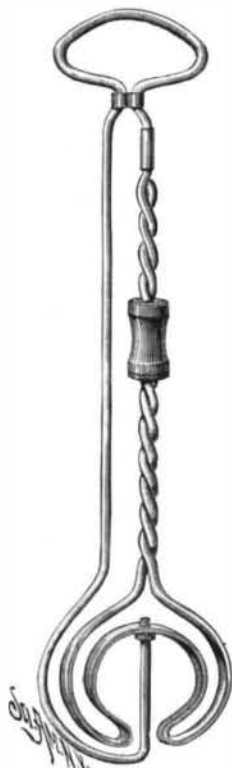


IMPROVED EGG BEATER.

Egg beaters which move continually in the same direction produce poor results, since the semi-liquid mass is carried round but is not agitated; this is remedied in the beater herewith illustrated, as a reverse motion takes place at short intervals. A strong wire is bent to form the frame, the top being provided with a handle loop, and the bottom being bent up to form a pivot. On the free end of the wire at the bot-



tom of the handle is a sleeve which forms a socket for receiving the pointed end of one of two wires twisted spirally together, the lower end being flattened and curved as shown. The twisted wires rest and turn upon the end of the upwardly projecting part of the frame. By working the nut, which is fitted to slide upon the twisted section, up and down the curved portion is rapidly revolved in opposite directions, thereby beating the eggs quickly and thoroughly. The beater is simple and strong, and there are no parts liable to get out of order.

This invention has been patented by Mr. Charles A. Bryant, of Wakefield, Mass.

A Japanese Patent Law.

Determined upon progress, the Japanese have at length passed a patent law.

The new law appears to be compiled from similar laws of other countries—a clause from England here, from France there, from Germany in another place, as seemed advisable in the circumstances. The term of protection is 15 years; "articles that tend to disturb social tranquillity, or demoralize customs and fashions, or are injurious to health," and medicines cannot be patented; the inventions must be publicly applied within two years, and patents will become void when the patented articles have been imported from abroad and sold; the fees are low, and there are no annuities or annual payments required for keeping the protection in force, as in many European countries.

IMPROVED KNOCKDOWN FURNITURE.

The object of the invention herewith illustrated is to so construct household furniture—such as bureaus, washstands, sideboards, desks, etc.—that it can be folded very compactly for transportation, and can be erected or taken apart easily and rapidly. The bureau shown in the engraving is made with a skeleton frame on which the other parts are held. The two end pieces are formed with short legs in the usual manner, and are united at the rear by top and bottom bars having grooves along their facing edges for the reception of the panel plates of the back, between which is a post having tenons at its ends to enter the grooves in the bars and having side grooves to receive the panels.

At the front the ends are united by a top rail having notched and tongued ends to fit on the ends of the front uprights and against the ends of cleats on the inner upper surface of the ends. The bottoms of the front of the ends are united by an ornamental rail; tongues on the ends of this rail enter notches in the lower parts of the ends. Two intermediate rails have their ends formed with dovetail tenons that rest against the inner dovetail surfaces of the front uprights. The drawer cleats are L-shaped in cross section, the ends of the upright part of each cleat projecting beyond the ends of the horizontal parts. The front end of each upright part of each cleat is beveled to fit against the rear bevel of the corresponding upright of the ends; the horizontal parts of the front ends of the cleats rest against the back edges of the intermediate rails. The inner ends of the horizontal parts of the cleats are but against L-shaped blocks, secured at the outer edges of the inner surfaces of the back panel plates, and the upright parts rest in the recesses of the blocks.

The top plate is formed with a ledge projecting from the under side of the front edge, and with two undercut L-shaped side ledges. The back edge of the plate is open. The plate is pushed over the skeleton frame from the front toward the rear, the cleats on the outer top edges of the ends passing into the grooves in the undercut ledges, thus holding the top in place

and bracing and stiffening the entire frame. Each drawer is provided with a front plate having a vertical dovetail groove in the inner surface a short distance from each end, and a longitudinal groove a short distance above the bottom edge. At the inner side of the front end of each side piece is a strip tongued to slide in the grooves in the front plate. In the inner surface of each side, near the rear end, is a dovetail groove in which the back fits, and along the bottom edge of each side is a groove to receive the bottom. A screw passed through the bottom into the edge of the back holds all the parts firmly in position.

In the back edge of the top plate are two dovetail notches to receive tongues on the mirror frame, the various parts of which are so joined as to be held firmly when assembled, and to be easily taken apart for packing. The principle here employed is the same as that briefly described above in the drawers and body of the bureau. Knockdown boxes may be placed on the top at the base of the mirror frame.

It will be seen that a bureau or like piece of furniture, constructed in this manner, can be quickly erected without the use of screws or glue (where necessary the parts are held together by hooks and eyes or headed studs), and will be solid and strong, all the parts being securely braced and held. Certain of the larger parts are so made as to form, when packed, recesses into which the smaller pieces are placed.

The bureau can be packed in two bundles (shown in the engraving), which occupy less than one-third the space the erected bureau does, thus reducing the expense for transportation or storage; burlap and lumber for packing are also saved.

This invention has been patented by Mr. J. B. Bro-laski, of 111 North 6th Street, St. Louis, Mo.

Improvements in Gelatino-Chloride of Silver Paper.

From some recent experiments detailed in the *Photo. News* by Messrs. W. M. Ashman and R. Offord, it appears that the introduction of a small amount of chloride of gold into the emulsion prior to the coating of the paper materially hastens the toning of the same after development, and reduces the time necessary for toning to a minimum. Emulsions having the gold in must be used within a short time after they are prepared.

It is also advised that a small amount of citrate of soda be added to the toning bath for absorption of the freshly liberated chlorine from the gold.

It is very necessary that all traces of free nitrate of silver be thoroughly washed out of the emulsion when it is made.

Manufactures from the Air.

The process of Brin Brothers is about as follows: First, the air is drawn, by means of a partial vacuum, through a vessel of quicklime, which absorbs all the carbonic acid and moisture, and reduces it to a mixture of oxygen and nitrogen. These gases are then drawn into the retorts, heated at 500°, and the artificial lung absorbs the oxygen, while the nitrogen is drawn off to a gasometer for conversion into ammonia, etc. The

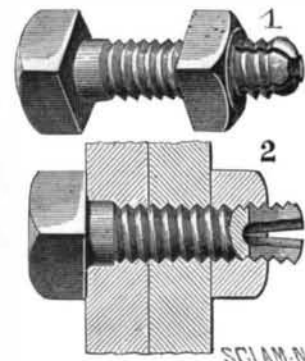
**BROLASKI'S IMPROVED KNOCKDOWN FURNITURE.**

Brins have, for the first time, made the artificial lung indestructible. The use of baryta for the purpose is not unknown; but hitherto the baryta has been perishable, and has required renewal every four and twenty hours, at great expense. They make it virtually indestructible and unchangeable. In this way they claim to have effected an absolute revolution in chemistry; for with a lung for the machine, and the atmospheric air for the material, they can make just as much oxygen as they like; and its uses, present and prospective, are almost innumerable and incalculable. For ventila-

tion, aerating water without carbonic acid, for increasing the heat of blast furnaces and the light of lamps, its uses are self-evident. The nitrogen, which was at first looked upon as wasted, has, by a process due to the same inventors, been turned into ammoniacal salts for manure. Most of the uses of these products were known. What is claimed is the almost fabulous reduction in the cost of production. The chemical text books, according to Messrs. Brin, are at fault as to the possibilities of baryta. They all teach that it is destructible; and the Brins maintain that, as they know how to treat it, it is indestructible. Oxygen in large quantities means a revolution in half the processes of chemical industries.

IMPROVED NUT LOCK.

The end of the bolt is formed with a smooth recess, and with radial slots extending from the recess to the outer surface of the bolt, as shown in both drawings. The bolt is passed through the plates, and the nut is drawn up tight, when a mandrel or other tool is placed in the recess and struck with a hammer to spread the slitted end of the bolt, whereby the nut is locked in place, as represented in Fig. 2. When very great power is applied to unscrew the nut, the prongs formed by the slits are pressed together, and the nut can be removed.



This invention has been patented by Mr. James H. Comstock, of 2 Equality Park, Newport, R. I.

The Treatment of Sick Headache.

Dr. W. Gill Wylie (*N. Y. Med. Jour.*), of New York, has produced excellent results with the following method of treatment: So soon as the first pain is felt, the patient is to take a pill or capsule containing one grain of inspissated ox gall and one drop of oil of gaultheria, every hour until relief is felt, or until six have been taken.

Dr. Wylie states that sick headache as such is almost invariably cut short by this plan, although some pain of a neuralgic character remains in a few cases.—*Detroit Lancet.*

Distribution of Power by Vacuum.

M. Boudinoot has explained to the members of the French Society of Civil Engineers the details of his establishment in the Rue Beaubourg for supplying power to the small industries of the neighborhood by means of rarefied air. He says that, in comparison with all other means for the distribution of small power, rarefied air is the most economical and serviceable. As contrasted with compressed air, it is more than twice as effective; while the first cost of the plant and the working expenses are much less. In the Rue Beaubourg the mode of action is to create, by suitable pneumatic machines, a vacuum of 75 per cent in the mains and services connected with the subscribers' engines. At present a 70 horse power boiler supplies a Corliss engine, the piston rod of which is prolonged to work the piston of the air pump.

Experience showed that there was considerable heating produced in the air cylinder by the compression which took place when the air, aspirated from the main at one-fourth of the atmospheric pressure, was ejected at the rate of 60 revolutions per minute. To check this effect, water is injected into the air cylinder; this device being preferred to the alternative of a cold water jacket for various reasons, the principal one being that the water jacket would have seriously increased the bulk of the machine, and would only have cooled down the periphery of the cylinder, whereas what was wanted was a cooling of the mass of air contained in it. The distributing system comprises cast iron mains, the largest being 10 inches in diameter, diminishing to 6 inches in the outskirts of the district. The service pipes are of lead; and the loss in distribution is only 3 or 4 per cent. The economical duty of the

various classes of simple motors actuated by this exhaust system varies from 40 to 65 per cent, according to size and pattern. The engines are provided with revolution counters, and the charge is based upon the thousands of turns so indicated; the rental being collected every ten days. Up to the present time the system has only been in work during twelve hours every week day; but as the business increases, and larger plant is laid down, it is intended to work until a late hour of the night, in order to adapt the system to electric light engines.