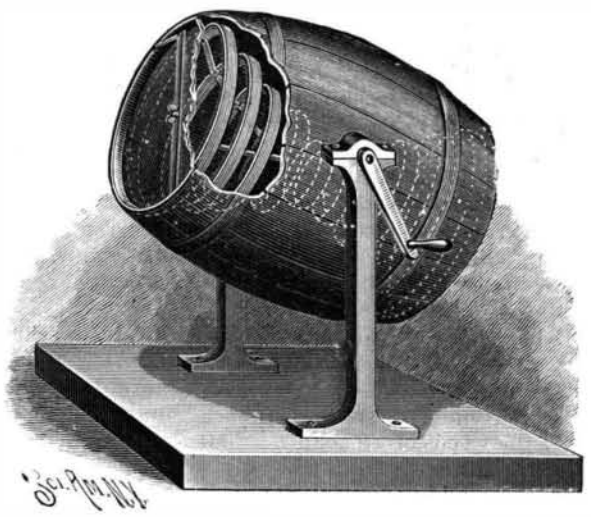
AN IMPROVED CHURN.

The illustration represents a barrel churn of simple construction, adapted to be rotated upon trunnions, and so made that the interior parts may be quickly removed for cleansing and readily replaced in operative position. The improvement has been patented by Mr. John T. Mark, of Strawn, Kansas. The cream agitator of this churn is composed of a series of thin rings, successively diminished in diameter from each end ring to the center ring, the rings being secured to each other at short distances apart by bracket plates,



MARK'S CHURN.

leaving spaces between the rings to permit air and liquid to pass freely through the dasher, the cream striking on the edges of the rings, when the churn is operated. This skeleton dasher is of such size that its end rings will loosely fit against the interior surface of the churn body, to avoid objectionable rattle sidewise or endwise when the churn is in operation, while at the same time the dasher may be readily withdrawn, when the removable head is taken off. The cleaning of the parts is readily effected by introducing hot water and then operating the churn in the same manner as in making butter.

Further information relative to this invention may be had of Mr. Frank Bucher, Hartford, Kansas.

AN IMPROVED TYPEWRITING MACHINE.

The machine shown in the illustration, invented and patented by Mr. Austin Lowe, of Minneapolis, Kansas, besides being a standard typewriter for all ordinary work, is adapted for successful work in bound books of any size, as the machine can be readily clasped upon a book of any breadth or thickness for the recording of a deed or other instrument of writing. It has seventy-four characters, including all carried by any standard machine, while there are but twenty-seven keys to be operated. It strikes downward and travels over the page or paper from left to right along a spacing bar, the printing mechanism moving along the bar weighing only 4½ pounds, while the clasps and the entire machine weigh only 9¾ pounds. The machine has a novel lining device, suitable for application also to other typewriters, insuring perfect regulation of the distances between lines until the machine is worn out. The machine is designed to wear well, without needing repairs, and for ordinary service it is clasped upon a table in any convenient location for the work in hand. Further information relative to this machine may be obtained by addressing Mr. Austin Lowe, Secretary of the Minneapolis Typewriter Company, Minneapolis, Kansas. The other officers of the company are: President, J. E. Ewart; Directors, R. A. McPherson, C. S. Bishoff, and T. E. L. Bishoff.

Historical American Exhibition in Madrid.

An Historical American Exhibition is to be held at Madrid in 1892, to commemorate the fourth centenary of the discovery of America by Columbus in 1492. The exhibition is to consist of objects tending in any way to illustrate the history of America at the period of its discovery.

The exhibition will take place in Madrid in the palace destined for the library and national museum, which will be inaugurated on this occasion, as well as in the park of Madrid. It will be opened to the public on September 12, 1892, and close on December 31 following.

For the examination and adjudication on the merits of the objects exposed, an international jury will be appointed, and the number of its members will be determined in proportion to the number of exhibitors and the importance of the objects exhibited.

The prizes to be granted will consist of diplomas of the following grades: First prize of honor, gold medal, silver medal, brass medal, honorable mention.

The diplomas will be accompanied by a medal commemorative of the exhibition, and will be the same for every kind of prize.

This exhibition will be in connection with a congress arranged to commemorate the discovery of America, which offers prizes for essays on the subject.

Influenza Brought from Russia.

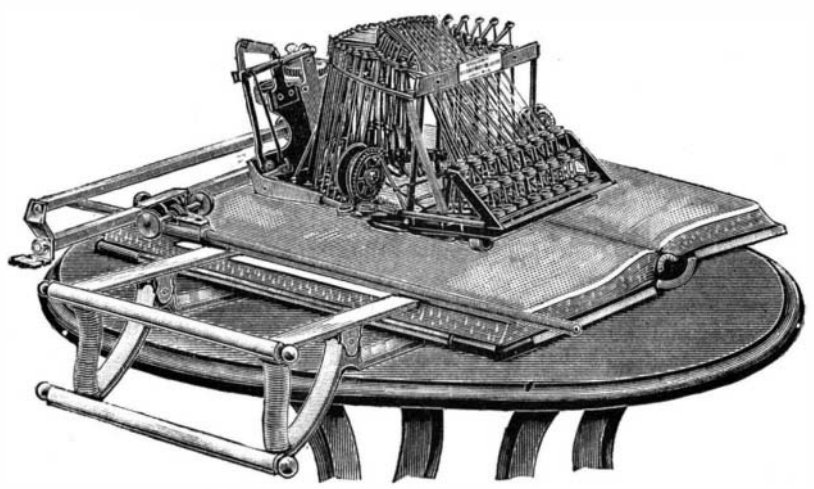
It is the opinion of Professor Meiklejohn that influenza in Russia originates in the churches.

I have just returned from Russia (he writes), and I think I can throw some light on the origin of the plague which has visited us during the last two years, and which wrought such havoc in the House of Commons. I believe I can also make a suggestion toward diminishing its ravages in this country. The most frequented buildings in Russia are the churches and cathedrals, and they are frequented by crowds of the poorest classes. They are "open" from morning till night; but this being "open" is strictly limited by the two or three doors which separate the porch from the main body of the building. The windows, too, are closed; they cannot be opened, and it is doubtful if a cubic foot of fresh air succeeds in making its way inside in the course of twenty-four hours. Just inside the doors the floor of the church is beset by a number of beggars infected with various kinds of loathsome disease. The air of these cathedrals is effete, dead, clay-cold, and especially in the corners and side chapels. The air, such as it is, has been breathed over and over again thousands of times by the dirtiest and most depressed people in Europe, and hence it forms the appropriate *nidus* for the germs of such diseases as attack the mucous membrane and the breathing apparatus. A poison of the intensest virulence is brewed and rebrewed by the inhalations and exhalations of these miserable people. The *bis decies* distilled result is imported into this country by the steamers that carry the trade of the Baltic. You will remember that Hull was the first place attacked and that Parliamentary witnesses from Hull imported the disease into the House of Commons. Brewed in Russia, conveyed in Baltic ships, imported into Hull, distributed in the House of Commons—that is the short story of the Russian influenza.

Now the Houses of Parliament, considered as a whole, are not much better ventilated than the cathedrals of Russia. There are at present no means of sending a wave of fresh air through the various rooms in the building so as to clear out the poisonous germs that lurk in the numerous corners which are provided by its architectural structure. If a great sweep of fresh air could be driven through each room every morning, the dead atmosphere in which disease germs grow and multiply would be expelled, and the rooms would be tolerably healthy for the rest of the day. I have frequently observed the presence of dead air even in the lobby of the House of Commons, and, till this is remedied, there will always be a danger of the return of the influenza and other depressing diseases.

Power of the Bee.

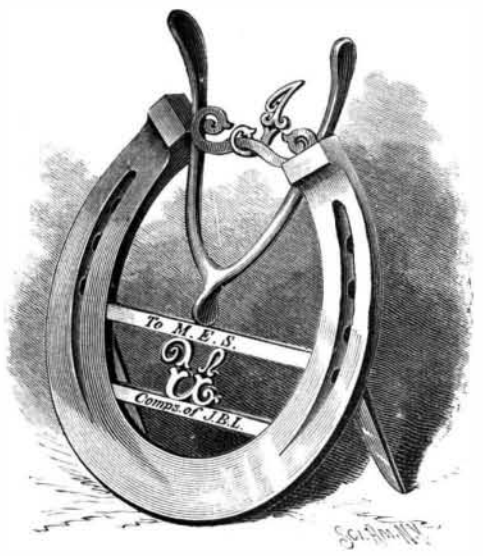
In a recent work on the bee, Mr. T. W. Cowan states that the insect can draw twenty times its own weight, can fly more than four miles an hour, and will seek food at a distance of four miles. By a beautiful mechanical adaptation its wings bear it forward or backward, with upward, downward or suddenly arrested course. Its threefold voice organs are the vibrating wings, the vibrating rings of the abdomen and a true vocal apparatus in the breathing apparatus or spiracle. The buzz is produced by the first two, and the hum, which may be "surly, cheerful, or colloquial significant," by the vocal membrane. A number of the bee's notes have been interpreted. "Humm" is the cry of contentment, "wuh-nuh-nuh" glorifies the egg layings of the queen, "shu-u-u" is the note of the young bees at play, "s-s-s-s" means the muster of a swarm, "b-r-r-r" the slaughter or expulsion of the drones, and the "tu-tu-tu" of the newly hatched young queen is answered by the "qua-qua-qua" of the queens still imprisoned in their cells.



LOWE'S "UNLIMITED" TYPEWRITER.

A DESIGN FOR EASELS AND OTHER STANDS.

The illustration represents a horseshoe combined with a wishbone to constitute an easel, the design forming the subject of a patent which has been issued to Mr. Frederick J. X. Miller, of Olympia, Washington. Between the members of the wishbone at the open end of the horseshoe appears a scroll and an ornamental letter "I," while between transverse bars within the horseshoe is supported an ornamental letter "U," the bars themselves being adapted to receive a



MILLER'S "GOOD LUCK" DESIGN FOR EASELS ETC.

suitable inscription indicating the donor and receiver, or other words if preferred, and the whole device signifying "I wish you good luck." The two supports or legs are preferably in the form of horseshoe nails, but these supports may be entirely omitted, and the device suspended by a crescent or other symbol joining the two points of the wishbone. Paper, metal, celluloid, or a great variety of other material, may be used in the manufacture of this device.

The Art of Lengthening Life.

Dr. Ebstein, of Goettingen, delivered a long discourse on this subject, from which we take the following:

The question as to the natural duration of life is first to be answered. According to the latest discoveries, the average length of life, in the natural order of things, is from seventy to seventy-five years. Women live somewhat longer than men. The mortality among children, particularly less than a year old, is very great. From the age of puberty till the fiftieth year the death rate is small; from that time it becomes greater each year. Too great an old age is a questionable blessing, because a renewal of youth can be reached in no way whatever. It is evident, therefore, that the normal limit of the age of man is that which is attained without bitter breaking down and suffering. The first condition is a good foundation, a descent from parents physically and mentally healthy. Of further importance is suitable maternal care of the child. Then comes the school and military training for the increase of the powers of resistance. In advancing life, a proper activity must not be neglected. "An unused life is an early death." The correct means toward reaching a good old age were given by Moltke, when that question was going the rounds. These were "temperance and work." Not only temperance in regard to eating and drinking, but the same must be practiced in every direction. A great number of deaths in the prime of life occur through accidental wounds. (In business and industrial life and in war.) Another part on account of so-called constitutional illnesses, which are generally the result of some innate physical defect of the human body. These can always be combated. A third part result from contagious diseases. The danger of infection can generally be met by capable measures of defense. The art of lengthening human life has made little advance up to the present time. The age of man, in the average, has become no greater. Also the common principles of long life have been substantially the same in all times, only the relationships of culture and differing eras imply different occurrences and details. The speaker also insisted that the use of alcohol is entirely unnecessary, and that the danger of shortening human life is not to be found in the greatness of intellectual work, but in its unsuitable organization.—*Translated for Public Opinion from the Cincinnati Volksblatt.*

A GOOD fertilizer for the window garden is a tablespoonful of guano, dissolved in a quart of lukewarm water and applied around the roots, once a week. The amount given will be enough to fertilize half a dozen plants in pots of five or six inch size.