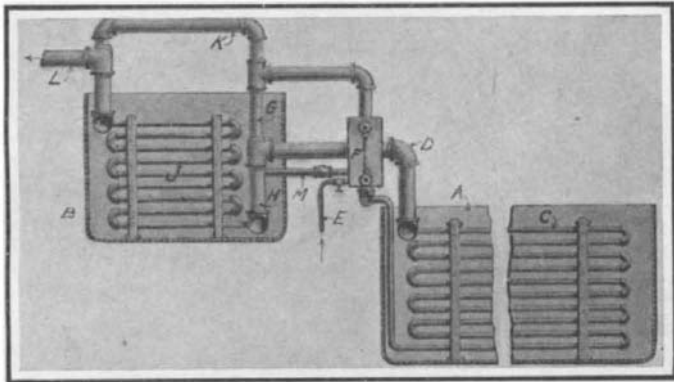




**IMPROVED REFRIGERATING APPARATUS.**

The refrigerating apparatus which we illustrate herewith is arranged to maintain the expansion coils substantially filled with the liquid ammonia, and to prevent the return of the ammonia in a liquid form to the compressor. In connection with the main expansion coils there is an auxiliary coil, which is adapted to preliminarily cool the water to be frozen,

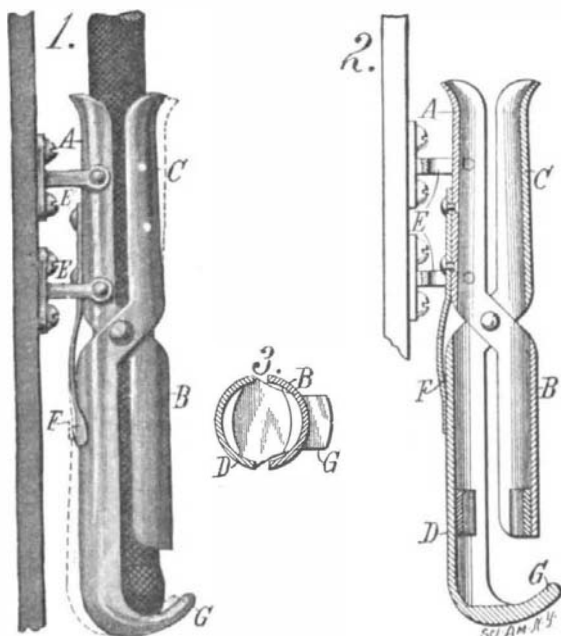


**IMPROVED REFRIGERATING APPARATUS.**

and this coil is connected to the rest of the system in such manner that the liquid and gas from the expansion coil are separated, and only the liquid is delivered to the preliminary cooling coil. In the illustration the tank in which the main expansion coils are located is indicated at A, while the preliminary cooling tank is shown at B. The liquefied ammonia is fed to main expansion coils C through the high-pressure conduit E, and the discharge takes place through the pipe D. The pipe D connects with a vertical conduit, one branch H of which communicates with the preliminary cooling coils J, while the other branch G connects with the conduit K, and thence by way of pipe L to the compressor. Such of the ammonia as reaches the vertical conduit in a liquid form from the main cooling coils, will drop into the branch H, while the gas will pass up by way of the branch G to the compressor. Inserted between the high-pressure conduit E and the coil C is a chamber F, provided with a gage glass, whereby the operator can observe the height of the liquid. The ammonia is cooled by its own vaporization in this chamber F, so that at the time it enters the expansion coils it is at a very low temperature. Any gas which may form from the vaporization of the liquid in the chamber F will pass directly to the compressor. In case too large a quantity of liquid is carried from the expansion coils to the preliminary cooling coil, so as to raise the level of the liquid in the latter dangerously near the level of the pipe D, a valve may be opened in the branch pipe M, permitting the liquid in the coil to flow into the chamber F, and thence again to the main expansion coil. Mr. John D. Mayhew, of Tyler, Texas, has been granted a patent on this refrigerating apparatus.

**WHIP SOCKET.**

A new form of whip socket has recently been invented, which will securely hold the stock of a whip in such manner that there will be no chance of its falling out. The whip is normally clamped in the

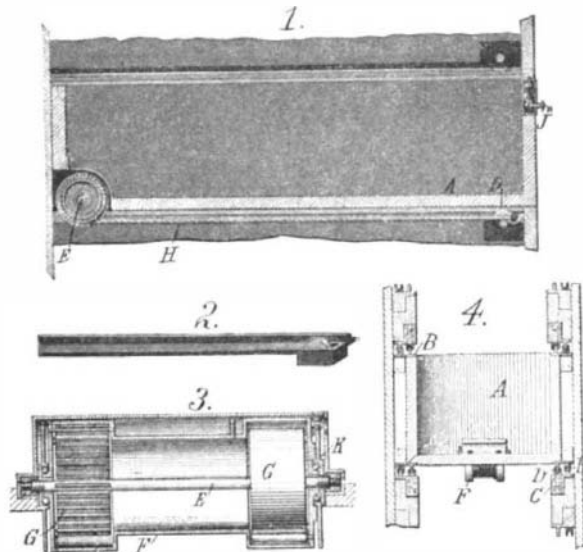


**WHIP SOCKET.**

socket, but may be released whenever desired by foot pressure. As shown in the engraving, the device consists of two members hinged together at their center. One of the members is formed with upper and lower concaved sections A and B, which are offset so as to bear on opposite sides of the whip. Mating with these sections are two similar sections C and D of the other member, the whole comprising a cylindrical tube. The whip socket is secured to the dashboard by means of a pair of brackets E, which are riveted to the section A. Mounted on the section A is a leaf spring F, the free end of which bears against the lower section D of the opposite member. Normally, the whip is held in place by the pressure of this spring F, which clamps the members together. The lower section D is formed with an extension G. The whip socket is mounted on the dashboard, with the extension G conveniently near the floor of the vehicle, so that the driver can press the extension with the toe of his foot to rock the socket members apart to the position indicated by dotted lines. This will release the whip. A patent on this whip socket has been granted to Mr. George F. Stanfield, 2326 Laurel Street, New Orleans, La.

**SPRING DRAWER.**

The drawer which is illustrated in the accompanying engraving is so arranged that when it is closed, a spring mechanism is operated, which serves to automatically open the drawer on the release of a latch. The drawer is particularly adapted for use with desks, writing tables, and the like, and means are provided for adjusting the tension of the spring according as the contents of the drawer are heavy or light. The body of the drawer is indicated at A in the engraving. At the rear corners of the drawer there are grooved rollers B, mounted in plates at the top and bottom of the drawer. These rollers travel on tracks formed on plates C, which are secured to the desk frame. At the forward end of each plate C a roller D is mounted, which engages a track formed on the plates carried by the drawer. The rear end of the drawer is cut away to form a recess, in which the spring mechanism is mounted. This com-



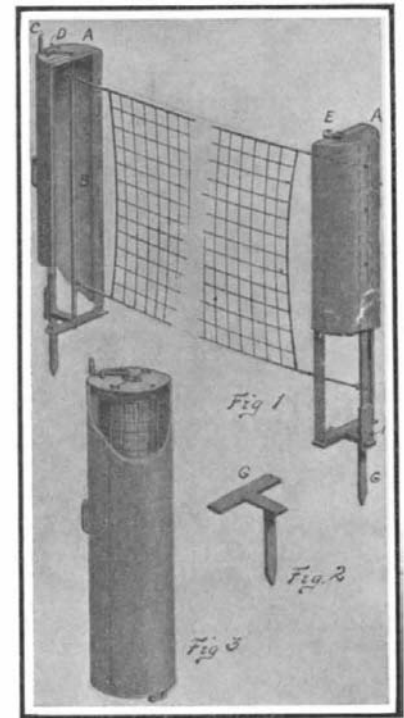
**SPRING DRAWER.**

prises a fixed shaft E, on which is supported the drum F, formed at each end with casings in which spiral springs G are mounted. One end of each spring is secured to the shaft E, while the other is fastened to the drum. Coiled about the drum F is a cord H, which is secured to a hook at the forward end of the desk frame. The drawer is held in its closed position by means of a latch J. The latch is released by pressing a button, whereupon the springs G rotate the drum F, winding up the cord H, and sliding the drawer outward. When the drawer is closed, the action is reversed, the rope unwinding from the drum and placing the springs under tension. A ratchet mechanism K is provided at one side of the drum, to hold the latter while the spring is being adjusted for lighter or heavier loads. This ratchet mechanism is normally thrown into an inoperative position. The inventors of this spring drawer are Messrs. W. Lambert and E. P. Dopps, Box 206, North Yakima, Wash.

**COMBINED CASE AND POST FOR TENNIS NETS.**

The accompanying engraving illustrates a case for lawn tennis nets, which is made up of two sections that may be set up as posts to support the net in the game. The case is made up of two semi-cylindrical sections A, in one of which is mounted a vertical shaft B. The latter projects through the opposite ends of the section and terminates in a crank C. To this shaft one end of the net is secured, and on it the net may be wound by operating the crank. A latch D is mounted on the upper end of the case, to hold the crank when the net has been wound thereon. The

opposite end of the net is secured in the other section of the casing. The two sections are held together by means of hooks E, which attach to the projecting ends of the shaft. Each section is provided at

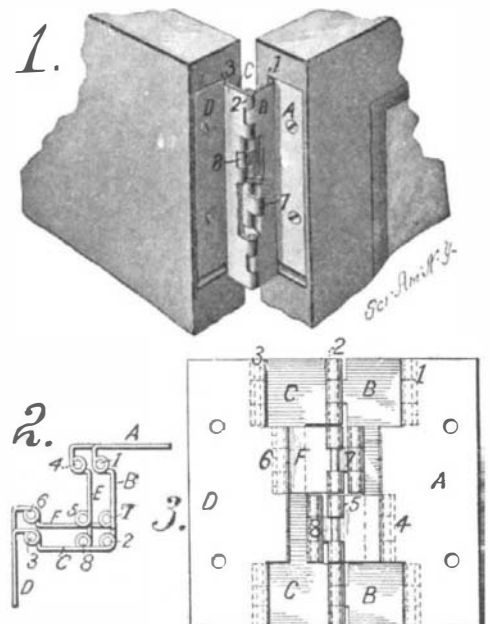


**COMBINED CASE AND POST FOR TENNIS NETS.**

its lower end with a plate F, having a transverse slot therein and adapted to engage a footpiece G, which is driven into the ground. The form of this footpiece is illustrated in Fig. 2. It will be observed that it is formed with a broad bearing plate, on which the forward part of the case-section rests, while the heel projects through the slotted plate, serving to hold the case-section in vertical position. The net may be tightened by operating the crank which is secured by means of the latch. The inventor of this device is Mr. Lester H. Atwell, of Grove City, Pa.

**AN IMPROVED HINGE.**

Pictured in the accompanying engraving is a hinge of the class known as butt hinges, which is arranged to fold into recesses in the edge of a door and the corresponding edge of a casement, where it will be concealed, permitting a close folding of the door at the hinged edge. The construction also allows the door to be completely open, so as to lie flat against the casement and adjacent side walls. Fig. 1 shows one side of the hinge, while in Fig. 3 the hinge is inverted, showing the reverse side. The hinge is composed of six leaves lettered A, B, C, D, E, and F. The leaf A is secured to the door, and the leaf B to the casement. The leaf B is hinged to the leaf A at 1, and to leaf C at 2, the latter leaf being hinged to the leaf D at 3. The leaves E and F are hinged to the leaves A and B, respectively, at 4 and 6, while they are connected together at 5. The leaf F has an extension which is hinged to the leaf B at 7, while leaf E has an extension hinged to leaf C at 8. The effect is virtually that of a lazy tongs. It will be evident that the leaves B and E are held in parallelism, and the leaves C and F are also held in parallelism, so that any movement of any leaf section in respect to any other leaf section causes a definite and predetermined movement of each of the other leaf sections. All of the leaves are permitted to fold together compactly within the recesses of the casement and door. Mr. William Boyd Rodman, of 4 King Street, Charleston, S. C., has obtained a patent on this novel hinge.



**AN IMPROVED HINGE.**