

**Improved Brake for Velocipedes.**

Messrs. Mercer & Monod, of No. 3 William street, New York city, are among the most enterprising velocipede men in the city. At their school they use machines of elegant pattern and excellent action, and adopt improvements as fast as suggested. In the accompanying engravings a new improvement is represented for the management of the brake, and for which a patent is now pending through the Scientific American Patent Agency.

Fig. 1 is a perspective view of the velocipede with the improved brake. Fig. 2 is an enlarged view of the brake and its contiguous parts. The brake shoe, A, is faced with hard sole leather, or some similar substance calculated to hug the tire closely. It is pivoted in a slot through the reach and furnished with a spring, B, that lifts it from the wheel when not forced against the wheel's perimeter by the rider. Its upper end is connected by a forked rod, C, to an arm of a bell crank lever, pivoted just in rear of the driving wheel support to the clip, which also sustains the saddle spring. The other arm of the bell crank is engaged with a strap that may be wound up on the steering bar, D, that revolves in its standards.

It is evident that by this device the rider has entire and perfect control of his vehicle by his hands, the whole muscular force of the arms being readily applied at will. In no case, however, is this force required, only a slight exertion being necessary to prevent the wheel from revolving, even going very steep grades. The adaptation of this brake in no wise weakens the vehicle in any of its parts, and it presents an elegant appearance.

Further information may be had of Mercer & Monod, No. 3 William street, New York city.

**Himmer's Patent Gasfitters' Tool.**

The implement shown in the accompanying engraving is designed for fitters of gas, steam, and water pipes of iron, to reduce the number of tools ordinarily carried about, and to provide a handy combination instrument in their stead. By it the pipe is cut, the scale or rust cleaned off, the thread cut to receive the thimble, tee, or cock, and the pipe held while being screwed up.

The stock, or frame, holds a rotary cutter, A, with its stud, B, a scraper die, C, and a set of screw-cutting dies, D. The whole are operated by the screw handle, E. The handle, F, is screwed into the opposite end of the stock, to be used only when threading the pipe. It is readily removed by means of a driver fitting a hole in the handle, as in E. For quick removal of the dies the plate, G, is pivoted near one end and slotted near the other. The stud, B, has a cross piece that steadies it, as seen. It is evident that the dies may be replaced by others instantly. When used as a cramp, or wrench, the cutter, A, is removed by pushing out the pin that forms its axle, when the apex of the stud may be set against the pipe by the screw handle, E, and it is held firmly between the stud and the jaw, H.

In operation, when it is desired to cut off a pipe, the handle, F, is removed and the pipe inserted under the jaw for cutting off, the stud, B, and rotary cutter, A, are forced up by the screw handle, E, the frame, or stock, is rotated, and the work is readily done. To clean the end of the pipe from corrosion or scale, the pipe is inserted between the scraper die, C, and its bearing block. The thread is cut by the dies, as in an ordinary screw plate, and the implement is used as a wrench, as before shown.

Patented Sept. 29, 1868, by Jacob Himmel, who may be addressed to the care of Edward Gamm, 126 Hester street, New York city. The patentee wishes to dispose of the entire patent.

**A LONG REQUIRED NEED SUPPLIED.**

Shortly after the close of the exhibition of the American Institute, in the fall of 1867, we recommended that society to establish an inventor's exchange, or perpetual fair, and subsequently sketched a plan of operation. Nothing came of it, and we had begun to despair of ever seeing any such project started.

Inventors and agents have for years exhibited their models, machines, and specimens in the receiving rooms or offices of

hotels, where they were temporarily stopping, or carried them about, when portable, from pillar to post, having no central and convenient place for the exhibition of their patented improvements. The inventor, proprietor, or agent showed his device and explained its operation at his hotel only on sufferance, and one hotel near our office that has heretofore been noted as a headquarters for this class of visitors has peremptorily forbidden the further use of its rooms for these purposes. This is not to be wondered at, as the annoyance was great and the profit little, if anything. The only recourse of the in-

Such an establishment we visited a few days ago. It is called the "Whitlock Exposition," from the name of its projector. It is located at Nos. 35 and 37 Park Place, west of Broadway and near the City Hall Park. The building is five stories above the street and two below, the different floors devoted to different classes of articles, from roots, plants, and seeds to sewing machines and works of art. One of the floors, a hall of 50 by 80 feet, is devoted to trials of velocipedes. Offices for permanent occupancy are let to permanent agents or proprietors, while temporary exhibitors have their letters directed to the establishment, and are furnished with stationery and desks with which to conduct their correspondence. Steam power is furnished for such exhibitors as require it, and each exhibitor is entitled to an advertisement in two periodicals, conducted by the company, issued monthly and semi-monthly.

The exhibitors are charged a very moderate price for the room and power occupied and used, and permanent exhibitors a very low rent for their offices. If the company make sales (which they do without drawing invidious comparisons be-

**MONOD'S IMPROVED BRAKE BICYCLE.**

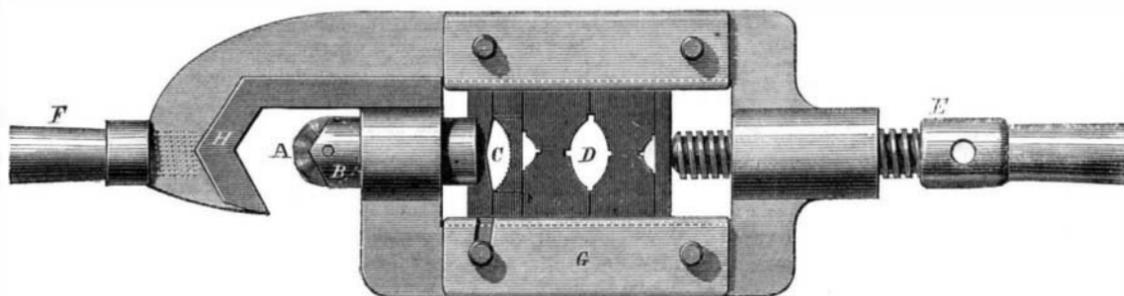
ventor or manufacturer was, therefore, the establishment of a New York agency by constituting some dealer in articles similar to that he manufactured a partner, in a certain sense, or a sharer in the profits. But the inconvenience and annoyance was felt more by the purchaser. If a stranger in the city, his labors and time in traveling from one point to another were very considerable; but if he did not expend both, he had little opportunity to compare articles intended for the same purpose, but built by different makers on different plans. Or if he did procure opportunities to see different machines, by visiting as many places as there were machines, he could not compare the two except as he remembered the points of those he had already examined; there was no opportunity to examine them

tween competing articles of the same class), they expect the usual commission. The establishment is a perpetual exhibition, free to all who choose to visit it. Already it has become one of the features of the metropolis.

Duty to the great body of inventors, as also to the enterprising projector, impels us to this notice of the new exposition which deserves to be known. It supplies a want long felt, and its success is already assured.

**A Monster Rope.**

A new rope, made by the Universe Works, at Birmingham, England, is of such extraordinary dimensions as to merit special notice. The rope, which is intended for shipment abroad, is 11,000 yards long, measures 5½ inches in circumference, and weighs over 60 tons. These figures are enough to take one's breath away; but when we come to see how the monster is built up, there is cause for still greater surprise. The rope (made of Messrs. Webster and Horsfall's patent charcoal wire, laid round a hemp center) consists of six strands, with ten wires in each strand; each wire measures 12,160 yards; so that the entire length of the wire reaches the enormous total of 726,000 yards, or 412½ miles. To this has to be added

**COMBINATION TOOL FOR GASFITTERS' USE.**

side by side. The anxiety on the part of the resident agent to make a sale (an anxiety entirely proper), also militated against the chances of the purchaser securing either the best article or the one he really wanted. The advantages of the particular machine he was then examining were rendered so apparent by the eloquence of the salesman, and the difficulty of detecting the fault, or faults, in the machine, without close and immediate comparison with another, was so great that it is not surprising he frequently felt, after trying his new acquisition, that he had not been fairly treated.

This state of things was also injurious to the inventor or manufacturer. Most members of these classes desire, and invite comparison and competition; each feeling assured that even if in some one or two respects another's device may be better, his, on the whole is to be preferred for superior advantages. Such competition is healthy and no conscientious manufacturer objects to it, but, on the contrary, courts it. Then, if the customer is not satisfied with the article first shown, and goes to visit some other repository, he will frequently purchase what he is still less satisfied with rather than go back and acknowledge his error. Some centrally located, fairly conducted establishment, where the inventor, the patentee, the manufacturer, and the discoverer could exhibit, side by side, their products, seemed to be demanded by the interests of each and also of the purchaser. For these reasons we have repeatedly advocated the establishment of a central bureau for inventors located in New York city, the commercial metropolis of the country.

the length of yarn used for the center—namely, twenty-seven threads, made from Petersburg hemp, each thread measuring 15,000 yards, and giving a total length of 405,000 yards, or about 230 miles. Adding together the wire and yarn, we have a grand total of 1,131,000 yards, or 635 miles of material—all going to make up a monster wire and hemp rope a little under six miles long. Such a rope certainly has never yet been made; and we doubt whether, excepting in Birmingham, such a one could be made. As it lies in vast coils in Messrs. Wright's machine room, it looks like a miniature Atlantic cable, multiplied by five times the cable thickness. Of course such a rope will bear an enormous strain, and its capacity in this respect is increased by the perfection of the machinery employed in the manufacture, giving the strands an exactly uniform "lay," and imparting the regularity and the precise angle of "twist," which experience proves to possess the greatest resisting and holding strength.

It is said that an ingenious Frenchman, in Philadelphia, skins frogs by drawing out all their interior parts through the mouth, and then stuffs and mounts them in a variety of curious attitudes, as billiard players, velocipedists, dentists, barbers, etc.

*Morgan's Trade Journal* for April publishes the whole of an original article on "Tobacco Pipes," written expressly for the *SCIENTIFIC AMERICAN* and credits it, unduly, to the *Tobacco Trade Review*.