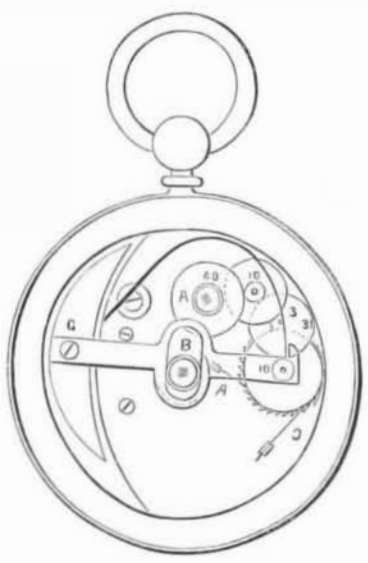
SELF-WINDING WATCH.

The annexed engraving represents a device for winding a watch by means of the motion of the wearer's body in walking, which has been patented by A. R. von Loehr, of Vienna, and described in the *Horological Journal*.

It will be observed that the mechanism is in principle the same as that which constitutes the pedometer. The inventor is aware that the motion of a weighted lever has been used before for winding a watch, but he claims to have overcome the objections existing in former arrangements.

A weighted lever, G, is pivoted at one end, and kept in its normal position against the upper of two banking pins, as shown, by the long curved spring. The strength of this spring is so adjusted that the motion of the body in walking is sufficient to cause the lever to descend to the lower banking pin at each step. There is a ratchet-wheel with very fine teeth, pivoted at the same center as the weighted lever, and fixed to the lever is a pawl, *A*, which engages with a ratchet-wheel. It is considered a special feature of the invention that this pawl is made very elastic, in order to take up the strain arising from any tendency of the pendulum to vibrate after the mainspring has been fully wound up. A is the barrel arbor, and the connection between it and the ratchet-wheel is made by means of a train of wheels, as shown; *B* is a second pawl to prevent the return of the ratchet wheel.



LOEHR'S "PERPETUAL" WATCH.

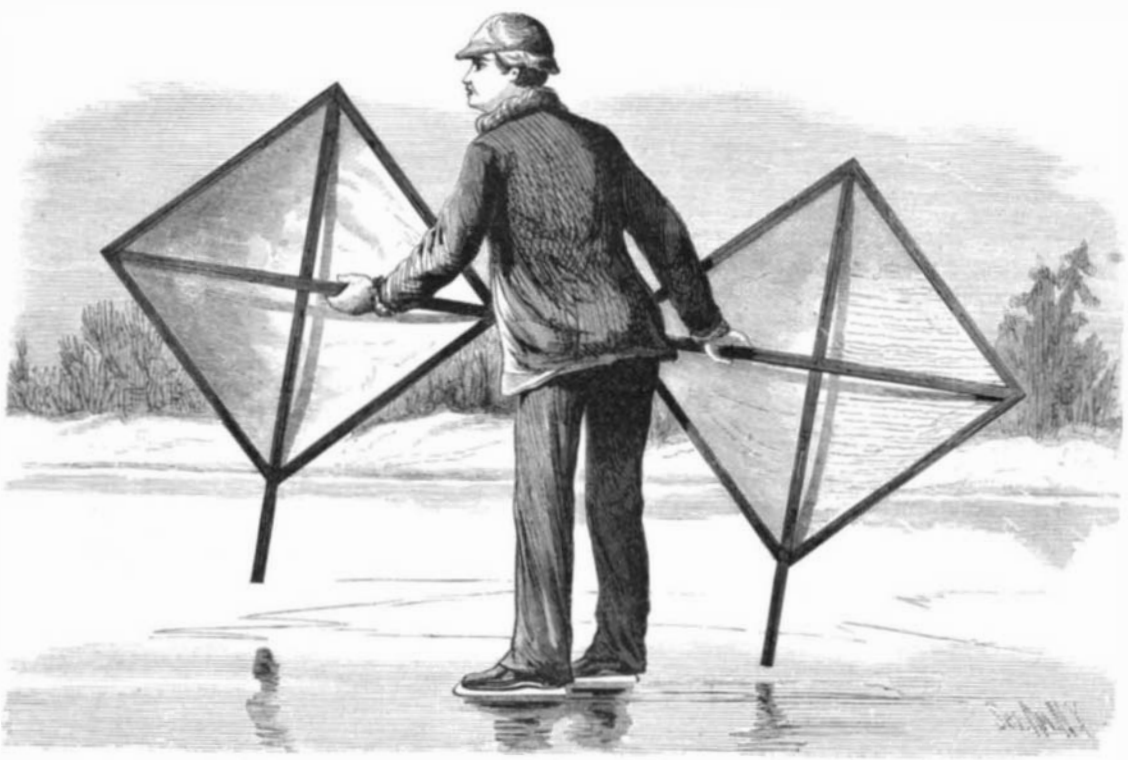
It is urged that a watch wound in this automatic manner yields a better rate, by reason of the lesser range of mainspring in use, than when wound in the ordinary way.

In connection with this invention is an up and down indicator, with a revolving dial, which does not need special description.

For setting hands there is a disk, B, which has a milled surface, slightly cupped to suit the point of the finger.

SKATE SAILING.

The new sport of skate sailing appears to be making fair progress toward popularity. In some places—as at Havre de Grace, Md., where our artist sketched the figure in the illustration herewith—the sails appear to be used also as a means of easy and rapid transit for other purposes than amusement. In the main, however, their chief use must be to increase the scope and variety of winter sports; and for this purpose they have the merit of cheapness as well as of capacity for calling out competitions of endurance, grace, and skill. The successful skate-sailor has to be a practical navigator; and probably there is no better or more enjoyable way of learning the action of the wind upon sails, or the effects of sail positions upon the motion and stability of a craft, than by converting one's self into both craft and crew. For pleasure sailing the vertical standards, as shown in our illustration, are sometimes omitted, their use being simply to support the sails when the human craft is at anchor. The framework which carries the sails is of light and simple construction, and the spread of canvas is easily adjusted to the strength and skill of the user. With a fair expanse of suitable ice the skate-sailor can perform all the evolutions of an ice yacht, and possibly may be able, like the ice yacht, to outstrip the wind. The advantage of having two sails lies in the better outlook afforded, enabling the sailor to see his course under all circumstances, and removing the liability to collisions and other mishaps incident to the use of a single sail.



SKATE SAILING.

Bread Making in the East.

On our return an instructive sight awaited us. We saw how bread was baked in an adjoining building. It was done with a rapidity which explains how of old the supply was prepared every day, and how if some guests arrived the housewife could make the necessary provision without delay (Gen. xviii., 6.)

Among the Fellaheen the dough is generally leavened. A large round hole in the ground, some one and one-half feet deep, and the same in diameter, forms the oven. In this lie some live coals, which as in Hosea's time (Hosea vii., 6), are not allowed to go out at night, and when baking has to be done are again revived.

The housewife first forms a lump of dough with her hand, then suddenly spreads it out with an indescribably rapid action of both hands—which can as little be imitated as a conjurer's movement—into a cake as thin as a leaf, which with a moistened dab or rag she presses into the hot oven, where it remains sticking. In a minute it begins to move, and is at once taken out to make room for the following one.

The bread is now ready, not thicker than parchment, not very relishing, and somewhat sandy on the outside, but really very enjoyable for any one who has a good appetite. Although of the size of a large plate, such a slice contains but little nourishment, and Jeremiah could hardly have been saved from starvation when only one such piece of bread was given him every day.—*Abell.*

A Canadian Sewing Machine Factory.

While the industries of Canada are, as a rule, the reverse of flourishing, Montreal boasts of an establishment which, thanks to excellent management, energy, and abundant capital, is not only holding its own, but is steadily increasing in capacity, scope, and financial prosperity. This exceptionally prosperous establishment is devoted to the manufacture of the Williams improved sewing machines, and is owned and operated by the C. W. Williams Manufacturing Company, of which Sir Hugh Allan is president, Mr. Andrew Allan vice president, and Mr. D. Graham managing director.

The C. W. Williams Manufacturing Company, of Montreal, was organized in 1863, and incorporated in 1872. It was formed by several of Montreal's most prominent, far-seeing, and successful business men and capitalists, most of whom are still its stockholders and directors. Foremost among these is Sir Hugh Allan, whose name is so frequently found in connection with successful Canadian enterprises. The first factory situated on St. Germain street soon became too small to satisfy the increasing demand for the Williams improved machines, and last year arrangements were made for the erection of a factory building on a scale sufficient, it was thought, to meet all probable calls on it for many years to come. Accordingly, a site was chosen at St. Henri, a populous suburb of Montreal, and the three story and basement building was erected and fitted with the latest and most approved machinery for the manufacture of sewing machines. Already the business of the company has doubled, and extensive additions must be made to the new factory.

Thus far the company have found no need for a store room, the demand for their machines being such as to prevent any accumulation of stock. The city salesroom of the company, at No. 347 Notre Dame street, Montreal, is connected by telephone with the factory

The improved machine manufactured by this company is adapted to any and every kind of work, and for the past eight years has obtained the first prize at all the Provincial exhibitions held in Canada at which prizes have been given. It ranked with the first at the Centennial Exhibition in Philadelphia, and gained the only first prize at the Sydney Exhibition of 1878, in a contest with fourteen other competitors, including the leading American makes.

The managers state that their business of 1880 was three times as large as that of any former year, and the present year gives indications that the sales of 1881 will be double of those of last year.

The American market for these machines is supplied through a branch establishment at Rouse's Point, N. Y.

Railway Prizes.

Mr. Hinton R. Helper, a wealthy resident of St. Louis, and well known throughout the country as the author of the "Impending Crisis," some time ago offered $5,000 in prizes for three prose articles and two poems in favor of the construction of a double track steel railroad through the centers of North and South America. The prizes have been recently awarded as follows: First prize, $1,300, to F. R. Hilder, of St. Louis; second prize, $1,200, to Fred A. Beelen, Cortland on Hudson, N. Y.; third prize, $1,000, William W. Archer, Richmond, Va.; fourth prize, $1,000, F. D. Carpenter, Washington, D. C.; fifth prize, $500, F. A. Deekens, Norwich, Canada. The first three were in prose and the last two in poetry. They are to be published in pamphlet form.

NEW DROP ATTACHMENT FOR BOTTLES.

The engraving shows a simple device for delivering liquids from bottles in drops as slowly or rapidly as may be desired. It consists of a tube inserted in the stopper and provided with a flexible air bulb for blowing air into the bottle, and another tube inserted in the stopper through which the liquid escapes. By pressing upon the rubber bulb with more or less force the liquid is made to escape with more or less rapidity.

BRAVAIS'S DROP ATTACHMENT FOR BOTTLES.

This device will be found particularly advantageous in dropping medicines, and it may in many instances replace the pipette used by chemists. This invention was recently patented by Mr. Raoul Bravais, of Paris, France.

MECHANICAL INVENTIONS.

Mr. Cyrus Smith, of Irwin's Station, Pa., has patented a smoke-consuming furnace which is an improvement on an invention patented by him February 4, 1879. A peculiarly constructed exhaust fan, gas, and air mixing-chamber devices for removing ashes, etc., are the features of the invention

Mr. Charles F. Crary, of New York city, has patented an improved burglar alarm and door fastening. The fastener can be attached to the knob spindle in such manner that the latter cannot be turned sufficiently to unfasten the door. The fastening is also connected with an alarm gong, which gives warning in case it is tampered with.

Mr. Manuel de la Torre, of Mexico, Mexico, has patented a turbine wind motor which consists of a wheel with curved vanes rotating on a vertical axis within a cylindrical frame which is closed on two opposite sides. The wind entering the wheel on one side escapes at the other. The frame is controlled by vanes to admit more or less air to the wheel according to the velocity of the wind.

Mr. John Till, of Canton, Pa., has patented an improved printing press constructed to perform easy, rapid, and accurate work. A four-sided frisket frame, which revolves one quarter of its circumference for each impression that is made by and between the rocking bed and the platen, is employed, together with other novel points of construction.

Mr. James Murphy, of San Antonio, Texas, has patented an improved bench clamp for carpenters' and cabinetmakers' use, whereby pressure may be brought against the ends of any object to hold it in position on the work bench. It is strong, durable, and inexpensive, requires no bolts or screws to hold it on the bench, and is easily and quickly put in position or removed. It occupies small space, and can be applied to any piece of work without marring it.

Mr. Ethelbert J. Moore, of Villisca, Iowa, has patented a concussion spring for vehicles which consists of a rubber plate having upon its face rubber blocks in the shape of truncated pyramids placed between the bolster and bed of the vehicle, by which construction the shock of light or heavy loads is sustained with equal effectiveness.