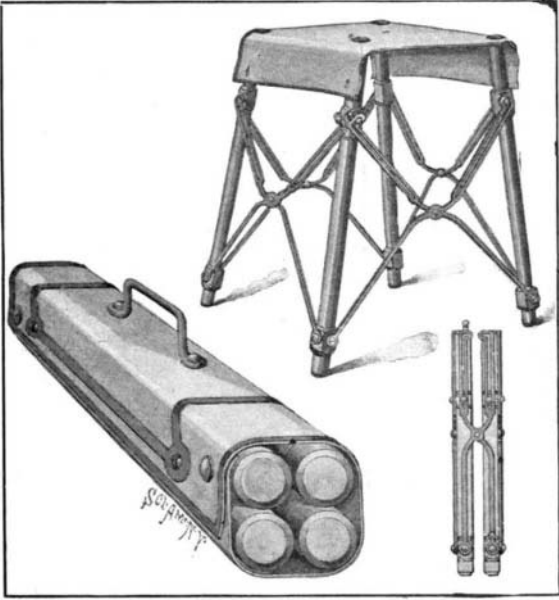
**FOLDABLE SEAT.**

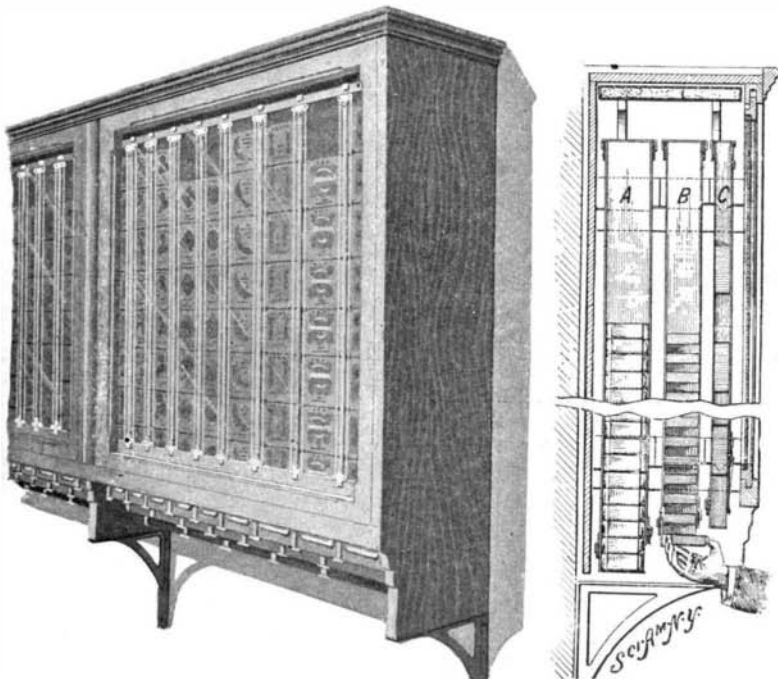
In the accompanying illustration we show a folding stool of improved form, which has just been patented

**FOLDABLE SEAT.**

by Mr. James Sharkey, of Eton, Ohio. An essential feature of this improved stool lies in the provision of means for automatically locking the stool in open position, so as to afford a stable support whereon the seat top may be conveniently held for service. As shown in the illustration, the four legs of the stool are provided with flattened surfaces near the upper and lower ends, on which wear plates are fastened so as to slightly project outward from the surfaces of the legs and serve as clearance washers. To each pair of legs a foldable brace is secured. This consists of two arms crossed and pivoted at their centers. Their lower ends are pivoted to the clearance plates of the stool legs. The upper portions of the arms are slotted, and pivotally secured to the upper clearance plates by screws fastened to these slots. These slots permit folding of the stool, when the parts will occupy the positions shown in one of our views. When in open position, the stool is automatically locked in place because of the lateral bend which will be observed at the upper ends of the arm. This obviously prevents accidental folding and holds the legs from drawing together under the weight of a person sitting on the stool. The canvas top of the stool is provided with four circular openings, which may be readily slipped over buttons formed on the tops of the legs. When the legs are folded, the canvas top may be wrapped around the frame and its ends buttoned together. A handle is also secured to the cover, so that the folded stool forms a neat package, which may be very conveniently carried about. The invention is, of course, not limited to the purpose just described. It may be elongated and modified so as to serve as a support for a foldable top, a table, a field camera, and any other analogous purpose.

DISPLAY AND VENDING CASE.

An attractive display of his goods means so much

**DISPLAY AND VENDING CASE.**

to a merchant, that novel and pleasing display cabinets are constantly being designed by inventors. We illustrate herewith a recent invention, which is particularly applicable to the display of small articles, such as tobacco packages of different sizes. The invention has been patented by Mr. William Meyer, of 120 Summit Avenue, West Hoboken, N. J. The packages are stored in three different magazines according to size. The magazines lie one in front of the other, and are divided into compartments by rails of I-shaped cross section. These are vertically arranged, and are adapted to retain the articles between their flanges. Magazine A is provided with narrow compartments; those in magazine B are wider and deeper, while the largest compartments are found in magazine C. It will be observed in the sectional view that at the lower or delivery ends of the compartments the flanges are cut away at the front, and that the delivery ends of magazine C project below those of magazine B, which in turn project below those of magazine A, so that access may be easily had to any one of them from the front. In order to prevent the packages from sliding out at the bottom, foot-flanges are provided on the lower ends of the side pieces. The delivery points of magazine A are covered by spring-pressed plates to prevent the lowest articles from sliding forward. In order to make the appearance of the display case more attractive, the front flanges of the side pieces are cut away throughout their length, and vertical rods substituted to hold the packages in place. The magazines are supported in the cabinet in such manner that they may be slid forward when it is desired to remove them therefrom. The entire front of the cabinet except the lower or delivery portion is covered by glass doors, which are fitted in grooves at the top and bottom of the case. The upper groove is made so deep, that on raising the glass door therein the lower end of the door will be raised clear of its groove, and the door can thus be removed. At the top of the cabinet is a receptacle filled with moistened absorbent material, which serves to preserve a proper degree of moisture in the articles contained in the magazine.

CENTRIFUGAL MACHINE.

An improved machine has recently been invented by Mr. Paul Boulanger, Obrapia 48, Havana, Cuba, for straining out the liquid portions of pulp in sugar-making. The machine may be briefly described as consisting of an outer stationary casing in which is located a revoluble perforated drum, and operating within this drum is a spiral conveyer independently revoluble. In the accompanying illustration the outer casing has been broken away to show the perforated drum and the conveyer. The ends of the casing are closed by flanges, which fit closely to the surface of the drum. An outlet is, however, provided at the bottom, through which the liquid may be drawn off. The drum, it will be observed, is flared from the center to the right-hand end, where it is supported by spokes radiating from the central hub. Here it is also coupled to a skeleton frame, consisting of a cylinder section in which large openings have been cut. A separate casing covers this frame, and is provided with an outlet at the bottom; the frame is secured to a disk provided with a hub keyed to the main driving shaft. The latter is supported in bearings at each end of the machine, and is provided with a pulley at the right end, by which it may be rotated. The rotation of this shaft causes the perforated drum to rotate, the left-hand end of the drum being supported by a ring which turns on roller bearings mounted in a circular frame. The conveyer consists of a spirally-coiled metal strip, which, at the center, is supported by an arm extending from a central hub. This hub is keyed to a hollow shaft, which is slipped over the main driving shaft, and is supported in a separate bearing at the left end of the machine and in a central recess in the hub of the disk at the right end. This shaft may be rotated by connection with a pulley mounted thereon at the left end. By this construction it will be observed that the conveyer and perforated drum may be separately rotated and controlled.

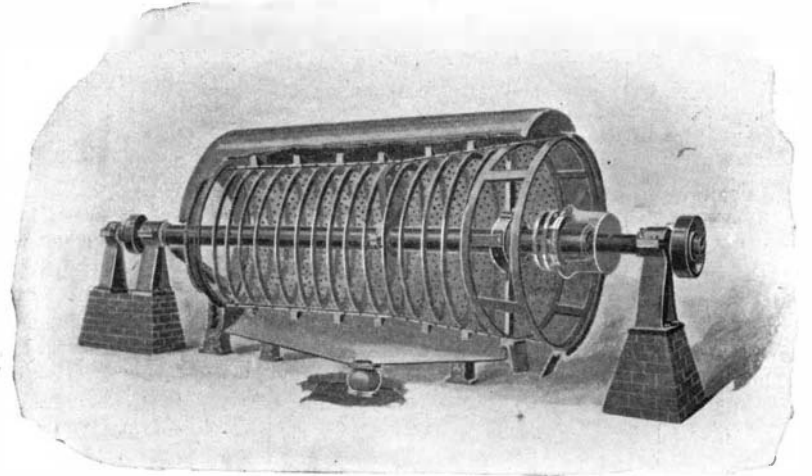
The pulp may be fed into the machine through a tube at the left, and by centrifugal action will be thrown against the perforated wall of the drum, the liquid matter passing through the perforations into the casing, whence it may be drawn off

through the bottom outlet. The solid matter, however, is retained and fed forward by the conveyer until it reaches the skeleton frame, through the openings of which it passes into the auxiliary casing, and may be thence drawn off through the outlet provided therefor.

An Early Conception of the Telephone.

The supposed inventors of the telephone are so many, and their number is so constantly increasing, that the claims of a certain Charles Bourseul, whose electric telephone was described in French and German periodicals in 1854, may not be without interest. In a German daily newspaper which bears the strange title *Didas-Kalia*, of Frankfort-on-the-Main, there appears in the issue for September 28, 1854, a rather fantastic description of the wonderful achievements of Bourseul. After rhapsodizing on the "wonders with which electricity has lately surprised us," the author mentions a new invention "which will not only revolutionize telegraphy, but will also immeasurably extend its usefulness." The invention in question, we are told, is nothing more or less than the electric transmission of speech, and springs from the fertile brain of Charles Bourseul, a soldier of the army of Africa in 1848.

It must be confessed that Bourseul had the right idea. An electric current passing through a wire energizes a piece of wrought iron with which it is in contact, and converts it into a magnet. As soon as the circuit is broken, the wrought iron is demagnetized. The electro-magnet thus constituted is able alternately to attract and release a movable plate, which, by its coming and going, produces the conventional signs used in telegraphy. Bourseul thought that if a metallic disk could be invented which would be so movable and flexible as to respond to all the vibrations of sounds (as does air), and that if this disk were placed in a circuit so that it could make and break the current at every impact of the air vibrations, it would by the same means be possible to cause a second similar

**CENTRIFUGAL MACHINE.**

metallic disk to repeat the vibrations in the first disk in equal time. Hence, the ear placed at the second disk would be affected as if it received the sounds directly.

The author of the article is so imbued with the possibilities of Bourseul's invention that he informs us, "if the idea is carried into effect, then the electric telegraph will be of the past."

It is, indeed, clear enough that Bourseul had the telephone in his grasp not only before Bell, but even seven years before Philip Reis produced his famous make-and-break musical telephone at Frankfort. Bourseul, however, seems not to have gone so far as to produce a working instrument adapted for actual use. Furthermore, he probably knew nothing at all of the undulatory theory of the current, upon which articulate speech depends. For that reason the courts have ignored Bourseul's apparent claims to originality in the production of the telephone. Bourseul's case is rather striking, for it is the case of a man who had to make but one short step in order to realize an idea, which, only many years later, was practically carried out.

About forty deaf-and-dumb persons gathered recently at the house of William E. Shaw, an electrical worker living in Brookline, Boston, Mass., to witness a demonstration of a new invention which has been worked out by Mr. Shaw. It is an alarm clock designed to awaken persons who have the misfortune to be deaf and dumb. Its function is performed in several different ways. At the time for which the instrument is set, an electric light is thrown into operation, and the rays are reflected on the face of the sleeper, and besides this there is an arrangement by which the pillow under the head of the sleeper is violently agitated. The inventor says that he does not expect to make any money out of the device, as there cannot be sufficient demand for it, but he invented the thing more out of compassion for persons afflicted in this unfortunate manner than for any hope of reward.