the fixed collars, j j, or their equivalents, so as to receive and turn with the ends of the governor arms, e e, and thereby obviate excessive friction and destructive wear, substantially as specified,

2,740.—D. S. Kimball, of Lowell, Mass., for Improvement in Carding Engines:

I claim my improved carding machine, having its parts constructed and made to operate together, in manner substantially as set forth,

I also claim the application of the guards, c c, or their equivalents, to the sides of the screen, and so as to operate with the main card cylinder, in manner and for the purpose set forth.

2,741.—Thomas Lee, of Newark, N. J., for Improvement in Breech-Loading Firearm:

I claim removing the spent cartridge from its chamber by means of the arms, c c, pins, e e, and parols, a a, in combination with appliances, substantially such as shown, for opening and closing the breech, all essentially for the purpose and in the manner set forth.

2,742.—Elisha Matteson, of Brooklyn, N. Y., for Improvement in Projectiles for Firearms:

I claim, first, Making the base of the angular passage, B C C A′, of the projectile in its transverse vertical section in the form of a section of a truncated cone, in the manner and for the purpose described.

Second, A cartridge formed of the improved projectile, A B C A′, and the ordinary charged paper or bag case and a rubber band, in the manner and for the purpose described.

2,743.—Morris Mattson, of Boston, Mass., for Improvement in Enema Syringes:

I claim the connection, consisting of the perforated screw plug, m, on to which the connecting pipe screws, confining the bag between the pipe and the head, 5, of the plug, in the manner substantially as described.

2,744.—J. C. and C. N. Mayberry, of White Rock, Ill., for Improvement in Harvesting Machines:

I claim, first, The elevated yoke, E, connecting the linked rear rail, b, of the balanced frame, A, and employed in connection with the thrusting tongue, D, rope, F, and pulley, c d, substantially as and for the purposes set forth.

Second, The endless conveying and elevating apron, K, carried at one end in an inclined frame, L M, jointed midway of its length in standards, g, in the manner and for the purpose shown and explained

[This invention relates to certain improvements in that class of harvesters in which the team is placed behind the frame of the machine, and an endless apron employed for discharging the cut grain. The object of the invention is to balance the machine more evenly than hitherto, cause the same to work steadier or with less vibration, equalize the draught, render the cutting device capable of being raised and lowered with facility, and enable the discharging apron to be adjusted to suit receiving wagons of different hights.]

2,745.—Wm. Morehouse, of Buffalo, N. Y., for Improvement in Lamps:

I claim the combination of the cylinder or case, D, tube, C, and plates, E F, arranged relatively, with the wick tube, B, and cone or deflector, E, to operate as and for the purpose set forth.

[An engraving of this invention will soon appear in our paper.]

2,746.—Wm. Morehouse, of Buffalo, N. Y., for Improvement in Sash Supporters:

I claim a sash retainer, constructed and operating in the manner and for the purpose set forth.

I claim constructing the bearings, d, of the box, E, plane-surfaced, and of a length greater than the diameter of the axle of the wheel, B, in the manner and for the purpose set forth.

I claim regulating the pressure of the roller, B, upon the sash rail, i, by means of the inclined shouldered brake, H, and tapered set screw, n, in the manner and for the purpose specified.

2,747.—L. H. Olmsted, of Binghamton, N. Y., for Improvement in Oilers:

I claim an oiler, made with a semi-spherical bottom, without seam, a flexible cover and a conducting wire attached to the extremity of the tube, all as shown and described.

[The nature of this invention consists in making the body of an oiler of semi-spherical form, so that no matter in what position it is placed, if left free to act of itself it will assume an upright position. It also consists in making the cover of the oiler flexible instead of the bottom or sides, thus bringing all seams above the oil in the can. It also consists in an arrangement of conducting wire to prevent waste of oil by running down on the outside of the nozzle every time the oiler is used.]

2,748.—H. J. Phillips, of New York City, for Improvement in Convertible Overcoat and Tent:

I claim a combined tent, overcoat and cape, made as shown and described.

2,749.—Charles Ray, of Boston, Mass., for Improvement in Stirrups:

I claim the application to the sides of stirrups of a revolving surface, however arranged, so as to prevent the feet of the rider from catching in the stirrups, in combination with a step or bottom having a fixed and non-rotating surface, and which bottom shall be rigidly attached to the frame of the stirrup, substantially as described.

2,750.—Addison M. Sawyer, of Fitchburg, Mass., for Improvement in Canister Shot for Ordnance:

I claim a canister shot, constructed in the manner substantially as described.

2,751.—Thomas Schankwiler, of Fayette, N. Y., for Improved Mode of Constructing Horse Powers:

I claim the arrangement and combination of the levers, e, draft rods, f, fulcrum bearing, d, socket, e, and connecting rod, g, substantially in the manner and for the purposes shown and described.

2,752.—W. G. Sherwin, James McFarland and Charles Thieme, of Cincinnati, Ohio, for an Improvement in Breech-Loading Ordnance:

I claim, first, The arrangements of a nipple, H I, at the bottom of a cartridge chamber, when in position for loading, so that the vent will be automatically closed, substantially as set forth.

Second, In combination with a faucet breech, which requires the charge in a vertical position, as explained, the projecting point or points, I, of the nipple, for the purpose of opening the cartridge by its own weight in the act of loading.

Third, The cock or capper, J J, adapted to perform the several offices of capping, firing and uncapping the nipple, together with holding the vibratory breech rigidly and exactly to its place while discharging, substantially as set forth.

2,753.—Aaron Shute, of Flushing, N. Y., for an Improvement in Fire-Escapes:

I claim the chain ladder, E, when connected to the building and to the tilting-box, D, and the latter provided with catches or levers, b b, arranged as described or in any equivalent way, so as to admit of the releasing of the box, D, and the liberation of the ladder, E, when required, and for the purpose set forth.

2,754.—David N. Skillings, of Boston, Mass., assignor to Himself and D. B., Flynt, of Cambridge, Mass., for an Improvement in Portable Houses:

I claim my improved portable house, having its framing constructed substantially as described, and the sides, ends and roof constructed in sections, as set forth, and applied to the framing in the manner specified.

2,755.—Charles Ward, of Salem, Mass., for an Improved Mode of Securing Knobs to Doors, Drawers, &c.:

I claim the described attachment for fastening on knobs or other articles, substantially as specified.

2,756.—S. L. Whetstone, of Cincinnati, Ohio, for an Improvement in Locomotives:

I claim the use in a locomotive of wheels applied to bear against opposite sides of a rail, in combination with wheels running upon top of the same rail, when the side wheels derive suitable pressure from the weight of the locomotive through a system of levers, or their substantial equivalents, as is fully represented.

2,757.—W. A. Wood, of Hoosick Falls, N. Y., for an Improvements in Rakes for Harvesters:

I claim, first, A jointed rake stale that will, in connection with an endless traveling belt, traverse the sides of the platform, and sweep therefrom, and deliver the cut grain, substantially as described.

Second, I claim connecting the jointed rake stale to the outer or grain side of the platform, so that the delivery point for the gavel may be next to, or at, or near the rear of the main frame, substantially as described.

2,758.—George Bradley, of Paterson, N. J., assignor to Jacob S. Rogers, of the same place, for an Improvement in Carding Engines:

I claim, first, Causing a stripping cylinder, C, covered with card clothing or equivalent material, which retains the strippings to be automatically operated against the main cylinder, so as to strip it during a certain period and then to be separated therefrom, and to be in turn stripped or cleaned by suitable mechanism, and to deposit the strippings separate from the fibers which are being carded, substantially in the manner and for the purpose described.

Second, Turning the stripping cylinder, C, slowly backward, or in the reverse direction to that in which it performs its function of a stripper, and thereby subjecting its surface to the action of the clearing comb, N, or its equivalent, in combination with a motion of the said stripping cylinder, C, to and from the main cylinder, substantially as and for the purposes set forth.

2,759.—D. H. Chamberlain, of West Roxbury, Mass., assignor to Himself and Alexander H. Twombly, of Boston, Mass., for an Improvement in Tubes for Surface Condensers:

I claim a surface condenser having its tubes strengthened by rings, as set forth for the purpose specified.

2,760.—W. E. Frost, of Clinton, Mass., assignor to Washburn & Moen, of Worcester, Mass., for an Improvement in Skirt Wire:

I claim a skirt wire, A, provided with an openly braided covering, B, when combined with a suitable size, or glazing, b, as set forth.

[This invention has for its object, first, economy in stock; second, rapidity of construction; third, an improved appearance when in a finished state; fourth, durability, and, fifth, a greater facility than usual in manufacturing the skirts.]

2,761.—John W. Lane, of Newton, N. J., assignor to W. and B. Douglas, of Middletown, Conn., for an Improvement in Pumps:

I claim the water chamber, or reservoir, C, in combination with the induction pipe formed of two parts, B and B so arranged and applied to the pump to operate as and for the purpose set fourth.

2,762.—E. C. Townsend (assignor to Smith & Browner), of New York City, for Improvement in Neck Ties:

I claim a neck tie made of paper, and adapted to the neck of the wearer, substantially in the manner described.

2,763.—Christian Weitman (assignor to himself, H. W. Glynn and A. Hageman), of Independence, Iowa, for Improved Device for Shrinking Tires:

I claim the plate, A, provided with a series of semicircular concentric holes, a, a and pins, b, in combination with the chain, B, and lever, C, all arranged substantially as and for the purpose set forth.

[The object of this invention is to obtain a simple device whereby the tires of wheels may be shrunk so as to fit snugly and tightly to the wheels without the necessity of cutting and re-welding them, the invention admitting of ordinary persons, not mechanics, such as farmers teamsters, &c., setting the tires of their own vehicles when necessary without the aid of a mechanic.]

2,764.—G. F. Wilson, of Providence, R. I., for Improvement in Army Cooking Wagons:

I claim, first, Combining the above mentioned oven with an army wagon or other vehicle, substantially as described.

Second, The combination of the said oven or baker with either the boiler or broiling apparatus or both, and this combination with the wagon substantially as described, for the purpose of making a portable army cooking stove.

2,765.—Arnold Hamilton, of Broad Brook, Conn., for Improvement in Breech-Loading Firearms:

I claim the combination and arrangement of the sliding-charge chamber, C, with the conical-shaped chamber of the barrel, A, at its breech and the lever-toothed sector, F E, substantially as and for the purpose described.

RE-ISSUES.

131.—Wendell Wright, of New York City, for Improvement in Friction Clutches. Patented June 15, 1852:

I claim, first, Operating the friction segments to bring them into and out of contact with the inner periphery of the pulley by means of a connection with a sleeve, E, sliding longitudinally upon the shaft of the pulley, substantially as described.

Second, So supplying the friction segments in combination with the shaft hand pulley that the centrifugal force developed in the segments by their rotary motion, shall be allowed to force them outward against the inner periphery of the pulley, and so be productive of friction between the segments and pulley and made instrumental in or accessory to the transmission of rotary motion, substantially as described.

132.—[Re-issues Nos. 127 and 128, of October 29, were cancelled, and Nos. 132 and 133 issued in lieu thereof.] D. G. Littlefield, of Albany, N. Y., for Improvement in Stoves:

I claim an organization which temporarily confines the gases of the supply coal in a coal supply chamber, then burns the gases of the supply coal, and the gases of the incandescent coal laterally below and outside of the coal supply chamber, and entirely down to the grate and thereafter circulates the spent gases or a portion of them over the top of the coal supply chamber and between it and the outer wall of the stove, and finally discharges them through a flue leading outside the room in which the stove is situated.

133.—D. G. Littlefield, of Albany, N. Y., for Improvement in Stoves. Patented, Jan. 24, 1854:

I claim, first, The vertical wedge-shaped passages between the grate bars of the fire pot substantially as described.

Second, The employment of a grated fire pot forming a downward continuation of a coal supply pot, in combination with a gas-consuming chamber or flue between the outer case and the connected fire and coal supply pot, and an externally discharging spent-gas pipe, substantially as and for the purpose set forth.

Third, I claim an illuminated exterior wall, M, in combination with a coal supply chamber and an intermediate gas-consuming chamber, substantially as described.

DESIGNS.

H. G. Thompson (assignor to Hartford Carpet Company), New York City, for 15 patents for Designs for Carpet Patterns.

NOTE.—The number of applicants for patents is steadily augmenting and the Patent Office begins again to assume a busy aspect. Of the above list of patents, THIRTY-THREE of the number were cases, the specifications and drawings of which were prepared at the Scientific American Patent Agency.

TO OUR READERS.

Models are required to accompany applications for Patents under the new law, the same as formerly, except on Design Patents, when two good drawings are all that is required to accompany the petition, specification and oath, except the government fee.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

Notes and Queries

C. G., of Mo.—The method practiced in the French cavalry in the Crimea, of securing their horses at night, was to stretch a strong rope along the ground, fastening it securely, and then tying the horse to it by one of his fore legs.

H. R., of Md.—We shall be happy to attend to the examination of your rejected case at the Patent Office. If the reasons for refusing your claims are unsound, which is not unusual, we can no doubt prosecute them to a successful issue, in spite of the rejection.

G. C., of Mass.—We advise you to have a preliminary examination made of your invention through the Patent Office. This examination is carefully made through our Branch Office, and will generally determine beforehand the novelty of your plan. As a precautionary measure we recommend it to inventors who intend to apply for a patent.

A. D. C., of Mass.—A cement of plaster of Paris should be able to stop the leak in your jar containing the silver solution. Apply a thin cement of the plaster on the inside, so as to fill up the crack.

H. W. C., of N. Y.—A gun has been constructed with a wrought-iron cylinder heated and suspended in a mould and molten cast iron cast around it, so as to form a partly cast and wrought-iron gun.

D. T., of Ohio.—You can obtain carbonic acid gas in large quantities by heating chalk in a clay retort up to a red heat. This is the cheapest mode of obtaining this gas known to us, but a more simple method consists in pouring sulphuric acid among chalk or marble dust. The acid combines with the lime and sets the gas free.

N. Van H., of Pa.—Beechwood boiled in linseed oil for about three minutes and fitted endwise in journal boxes, makes very durable and excellent bearings for the shafting of machinery.

P. S., of Mass.—You wish to know the cheapest solution that you can use for neutralizing sulphuric acid in your blocks of timber. A caustic alkaline lye made by stirring equal weights of common soda and fresh slacked lime in water, then allowing the sediment to settle to the bottom of the vessel, is the cheapest and best that you can use. The clear lye thus made is the well-known "washing fluid," and it is the lye that is employed for making hard soap by boiling oil or grease with it for several hours.

H. G., of N. Y.—The Commissioner of Patents has no power to annul an existing patent. He can order an interference to be declared between an existing patent and a pending application for a patent for the same invention, and then require testimony from each party in order to substantiate the question of priority of invention. If this is proved by the applicant for the pending case, the Commissioner exercises the right to grant the second patent.

H. D. P., of N. Y.—On page 356, Vol. III. (new series) of the SCIENTIFIC AMERICAN, you will find an engraving of President Lincoln's mode of buoying vessels over sand bars. It was patented May 22, 1849, and will expire the same month and day in 1863, unless he gets a renewal of his patent, which it is not probable he will do, We are not aware whether he is or is not the first President elected from the ranks of inventors.

D. J. C., of Mass.—The back pressure of the atmosphere on exhaust ports of an engine is in proportion to the size of the ports and it is the same relatively as it regards the size of the muzzle of a gun. The larger the area of muzzle in proportion to the bore of the barrel the greater, therefore, should be the recoil of the gun.

A. B. C., of C. W.—We do not know the address of the manufacturers of enameled cloth for carriage top but the article is made in Newark, N.J.

E. D. H. of C. W.—The McNary Knitting Machine Co., No. 25 William street, have patents for knitting stockings complete. Address also, J. B. Aiken, of Manchester, N. H.

R. W., of Ill.—We are not acquainted with the proportions of the ingredients used in making Arnold's writing fluid. It has never been patented, and is therefore kept secret from the public.

G. P., of N. Y.—Lead one-eighth of an inch thick will re- sist the pressure of steam, provided the pipe is small enough. The larger the pipe the thicker must the lead be. Iron is better.

W. B., of Iowa.—Make the area of the chimney of your steam boiler equal to that of all the flues, carry it up 40 feet high, make the inside smooth, with a good coat of plaster and you will obtain a good draft. There are no fears of the chimney drawing if it is kept warm and dry.—There is a great variety of opinions among millers respecting the best dress of burr stones. Study those which have been illustrated in the SCIENTIFIC AMERICAN. See page 192, Vol. 4, present series.

L. C. R., of N. J.—The flooring of a basement with a cellar underneath should endure as long as that of any other floor if you maintain a circulation of air underneath. If you char the joists of such flooring by slightly burning them they will last much longer Hot pitch, or a solution of sulphate of copper, applied to the joists and flooring will also tend to render them more enduring.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, Nov. 27, 1861 :—

A. H. W., of Vt., $20; E. B., of Conn., $20; C. W. L., of N. Y., $20 J. W., of Conn, $20; H. H. D., of Conn., $20; T. M. C., of Mass., $25; T. & Bro., of Conn., $20; G. W., of N. Y., $15; C. W. S., of N. Y., $20; J. T. H., of Cal., $19; I. De H., of Pa., $25; O. N. B., of Iowa; $15; L. D. C., of Mich., $25; J. C. N., of Pa., $15; P. and T., of Md., $275; J. W. F., of Pa., $55; J. B. & Co., of Ill., $15; N. P. E., of N. J., $22; J. B. R., of Mich., $30; E. M. and J. E. M., of N. Y., $20; F. W. W., of Mass., $15; E. K., Jr., of N. Y., $20; W. C. K., of N. Y., $20; C. H. B., of Pa., $25; E. and P., of N. J., $20; W. H. B., of R. I., $15; W. R. S., of N. Y., $15; E. M., of N. Y., $10; A. Y., of O., $10; E. P., of Cal., $20; E. R. O., of O., $25; S. and L. A. D., of R. I., $15; I. L. H., of R. I., $15; A. S. F., of N. Y., 25; S. H. and H., of Mass., $30; S. G. B., of Conn., $25; W. H. S., of Conn., $45; A. J. B., of Mass., $43; H. K., of Conn., $20; W. H. J., of N. Y., $20; L. A., of Mass., $20; F. W. W., of N. Y., $20; B. H. H., of N. Y., $63; T. C. B., of Vt., $15; W. M., of Mass., $15; T. G., of Ill., $25; E. M. S., of N. Y., $15; E. C. M., of N. Y., $15; H. C. S., of Me., $25; M. S. and S., of N. Y., $15; D. W. W., of Conn., $15.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Nov. 20, to Wednesday, Nov. 27, 1861:—

T. M. C., of Mass. ; C. W. S., of N. Y.; C. H. B., of Pa.; B. H. H., of N. Y.; A. Y., of Ohio; I. DeH. of Pa.; T. A. G., of Ill.; J. S., of N. Y.; L. D. C., of Mich.; J. B., of Cal.; S. G. B., of Conn.; C. T. V., of Pa.; C. D. J., of France; I. L. H., of R. I. (2 cases;) W. W. W., of Ill.; H. C. S., of Me.; A. S. F., of N. Y.; A. J. B., of Mass.; W. B., of N. Y.; A. B. H., of Conn.; J. C. N., of Pa.; W. H. B., of England; E. M. S., of N. Y.; E. R. O., of Ohio: E. E., of Cal.; A. S. F., of N. Y.

What a Bee Keeper has Observed.

It is found that a bee hive requires to be ventilated and at the same time to afford protection from the cold. Both of these desiderata are secured in the hive represented in the annexed engravings.

Each wall of the hive is made of two sheets of wire cloth—say one and a half inches apart—with the space between filled with straw. This porous structure admits of the most thorough ventilation, and perfectly protects the bees from the cold. The outer sheet of wire is attached with screws so that it may be readily removed with the straw for the purpose of examining the interior of the hive. The bees are then seen through the meshes of the inner cloth. The inner sheet is also secured in a way to permit it to be taken out for convenience in removing the comb.

The hive is represented in Fig. 1, and the wire frame in Fig. 2. A is the top box that covers the honey boxes, ventilated and chamfered at the bottom to insure a closer fit to the hive, and also to avoid crushing bees in putting it on, as well as to leave no place for the miller to deposit its eggs. The size of the entrance, *b*, may be regulated by the board, *c*, which is secured to the front of the top box by screws passing through the inclined slots in the boards, so that by pushing the board endwise it may be varied at will. The opening may be closed entirely by pushing together the blocks, *d d*.

The bottom of the hive is made in the form of an inverted pyramid, with an opening at the center, which is closed by means of a tin cup that may be removed to throw out the dirt produced by the bees.

In relation to this hive the inventor says :—

"Since I have been using my wire hives I have learned so much of the ingenuity and cunning of the honey bee and also of the bee moth, that I am persuaded that all the bees need to protect themselves from the destructive work of the moth, is a good and healthy hive, one that is protected from the exterior, so that the moth can find no place to deposit its eggs and have them hatched by the warmth of the bees or sun, and where the young worm can find no food on which to subsist until it finds its way into the hive. If bees are placed in a poor hive they know it as well as, and sometimes better, than their masters, and very frequently become disgusted and leave for the woods. But if placed in a good hive they will manifest their knowledge of its worth to them by their energetic labor and faithful watch over the entrance at night. The miller finds no admittance there, and if it cannot find a suitable place to deposit its eggs in some crack or crevice in the hive, it will sometimes attempt to force its way in against the guard at the entrance. I have often seen it caught and torn to pieces by the bees while attempting this forcible entrance.

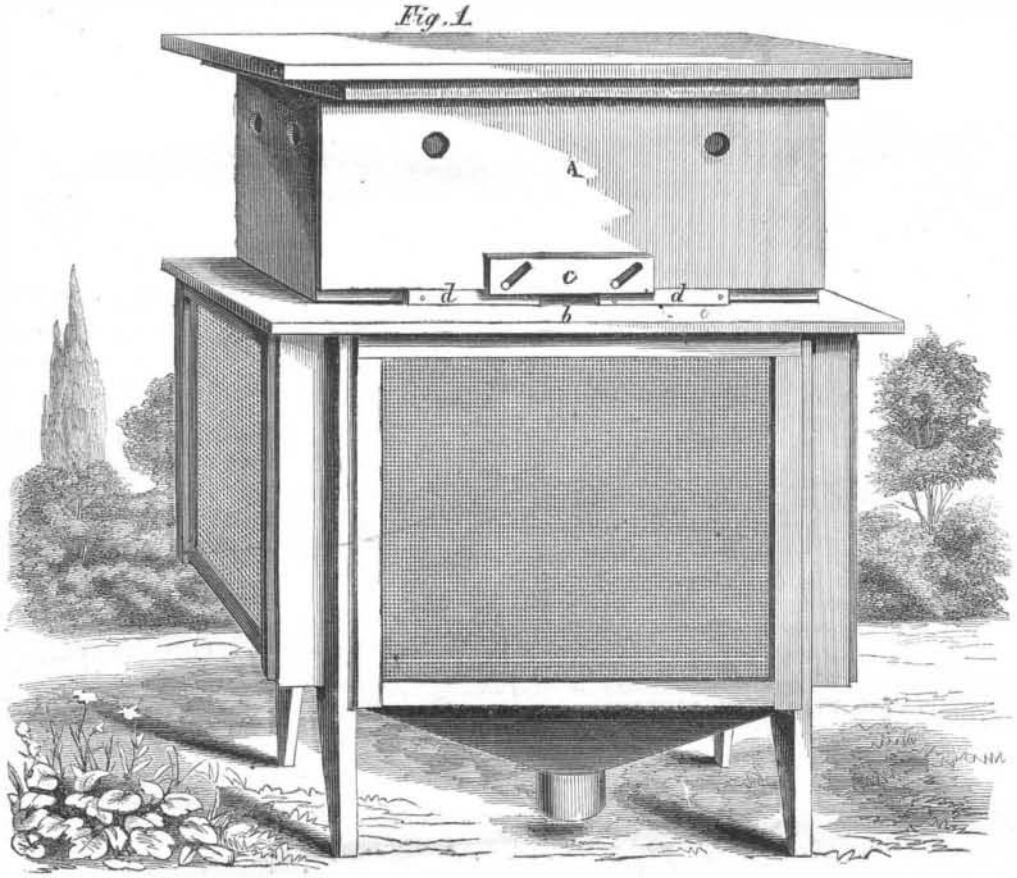
"Since I have placed my bees in the wire hive they have become so strong and healthy that I do not have much concern about the bee moth. These hives are tight and yet admit of a uniform ventilation, so that if the entrance is entirely closed the bees do not suffer for want of air; neither do they become alarmed, as is often the case in some hives, under the excitement of which they generate heat and soon perish. I have at times seen my bees so completely close the entrance of their hive that it would be impossible for the miller to enter, which they could not do in a common wooden box hive without smothering the inmates. In such a hive they are obliged to keep up a constant fanning all night long as well as during the day, in order to supply their home with fresh air. This labor in the wire hive is entirely dispensed with, and the bees being at all times kept dry and healthy, are able to defend themselves against their common enemy, the bee moth.

"Some persons thought that the first thing the bees would do on being placed in the wire hive would be to gum up the meshes, but my experience has convinced me that the bees will gum the wire only where they attach their combs and around the edges where it is attached to the frame, unless the light is admitted to the hive or it is so poorly made as to admit the entrance of ants. The bees will not spend time to gum it and thus deprive themselves of a good and regular ventilation; indeed, they would remove the gum in order to get more air if by any circumstance they were induced to gum it. This I have tested the past summer.

"I have learned more of the nature and habits of this little insect this past year than I was ever able to do before. My hive admits of a close examination without disturbing the bees, and while they are busy at work in the summer I can take my seat at the side of a hive and observe the operators as long as it seems profitable. I can go from hive to hive and by simply withdrawing the sash containing the straw, look at any side of my hive without arresting their labor. It is not like a glass hive in this respect, for in that the bees must be more or less of their time engaged in fanning their hives to supply themselves with fresh air, and to keep the hive dry. In the wire hive there is another advantage over the glass ones, in the fact that no obstruction is offered to a perfect observation of the interior of the former, which is precluded in the latter from the moisture that gathers on the glass. It is also always clean, and the bees can hold on to it and run over it with ease, which is not the case with glass."

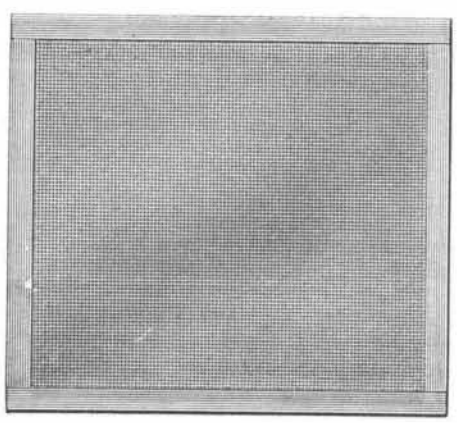
The patent for this invention was granted through the Scientific American Patent Agency October 15, 1861, and further information in relation to it may be obtained by addressing the inventor, A. J. Smith, at Decorah, Iowa.

Fig. 1



SMITH'S IMPROVED BEE HIVE.

Fig. 2



FROM THE STEAM PRESS OF JOHN A. GRAY.