No. 18,482. Drawing Knife. (*Plane.*)

John S. Cantelo, Boston, Mass., U. S., 19th January, 1884; 5 years.

Claim.—1st. The furcated hinge piece *c* provided with the two shanks *i* extended from it, as represented. 2nd. The hinge piece *c* provided with the two shanks *i* projecting from it, as represented, in combination with the body of the handle, grooved lengthwise to receive the blade and having the said shanks extended through it, the said body, and arranged with the groove between them, substantially as set forth. 3rd. Each metallic ferrule or cap of the handle provided with holes for reception of the shanks *i*, and also with the lips to enter the groove of the body at one end thereof, substantially and for the purpose specified. 4th. Each blade arm pivoted to the handle and provided with means of locking the arm in different positions relatively to the handle, as set forth. 5th. Each blade arm provided with a prismatic head, as described, in combination with the locking eccentric applied to such handle and adapted to operate with the said head, essentially as set forth.

No. 18,483. Fastening for Gloves, &c.

(*Agrafe pour Gants, &c.*)

William S. Richardson, Boston, Mass., U. S., 19th January, 1884; 5 years..

Claim.—1st. A member of the fastening device having the spring sides forming a socket, and a lateral or downwardly projecting fastening portion, all substantially as and for the purpose described. 2nd. A member of a fastening device having a ball or equivalent shaped end, and the arm *e* integral therewith, all substantially as and for the purposes described. 3rd. The socket member of a fastening device having yielding sides *c*1 shaped, substantially as described, to form a socket, the flange *c*2 and a tubular or pronged extension for fastening the socket member in place, upon the article with which it is used, all substantially as and for the purposes described. 4th. A fastening for gloves and other articles comprising two members, one of which is a socket member, having the yielding sides *c*1, the flange *c*2, the tubular or pronged fastening extension and the other of which is a member having a ball or other suitable equivalent shaped device adapted to be enclosed by, and removed from the socket and having an arm by which it is adapted to be secured in place, all substantially as and for the purposes described. 5th. The process of making the socket member of a fastening device consisting in forming from sheet-metal a blank having the wings *c*1, then in sticking down the central portion of said blank to form a tubular or flanged fastening, then in bending upward and inward the wings *c*1, to form the flange *c*2 and the yielding sides of the socket, all substantially as and for the purposes described. 6th. The process of making a ball member of a fastening, consisting in forming a blank from sheet metal having the ball-forming portion *e* and the arm *e*1, second, in forming a ball upon the end of the arm by bending the wings of the portion *b* in suitable dies, respectively to the shapes shown in Figs 12, 13 and 14, and also in forming the arm *e*1, all substantially as and for the purposes described.

No. 18,484. Sash Fastener. (*Arrête-Croisée.*)

Frederick Eberlein, Chicago, Ill., U. S., 21st January, 1884; 5 years.

Claim.—1st. In a sash lock, a spring-actuated bolt hinged upon the lower sash and provided with a handle at one end, and a bent arm at the other, in combination with the bevelled catches arranged in pairs upon the upper sash, substantially as and for the purpose set forth. 2nd. In a sash lock, the bolt *c* pivoted upon the lower sash and having a handle *h* on its lower end, and a bent arm at its upper end, the spring *f f* and guard *g*, in combination with the bevelled catches *e*, *l*, *m*, secured in pairs upon the upper sash, substantially as and for the purpose set forth.

No. 18,485. Plastering Compound.

(*Composition pour Crépir.*)

Hannah E. Scales, Newton, Mass., U.S., 21st January, 1884; 5 years.

Claim.—The compound herein described, for plastering or stucco work, consisting of rice flour, sand, salt or lime and plaster of Paris, mixed with weak glue and compounded together, in the proportions substantially as stated.

No. 18,486. Refrigerator Car.

(*Char frigorifique.*)

Cassius C. Palmer, Oakland, Cal., U. S., 21st January, 1884; 15 years.

Claim.—1st.—The process of refrigerating the air in a chill room, which consists of compressing air within one or more compressed air compartments, compressing a volatile fluid in a compressor driven by the compressed air, cooling the compressed fluid and expanding the same under a partial vacuum in a refrigerator, substantially as described. 2nd. The process of refrigerating the air of a chill room, which consists of compressing air within one or more compressed air compartments, compressing chloride of ethyl in a compresser driven by the compressed air, cooling the compressed chloride of ethyl and expanding the same under a partial vacuum, substantially as described. 3rd. The method or process, substantially as described, of cooling air, which consists in compressing chloride of ethyl, condensing it by cooling, volatilizing it in a chamber of sufficient sectional area, wherein to deposit its crystals without obstructing the passage of the gas, and conducting the volatilized fluid through constructed passages adjoining which the air circulates. 4th. The method of driving an engine located upon a car, which consists in compressing and storing a gas by means of a pump operated by the motion of the car, and utilizing the gas for operating the engine, substantially as described. 5th. The method of cooling a refrigerator located upon a car, which consists in compressing and storing a gas by means of a pump operated by the motion of the car, and utilizing this gas for operating an engine to compress a volatile fluid, which is first compressed then passed through a condenser where it is cooled, and then expanded in the refrigerator, substantially as described. 6th. The herein described method of cooling the air in a chill room, which employs two bodies of gas, the first of which is compressed and employed to drive the engine in which the second is compressed, and the second, after being compressed by the power of the first, being cooled in a condenser and then being expanded to produce the requisite cold in the refrigerator. 7th. The herein described method of cooling the air of a chill room, which employs two bodies of gas, one of which as air is less easily compressed than the other, as chloride of ethyl, the first of these bodies of gas being compressed and employed to drive the engine in which the second body of gas is compressed, and the second body of gas being expanded in the refrigerator for producing the requisite cold therein. 8th. The combination, substantially as described, with a railroad car, of an air compressor located on the car and operated by the motion thereof, and one or more compressed air storage compartments wherein compressed air may be stored to be used for driving apparatus located in the car. 9th. A refrigerator car divided into a compartment for containing the articles to be refrigerated, a compartment containing the air compressing and gas compressing engines, a compartment containing the condenser and a compartment containing the refrigerator, the last three being all arranged in a group and combined substantially as described. 10th. In combination, the chill room containing inlet and outlet air openings, the air circulating fan blower, the refrigerator arranged in the path of the current of air produced by the fan blower, the condenser, the gas compresser operated by compressed air, the compressed air storage compartment and the air compressor, substantially as described. 11th. In combination, the mechanism, substantially as described, whereby the prime gas compressing pump is operated by the motion of the car, the prime gas compressing pump, the storage compartment, the pump wherein the gas used for cooling is compressed, the condenser, the refrigerator and the chill room. 12th. In combination with the gas compressor and condenser, the refrigerator constructed with the horizontal pipe or pipes 31, and the branch pipes 32 leading upward therefrom, whereby an extended surface is exposed for the escape of the gas from the liquified fluid, as set forth. 13th. The combination, substantially as described, with a railroad car, of a condenser, a refrigerator and a gas compressing engine connected with one or more compressed air storage compartments, wherein is stored a body of compressed air for driving the gas compressing engine, the body of compressed air having no communication with the gas which is compressed. 14th. In combination with the chill room and the gas compressing engine, a pipe leading from the expansion cylinder of said engine to said chill room, whereby the expanded air from the cylinder is conveyed to said chill room, to supply leakage and prevent the entrance of dust or warm air into the chill room, substantially as described. 15th. In combination with the car, the refrigerator and condenser arranged relatively to each other, substantially as described, so that the bottom of the condenser is above the level of the bottom of the refrigerator, whereby the liquified gas will be prevented from collecting in any portion of the apparatus below the refrigerator. 16th. In combination with the gas compressing engine and the passage or pipe for conveying the compressed gas to the refrigerator, the said refrigerator containing gas passages in contact with the exterior of which the air of the chill room circulates, and provided with a passage or passages, substantially as described, of large area relatively to the supply passage, wherein the gas may expand and the obstructions of its passage avoided. 17th. In combination, the air compressing pump, the gas compressing engine and suitable passages connecting the suction pipe of the air compressing pump, with the escape pipe of the expansion cylinder of the gas compressing engine, and other passages connecting the escape pipe of the air compressing pump with the induction pipe of the expansion cylinder of the gas compressing engine, whereby the same supply of air is used over and over again. 18th. In combination with the air compressing engine located upon a car, the casing surrounding the cylinder of the same and forming an air jacket, which is connected by air ducts with the exterior atmosphere, whereby the motion of the car causes a circulation of air within said casing and around the compression cylinder, substantially as described. 19th. In combination with the compression cylinder, the absorbent covering f^1 and the water tank from which water is supplied to the covering through the pipe f^{11}, substantially as described, 20th. In combination with the compression cylinder, the absorbent covering f^1, the casing f, a suitable pipe for supplying the covering with moisture, and a suitable air duct for causing a current of air to circulate within the casing, substantially as described. 21st. In combination with the car body, the condenser located upon the car for cooling the compressed fluid, the water tank located at the top of the car and a suitable pipe for conveying the water from the tank and distributing it upon the condenser, substantially as described. 22nd. In combination with the condenser arranged within an enclosure or casing upon a car, inlet and outlet air openings connected with said enclosure, substantially as described, whereby the motion of the car causes a current of air to flow in contact with said condenser, substantially as described. 23rd. In combination with the condenser arranged upon a car, an absorbent covering in contact with said condenser, water pipes for conveying water from a suitable source of supply to said absorbent covering, and air ducts, arranged substantially as described, whereby the motion of the car induces a current of air to pass in contact with said covering. 24th. In combination with the condenser and the gas compressing engine located on a car, a pipe leading from the expansion cylinder of the engine to the condenser, whereby the cooled expanded air is brought into contact with the condenser, to cool the same, substantially as described. 25th. In combination with a railway car, the air compressor, the compressed air storage compartment, the gas compressor, the condenser, the refrigerator and the chill room all arranged and located on the car, substantially as described. 26th. In combination with the cylinders 16 and 17, the compartment 22 connected with the cylinder 17 and surrounding the cylinder 16, substantially as described. 27th. In combination with the cylinders 16 and 17, the air passages 20 and 21 connected with the cylinder 16, and arranged, with reference to the cylinder 17, substantially as described. 28th. In combination with the air cylinder 16, the gas compressing cylinder 17 constructed shorter than the cylinder 16, the pistons of the two cylinders being connected by suitable mechanism, whereby the expansion of the air in cylinder 16 compresses the gas in cylinder 17, as and for the purpose set forth. 29th.