP 2022-130643 18/08/2022 and JP 2022-199099 14/12/2022	A 23L 7/10	To provide a brown rice quality improving agentand a method for improving quality of brown rice, with which brown rice with high quality can be provided. The brown rice quality improving agent of the present invention contains zerumboneas an active ingredient. The method for improving quality of brown rice of the present invention has a step of applying zerumbone to rice plantsin the cultivation period.	

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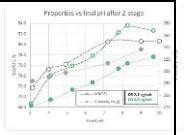
11.	METHOD OF PROCESSING CELLULOSIC WASTE MATERIAL AND DECOLOURIZED MATERIAL THUS OBTAINED	Infinited Fiber Company Oy SIREN, Sakari and NUOPPONEN, Markus	14/08/2023 BD/P/ 2023/210	FI 20225736 19/08/2022	D 01C 5/02	Method of processing cellulosic waste material, decolourized cellulosic pulp and the use thereof. The method comprises providing cellulosic waste material containing colouring substances, such as colour pigments, dyes, colourants and combinations thereof, pulping the waste material to produce cellulosic pulp, and decolourizing the pulp with ozone under alkaline conditions. By subjecting recycled textile waste materials, after pulping, to an ozone treatment carried out in the alkaline range excellent whiteness of the pulp is reached, without significantly impairing the viscosity of the pulp.	

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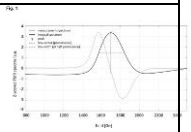
12.	SECURITY INK COMPOSITION AND MACHINE-READABLE SECURITY FEATURE DERIVED THEREFROM	SICPA HOLDING SA SIRIGU Lorenzo; DE LATTRE Anissa; DE FEO Oscar; GILLIERON Mathieu and FAVARO Florence	16/08/2023 BD/P/ 2023/211	CH 22191813.9 23/08/2022	B 60P 7/08	A security ink composition comprising at least one non-luminescent undoped Y3Fe5-xMxO12-based pigment, wherein x fulfils the condition $0 \leq x \leq 1.25$; M is selected from a group consisting of aluminum, gallium or calcium and mixtures thereof; and wherein an applied, preferably printed, at least one machine-readable security feature derived from said security ink composition, after drying and/or curing, has an integrated magnetic susceptibility of at least about 200 x 10-12m3 and presents a ferromagnetic resonance (FMR) signature for authentication purposes. A method for authentication of a machine-readable security feature derived from the security ink composition.	

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13.	Development of footwear design for pregnant women based on Ergonomics.	Leather Research Institute Kanish Fatama, Senior Scientific Officer; Md. Abul Kashem Azad, Principle Scientific Officer; Md. Nur-E-Alam, Senior Scientific Officer; Shimul Chakma, Senior Scientific Officer and Nasifa Akter, Scientific Officer	16/08/2023 BD/P/ 2023/212		A 61B 5/107	Due to the significant changes in a pregnant woman's walking pattern, some foot pain might readily develop during this time. In this study, women's feet were measured using a time-series method in order to precisely examine changes in foot size and body mass throughout pregnancy. One hundred first-time mothers were tasked with answering inquiries on subjective symptoms of foot discomfort detailed in a questionnaire. A sample of 30 of these 100 women was chosen, and their feet were measured starting at the 20th week of pregnancy and continuing until childbirth. The information (from 5 of the 30 women) was used to create a model that predicts how body mass will affect changes in foot size during pregnancy. The findings show that the women's subjective complaints of foot discomfort stemmed from their shoes being overly tight. The average increase in foot length, width, and rear foot surface from the twentieth to the thirty-eight week of pregnancy was 0.86cm (3.6%), 0.25cm (2.6%), and 18.36 cm2 (11.9%) respectively. The arch's height fell by an average of 0.52 cm (-24.2%). More than 90% of the variation (R2) in foot measurements	

						during pregnancy could be attributed to body mass, indicating satisfactory prediction ability. The prediction model created in this work can be used as a guide for clinical applications and shoe design to stop pregnant women from feeling excruciating foot discomfort.	

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14.	A method for generating at least one security feature on a banknote or on a tax stamp using laser writing	GLEITSMANN SECURITY INKS GMBH	17/08/2023 BD/P/ 2023/213	EP 22191226.4 19/08/2022	B 42D 25/41	A method for generating at least one security feature on a banknote or a tax stamp com-prises the following steps: i) providing a substrate sheet in form of a sheet of paper or of a polymer foil or a composite comprising at least one paper layer and at least one polymer foil, ii) printing onto each of the two surfaces of the substrate sheet each one or more print-ing ink layers so as to generate at least one banknote or at least one tax stamp on the substrate sheet, wherein each printing ink layer extends over a part or the whole of the surface area of the substrate sheet, and wherein the printing ink of at least one of the printing ink layers comprises a) at least one pigment and/or at least one dye, which changes its luminescence intensity upon exposition to laser radiation so that the integral of the emission curve obtained after excitation of the at least one pigment and/or at least one dye after step iv) is at least 10% lower than the integral of the emission curve obtained after excitation of the at least one pigment and/or at least one dye with the same excitation wavelength and the same excitation intensity before step iv) and/or	

						b) at least one pigment and/or at least one dye, which changes its infrared absorption intensity upon exposition to laser radiation so that the inte-gral of the emission curve of the at least one pigment and/or at least one dye after step iv) is at least 10% lower or at least 10% higher than the integral of the emission curve of the at least one pigment and/or at least one dye with the same excitation wavelength and the same excitation intensity before step iv), iii) curing the printing ink layers, iv) exposing the printed substrate sheet obtained in step ii) before, during and/or after the curing step iii) to laser radiation so as to create at least one security feature on the at least one banknote or on the at least one tax stamp of the printed substrate sheet.	

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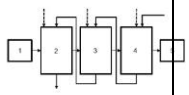
15.	SYSTEM FOR DECOLORIZATION OF MATERIAL COMPRISING CELLULOSE	ANDRITZ OY HAATAINEN, Tiina; LINTUNEN, Taina; PESONEN, Elina; RÅMARK, Hannu and VANHATALO, Kari	17/08/2023 BD/P/ 2023/214	FI 20225735 19/08/2022	B 01D 3/14	A system for decolorization of material comprising cellulose, the system comprising: a purification stage for removing non-cellulosic components from the material comprising cellulose in alkaline process conditions; followed by a first decolorization stage for decolorizing the material comprising cellulose in alkaline process conditions; and a second decolorization stage for decolorizing the material comprising cellulose in alkaline process conditions; wherein the first and second decolorization stage comprise a decolorization stage using ozone and a decolorization stage using hydrogen peroxide; at least the purification stage and the second decolorization stage comprise a washing arrangement comprising at least one washer for washing the material treated in said stage; each of the purification stage, the first decolorization stage and the second decolorization stage are connected to the subsequent stage by a process line for feeding the material treated and washed in said stage to the subsequent stage; and wherein each washing arrangement is connected to the washing arrangement of a preceding stage by a filtrate line for feeding at	 Fig. 1

						least a part of the wash filtrate of the at least one washer of said washing arrangement to a preceding stage for use as wash water.	

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ক্রমিক নং (Serial no.)	উদ্ভাবনের শিরোনাম (Title of the Invention)	আবেদনকারী ও উদ্ভাবকের নাম Name of the Applicant(s) & Inventor(s)	আবেদন দাখিলের তারিখ ও নম্বর (Filing date & Number)	অগ্রাধিকার নম্বর ও তারিখ Priority number & Date	পেটেন্ট-এর শ্রেণি Classification of Patent (IPCs)	বিষয়বস্তুর সার-সংক্ষেপ (Abstract)	অংকন (Drawing)
16.	A Method for Manufacturing Prominently Strong and Water Repellent Handmade Paper (HMP) from Jute.	Bangladesh Jute Research Institute Jahid Sarker, Scientific Officer and Dr.H.M.Zakir Hossain, Principal Scientific Officer	23/08/2023 BD/P/ 2023/218		D 04H 1/4291	For manufacturing handmade paper, emphasis is given on hydrophobicity and strength properties. With a view to producing high strength and hydrophobic handmade paper to be uesd as a polyethylene substitute, this research project was under taken. This project has taken to develop both the properties during manufacturing in a convenient way .Different work has done for developing these properties but no one has succeeded to develop single method for that. In our research institute, a suitable method with proper ingredients and optimum condition were invented for developing optimum hydrophobic and strong handmade paper. Rosin and alum as internal sizing and MCC as external sizing elements were applied in this method.By applying invented method, strength and hydrophobicity were increased by 26.23% and 93.46% respectively	

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17.	A Technique for Coloration of Jute Fabric without Salt.	Bangladesh Jute Research Institute Jahid Sarker, Scientific Officer and Dr.H.M.Zakir Hossain, Principal Scientific Officer	23/08/2023 BD/P/ 2023/219		D 06P 3/66	Usually the salt used in dyeing of jute acts like a glue to hold the dye molecules in place,. For conventional reactive dyes, the fixation rate is often less than 80%, resulting in waste of dyestuff, and also the need to remove that 20% (which is not fixed) from the fabric. But this is incredibly difficult when the “untreated” dyes are still “glued” onto the fabric by salt. So vast amounts of water are required to simply dilute the salt concentrations to a point where it no longer acts as glue. Besides this, unused salt in dyeing process passes with effluent and harm environment a lot. With a view to minimizing hazards of salt and cost of dyeing salt free dyeing of jute was investigated. Plain jute fabric called Carpet backing Cloth made of Tossa jute was pretreated by various techniques (scouring, bleaching, and mercerization) and dyed with reactive dyes. Dyeing of 50% of fabric (pretreated) was performed by using salt and remaining 50% pretreated fabric was dyed without salt by using cationization agent but other conditions (dye-2% , soda ash, 20g/L and liquor ratio 1:10) were maintained same as conventional dyeing (with salt) . Dyeing properties of both dyed jute fabrics were	

						compared and found that the quality of salt free dyed jute fabrics in respect of fastness and dimensional stability was well comparable with that of conventional system. Moreover the dye fixation rate of salt free dyeing was found more than 38% higher than that of conventional dyeing. The innovation is expected to contribute environment a lot as the effluent of dyeing without salt will not discharge salt anymore and light fastness remain same as compare the traditional dyeing will also contribute environment.	

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18.	Jute Fiber Blended Denim and Solid by Fabrics	Ashfaque Mahmood Ashfaque Mahmood; Mesut Celik and Rafee Mahmood	23/08/2023 BD/P/ 2023/220		D 06B 3/10	Jute Fiber Blended Denim and Solid by Fabrics	

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19.	METHOD FOR PRODUCING MANGANESE(II) SULFATE MONOHYDRATE FROM BY-PRODUCT OF ZINC REFINING PROCESS	KOREA ZINC CO., LTD. KIM, Min Ji and PARK, Sang Chil	30/08/2023 BD/P/ 2023/223	KR 10-2022-0155259 02/09/2022	C 01G 45/10	A method for producing manganese(II) sulfate monohydrate includes a pulverization and washing step of pulverizing and washing a manganese-containing by-product, a leaching step of leaching the pulverized manganese-containing by-product after the pulverization and washing step to produce a leachate, a neutralization step of neutralizing the leachate produced in the leaching step, an impurity removal step of removing impurities from the leachate neutralized in the neutralization step, a solvent extraction step of recovering manganese in the form of an aqueous solution of manganese sulfate from a process liquid subjected to the impurity removal step by using a solvent extraction method, and a crystallization step of producing manganese(II) sulfate monohydrate by evaporating and concentrating the aqueous solution of manganese sulfate produced in the solvent extraction step.