

Very nicely and skillfully calculated were his manœuvres. Traversing the Thames at an exceedingly low elevation, the balloon just grounded upon the shore, within a dozen yards of the water.

"Distinctly to understand the fierce excitement of the next three minutes, it should be borne in mind that the fire was still roaring merrily away; that the machinery, so admirable for its special purposes, would have caused sad havoc had there been anything like a general upset; and that at this particular moment six men could exert very little control over a balloon capable of containing 460,000 cubic feet of air.

"Touching the shore, the balloon tore away, the big canvas flapping, the bright fire burning; while right in front rose a stone embankment. The shocks were rough, and had the travelers been novices in this particular method of locomotion we might now have some awkward casualties to relate. Just before each bump, however, the men made a little leap, and thus balked its force, as a cricketer to catch a ball draws back his hand instead of protruding it. Still, with all these precautions, it seemed half an hour—and there was a strong inclination to cheer when the threatening stones were passed. On now into a potato-field; another rise; a wild tendency to leap at a chimney; a strong 'exhibition' of restraint in the shape of a hundred sensible Englishmen tugging away at the ropes, and obeying the orders that were given—and the whole thing was over."

RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list:—

Machine for milking Cows.—Most of the devices heretofore invented for milking cows involve the general idea or principle of suction. Rubber gloves are stretched upon the animal's teats, and suction is produced by working a small pump. In the present improvement all suction is avoided, and by an ingenious arrangement of mechanism each teat is seized and squeezed, first at the neck of the teat, then in the middle, and lastly, at the extremity, thus closely imitating the operation of hand-milking. H. V. Belding, of Oppenheim, Fulton county, N. Y., is the inventor.

Round and Half-round Files.—The ordinary round and half-round files are constructed by first rolling or swaging the steel in the desired form, technically termed blanks, and these blanks are then cut in order to form the file. The flat files may be constructed in this way in a perfect manner, but round and half-round files cannot be perfectly cut, as the cutting tool destroys the rotundity of the surface, which, instead of being round or half-round, is of polygonal form. By this improvement these files can be made with a perfect curved surface, either circular or semi-circular in its transverse section. To effect this the blanks are constructed out of sheet-steel plates of any desired dimensions, according to the size of file required, and said blanks are cut either manually or by a machine, in the same way as the ordinary flat or tri-lateral files. These plates are then heated and bent so as to form a circle or semicircle in their transverse section, and then tempered. The files thus constructed may remain in shell form or in cases where weight and solidity are required, they may be filled with wood or soft metal, a tang to receive a handle being attached to one end of them. By this arrangement a file of the kind specified is obtained with a perfect curved surface, and consequently one which will operate much more perfectly than those constructed in the ordinary way. Besides a saving in metal is effected as well as in the cost of manufacture. J. Nelson Jacobs, of Worcester, Mass., is the inventor.

Breech-loading Fire-arm.—This invention relates to an improvement in that class of breech-loading fire-arms in which the breech is closed by a breech-block sliding transversely across the bore of the barrel. The invention consists in the employment of a valve and screw in combination with the transversely sliding breech-block in such a manner that when the latter is in position, by turning the screw the valve is set up tight against the end of the barrel and a perfect joint between the breech block and bar-

rel is effected; the invention consists, also, in a notched socket in the inner surface of the breech-block in combination with a flanged expansion washer, the stem of which fits into said notched socket and can be locked therein by a suitable bolt or other equivalent device, in such a manner that said flanged expansion washer will move in and out with the breech-block, requiring no separate handling, and when said washer is worn out it can be easily removed and replaced without loss of time. Alfred Krupp, of Essen, Prussia, is the inventor. For further information address Thos. Prosser, No. 28 Platt street, New York.

Improved Cigaretto.—Cigarettes, as usually made, are formed by wrapping a small quantity of fine-cut tobacco in a sheet or piece of paper and folding in the ends. In using these cigarettes it is well known that the tobacco is constantly escaping into the mouth and that an unpleasant odor is caused by the burning paper. This invention obviates both these difficulties; first, the paper is prepared with a view to obviate this disagreeable odor and taste of the paper; and secondly, the end that is inserted in the mouth is so formed that the tobacco cannot escape, and yet a free draught is insured; and to effect this, the invention consists in the employment or use of a mouth-piece made by coiling a short piece or strip of stout paper or thin pasteboard, and inserting the coil in the end designed for the mouth, or, more properly speaking, by winding and pasting the paper tube around this mouth-piece which gives the size to the cigarette. This mouth-piece forms a firm hold for the teeth and is of sufficient length to prevent the fire reaching the lips when the cigarette is nearly consumed. The cigarettes are about the length of an ordinary cigar, and nearly a half-inch in diameter.

We have tried the article and find it to be a very good thing. The filling of those we have used was of the finest Turkish tobacco, thus giving the benefit of the best tobacco in the convenient shape of a cigar, and withal we consider the cigarette a very good, convenient, and economical article for smoking. The inventor of the above is E. Berg, of New York City, and the patent bears date August 2, 1864, and further particulars may be had of Messrs. Berg & Co., manufacturers, 133 Chatham street, New York city.

Zopissa.

Is a composition invented by Mr. Szerelmy of London, which has of late acquired quite a reputation, on account of the manifold uses to which it can be applied. Among specimens that have been exhibited, are pieces of tile, chalk gypsum and soapstone, coated with the zopissa composition. Articles of wood and iron which had been exposed for over a year to the influences of the London atmosphere and to sea water, were found not to have been affected by either rust or decay. A cheap and artistic imitation of leather has been made out of cotton tissue, impregnated with the zopissa, and well dyed, imitating the various colors and shades of water-proof animal leather.

GRAFTING ANIMALS.—The *Intellectual Observer* says:—"Dr. Paul Bert has published a work on the curious subject of animal grafts. He succeeded in making Siamese twins of a couple of rats, and in many other monstrosities. He exclaims, 'it is a surprising spectacle to see a paw cut from one rat, live, grow, finish its ossification, and regenerate its nerves, under the skin of another, and when we plant a plume of feathers under the skin of a dog, what a miracle to see the interrupted vital phenomena resume their course, and the fragment of a bird receive nourishment from the blood of a mammal.'"

SALMON eggs have been successfully transported from England to Australia, although the voyage occupied more than three months. Two or three ova boxes were kept at Melbourne, and others were sent to Tasmania. On being removed to the hatching boxes in the ponds, a large portion of the ova was found to be dead, but those that remained alive amounted to many thousands, and are amply sufficient, if they should all continue to thrive and become living fish, to insure the complete success of the experiment, and stock the waters of Australia with the most delicious known table-fish.



ISSUED FROM THE UNITED STATES PATENT-OFFICE FOR THE WEEK ENDING AUGUST 9, 1864.

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Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

43,752.—**Knife and Scissors Sharpener.**—William H. Alcorn, New York City:

I claim the use of a file, C, secured by sleeves, D, or their equivalents to a horizontally swinging lever, B, in combination with guide strips, d, or notch, e, to retain the knife or scissors to be sharpened substantially in the manner and for the purpose shown and described.

[This invention consists in the employment of a three or more sided file, attached to a horizontally-swinging lever by means of sleeves, so that it can be readily removed and turned to bring a fresh side into use, in combination with a suitable socket to hold a knife or a pair of scissors in such a manner that when an oscillating motion is imparted to the lever, and the knife or scissors are placed into their respective sockets, the file will act on the cutting edge and sharpen the same in a simple and easy manner.]

43,753.—**Mode of locking Railroad Car-seats.**—David H. Baker, Jersey City, N. J.:

I claim a movable locking bar extending along the car, the distance of several seats, and fitted with pins, hooks or slots, substantially as specified, in combination with the movable backs of the seats and the locking device whereby said locks can be all locked or unlocked simultaneously, by moving the said bar as set forth.

43,754.—**Milking Machine.**—H. V. Belding, Oppenheim, N. Y.:

I claim the use of one or more pressers, G G', acting substantially in the manner and for the purpose herein shown and described. I also claim the combination of the plates, L L', with the pressers, G G', substantially as herein shown and described for the purpose set forth.

I also claim the combination of the winged shaft, E, with the pressers, G G', substantially in the manner and for the purpose herein shown and described.

I also claim the springs, H H, in combination with the pressers, G G', substantially as herein set forth.

I also claim the adjusting screw-rods, I, in combination with the plates, L L', substantially as and for the purpose herein shown and described.

I also claim the arrangement of the pan, K, with the pressers, G G', and plates, L L', as herein shown and described.

43,755.—**Pump.**—Wm. A. Bemis, Lyndon Center, Vt.:

I claim a pump provided with two plungers, the rods, E E', of which are connected by a lever, G, having rods, H H, and levers, I I, connected to it and all arranged with a platform, F, to operate substantially in the manner as and for the purpose set forth.

I further claim in combination herewith the packing, e, arranged and applied to the plungers, D D', to operate in the manner described.

[This invention relates to a new and improved pump, designed for general use, and it consists in the employment or use of two plungers or pistons, the rods of which are connected by a lever and having other levers applied to them and all arranged with a platform in such a manner that the person in operating the pump may apply his power to it in the most favorable and advantageous manner. The plungers or pistons are also packed in such a manner as to ensure the perfect working of the same with but little friction.]

43,756.—**Bee-hive.**—T. F. Bingham, Gowanda, N. Y.:

I claim, first, A bee-hive constructed with triple walls, a b c, with spaces, d, between them, substantially as and for the purpose specified.

Second, The bee-entrance, composed of two parts, f f', both parts being provided with openings or slots and the inner one, i, made adjustable, substantially as and for the purpose specified.

Third, The comb-frames composed of the horizontal bars, s t, and pendant bars, u v, all arranged and combined as and for the purpose specified.

Fourth, The rim, A, in combination with the cover, B, arranged and applied as and for the purpose specified.

[This invention has for its object the obtaining of a bee-hive which will effectually protect the bees during the winter season, and the providing of the same with an entrance well adapted for it and which will be capable of being adjusted to suit the various circumstances required in bee-culture. The invention also has for its object the constructing of the comb-frames in such a manner that they will economize in space and at the same time effectually support the combs; the invention has further for its object the obtaining of an extension cap to the hive so arranged that supplemental spare, honey-boxes may be added or applied when necessary, and also the employment or use of a box and cap for the proper feeding of the bees when needed.]

43,757.—**Valve Gear for Steam Engines.**—I. W. Bowers, Cincinnati, Ohio. Ante-dated Jan. 27, 1864:

I claim, first, Operating the valve, H, by the lifters or their equivalents when they are arranged within the valve-chamber as shown and for the purpose described.

Second, The combination of the valves, H, rock-shaft, m, and cranks, n, with the weights, m', substantially as described and for the purpose set forth.

Third, The several devices in combination, by which the port or steam-valves and the exhaust or outlet valves are operated, when combined substantially as described and for the purpose set forth.

Fourth, The combination of the forked-sliding bar, L, with the vibrating bar, K, and cam rod, D, when constructed and arranged, substantially as described.

Fifth, The construction and arrangement of the connecting bar, g, and Palls, r r', with the cranks, m' m', when constructed substantially as described and for the purpose set forth.

43,758.—**Soap.**—D. B. Chapman, Hopedale, Mass.:

I claim the compound soap made substantially as hereinbefore described.

43,759.—**Automaton Dancer.**—Isaac S. Clough, Brooklyn, N. Y., and Vincent Fountain, Jr., North Shore, N. Y.:

I claim suspending the figure, A, from an elastic cord, B, stretched between uprights, C, over the sounding disk, E, attached to the platform, D, so that the motion of the figure is produced by the swaying of the cord and the contact of the feet of the figure with the bell or disk produces a musical sound.

[This invention consists in suspending a figure with jointed limbs,

