

to our civic corporation, as a gift designed to add another feature of beauty to the many already exhibited in the Central Park. The offer was accepted; the swans recently completed their Atlantic voyage; and on the morning of the 28th ult., the cages containing the birds were conveyed to the edge of the skating pond and opened. On catching a glimpse of the element in which they naturally love to sport, and of which they had been deprived since their departure from Germany, the swans eagerly rushed from their cages, and, entering the water, were soon floating majestically on its surface. At present their plumage is quite soiled—a result due, probably, to “a life on the ocean wave;” doubtless, it will soon regain its pristine purity, now that the birds have the free use of their favorite element. The swans are ten in number—five male and five female; they occupy the lower portion of the pond, while a number of beautiful white ducks occupy the upper portion.

#### AXES WITHOUT EYES.

The reading public of the United States has been entertained, at John Bull's expense, with a story about an English engineer who was so “stuffy” about his prejudices against American axes, that he sent to England a model of an ax of his own, with orders for some thousands “of that exact pattern.” He did not think it necessary to cut an eye in the model, presuming that would be taken for granted as left to the maker to form in the usual way. The arrival of the large invoice of axes without eyes, and consequently useless, was duly chronicled and laughed at by a Montreal paper, from which we copied it; and from us most of the papers in the Union passed the tale around. The story has afforded so much fun to millions of our people, that it is not without some misgivings of the soundness of that philosophy which makes the exposure of untruth the highest virtue, that we prick the bubble and let out the gas.

We are advised by the officers of the Grand Trunk Railway, for whose use the tools were said to be ordered, that the whole story is a fabrication; and its object, probably, was to see if Yankee ingenuity would not contrive some use for axes without eyes, and bring “bids” accordingly. The fabricator of the *canard* was not disappointed in his expectation. Our Philadelphia friends are now manufacturing improved axes and other handled tools without eyes, under a patent obtained through the Scientific American Patent Agency, and which was described on page 268 of the present volume of the SCIENTIFIC AMERICAN; and their application to Montreal for the eyeless axes has revealed the hoax. Moreover, the Yankees will probably yet show “our Canadian cousins” that the truly scientific way to make picks and axes is without eyes.

**THE NEW PATENT BILL PASSED THE SENATE.**—On the 26th ult., on motion of Senator Bigler, (the new Patent Bill (a full copy of which we published, with editorial comments, on page 146 of the present volume of the SCIENTIFIC AMERICAN) was taken up and passed. That clause of the bill against which we contended—the abridgement of the right of appeal from the decision of the Commissioner—was (on motion of Senator Hale) stricken out. On motion also of the same senator, the power to appoint the Examiners-in-chief was taken from the Commissioner and lodged with the President, by and with the advice and consent of the Senate. Before this bill can become a law, it must pass the House, and receive the signature of the President. We may have occasion to refer to the bill again in our next issue.

**ANOTHER COAL MINE EXPLOSION—VENTILATION.**—An explosion of fire-damp took place at Stanton's mines, near Wilkesbarre, Pa., on the afternoon of the 31st ult. Three persons were killed, and one severely injured. Had this mine been properly ventilated, no such accident would have occurred. We take this opportunity of directing attention to an important article on this subject on another page, in which a description is given of the method of mine-ventilation by the steam jet.

The present volume of the SCIENTIFIC AMERICAN will close in two weeks from this date, and we hope those of our subscribers whose terms expire with this volume will be prompt in remitting their subscriptions for the next one; not only this, but that they will exert themselves to form a club, and thus avail themselves of our liberal clubbing rates.

#### WEEKLY SUMMARY OF INVENTIONS

The following inventions are among the most useful improvements patented this week. For the claims to these inventions the reader is referred to the official list on another page:—

##### WOOL-BURRING PROCESS.

In the wool obtained from South America, variously known as “Buenos Ayres,” and “South American,” there is almost invariably a burr of a peculiar character, all attempts at whose entire removal by machinery have hitherto resulted unsuccessfully, and the consequence has been that this wool, though otherwise of excellent quality, has only been used in the textile manufactures for goods greatly inferior to what would be made from wool of similar quality grown in the United States. The difficulty of removing the burr has arisen from its being composed of a rather brittle spirally-arranged bearded fiber, and when the wool has been subjected to the action of ordinary burring, picking, carding, or combing machinery, without previous preparation, this fiber has been liable to be unwound, and broken and distributed among the wool, to which its beard then clings with such tenacity that no picking or carding operation will remove it. This invention is more especially directed to the removal of the peculiar kind of burr above-mentioned; and to this end the nature thereof consists in subjecting the wool to a sufficient pressure, by passing it between loaded rollers or by any other suitable means, to so compress the burrs as to destroy their fibrous structure. This being done, the ordinary processes of picking, combing, or carding, or either of them, subsequently performed on the wool will either throw the burrs out entire, or cause them to crumble and fall out in dust or small pieces. The inventor of this improvement is Charles L. Harding, of Winooski Falls, Vt.

##### GOVERNOR.

The object of this invention is so to apply the governor in connection with the throttle or regulating valve that the necessary movement of the said valve may be imparted to it by the rotary motion of the governor, and not directly by the act of the change of the planes of revolution thereof, that such a movement may be effected very quickly, and that as soon as it has been effected the governor shall detach itself from the valve and remain detached therefrom till further action becomes necessary to regulate the engine or motor. The credit of this contrivance is due to George W. Rains, of Newburgh, N. Y.

##### SECURING TUBES IN TUBE SHEETS.

The object of this invention is so to apply copper or other soft metal in making the joints between iron tubes and the tube sheets in locomotive and other boilers, as to obtain cheaply all the advantages to be derived from its use, that is to say, the making of the joint perfectly tight, without exposing it to the action of the cinders passing through the tubes and thereby rendering it liable to be cut or worn out; and to this end the invention consists in fitting the exteriors of the terminal portions of the iron tubes with ferules of copper or other soft metal, so applied as to be interposed between the iron tubes and the sheets, and thereby to enable the joints to be made tight by caulking, but to be protected by the tubes. This improvement was designed by S. I. Hayes, of Chicago, Ill.

##### HEATERS.

The object of this invention is to employ steam for warming buildings at a pressure as much below that of the atmosphere, or as little above it as may be desirable, and at the same time to obtain an equal distribution of the steam to all parts of a heater or radiator; thereby obtaining a very considerable range of temperature in the use of water as a warming medium, and a uniformity of temperature of all parts of the warming surface; and to this end this invention consists in the admission of the steam to the heater or radiator by means of numerous perforations, very fine slits or other narrow openings so arranged as to deliver it into the heater or radiator at or very near the bottom thereof, and at all parts of its horizontal area, in very thin jets or streams, or, in other words, in a minutely divided state, by which its uniform diffusion throughout all parts of the interior and over all parts of the warming surfaces is obtained. This device has been patented to Lewis W. Leeds and Calvert Vaux, of this city.

##### SKATE ATTACHMENT.

This invention consists in an improved method of operating the sole and heel clamps so as to forcibly contract or expand them, either simultaneously or alternately, at one operation, and by a screw rod which passes through two straps or slotted plates, to which plates the clamping bars or plates are attached so that as the rod is turned the clamps on the sole plate will be made to approach or recede from each other by the slotted plate, and the action of the oblique or V-shaped slots on pins projecting from the clamps, and so also with the heel clamps after the forward clamps are tightened up. The patentee of this invention is John Lovatt, of Newark, N. J.

##### BARK MILL.

The object of this invention is to obtain a grinding mill by which damp or wet bark may be ground with facility, and in a perfect manner. There are many forms of bark mills which will grind, expeditiously and well, dry bark, but which will, when fed with wet or damp bark, become choked and clogged causing much trouble and delay, besides working very inefficiently, this difficulty is obviated by employing rotary burrs and stationary grates arranged in a novel way, and also in using in connection therewith breakers arranged to operate conjointly with the burrs and grates to effect the desired end. William Tansley, of Salisbury, N. Y., is the inventor.

##### DUMB-BELLS.

This invention consists in constructing the balls of any suitable number of sections, each of which may be secured together by a rod passing through the axis of the same, and connecting the two balls or nests of sections forming the balls together; and it consists in connecting the hemi-spherical or semi-spheroidal shells together in such a manner that each pair of shells may be brought together and made to form a perfect dumb-bell, or so that the outer shell may be filled up with one, two, or more smaller ones, and the whole confined in place; the balls being thus made up of large and small shells the lightest weight is obtained by using only the empty shells, while the weight may be gradually increased by filling-up the shells, one by one, with the sections. This improvement was designed by D. F. Savage, of Boston, Mass.

##### FIRE-ESCAPE.

Among the large number of fire-escapes which have recently been patented, the subject of this invention is one of the most effective, simplest and readiest means to save persons or articles from a burning building. It consists simply of a rope drawn through an S-shaped tube or wound around a pivot, or otherwise so arranged that the portion of the rope on the interior of said tube, or on the outside of said pivot, causes a retardation of the downward motion of the latter, which retardation is adjusted by the strain exerted on the rope, so that persons or articles attached to said tube or to said pivot can be lowered either by the agency of the descending persons themselves or by the agency of persons on the ground, with any desired velocity. This escape is of peculiar value for hotels or other buildings in which a large number of people dwell together, and it has been successfully tried in several hotels in this city. The credit of this invention is due to Albin Warth, of No. 19 Duane-street, this city, who obtained a patent for the same through the Scientific American Patent Agency.

##### ATTACHING BOWS TO KEYS.

In the construction of iron keys for locks, ornamental bows are frequently attached; the same being cast of brass or other metal that may be readily electro-plated, and forming an economical ornament. These bows have hitherto been most generally attached to keys by casting them on the ends of the arbors; but the contact of the melted metal with the iron causes the castings to be “blown” in many cases, thereby greatly deteriorating the work, and commercially reducing them in value. The brazing of the bows to the arbor, which might be done, would be attended with too much cost, as considerable manipulation would be required to perform the work. E. L. Gaylord, of Terryville, Conn., has patented a mode of attaching key bows, which consists in “upsetting” the metal of the bows around a head or knob on the end of the arbor, whereby not only a firm and secure connection is obtained, but one that may be more expeditiously made than hitherto.