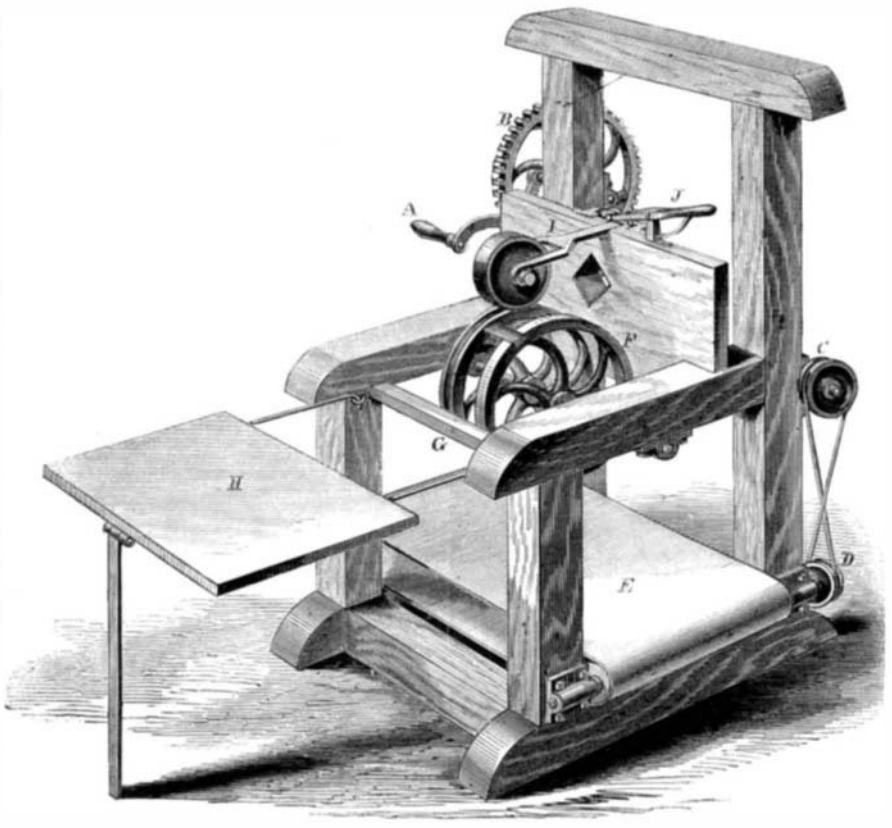
Machine for Topping and Stripping Sorghum and Sugar Cane.

Every additional facility for the extraction of the saccharine matter from cane or other sugar-yielding plants is of general importance, as the use of sugar is now almost universal and the demand for it constantly increasing. Sorghum, as well as sugar cane, must be stripped of its leaves before going to the crushing mill, and this work, if performed by hand labor, is slow and quite laborious. The engraving presents a view of a machine which performs this work rapidly and effectually.

The machinery is mounted on a suitable frame and is simple and easily managed. The power is applied, either by hand, through the crank, A, or by power, to the gear wheel, B, which drives the pulley, C, connecting by a belt with D, to give motion to the endless apron, E. The same shaft on which is the pulley, C, drives the shaft seen in the front part of the machine. On this shaft is a cutter wheel, F, and a grooved wheel for receiving the stalks and presenting them to the stripping knives. The topping wheel, F, has one or more knives seated in its periphery which in their swift revolution pass in immediate contiguity with a fixed curved blade on the bar, G. This device is for topping the cane, the tops falling on the apron, E, which carries them out of the machine and deposits them on one side.

The cane is laid on the table, H, between which and the frame the operator stands. After topping the cane each stalk is passed between the peripheries of the grooved wheel and the smaller one above it, which is held in connection with the former by the spring arm, I; the lower or grooved wheel being faced with rubber to insure the necessary adhesion and the upper one being either grooved or plain, this, however, being immaterial. In an upright, back of these feed wheels, is a V-shaped knife fixed, with which engages a similar one that may be elevated or depressed by the lever, J, the knife working in upright slides. This lever may be operated with a spring with sufficient tension to hold the two V-shaped knives close to the stalk. The leaves fall upon the endless apron and are carried, like the toppings, off to the side of the machine. The edges of the V-shaped knives are so beveled as to offer no opportunity of becoming clogged. The machine may be extended to any required length, as the machinery is very light and easily driven, requiring but little power.

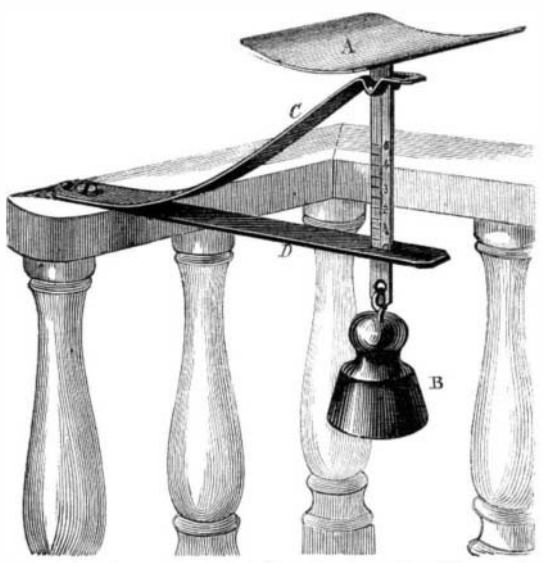


CAMPBELL'S IMPROVED CANE STRIPPER.

This machine was patented through the Scientific American Patent Agency, May 21, 1867, by James A. Campbell, who may be addressed for the purchase of State rights or the entire patent at Kent, Portage county, Ohio.

SCALE FOR WEIGHING LETTERS, PAPERS, ETC.

The engraving presents a view of a scale intended for determining the weight and therefore the postage of mailable matter, as letters, papers, pamphlets, etc. Something similar



is needed, not only in mercantile concerns and offices where the correspondence is voluminous, but also in private families, as it saves annoyance and trouble to the writers of letters, as well as to post office clerks. The device shown is intended to furnish a very cheap apparatus, which can be used at all times and under all circumstances. It can be easily described.

The scale, or receiver, A, has attached to its bottom a slip of metal graduated to ounces and their parts, and held steadily in position by a weight, B. At the upper end of this slip is a spring, C, which engages with knife edges on the upright slip, and is riveted at its other end to a support, D, through the outer end of which is a longitudinal slot allowing for the vibrating or swinging movement of the upright, which passes through it. The arrangement may be permanently secured to a desk, or railing, as seen in the engraving, or may be temporarily held when the letter is placed on the scale, A. The spring, C, is made of tempered steel, or of hard rolled brass, tested to its tension so as always to give the same results. The whole concern in itself weighs but a few ounces, and cannot, on account of its simplicity, get out of order. Patented through the Agency of the Scientific American, October 15, 1867. Agents are wanted in every city and town. Communications may be addressed to Cox & Latham, 299 State street, New Haven, Conn.

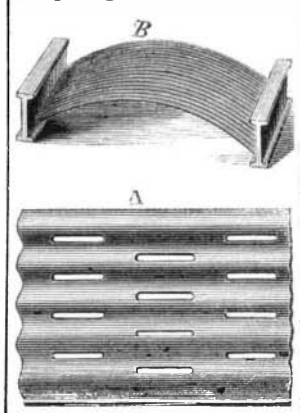
Luxurious Chair.

One of the most simple and useful improvements in household furniture that has recently come to our knowledge, is a new chair, a substitute for the rocking-chair, patented by D Witt, of Hubbardstown, Mass., on the 20th of last August, and made and sold by Dexter Howe, 169 Canal street, New York. The frame of the chair-seat rests upon two upright iron bearings, firmly screwed to the frame, the lower end resting in a socket which allows the upper portion of the chair to rock back and forth. Near the center of the bottom of the chair two coil springs are so arranged that they perform the office of rockers in an ordinary rocking chair, the bearings supporting the weight of the occupant, and admitting only the back and forward movement, which the springs assist the sitter in making. This chair possesses all the good features of a rocking chair, and is free from the objectionable features of an ordinary rocker.

ROYS' APPLICATION OF CORRUGATED IRON.

The enormous increase of strength, or resistance to strain and pressure, gained by corrugating thin iron, otherwise too weak for the purpose intended, is well known to mechanics generally; but the varied uses which iron thus treated may be made to subserve may not be so well understood. In the construction of buildings and boats it has for many years been employed, and also for roofing purposes. The engraving, however, represents its application for laths to support mortar or plaster, as well as its use for arched connections between flooring beams.

For the former purpose the ordinary thin sheet iron is employed, having holes punched through it at intervals, to allow the passage of the mortar for "clinching," as seen at A. The sections may be made of any length or width required, and may be held to the ceiling or walls by nails or screws. For he latter, where strength is required, thicker iron may be employed in combination with iron flooring beams, as seen at B. It can be used for clapboarding, lining, siding, or roofing, as may be required, rendering the building absolutely fire proof, and immensely stronger than any brick or wooden structure. These do not exhaust the uses of this method of preparing iron, as the intelligent reader may easily see.



For these applications of corrugated iron a patent is now pending through the Scientific American Patent Agency. Communications may be addressed to F. Roys, Hoyt & Co., East Berlin, Conn., for further information.

Artificial Production of Ice.

It is not necessary for the production of ice that the temperature of the air should fall to the freezing point. Ice may be produced abundantly in all latitudes where the thermometer falls to 40° F., if proper appliances are employed; and as this temperature is reached at some period of the winter days in nearly all of our Southern States, there is no reason why the inhabitants should not provide themselves with ice houses and store up their supplies just as we do here at the North. Large quantities of ice are made in the night time, in India, in the months of December, January, and part of February, the thermometer standing at from 35 to 40. The following description of the method employed near Benares, and equally applicable to this country, we find in the *Repertory of Arts*:—

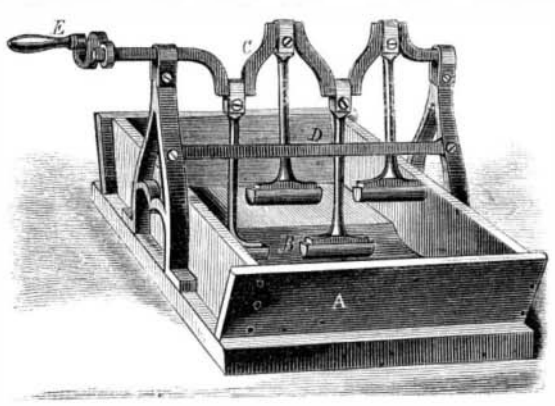
"A space of ground of about four acres, nearly level, is divided into square plats, from four to five feet wide. The borders are raised, by earth taken from the surface of the plats, to about four inches; the cavities are filled up with dry straw, or sugar-cane haum, laid smooth, on which are placed as many broad, shallow pans, of unglazed earth, as the spaces will hold. These pans are so extremely porous that their outsides become moist the instant water is put in them: they are smeared with butter on the inside, to prevent the ice from adhering to them; and this it is necessary to repeat every three or four days; it would otherwise be impossible to remove the ice, without either breaking the vessel, or spending more time in effecting it than could be afforded, where so much is to be done in so short a time. In the afternoon, these pans are all filled with water, by persons who walk along the borders or ridges. About five in the morning they begin to remove the ice from the pans, which is done by striking an iron hook into the center of it, and by that means breaking it into several pieces. If the pans have been many days without smearing, and it happens that the whole of the water is frozen, it is almost impossible to extract the ice without breaking the pan. The number of pans exposed at one time is computed at about 100,000; and there are employed in filling them with water in the evenings, and taking out the ice in the mornings, about 300 men, women, and children: the water is taken from a well, contiguous to the spot. New vessels, being most porous, answer best.

"It is necessary that the straw be dry; when it becomes wet, as it frequently does by accident, it is removed and replaced. I have wetted the straw of some of the plats, and always found it prevented the formation of ice. The air is generally very still when much ice is formed; a gentle air usually prevails from the south westward about daylight. I had a thermometer among the ice pans, during the season of making ice, with its bulb placed on the straw, and another hung on a pole, five feet and a half above the ground; and commonly observed that when ice was formed, and the thermometer on the straw was from 37 to 42°, that on the pole would stand about four degrees higher; but if there was any wind, so as to prevent freezing, both the thermometers would agree."

MORRISON'S MACHINE FOR KNEADING DOUGH.

The device in the annexed engraving is intended to supercede the direct application of muscular power rarely employed in kneading dough for bread, much less labor being required by the use of the machine and the work being more rapidly and neatly performed.

A is a box or dough receiver, having a concavity, B, extending transversely across it. On suitable uprights is hung the crank shaft, C, directly over the concavity. To each of these cranks are attached arms carrying shoes of wood at the lower end, which work in the concavity, B. They are guided by the horizontal bar, D, which forms a fulcrum for the arms,



and, in combination with the cranks, gives the shoes a curvilinear motion, by which the dough is carried under them through the box in a direction corresponding with the direction in which the shaft is turned by the handle, E.

The operation of the machine is very simple; the bottom of the box and the wooden plungers are to be covered with flour to prevent the dough from adhering, and by working the crank, the dough is compressed and carried gradually under the shoes as may be desired. It can be worked by hand or steam power, is simple, and not liable to get out of order, and can be used for working butter as well as kneading dough. Letters Patent were granted through the Scientific American Patent Agency, Oct. 1, 1867, to W. B. Morrison. For the purchase of rights or machines application should be made to Morrison & Baker, Muskegon, Mich.

THE DAY LINE—CORRECTION.—The correspondent whose diagram on the above subject we published on page 324, current volume, thinks the line is placed ten degrees too far to the east. Those of our readers interested in this subject will please notice. We merely followed the draft sent.