

MISCELLANEOUS INVENTIONS.

Mr. John Owen Smith, of Savannah, Ga., has patented a means for protecting windows or doors against the efforts of burglars to break in. It consists in a strong protective frame of metal or wood, provided with lugs at the top, adapted to enter seats formed in plates in the sides of the window frame, and provided with tongues of metal at the bottom, projecting at right angles to the frame inwardly, and adapted to enter horizontal holes in the window-sill and be locked by set screws or pins inside.

A combined button-lap and stay for garments has been patented by Mr. David W. Thompson, of Englewood, Ill. This invention relates to an improved combined button-lap and stay for the openings in garments—such as the opening at the neck of a shirt, the opening in the front or sides of drawers, overalls, etc.; and it consists in the combination, with the garment or body piece having simply a straight slit cut in it where the opening is to be, of a single piece of material, which, when folded and stitched to the sides of the slit, constitutes both an upper and under button-lap or fly, a facing, and a stay for re-enforcing the bottom of the opening, making a finished piece of work without raw edges.

An improved neck-yoke attachment has been patented by Mr. Harrison Hough, of Darlington, Wis. This invention relates to improvements in devices for preventing a wagon tongue from accidentally becoming detached from the neck-yoke and dropping to the ground; and it consists in a spring safety hook, the inner end of which is secured to the under face of the tongue. The spring hook is provided with a slot through which the holdback passes, the tension of the spring hook causing its hook to bear against the tongue near its outer end. By this construction all liability of the neck-yoke becoming detached from the tongue is obviated, the ring of the neck-yoke being prevented from slipping off the outer end of the tongue by the hook, and prevented from slipping backward by the holdback, and the spring safety hook can readily be applied to a tongue with the ordinary holdback.

An improved cuff holder has been patented by Mr. Joseph F. Guignon, of St. Louis, Mo. This invention relates to women's cuff holders; and its object is to do away with pinning the cuff to the dress sleeve, which tends to break and otherwise injure the cuff. It consists in a band of elastic material, which is buttoned to the cuff and allowed to expand against the inside of the dress sleeve by releasing a catch.

An improved heater and cooler has been patented by Mr. Charles W. Payne, of Center, Ark. The object of this invention is to heat beer, milk, or other liquids in cold weather, or cool liquids in hot weather, by partly immersing in said liquids a vessel of peculiar construction, through which a current of hot water, or steam, or cold water is made to circulate and be discharged therefrom without coming in contact with the liquid to be heated or cooled.

An improved mechanical musical instrument has been patented by Mr. Henry Wegman, of Ithaca, N. Y. This invention relates to musical instruments in which strips of perforated material are used for governing the admission of air to the reeds and pipes; and it consists in the novel construction by means of which the reeds and pipes can be operated singly and in combination with the same perforated paper.

An improved mechanical musical instrument has been patented by Mr. Robert W. Pain, of New York city. This invention relates to organs and other wind musical instruments which are mechanically played or controlled by one or more strips or sheets of paper or other suitable material perforated to represent the different notes or sounds it is desired to produce, and caused to pass automatically over air ducts, which, accordingly as they are opened by the perforations in the paper that has a valvular action relatively to said ducts, causes the reeds or other sounding devices to be played as required. The invention applies to instruments of this description in which an air compression pump or bellows is used as distinguished from an exhaust bellows. The invention consists of a cap having secured along its opposite side edges strips of organ leather, rubber, or other suitable flexible material of sufficient width to extend inward from each side to the tubes of the action board, so that the compressed air within the box or reservoir pressing down on the flexible strips will hold them upon that part of the perforated music sheet that is passing beneath them in such a manner that no air can escape from the box, excepting through the tubes or passages of the action board.

An improvement in heating and ventilating buildings has been patented by Mr. Lyman A. Spaulding, of Port Huron, Mich. The object of this invention is to obtain thorough and uniform ventilation of large rooms—such as public halls, school rooms, churches, and railroad cars—and as a consequence a uniform distribution of the heated air from the registers or other source of supply. The inventor uses floor registers connecting by passages with a ventilating shaft, the passages being so arranged that they are of uniform length between the shaft and registers wherever the registers be placed, so that instead of the exit of air being entirely at the registers nearest to the shaft, there will be a uniform action at every register.

Mr. James R. Burville, of Bainbridge, Ohio, has patented an improvement in music leaf turners. This device is designed for turning the leaves of music without attention from the player, except to touch a key, which liberates one leaf after another.

A skirt adjuster, that can be readily attached to and de-

tached from the skirts, has been patented by Nannie C. Green, of Brooklyn, N. Y. The invention consists of two pieces of webbing provided with spring clasps for securing the webbings detachably to the edges of the skirt seams, the webbings being provided with rings or eyelets to receive lacing strings, by means of which the skirt is adjusted.

An improved shuttle box for looms has been patented by Messrs. Levi L. Lukens, of Chester, and Henry Holcroft, of Media, Pa. By a peculiar construction the second spindle, as ordinarily used, is dispensed with, and by this means the inventors are enabled to increase the width of the picker-strap, as desired, which in itself is an important advantage. By dispensing with the ledges, as ordinarily employed, the inventors are enabled to dispense with cutting the recess in the picker, thereby leaving it stronger.

An improved faucet, which can be fastened in the barrel without striking or hammering, has been patented by Mr. Albert Ruehe, of New York city. The faucet is provided with an upright arm near its inner end, which is passed under a catch on the upper end of a plate fastened to the head of a barrel, and provided with a bushing fitting in the bung hole, upon which the outer end of the faucet is pressed, so that the inner end forces the cork into the barrel, when a handle ring mounted loosely on the faucet and provided with a beveled cam is turned, forcing the annular shoulder of the faucet against the plate on the barrel head.

An improved earth scraper has been patented by Mr. Jasper N. Nutt, of Sidney, Ohio. The scoop is of ordinary construction, and is provided with the usual wooden back, but for securing these parts securely together two curved angle plates are employed, which are riveted or bolted to the outer surface of the back and to the curved portions of the scoop. The scoop is further strengthened by cross braces at the back and a shoe on the bottom.

An improvement in coffee pots has been patented by Mr. Jesse L. Fusner, of Bellaire, Ohio. The improvement consists in the combination, with a coffee pot, of an inclined crescent shaped shelf, secured to the inside of the pot below its spout, and provided with perforations near its inner edge, to prevent the grounds from covering the strainer.

Mr. George B. Siegenthaler, of Wooster, Ohio, has patented an improvement in boot straps for leather boots which consists of a strip of leather having its central portion folded to form three thicknesses and its folds suitably secured in place, and provided with the end slits, forming two tongues at each end of the boot strap, the planes of which are at right angles to the flat middle portion of the strap.

Fire Escapes.

Since the burning of the old *World* building the fire escape men have been about in swarms, and the commissioners have been overwhelmed with requests to inspect models. They don't want to see models. If an inventor has not confidence enough in his apparatus to build a practical working machine, he need not expect the commissioners to do it for him. But that is just what they do expect. They come here with models of intricate and cumbersome appliances which they call fire escapes, which it would be impossible to work at a fire, ask the commissioners to build a machine on the principle of the model, and then pay them a royalty for the privilege. The commissioners are not making experiments for the benefit of individuals at the expense of the taxpayers. Besides, there is nothing in the law that authorizes them to spend one dollar for life-saving purposes, or that makes it the duty of firemen any more than policemen to make special efforts to save life. Yet the firemen have always assumed this to be pre-eminently their duty, and no grander record of heroism and martyrdom is recorded than that made by firemen in their efforts to save life. Their experience teaches that the best portable fire escape is found in the light ladders that constitute the equipment of a hook and ladder truck. These are not always long enough, but longer ones would be cumbersome, and if mounted on a special carriage would seldom reach the scene of a conflagration in time to be of service. When buildings are erected beyond the reach of the fire service sixty-five foot ladders, the owners should be compelled to affix permanent ladders or effective escapes to the building. This is a matter for legislation, and owners of buildings should be required by law to provide adequately for the safety of their tenants. The old *World* building was not so equipped, and we trust that those persons who lost relatives by that fire will recover heavy damages against the owner for neglecting to provide fire escapes. With the present tendency to erect nine and ten story buildings, it is utterly impossible to provide the fire department with adequate life-saving apparatus. The owners of the buildings are the responsible parties, and they must be made to pay roundly for their neglect to provide suitable protection for the lives of their tenants.

On the subject of fire escapes the humorous writer of the *New York Times* discourses as follows:

Whenever a fire attended with loss of life takes place in this city scores of people immediately sit down and write to the newspapers suggesting plans for fire escapes. The recent fire in the Potter Building has brought out a more than usually large quantity of these letters, and each writer is sure that if his plan were to be adopted no more people would be burned to death.

Now that the tendency is to put up buildings of six, eight, or ten stories, to fill the upper floors with girls, and to so arrange the elevator shaft as to create a magnificent draught for a fire, the question how to render the inmates of such a building safe in case of fire is manifestly a very important

one. They cannot escape by the roof, for even were the flames to allow them to climb out of the scuttle, they could not safely drop a distance of forty or fifty feet to the roof of the adjoining building. The stairways, being so many chimneys for the fire, would be in nearly all cases useless, and the iron ladders, miscalled fire escapes, which are sometimes placed on the outside of buildings, nearly always prove to be in precisely the part of the building where they are useless. As neither the stairs, the iron outside ladders, nor the roof can be depended upon to enable people to escape from a burning building, it is obvious that some other means of escape must be provided.

The fire department cannot be expected to have ladders long enough to reach to the upper stories of our modern high buildings. Of course, long enough could be built, but they could not be put in position, and the last time the fire department made a trial of a newly-invented ladder, with a view of adopting it in case it should prove to be a success, the machine fell down and killed so many firemen that the department was led to entertain doubts as to its usefulness. The letter-writers do not often suggest the use of any similar apparatus, although one man urges the adoption of his patent fire escape—a sort of telescopic staircase, which could perhaps be placed in a position to do service provided every fire would give a week's notice of its intention to break out. As fires rarely give such notice, this particular fire escape does not seem to be all that could be desired.

An ingenious letter-writer thinks that in the center of every building there should be a fireproof circular tower, in the center of which should be a spiral iron tube, large enough to contain a man in a sitting position. All that the inmates of the building thus furnished would have to do in case of fire would be to ascend to the upper story, seat themselves one by one in the spiral tube, and shoot to the ground floor. It is doubtful if nervous men or timid girls would have the courage to undertake so unusual a journey in the dark, and there are, moreover, serious objections to the proposed spiral tube. Unless the interior of it were to be made perfectly smooth and to be kept well greased, some unfortunate person would be sure to stick in it, and those who might follow him would gradually fill up the choked tube and perish from want of air either before or after undergoing the process of roasting. On the other hand, were the tube to be kept well lubricated the unfortunate users would shoot with such frightful rapidity to the base of the tower that they would reach the landing place insensible, and would perish long before the firemen could drag them out of the tube with large corkscrews and forceps.

Not much better is the plan of the man who thinks that every room above the ground floor should be furnished with a large number of pairs of India-rubber balloons, different only in size from the toy balloons sold in the streets. He proposes that when a fire breaks out every person shall seize a pair of these balloons, inflate them with the gas from the gas burners, and then, holding one in each hand, jump out of the window and float gracefully to the street. This may be practicable in the eyes of the letter-writer, but the public will not have much confidence in the plan until the inventor has personally demonstrated its practicability by jumping from the highest story of the Morse Building with his balloons in his hands. Equally plausible is the scheme of the letter-writer who would compel the fire department to send to every fire a tank twenty five feet high and twelve feet square, mounted on wheels. This tank is to be placed under the windows of the burning building and filled with water from the hydrant, and, when all is ready, people are to be requested to jump into it with confidence that they cannot hurt themselves by jumping from any height into water twenty-five feet deep, and that the firemen will fish them out of the tank before they drown. Beautiful as this plan is in theory, it does not command the approbation of experienced firemen, who think that the water necessary to fill the tank could be employed to better advantage in putting out the fire, and that a tank full of drowned people is as useless a collection of curiosities as can well be imagined.—*Fireman's Journal*.

Iron Shutters Condemned.

During the examination of Mr. Esterbrook, Superintendent of Buildings, by the coroner's jury impaneled to fix the responsibility for the loss of life at the old *World* building fire, he said that there ought not to be an iron shutter permitted on any building in the city. He stated that the effect of iron shutters was to confine a fire within a building, preventing the firemen from gaining access thereto, until it became a raging furnace within, resulting in a fire that could not be controlled. This is also the experience of all veteran firemen, and they are unanimously of the opinion that iron shutters have caused greater losses than they ever prevented. We have, says the *Fireman's Journal*, frequently given expression to this opinion in these columns, and are glad to have the fact so emphatically repeated by so good an authority as Mr. Esterbrook. He suggests that they might be of service in narrow streets in protecting a building from a fire raging on the opposite side of the street, but when employed for this purpose they should be left open habitually and only closed when danger is imminent. A far better protection, however, is a solid shutter made of wood and lined on both sides with tin. It would resist fire longer than iron, and will not break or shrink away from its position and give access to the flames. The sooner iron shutters are abolished the better it will be for property owners, and the more effectively will the firemen be enabled to do their work.