Rabies Inoculation.

It is now about four years since Pasteur commenced his experiments and researches into the nature of hydrophobia, the results of which have been recently given to the public. Although the profession and scientists generally may not be very sanguine as to the grand results which this distinguished *savant* claims, yet enough has been advanced to warrant the French Government in appointing a commission of scientific men of indisputable authority to investigate the matter and to test the value of the interesting experiments instituted by Pasteur. The names of Vulpian, Villemin, Bert, and Bouley are a sufficient guarantee of the character and reliability of the proposed inquiry. Pasteur in the course of his experiments hit upon the expedient of inoculating the brain of the animal with the virus of rabies. The skull is trephined with a small instrument, and the virus introduced.

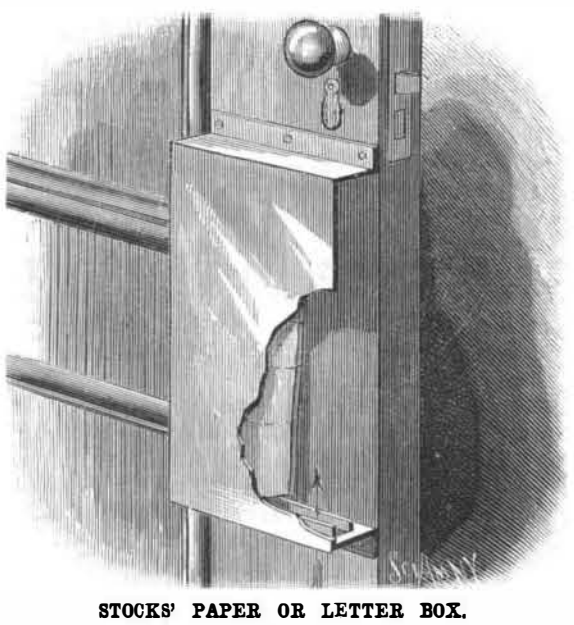
By this method the action of the virus is much hastened, the effects being manifest in a few days, instead of from twelve to fourteen days. In fact, Pasteur thinks he has in this way demonstrated that rabies is a malady of the brain. In the course of his experiments he found that the virus, after having passed through three monkeys in succession, becomes so attenuated that its introduction into a dog is harmless. But when the virus is passed through the rabbit and Guinea pig in like manner, it increases in virulence, becoming more virulent than the virus of the rabid dog. The plan proposed is to take the virus from a rabbit dying after inoculation, and inoculate this successively in other rabbits, and finally in the dog, which is thus rendered refractory to the rabies.

The test experiments proposed by Pasteur consist, first, in causing twenty unprotected dogs and twenty "vaccinated" dogs (presumably protected thereby from poison) to be bitten by dogs in a rabid state; and, second, in artificially inoculating with the virus of rabies two other sets of twenty dogs, respectively vaccinated and unvaccinated. "The twenty vaccinated dogs," says Pasteur, "will resist the poison, and the other twenty will all die of madness."

The importance of this discovery, if true, cannot be overestimated, but we must not be too ready, the Canada *Lancet* says, to express unqualified approval and indorsement of Pasteur's views. It will be observed that he uses, contrary to what one would have supposed, the virus from rabbits, and not the attenuated virus from monkeys. Furthermore, he does not propose to apply the virus for the protection of human beings, although we have read in the press that persons applied to him for inoculation. The experiments so far do not seem to us convincing, and we wait with considerable curiosity, mingled with not a little anxiety, the report of the commission. The result of these trials can hardly fail to be largely decisive of the question one way or the other, and will be an unequivocal illustration of the value of experimental pathology. Meantime, we agree with the man who said that the best way to prevent hydrophobia was "to shoot the dog before he went mad."

PAPER OR LETTER BOX.

A flat box having an open side and one of the longitudinal edges open is secured to the door in such a manner that when the door is closed the open edge of the box will rest against the side of the casing, which thus covers the opening. In the lower end of the box is a slot, the side edges of which are turned inward to form upwardly projecting flanges. When the door is closed the paper is pushed up into the box through the bottom slot, and as the edges of the paper distend after it has been pushed in, they rest over the flanges, thus making it impossible to pull the paper out of the box through the slot. The paper is thus secured until the door is opened, when it can be easily removed from the box through the side opening. The paper is thus protected from thieves and from the weather, and the box is simple in construction and cheap.



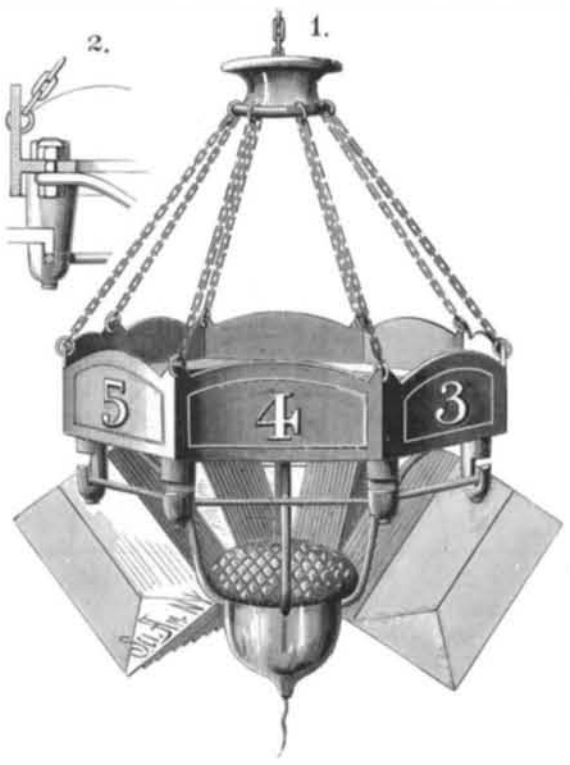
STOCKS' PAPER OR LETTER BOX.

This invention has been patented by Mr. Harry Stocks, and particulars may be obtained from Messrs. Campbell & Hanscom, of Lowell, Mass.

BAG AND TWINE HOLDER.

The bags are strung upon wires carried upon posts depending from a horizontal flange formed on the inner face of the octagonal ring. The wires are held to the parts by a hinge connection at one end of the wires, the hinges being formed by bending down the ends of the wires and passing these portions through holes in the lower ends of the posts, the pins being headed below the posts to hold them in place. The slots in the lower ends of the posts not only afford a means of connecting the hinge pins, but serve as guards to the pointed ends of the pins, which spring into the upper parts of the slots and lodge in the lower parts. The twine holder is made in the shape of an acorn and is attached to the ring by arms.

The cover is held in place by lugs on the lower portion,



GILLILAND'S BAG AND TWINE HOLDER.

which engage the inner edge of the cover when the slots in the cover—which pass over the lugs when the cover is put on—are turned around either way to carry the slots out of line with the lugs. Chains connect the octagonal ring to a collar which is fitted with a swivel hook, in the eye of which a chain is placed to suspend the bag and twine holder at a convenient height above the counter. Figures are cast or painted at the center of each plane face of the ring, to indicate the sizes of the bags held by the wires. In attaching the bags, the points of the wires are lifted from the slots and the bags strung on. The upper edges of the wires are made angular, to facilitate tearing the bags from them.

Further particulars relating to this invention may be obtained from the patentee, Mr. E. I. Gilliland, of Salt Lick, Pa.

Inventions Wanted.

Under this or similar headings the editor of the SCIENTIFIC AMERICAN has frequently called attention to inventions needed or to special manufactures for which there was a present demand.

There is hardly any field of invention which has been so little cultivated as the American house. For instance, what a disgrace it is to the mechanic arts in this country that every stick of timber in every house is not fireproofed by a cheap, practical process, the plant for which should become the second thing after a sawmill to be erected in every new settlement! For want of a cheap, practical process for fireproofing wood, one hundred million dollars' worth of property are destroyed ever year in the United States. The carpenters have hitherto opposed such processes because the mineralized wood is less easily finished with the common tools. But a large part of all the wood in a house is used in the rough, and this objection need not apply to it. For the finished wood let the fireproofing and steam seasoning be done together, after all the finishing has been completed except the final fitting. For the final smoothing, if edge tools will not work, let us have new tools, carrying pumicestone or other abrading and polishing material.

We are entering on a new and more complex system of domestic architecture—the family club house or social palace—which will require a host of new inventions. It is not looking very far ahead to see whole towns built in this way. These buildings must have their internal railways and elevators of all sizes. They must be tunneled for hot and cold air flues, ventilating flues, with artificial draught, steam, gas, water, and sewerage pipes, and speaking tubes. They must be equipped with an electric generator and electric wires for light, power, and telephony, with artificial refrigerating as well as heating apparatus, with gas generators, and the most perfect cooking and washing machinery. All of this machinery must be made on a large scale, with a capacity of subdivision.

There is, at the present moment, one desideratum in the modern house for which no sufficient provision exists, and which would insure a number of fortunes to the parties who would introduce the wished-for article in a cheap and practical form. This is a small elevator, run by the water in our city pipes, of no greater power than *fifty pounds raised ten or twelve feet*, applied to running the common dumb-waiter. This little simple invention would be a very important labor saving machine in the average house with a basement kitchen. It would save its own cost in broken crockery and servants' wages, not to speak of the temper of employers and employed.

There is room for a dozen manufacturers to advertise cheap, practical little elevators for this purpose in the SCIENTIFIC AMERICAN. Once introduced into our city houses, no house with a basement kitchen could go without it. The automatic dumb-waiter would have an enormous distribution.

WM. F. CHANNING.

Taking Down a Chimney.

From a paper entitled "Chimney Construction," by Messrs. R. M. and J. F. Bancroft, we take the following interesting account of an ingenious arrangement employed for taking down a chimney shaft in Middlesboro', England, the method followed being necessary, as the chimney stood in a crowded position, and therefore could not be thrown down. The bricks had to be lowered with as little damage as possible, so that they might be used again for building purposes. Owing to the position of the chimney the bricks could not be thrown down outside, and if thrown down inside they would have been smashed, or if lowered by mechanical means the process would have been very tedious, and was impracticable. Under these circumstances it was considered whether the bricks could not be allowed to fall by their own gravity, and at the same time be cushioned sufficiently to break their fall and prevent damage. In order to do this an airtight iron box was placed at the bottom of the chimney; this box was fitted with an airtight door mounted on hinges, and closing on an India rubber face, against which it was tightened by a wedge.

A wooden spout was then fixed to the top of the box and carried up the chimney; it was 3½" x 5" inside, and was made of planks 1⅛" thick, well nailed together, with a little white lead on the edges, thus making it airtight. The spout was made in about twelve foot lengths, and these were joined together by cast iron sockets or shoes, and corked round with tarred yarn, the whole apparatus costing about $30. A few stays were put inside the chimney to keep the spout steady, and steps were nailed upon it, by which the men ascended. It will be seen that the whole of the spouting being airtight, if a brick filled the spout it would not descend; but as the section of a brick is 3" x 4½", and the spout was 3½" x 5", there was a quarter inch space each way through which the air could pass the brick freely, the space further allowing for any irregularity in the sizes of the bricks. The result was that the bricks, being cushioned in their fall, arrived at the bottom without any damage. As soon as the box was full the man at the bottom rapped on the spout as a signal to stop, and then opened the airtight door and removed the bricks inside. This being done he shut the door and signaled same to the man at the top. The man on the top lowered his own scaffold, and as the spout became too high he cut a piece of with a saw. If there was much mortar adhering to the bricks, it was knocked off before putting the latter into the spout, and such mortar, etc., was allowed to fall inside the chimney, and was afterward wheeled out.

STAMP AND ENVELOPE MOISTENER.

The engraving shows an apparatus for moistening stamps and adhesive envelopes that was recently patented by Mr. D. G. Beaumont, of Laredo, Texas. A box made of any desirable material and of convenient form may be adapted to contain water, or may be provided with a removable water reservoir. The cover is formed with an oblong aperture to receive a wheel upon whose periphery is a covering of cloth or other suitable material which dips in the water in the reservoir. After revolving the wheel so as to saturate the covering with water, the stamps are moistened by pressing them lightly against the covering; this plan avoids the inconvenience of moistening them with the tongue, and also removes very little of the gum.

BEAUMONT'S STAMP AND ENVELOPE MOISTENER.