

(No Model.)

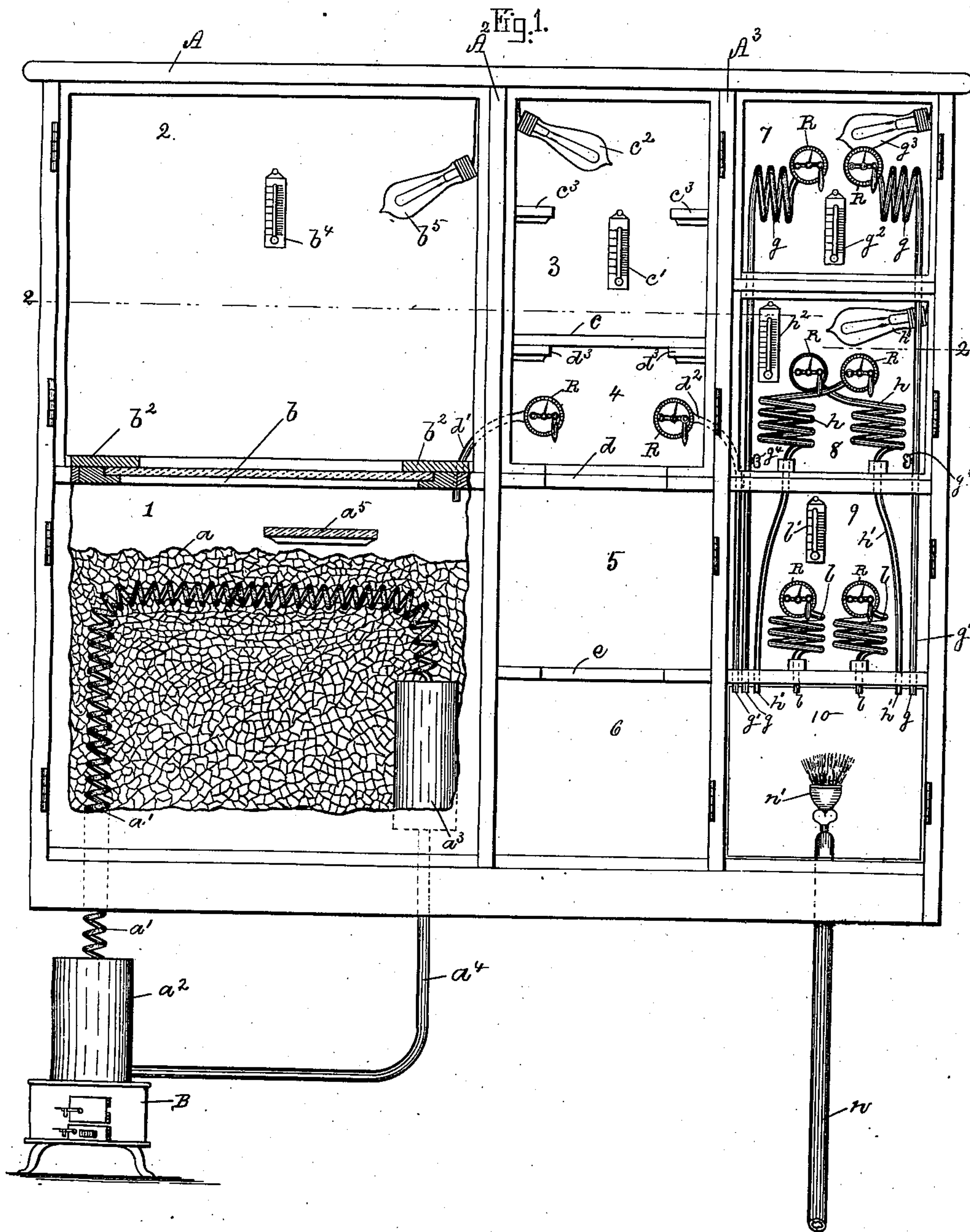
2 Sheets—Sheet 1.

R. M. FLOYD.

CABINET FOR HOLDING, DISPLAYING, AND RATING WATCHES.

No. 549,289.

Patented Nov. 5, 1895.



Witnesses.

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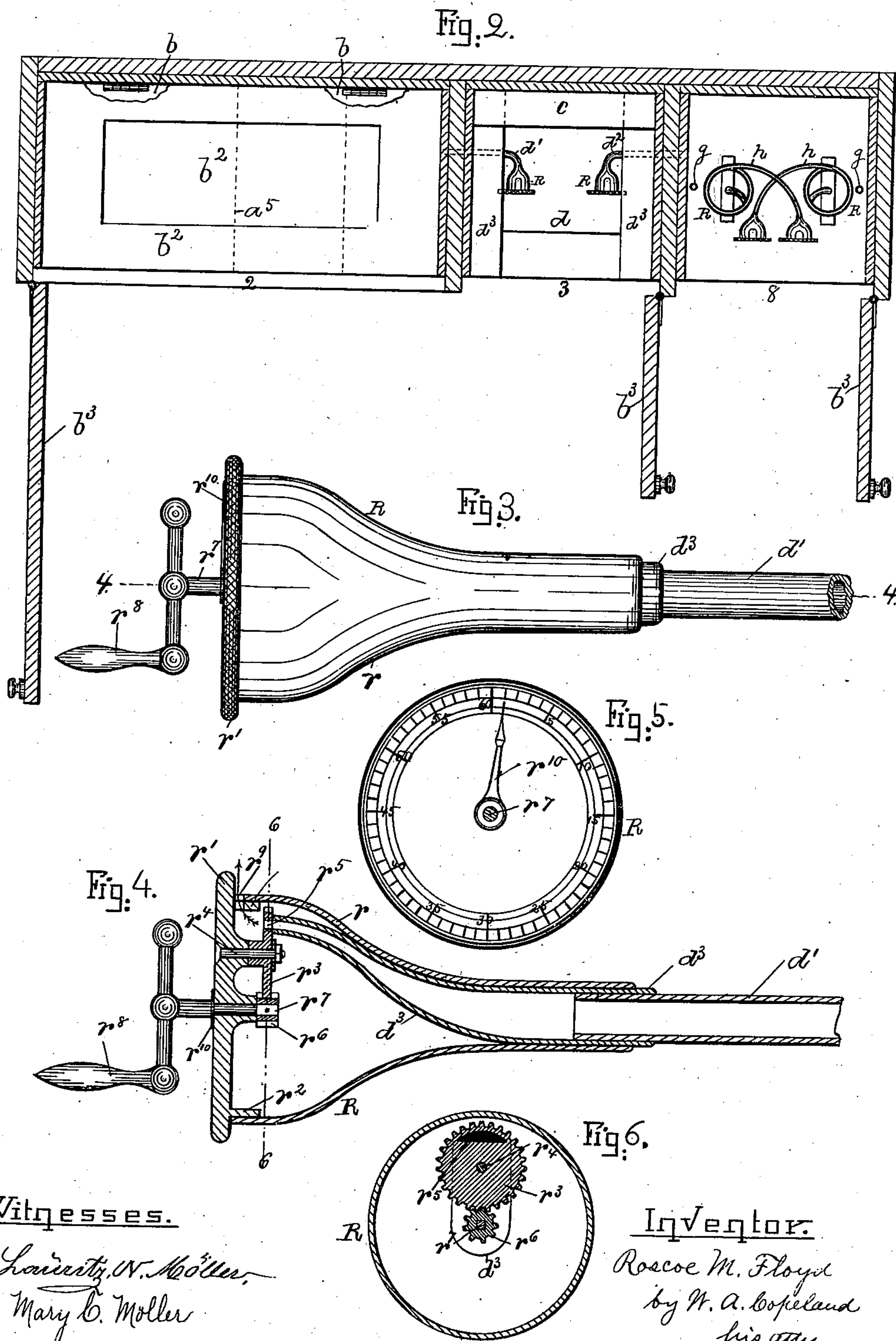
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UNITED STATES PATENT OFFICE.

ROSCOE M. FLOYD, OF BOSTON, MASSACHUSETTS.

CABINET FOR HOLDING, DISPLAYING, AND RATING WATCHES.

SPECIFICATION forming part of Letters Patent No. 549,289, dated November 5, 1895.

Application filed July 25, 1895. Serial No. 557,085. (No model.)

To all whom it may concern:

Be it known that I, ROSCOE M. FLOYD, a citizen of the United States, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and useful Cabinet for Holding, Displaying, and Rating Watches while being Adjusted to Heat and Cold, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

The object of my invention is to provide a combination show-case and cabinet in which the temperature of the several compartments is easily and accurately regulated and in which the watches in the successive stages may be displayed to the customer without removing them.

My invention consists of a cabinet or case divided into a number of compartments, in combination with refrigerating apparatus and heating apparatus and pipes leading therefrom to the several compartments and valves to regulate the supply of cold and hot air, and in providing transparent doors to the several compartments and means for illuminating and taking the temperature thereof.

In the drawings, Figure 1 is a front elevation of my cabinet, partly in section. Fig. 2 is a horizontal section on line 2 2 of Fig. 1, with the doors open. Fig. 3 is an enlarged view of one of the valves. Fig. 4 is a section on line 4 4 of Fig. 3, but with the handle turned part way around. Fig. 5 is a front view of the valve, and Fig. 6 is a cross-section on line 6 6 of Fig. 4.

The cabinet A is divided into a number of compartments numbered, respectively, 1 2 3 4 5 6 7 8 9 10. Compartment 1 is the refrigerating-chamber. The refrigeration may be obtained in any of the well-known ways. In the drawings the chamber is represented as nearly filled with chopped ice a and also as having a coil of pipe a' , leading from the refrigerating-machine B, in which the ammonia process is used, a^2 representing the expansion-tank, a^3 the condenser, and a^4 the return-pipe. The ice and the machine may be used together, or either alone, or any other refrigerating device may be employed. A shelf a^5 serves to hold the watches. This chamber has the lowest temperature of all.

Compartment 2 has a hinged bottom b , which turns upon hinges, as shown in Fig. 2, to afford access to the refrigerating-chamber. It is preferably made of glass to afford a view of the interior of the chamber. A removable rectangular frame b^2 rests upon the glass bottom b and has to be removed in order to tip up the bottom on the hinges. The watches are placed on this frame and additional shelves may be provided. Compartment 2 has a glass door b^3 and is provided with a thermometer b^4 and an electric lamp b^5 . This compartment is kept at a low temperature by radiation from the glass bottom. The watches are first rated in chamber 1 and then transferred to compartment 2.

Compartments 3, 4, 5, and 6 are for the medium temperatures and communicate with each other. They are preferably separated from the compartments on either side by partitions $A^2 A^3$, made of some material which is a non-conductor of heat and cold. The shelves c , d , and e , which form the bottoms, respectively, of the compartments 3, 4, and 5, only partially cover the bottom, so that there is free circulation, and they are really but one compartment. A pipe d' leads from the refrigerating-chamber 1 into compartment 4, and a pipe d^2 leads into it from hot-air chamber 10, each pipe being provided with a valve R, which can be adjusted to admit either cold or hot air, or both, or to exclude both, as desired. The construction of this valve will be described more particularly hereinafter. A thermometer c' shows the temperature of the four compartments and they are illuminated by an electric lamp c^2 . The watches remain the longest in the medium temperatures, and I have therefore shown more shelf-space than in the other compartments. If desired, each of the compartments 3 4 5 6 may be entirely separated one from the other and cold and hot air pipes run into each; but it is a saving of expense to have them communicate, as described. The watches are transferred to these compartments from No. 2. These compartments also have a glass door.

Compartment 10 is a hot-air chamber, into which is led a gas-pipe n , connected with a gas-main and having a burner n' , or it is heated by a gas-stove. Pipes g' , leading from this hot-air chamber to the compartment 7, terminate

in coils g , each provided with a valve R to regulate the admission of hot air, a thermometer g^2 , an electric lamp g^3 , a glass door, and a place for watches. There is also, preferably, a cock g^4 in each pipe g' as it passes through compartment 8 to entirely shut off the hot air from the coils, if desired. Compartment 8 has hot-air coils h , connected with the hot-air chamber 10 by pipes h' , valves R , thermometer h^2 , electric lamp h^3 , glass door, and a place for watches.

Compartment 9 also has hot-air coils l , valves R , thermometer l' , glass door, and a place for watches. One door may serve for all the hot compartments. The temperature of compartment 8 is higher than that of compartment 7, and 9 is higher than 8. The temperature from chamber 1 to chamber 10 should range from 20° below zero to 100° above zero.

The valve R will now be more particularly described. The valve connected with pipe d' is taken for illustration, the construction of the other valves R being the same. On the end of pipe d' is jointed a short section of pipe d^3 , bent out of line with the pipe d' and preferably tapering toward the end to form a small outlet. A trumpet-mouthed tube r incloses the pipe d^3 , and the mouth of the trumpet-tube is closed by a disk r' , which has a flange r^2 fitting snugly into the mouth of the tube r . A gear-wheel r^3 is mounted on a shaft r^4 , projecting from the disk r' . This gear-wheel r^3 is so mounted that it covers and is seated upon the end of the bent section of pipe d^3 and is eccentric therewith. The wheel r^3 has a sectoral opening r^5 in its face, near the periphery, and this opening aligns with the mouth of the pipe d^3 as the wheel revolves. The wheel r^3 is geared with the pinion r^6 , fixed on the center arbor r^7 , which is turned by a crank r^8 . The crank may be set at any angle desired, so that the valve gear-wheel r^3 shall either entirely close the mouth of the tube d^3 or allow it to be entirely uncovered by bringing the wide part of the opening r^5 to register with the tube or partially closing it. A small hole r^9 in the side of the trumpet-tube and flange r^2 communicates with the interior of the chamber 4, so that when the valve is open the cold air has free access to the chamber, or hot air in case of the hot-air tube.

The face of the disk r' is graduated and an index-hand r^{10} indicates the degree of opening. The temperature in all the compartments can therefore be very accurately regulated. The interior of the compartments and the contents are readily inspected without opening the doors.

What I claim as my invention is—

1. A cabinet for rating watches for adjustment to heat and cold, said cabinet being divided into compartments of successive grades of temperature, and having a refrigerating chamber and a heating chamber, a cold air compartment cooled from the refrigerating chamber, a compartment for medium temperatures with pipes leading thereinto from

both the refrigerating chamber and the heating chamber, and valves to regulate the supply of cold air and hot air, and a compartment for high temperatures having a pipe leading thereto from the heating chamber, and a valve to regulate the supply of hot air, substantially as described.

2. A cabinet for rating watches for adjustment to heat and cold, said cabinet being divided into compartments of successive grades of temperature, and having a refrigerating chamber and a heating chamber, a cold air compartment cooled from the refrigerating chamber, a compartment for medium temperatures with pipes leading thereinto from both the refrigerating chamber and the heating chamber, and valves in said pipes to regulate the supply of cold air and hot air, and a number of compartments for high temperatures each having one or more pipes leading thereinto from the heating chamber, and valves in the pipes to regulate the supply of hot air to each compartment, substantially as described.

3. A cabinet for rating watches for adjustment to heat and cold, said cabinet being divided into compartments of successive grades of temperature, and having a refrigerating chamber and a heating chamber, a cold air compartment cooled from the refrigerating chamber, a compartment for medium temperatures with pipes leading thereinto from both the refrigerating chamber and the heating chamber, and valves in said pipes to regulate the supply of cold air and hot air, and one or more compartments for high temperatures each having a pipe leading thereinto from the heating chamber, and valves in the pipes to regulate the supply of hot air, and transparent doors to the several compartments, substantially as described.

4. A cabinet for rating watches for adjustment to heat and cold, said cabinet being divided into compartments of successive grades of temperature, and having a refrigerating chamber and a heating chamber, a cold air compartment cooled from the refrigerating chamber, a compartment for medium temperatures with pipes leading thereinto from both the refrigerating chamber and the heating chamber, and valves in said pipes to regulate the supply of cold air and hot air, and compartments for high temperatures having pipes leading thereinto from the heating chamber, and valves in the pipes to regulate the supply of hot air, transparent doors to these several compartments, and thermometers and lamps in the several compartments, substantially as described.

5. A cabinet for rating watches for adjustment to heat and cold, said cabinet being divided into compartments of successive grades of temperature, and having a refrigerating chamber and a heating chamber, a refrigerating machine, a refrigerator coil in the refrigerating chamber connected with the refrigerating machine, a cold air compartment

cooled from the refrigerating chamber, means of artificial heat connected with the heating chamber, a compartment for medium temperatures with pipes leading thereinto from both the refrigerating chamber and the heating chamber, and valves in said pipes to regulate the supply of cold air and hot air, and compartments for high temperatures having pipes leading thereinto from the heating chamber, and valves in the pipes to regulate the supply of hot air, and transparent doors to the several compartments, substantially as described.

6. The combination of a pipe for fluids terminating in a bent section d^3 , a trumpet mouthed tube r jointed to the fluid pipe and having a cap over the mouth, forming a chamber which incloses the bent section of pipe d^3 , an outlet opening r^9 in the side of the chamber, a rotatable disk valve r^3 seated on the end of the bent pipe d^3 , and eccentric thereto and mounted on a shaft, a hole in the face of the disk which registers with the mouth of the pipe when the disk is rotated into certain positions, a pinion wheel geared with the valve disk and fixed to an arbor which extends through the cap, and a handle by which the valve is operated, substantially as described.

7. The combination of a pipe for fluids terminating in a bent section d^3 , a trumpet mouthed tube r jointed to the fluid pipe and having a cap over the mouth, forming a chamber which incloses the bent section of pipe d^3 , an outlet opening r^9 in the side of the chamber, a rotatable disk valve r^3 seated on the end of the bent pipe d^3 , and eccentric thereto and mounted on a shaft, a hole of varying width in the face of the disk which registers with the mouth of the pipe when the disk is rotated into certain positions, a pinion wheel geared with the valve disk and fixed to an

arbor which extends through the cap and a handle by which the valve is operated, a dial on the face of the cap and an indicator which shows the degree of opening of the valve, substantially as described.

8. A cabinet for rating watches for adjustment to heat and cold, said cabinet being divided into compartments of successive grades of temperature, and having a refrigerating chamber and a heating chamber, a cold air compartment cooled from the refrigerating chamber, a compartment for medium temperatures with pipes leading thereinto from both the refrigerating chamber and the heating chamber, one or more compartments for high temperatures each having a pipe leading thereinto from the heating chamber, and valves in the several pipes to regulate the supply of cold air and of hot air, the several pipes which enter the compartments each terminating in a bent portion, as d^3 , and having a trumpet mouthed tube r jointed to the supply pipe and having a cap over the mouth forming a chamber which incloses the bent section, an outlet opening r^9 in the side of the chamber, a rotatable disk valve r^3 seated on the end of the bent pipe and eccentric thereto and mounted on a shaft, a hole in the face of the disk which registers with the mouth of the pipe when the disk is rotated into certain positions, a pinion wheel geared with the valve disk and fixed to an arbor which extends through the cap, and a handle by which the valve is operated, a dial on the face of the cap and an indicator which shows the degree of opening of the valve, substantially as described.

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Witnesses:

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