

## New Inventions.

## New Invention—A Mechanical Calf.

The following description of a cow-sucking apparatus is too good to be lost. We would wager our ancient friend Solomon a cent or two, if he were still living, that his proverb about there being "nothing new" under the sun, is a little short of the mark in the present instance. Pumping, of all sorts, has been carried on extensively from time immemorial, and in these latter days human individuals have learned how to "pump" each other. But we believe the subjecting of cows to this interesting process is an entirely new idea. Our correspondent, we trust, will pardon us for publishing his letter; we assure him that it will do no harm, for it will save him the useful purpose of a caveat:

"MESSRS. EDITORS—I have an idea it is as yet rather a rough invention; at least, it has not as yet resolved itself into a tangible shape to the outward organs of vision. And when it does, it is possible that it will be so crude and unlike any other thing, that it will "suck the cows." Well, that's just what we want of it. "Is there anything new under the sun?" Now before you answer, just wait to hear what my new idea is. Well, are you all attention? then here it is: An arrangement by which to remove the milk from any number of dairy cows simultaneously, in the short space of say ten to fifteen minutes.

This I propose to accomplish by placing the cows all in stalls adapted for keeping them stationary during the process. Lay a pipe the whole length of the stalls under the cows, and immediately below their bags or reservoirs of milk. Connect the cows with this pipe by means of flexible tubes each tube furnished with four mouths, which will be made of india-rubber so as to bite closely upon each of the four outlets (teats.) Now the cows being thus connected with the lower or main pipe, this pipe will extend into the cream or dairy house, and is then connected with an exhaust pump, when, if my ideas are correct, one hand will, in a few minutes, extract all the milk, and it will run down into the main pipe, thence into the proper reservoirs in the dairy for creaming.

You will see my idea is to pump the milk from each cow and all by the one and same process. I base my plan upon the fact that the calf removes the milk by producing a vacuum with his tongue and organs of the mouth, and the milk at once flows from the bag to supply it. Am I right; will my plan work? if so, is it worth a fortune. I intend to carry it into practice, so far at least as one experiment will do it.

G. W. S.  
Broome County, N. Y."

We would inform our correspondent that he is right as to the vacuum part. How well his idea will operate in practice remains for him to try. We trust he will give an account of his experiments. This is certainly a brilliant invention. Dairy maids, like Othello, will have occasion to exclaim that their "occupation's gone."

## New Mode of Hanging Window Sash.

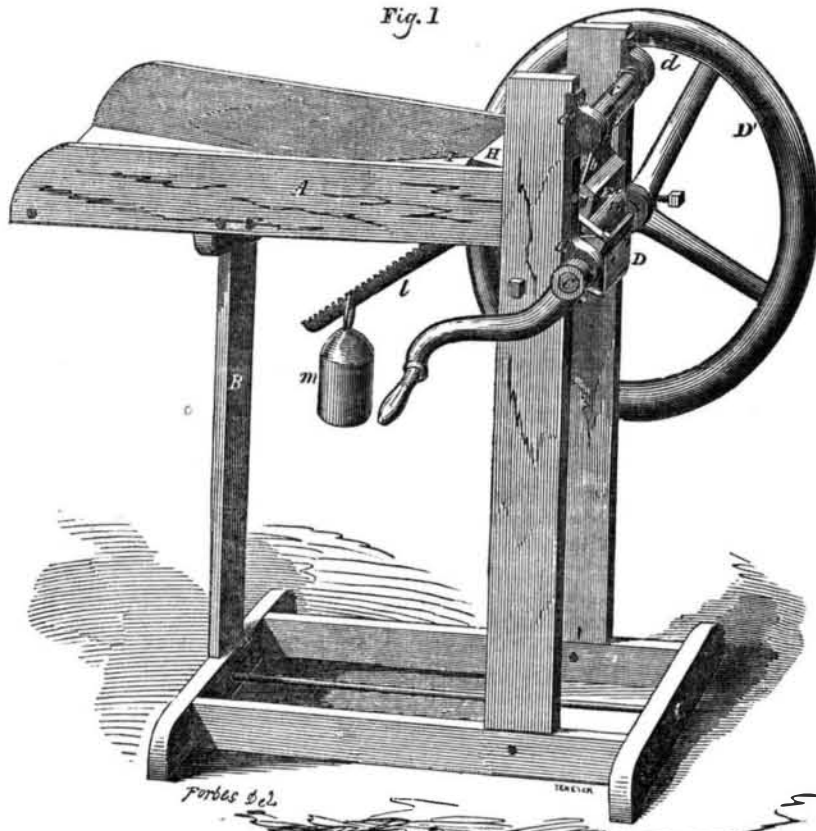
On the 26th of June last, a patent was granted to D. N. Dunzack, of Salem, Mass., for a new method of hanging window sash, to the claim of which, when published on page 338, SCIENTIFIC AMERICAN, we added a brief notice of its advantages. In addition to the remarks we then made—as the plan since then has been fairly tested—we have to name some more advantages which it possesses. First, by using hollow castings, one half the iron will suffice for a weight. Second, the sashes are more easily removed from the frame than in the common mode of hanging them, so as to allow facility for cleaning and glazing the windows. Third, the cord is not exposed to view at all, which gives them a better appearance. Fourth, there is no necessity for pockets being cut in the casings.

The window frame or casing is constructed in the usual manner for balanced sashes, viz.: having boxes on each side of the frame. Within each box there is placed one weight, which has a pulley attached to one of its ends, around which passes a cord, which also passes over two other pulleys attached to each side of the

frame at the center. One end of a cord is attached to the lower side of the lower sash, and the other end of it to the bottom of the upper sash. It is thus that both sashes are connected together by one cord and one weight on each side. The weights move without any jar-

ring or noise. By the common method of hanging sash, a window requiring weights of 18 lbs. can be operated by the new method with weights of 8 lbs., thus saving 10 lbs. of iron. This improvement deserves the attention of all house builders.

## SIMONTON AND WICKS' HAY AND STRAW CUTTER.



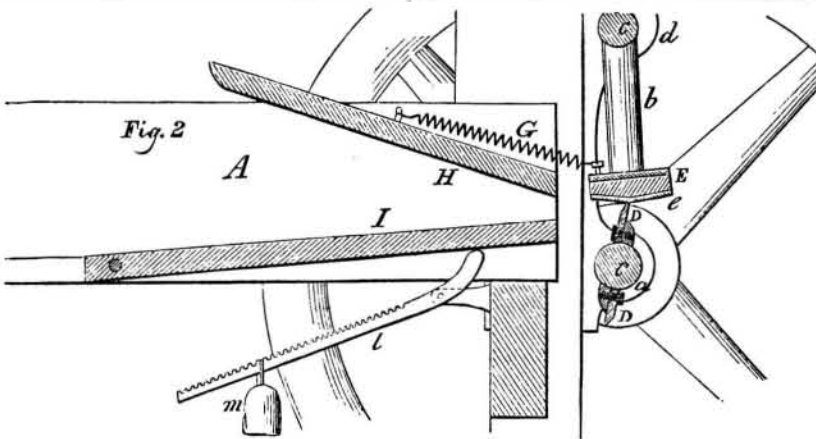
The accompanying engravings are views of an improvement in straw cutters for which a patent was granted to Thomas C. Simonton, and Loren J. Wicks, of Paterson, N. J., on the 10th of April last.

Fig. 1 is a perspective view, and fig. 2 is a longitudinal vertical section through the center of the machine. Similar letters refer to like parts. The nature of the improvement consists in the employment of a knife cylinder operating in connection with a vibratory bed, whereby economy of power and superior cutting action are obtained. A represents the feed box of the machine of the usual form, and supported in the usual manner by a frame work, B. At the front end of the frame, B, and about in line with the bottom of the feed box, there is a cylinder, C, having two knives, D D, attached to it, said knives extending the whole

length of the cylinder, and parallel with it.—The knives are attached to the cylinder at opposite points on its periphery.

The axis of the cylinder runs in suitable bearings, a a, attached to the frame, B, the ends of the axis extending a short distance beyond the bearings, one end having a fly wheel, D, upon it, and on the opposite end a crank.

Directly above the cylinder, C, there is a bed, E, which has two uprights or arms, b b, attached to its upper surface. The upper ends of these uprights or arms are connected with a shaft, c, which works in bearings, d d, attached to the frame. The under surface of the bed, E, is slightly convex, and just touches the edges of the knives, D D, when in a vertical position. G is a spiral spring, one end of which is secured to the inner side of the bed, F, and the opposite end to a guide board, H, at



the front end of the feed box, A. The under surface of the bed, E, is provided with a layer of raw-hide, e, or other suitable material in order to prevent the edges of the knives from being injured by coming in contact with the bed. I is an adjustable throat piece, the inner end being secured to the sides of the feed box by pivots so as to allow the outer end to be raised or lowered to govern the length of the cut.

OPERATION.—The straw to be cut is placed in the feed box, A, and a rotary motion is given the cylinder, C, by turning the crank, and the knives, D D, as they rotate cut the straw which passes between their edges and the under surface of the bed, E, which vibrates or moves forward by the pressure of the knives as they bear against it while cutting through the straw—the bed returning backwards as the knives pass it by the action of the spiral spring, G,

the knives and bed, by their operation, giving the proper feed motion to the straw. The feed motion may be modified, however, so that the straw may be cut longer or shorter by adjusting the throat piece, I, and therefore enlarging or contracting the orifice or mouth of the feed box through which the straw passes by the lever and weight, l m, so that the straw cannot pass too freely through the orifice or mouth.

The patentees state that it cuts straw, hay, and corn stalks, wet or dry, equally well, and that it is durable, simple, cheap, and adapted to horse or hand power.

More information may be obtained by letter addressed to them at Paterson, N. J.

## Electro Magnetic Engine.

The Superintendent—John S. Gustin—of the Quinsigamond Iron and Wire Works, near Worcester, Mass., has put an electro magnetic

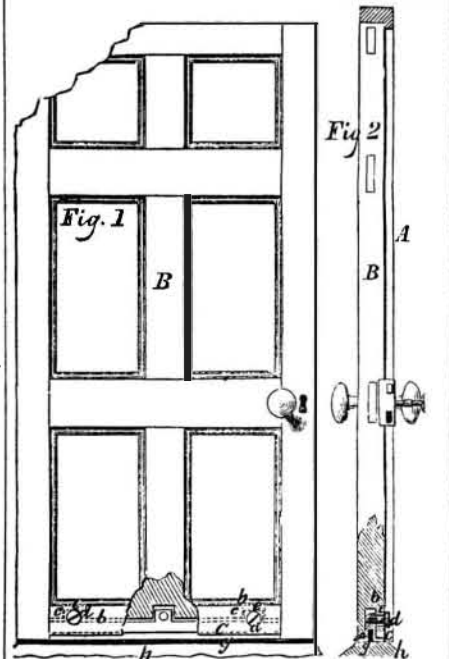
engine into an old boat, and has tried it, but not with any thing like the shadow of success to supersede steam. The principle of it appears to be the same as Prof. Page's, illustrated in Vol. 7, SCIENTIFIC AMERICAN.

## Patent Door Weather Strip.

The accompanying figures represent an improved weather strip for doors, for which a patent was granted to Martin Croke, of this city (New York,) on the 26th of June last.

Fig. 1 is a view of the inner side of a door, and fig. 2 is a transverse vertical section. The same letters on both figures indicate similar parts. The nature of the improvement consists in placing a strip or strips of india rubber within a slotted metallic bar, which is fitted in a groove in the lower end of the door. The bar is adjusted in the groove by screws. The object of a weather strip is to keep the space between the edge or foot of the door and the sill or saddle perfectly close, to exclude dust, wind, and rain.

B represents a door attached to one side of the casing by hinges, a, in the ordinary way. The lower edge of the door, B, has a groove, b, cut in it, which extends the whole width of the door, and within this groove there is fitted a metallic bar, C, the upper edge of which has projections, c, attached to it, through which set screws, d, pass, said set screws passing through oblong slots, e, in the door on its inner side. In the under surface of the bar, C, there is a longitudinal groove or recess, f, fig. 2, in which a strip or strips of india rubber, g, are fitted, and secured therein in any proper manner. The lower end of the strip or strips, g, of india rubber bear against the upper surface of the sill or saddle, h, of the door, when the door is closed, as shown in fig. 2, and keeps the lower end of the door or space between the lower end of the door and the sill or saddle, h, perfectly weather tight. And in case the india rubber becomes worn, in consequence of use,



the bar, C, may be lowered by adjusting the set screws, d, which secure the bar in the groove, b, in the lower edge of the door. The heads of the set screws may be of any proper form so as to be rather ornamental than otherwise.

The weather strip as described, effectually prevents rain, and also the cold, from entering the house underneath the door. The bar, C, may be adjusted with the greatest facility by loosening the screws, d, and the india rubber will not wear the sill or saddle like the ordinary wooden weather strips.

Elastic weather strips have been arranged with springs, so that a wooden strip may be pressed against the sill or saddle. In these the springs soon rust, become worthless, and besides wear the carpet or floor cloth within the house, and the sill or saddle soon becomes worn in consequence of the friction of the weather strips in passing over them. This one is superior to those in every respect.

For more information address W. Messer, Agent, 68 Wall street, this city.

Lactic acid, in doses of 20 drops, to be taken in half an ounce of water, is reported to be highly useful in those forms of dyspepsia which resist alkalies. It deserves trial.