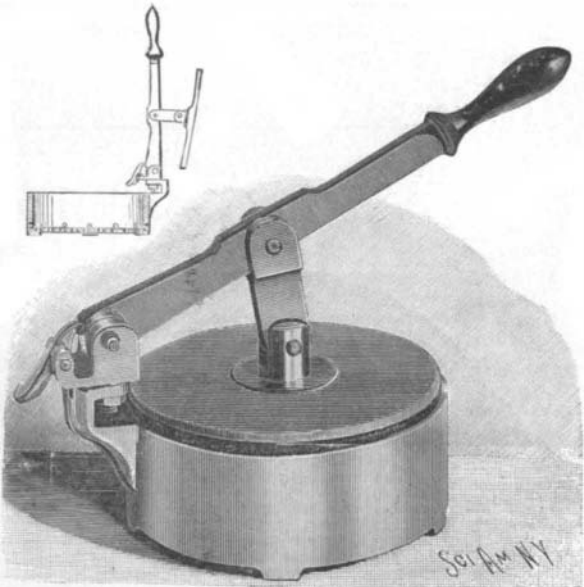


of the consumers of fuel oil, and this can only be done by the accumulating of a stock of from 10,000,000 to 40,000,000 barrels on top of ground in iron tanks. This means an investment of millions of dollars and systematic organized effort for several months, possibly a year or two, before this oil market is firmly and satisfactorily established."

PRESS FOR PREPARING FOMENTATIONS.

The inconvenience and difficulty of preparing bandages for fomentations by hand are overcome by a simple press which has been invented by Mrs. Mary Jordan Smith, of New York city, and which performs its work far more effectively than would otherwise be possible. The making of the press has been undertaken

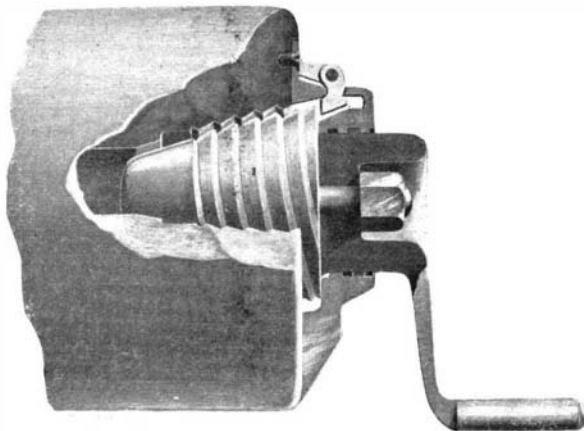


PRESS FOR PREPARING FOMENTATIONS.

by George Tiemann & Co. 107 Park Row, New York city.

As shown in our engraving, the press is composed essentially of three parts—a receptacle, a lever and a pivoted plunger carried by the lever. The bottom of the receptacle is perforated to permit the escape of water. The lever is mounted on a bracket to swing both in a circle horizontally, and up and down, so that the plunger may be either depressed in the receptacle or raised and carried to one side.

In service, the bandages having been placed in the receptacle, hot water or any medicated solution is poured over them. The lever is then swung around to bring the plunger over the bandages. By pressing downwardly on the lever, the plunger is made to force water out of the bandages, through the perforated bottom of the receptacle. In order to prevent an upward movement of the plunger when the lever is released, a spring-pressed detent is employed which is pivoted on the bracket and which coacts with teeth on the pivoted end of the lever. After the surplus water has been expressed, the detent is released and the lever swung up and aside in order that the apparatus can be car-



A DOUBLE-THREADED BREECH-PLUG.

ried to the bedside and that the bandages can be readily removed.

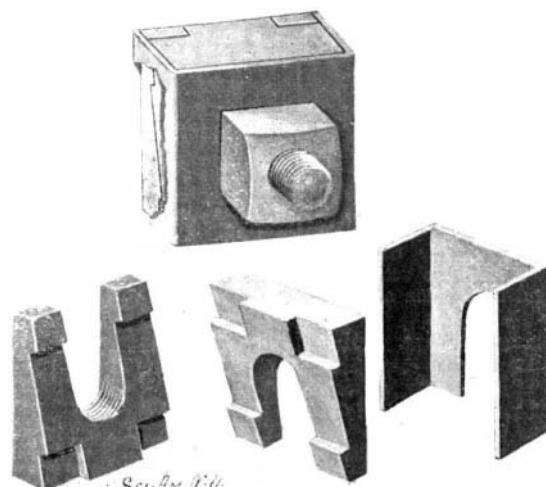
The advantages of the invention are obvious. The hands need never come in contact with the bandages during the operation of the device. The bandages, retained as they are in the receptacle and thus carried to the patient, retain their heat for twenty minutes, a result which testifies to the efficiency of the instrument. In preparing fomentations, it is the custom to bring to the bedside the several utensils which are required. Not only is the fomentation prepared with difficulty, but the moral effect of the utensils on the patient is often harmful. The press described simplifies the preparation of fomentations by dispensing with these utensils and enables a bandage to be prepared without the knowledge of the patient.

NOVEL INVENTIONS RECENTLY PATENTED.

Sometimes it happens that a bolt cannot be removed or that a much-worn thread prevents a removal of the nut. For such emergencies Alfred S. Seaman, of Frackville, Pa., has invented a simple relief-nut, which also serves as a washer and as a time-saving device for fitting a new washer or nut without stopping the machinery. The relief nut is substantially composed of two wedge-shaped nut-sections, slotted from their ends to form arms. The free ends of the arms of these sections have hooks, which interlock with seats on the opposite ends of the abutting section, so that the sections embrace the bolt. When they are applied and fitted tightly, the relief-nut sections can be removed only by releasing or turning the bolt-nut outwardly. A flanged cap is fitted over the relief-nut and forms a bearing for the bolt-nut and a retainer for the relief-nut sections. The device can be applied to the head-ends of partially-worn foundation-bolts and other bolts under great strains. The improvement can also be used when the bolt is battered or riveted, or when the thread is stripped or does not extend to the surface against which the nut is to be turned.

A very simple and ingenious improvement in breech-blocks has been devised by John F. Meigs and Sigard A. S. Hammar, of South Bethlehem, Pa., which improvement not only strengthens the connection between breech and plug, but also increases the rapidity of fire. The plug is formed with a continuous, tapering multiple thread, instead of with the usual "interrupted screw," whereby very important results are obtained. With a double thread, for example, less longitudinal and consequently less angular movement is required than with a single thread of the same pitch. The height or projection of the double thread is half that of the single thread; and hence it is necessary to move the plug longitudinally only half as far to free its thread from the breech. The swinging-plate by which the plug is carried is provided with radial pins for engagement with a thread in the carrier-opening. The pitch of the thread is the same as that of the plug until a point is reached in the rearward travel of the plug, when the plug-thread is disengaged from the breech. The pitch of the thread in the carrier-opening then increases. The purpose of this arrangement is to accelerate the movement of the plug after it has been cleared of the breech.

In the ordinary construction of preserve-jars, when the cover is screwed on the neck, the air remaining within the jar is compressed, thereby leaving a space between the preserves and the cover. In this space mildew usually collects. Moreover, it is necessary to heat the preserves to a high temperature in order to expel the oxygen. These evils of the ordinary preserve-jar are remedied in an invention which has been

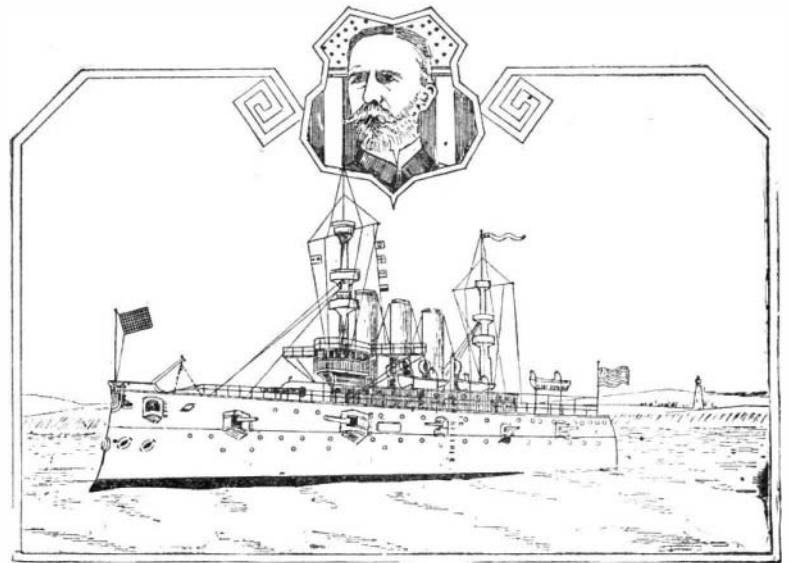


A SIMPLE RELIEF NUT.

patented by Henry W. Woolbert, Box 690, Pittsburg, Pa. The accompanying illustrations represent two forms of the new jar. The body of the jar is flanged to receive a rubber ring upon which the flanges of the cover bear. The concave center of the cover is provided with a small cup in which a plunger is contained, operated by a cam-lever. A valve in the plunger permits the escape of air from the jar, but prevents the entrance of air into the jar. By operating the cam-lever the air in the jar is partially exhausted, so that the heat required to expel the oxygen is considerably less than would otherwise be necessary. In Fig. 2 a bell-crank lever is shown instead of the arrangement described. It will be seen that the invention consists essentially in applying a miniature vacuum-pump to a preserve-jar.

PICTURE MAKING ON THE TYPEWRITER.

The accompanying engraving of Admiral Sampson and his flagship the "New York" was reproduced from an original picture measuring 8 inches in height by 11 inches in width, which was made entirely on a typewriter. At first sight one would be tempted to deny that such a result could be obtained, except by the use of some special type, which had been arranged to make impressions through the manipulation of the key-board; but as a matter of fact, the original drawing was made by A. Roeder, Jr., of Baltimore, entirely by the aid of the standard characters which are to be found on the Densmore typewriter. If the picture be closely examined, it will be found that the straight lines and curves with which the ship is



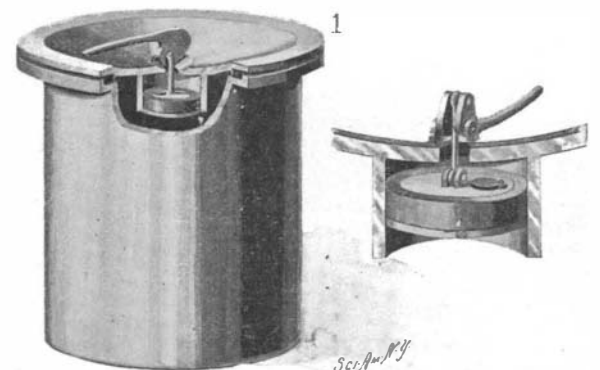
ADMIRAL SAMPSON AND THE "NEW YORK."

This picture was made on the typewriter by the use of the regular characters and signs.

built up are formed by ingenious combinations of the various letters and characters shown on the keyboard. The horizontal and vertical lines were obtained by the use of the shift, underscore, etc., the curves were obtained by using the parenthesis, the apostrophe, etc. Thus, the two hawse holes for the anchor chains were formed by using the signs of the parenthesis and the acute accent. The portholes were made by using the sign for a degree. In the signal flags we see the use of the asterisk, the degree sign, the hyphen, etc., while the flag at the stern of the vessel is made by the use of the parenthesis and the period. It will be understood, of course, that the paper on which a picture of this kind is made has to be constantly twisted to different angles in order to get the desired lines.

The Current Supplement.

The current SUPPLEMENT begins with a portrait and biographical notice of the late Queen Victoria. "Archæology" (in the last century) is by Prof. W. M. Flinders Petrie, D.C.L., LL.D., and deals with archæology in Syria, Greece, Italy, India, and America. It is an article of the greatest possible importance. "Meteorological Instruments," by Prof. Hans Hartl, is accompanied by twelve engravings. "Recent Science," by Prince Kropotkin, is concluded. "A New Pago-



A VACUUM-PUMP FOR PRESERVE-JARS.

Printing Telegraph" is by William N. Vansize, and describes the epoch-making invention of Donald Murray. A fully illustrated article on "The Colwell Rotary Engine, Reciprocating Engine and Condenser" is also included in this issue.

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