

Science and Art.

Manley's Preserve Can.

The cause of decomposition in fruit, vegetables, meat, &c., is the oxygen of the atmosphere or water, by which they may chance to be surrounded, and to preserve them it is necessary that they shall be enclosed in perfectly air-tight cases. Many kinds of cans, jars, and other contrivances, have been invented for this purpose, but not one surpasses the subject of our description for cheapness of construction or simplicity and perfection.

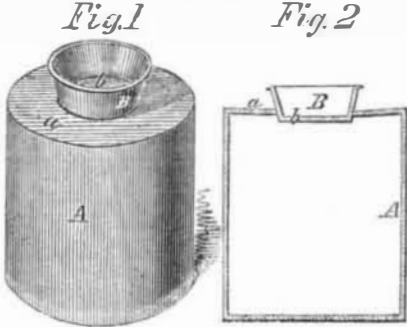


Fig. 1 is a perspective view, and Fig. 2 a section of this can, from which at once its simplicity will be seen.

The cover, B, being removed, the substances to be preserved are placed in the can, A, which is then placed in hot water, the heat expels all the air from the inside, and the cover is placed in a hole stamped in the top, a, to receive it, fusible cement is then poured round it, and cold water poured in the cup, b, of the top, B; this instantly cools the cement, and the can can be removed from the hot water without the fear of any air entering the can. The cover is made slightly inclined towards the center, to hold the cement, and fit snugly to the cover, B. When it is desired to open the can little trouble is necessary, it only being requisite to pour hot water into the cup, b, of the cover, B, which melts the cement, and the cover can be removed without there being any danger of the water getting inside. They are made of tin plate, and can be used very many times, so that they are ever ready, and not destroyed with once using.

It is difficult to find any particular feature to praise, as in every way they are the very perfection of preserve cans, and are the invention of E. Manley, of Marion, N. Y., who patented them August 3d, 1858, and from whom any further information may be obtained.

Paper Bag Machine.

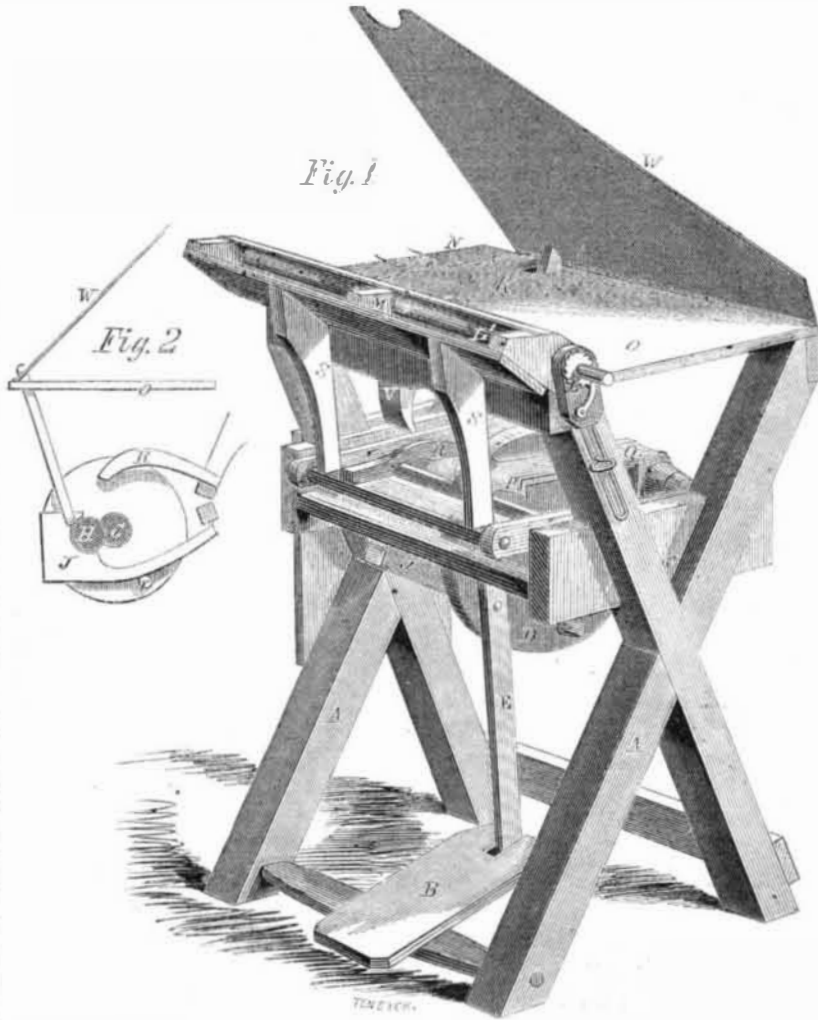
Paper bags are much used as convenient and cheap packing cases for light articles or small quantities of any substance, and although they are so cheap and apparently insignificant, yet there has been much ingenuity displayed in devising machines for their manufacture. The machine, of which our engraving (Fig. 1) is a perspective view, is the invention of Jacob Keller, of Fairview township, Pa., and is intended to make those three-cornered bags which are so commonly used in our grocery stores and other places to contain sugar, candies, &c. By referring to the illustrations, in which (Fig. 2) are some of the parts separated, to show the operation, the machine will be understood.

A is the frame, B the treddle, which is worked up and down by the foot, C the shaft, upon which is a flanged wheel, connected by a pin with shaft, E, also attached to D. On the flanged wheel, D, is a roller, H, and opposite H is a pin, I, projecting from D. J is a lever underneath, which is operated on by the roller, H, and is attached by a wire to the folding frame, K, above, upon which the bag is formed or folded. L' is the roller which holds the paste, having a sliding feeder M, attached to the cover. L is a pawl and ratchet for turning the paste roller. N and O are two folders attached to the top, forming a square table with hinges, so as to be thrown

over by the hand of the operator at right angles, and connect the sides of the bag after the roller has deposited the paste on the front edge of the paper, next to the paste roller, L'. P is a spring catch, in the center of the machine, immediately above and across the shaft, C, having its front end beveled at the side, to correspond with beveled point of the pin, I. At the back end of this spring catch, P, is a small spiral spring, and a lever, R, extends from the upright movable frame, S, that supports paste roller, L', and is operated

by a short lever in the center of the machine. A short lever or lug is permanently attached to and projects from the lower part of the movable frame, S, and as it is brought in contact with a corresponding lug, V, projecting downward from the frame, A, the paste roller, L', is thrown forward on the paper at top. The pin, I, on the flange wheel, D, then presses against the lower end of the short lever, by which the lever, R, and the frame, S, with its paste roller, L', is thrown back. The paper is thus pasted together in a tri-

KELLER'S BAG-MAKING MACHINE.



angular shaped bag upon the fly lid, W, at top, which operates on ordinary hinges. The paper having an oblong shape was first laid on the top (on folders, N and O, forming the table), with its left side edge projecting about an inch over. The front edge of the paper being placed on a line with the front edge of the top, and on a line with the paste roller, L'. The paper being laid thus smooth and flat on the top, the operator presses upon the treddle, B, and the flanged wheel, D, is partly revolved, until its pin, I, raises the spring catch, P, at the same time fly lid, W, falls down upon the paper at top, the movable frame, S, is thrown forward, and the paste roller, L', deposits the paste on the front edge of the paper. The short lever then operates on the long lever, R, and the movable frame, S, is thrown back, with its paste roller, L', and the spiral spring brings the devices of the machine back to their places, to perform another pasting operation.

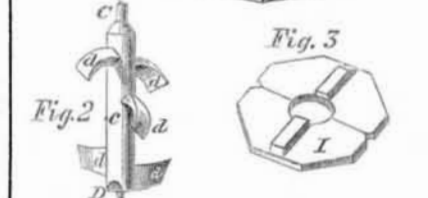
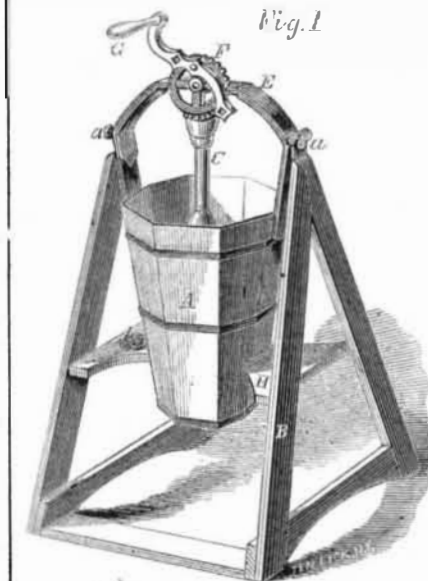
This machine is simple and effective, and was patented by the inventor March 2d, 1858. All further information can be obtained by addressing B. F. Koller, Shrewsbury, Pa.

Smith's Butter-Worker.

This is a churn and butter-worker combined, and makes the several operations of butter-making one continuous and easy process. The cream is placed in the churn and taken out as butter, perfectly worked, salted, and ready for the market.

In our engravings Fig. 1 is a perspective view of the invention, in which A is the churn, suspended by bars and frame, E, and pivots, a, on the frame, B. The churn can

swing in B when desired, but while being worked it is retained in an upright position by the board, H, and a catch, b. C is the



working shaft (seen better in Fig. 2), having on the end that is placed in the churn an enlargement, c, from which project a series of dashers, d, of the shape or form shown in the

engraving. These dashers, a though projecting horizontally from c, and having an horizontal rotary motion through the cream, yet by their shape they produce the same effect as the ordinary dash churn.

C terminates in a pivot that rests in a shoe in the bottom of the churn, and there is a small cavity, D, in c, through which the butter-milk, on account of its thinness, can run into a vessel placed under the churn to receive it, but the cream or butter, on account of their consistency, cannot escape. The shaft, C, and dashers are rotated by the bevel gearing, F, and handle, G. The handle, G, has three square holes in it, either of which can be fitted to the wheel as represented in Fig. 1, so that more or less leverage can be had by the operator as the butter becomes harder, and more difficult to work. By fitting the handle on to a crank pin, or on to a central pin, the operator can obtain five different lengths of leverage, so that he or she does not have any more hard work, as the butter-milk is being squeezed out, and the salt worked in. Fig. 3 shows the cover, I, which is in two parts.

This churn renders the operation of churning and preparing butter for the market very simple and easy, and is the invention of Justin M. Smith, of Lyme, Conn., from whom any further information can be obtained. It was patented January 12, 1858.

LIGHT AND HEAT.—During the illumination in Albany, N. Y., on the 1st inst., a cauldron was filled with dry granulated fire-clay, and gas was allowed to flow through it. It gave out a light equal to 1,000 sperm candles, and generated an intense heat. It would be a good plan to employ gas in this manner for cooking, as dry fire-clay concentrates, and thus economizes the heat.



OF THE SCIENTIFIC AMERICAN.

FOURTEENTH YEAR!

MECHANICS, INVENTORS, MILLWRIGHTS, FARMERS AND MANUFACTURERS.

This valuable and widely circulated journal entered upon its FOURTEENTH YEAR on the 11th of September.

It is an Illustrated Periodical, devoted to the promulgation of information relating to the various MECHANICAL and CHEMICAL ARTS, MANUFACTURES, AGRICULTURE, PATENTS, INVENTIONS, ENGINEERING, MILL WORK, and all interests which the light of PRACTICAL SCIENCE is calculated to advance.

All the most valuable patented discoveries are delineated and described in its issues, so that, as respects inventions, it may be justly regarded as an *Illustrated Repertory*, where the inventor may learn what has been done before him in the same field which he is exploring, and where he may publish to the world a knowledge of his own achievements.

Reports of American Patents granted are also published every week, including *official* copies of all the PATENT CLAIMS. These Patent Claims are furnished from the Patent Office Records expressly for this paper, and published in the SCIENTIFIC AMERICAN in advance of all other publications.

The contributors to the SCIENTIFIC AMERICAN are among the most eminent scientific and practical men of the times. The editorial department is universally acknowledged to be conducted with great ability, and to be distinguished not only for the excellence and truthfulness of its discussions, but for the fearlessness with which error is combated and false theories are exploded.

Mechanics, Inventors, Engineers, Chemists, Manufacturers, Agriculturists, and people in every profession of life, will find the SCIENTIFIC AMERICAN to be of great value in their respective callings. Its counsels and suggestions will save them hundreds of dollars annually, besides affording them a continual source of knowledge, the value of which is beyond pecuniary estimate.

TERMS OF SUBSCRIPTION—Two Dollars a Year, or One Dollar for Six Months.

CLUB RATES.

Five Copies, for Six Months.....	\$4
Ten Copies, for Six Months.....	\$8
Ten Copies, for Twelve Months.....	\$15
Fifteen Copies, for Twelve Months.....	\$22
Twenty Copies, for Twelve Months.....	\$28

For all clubs of Twenty and over, the yearly subscription is only \$1 40. Names can be sent in at different times and from different Post Offices. Specimen copies will be sent gratis to any part of the country.

Southern, Western and Canadian money or Post Office stamps, taken at par for subscriptions. Canadian subscribers will please to remit twenty-six cents extra on each year's subscription, to cover postage. MUNN & CO., Publishers and Patent Agents, No. 128 Fulton street, New York.