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GARDEN, NEW YORK.

During the week ending January 26, an extensive Garden in this city. It is the second exhibition of the attention. kind which has been given here, and one which bids fair to become annual.

For years past man has striven to improve the rate of locomotion which he can maintain by his personal exertions. This led to the construction of various forms of velocipedes, until some years ago the conception arose that a two-wheeled cycle might be propelled by cranks on the forward wheel axle. The old velocipede was the result, and as a sport pure and simple, it attained considerable favor. The jarring, weight of next change in the development of the cycle was the rubber tires, and very large front wheel. This was a practical machine and rejuvenated cycling.

The safety came in, and ball bearings became a sine invented, and the modern cycle saw the last step of its development.

The pneumatic tire, by equalizing strains, makes possible the use of a higher gear, so that a single revolution of the crank, involving one motion of each leg of the rider, in a modern road wheel may propel it twenty feet, or four times the distance which a corresponding movement of the legs would carry a pedestrian. By absorbing vibration also the pneumatic tire has enabled makers to build very light wheels. A few years ago a safety bicycle would weigh from fifty to to thirty-five, the latter weight being considered very high.

The exhibition, which closed on the 26th ult., was of great mechanical as well as popular interest. The demand of the public for light wheels has brought about the most careful construction and the adoption of every possible modification which can reduce weight. Wooden and aluminum rims for the wheels, very thin tangent spokes, light tubing of large diameter for the frame re-enforced at the points of greatest strain, the use of saddle posts of thin tubing instead of solid steel, pedals of improved construction, aluminum and wire saddles, are all steps in the direction of lightness.

The majority of wheels now have wooden rims, aluminum rims being adopted by some very high grade wheels, and steel rims being used on the rest. Among the exhibits some most remarkable examples of wood bending are shown, the material under modern processes seeming to be as flexible as lead.

For a long time past all pedals have been of one type of construction, but not the least interesting feature are really elegant examples of mechanical construction, and are far lighter than the old ones.

Handle bars are made of much narrower span than hitherto, eighteen or twenty inches being an accepted dimension in place of the old span of two feet or more. bind, are generally used.

Brakes are generally dispensed with, back pedaling or pressure of one foot on the front tire being relied on to stop the wheel. Some very neatly constructed foot brakes were shown, which are attached to the crown of the front forks, and which act by being pressed by the foot.

inner triangular tube is introduced.

The hubs of wheels are now, in many cases, turned out of solid tool steel, although very elegant drop proach of the latter is audible at the distance of a mile forgings for hubs and other parts of the wheel were to the passengers in the waiting car. The sound vishown. The crank arms are made lighter, often round brations are carried along the wire, through the in section, instead of rectangular, and many new ways trolley to the wooden roof of the car. This acts as a of attachment are shown. The almost universal type diaphragm, which faithfully reproduces the rumble of detachable sprockets for changing the gear were shown, and there were several examples of mechanism for are brought as close together as possible, in order to car is within a few hundred feet of the switch.

THE NATIONAL CYCLE SHOW AT MADISON SQUARE have the clutch attachments removed and be ridden by the usual foot propulsion. A motor cycle, driven by a gasoline explosion engine, and a duplex cycle, in bicycle exhibition was in progress in Madison Square which the two riders sit side by side, excited much

> The great interest taken in cycling was shown by the very large attendance, and under the improved auspices of modern construction, the cycle is becoming more and more widely used. The industry has attained such dimensions that it has led to new processes, to the invention of special machinery, and many other trades are now tributary to it.

ON THE CHOICE OF A CAREER.

The profession of a mechanical engineer, to the unthe wheel, and incidental hard work proved too much, initiated, holds forth big inducements, and the young and it rather suddenly died a natural death. The man who starts in college works his way along, graduates, and nine cases in ten is assigned a position over introduction of the high wheel, with suspension spokes, the drawing board. Draughting, in its higher forms, is one of the most interesting subjects in existence, especially when other conditions are such as to promote the interest. It rests in the hands of the draughtsman quanon on all good wheels. The tires used were of whether the machine will be pulled down several times solid rubber and the tendency of the extremists was to in order to correct mistakes, and in many cases whether make them very small. Then the pneumatic tire was the machine goes to the "scrap heap" or is shipped away a success.

One of the first conditions of good work is a comfortable place to work in. How many concerns in the country, manufacturing machinery, have even a decent place for their draughtsmen? The average is a dirty, badly ventilated, dimly lighted room without proper heat in the winter, frightfully hot in the summer; yet educated men are supposed to go there, use their brains, avoid mistakes, and rush through their work, turning out machine after machine; having a highly heated gas jet within two inches of the top of their seventy pounds. Now the weight runs from seventeen heads; yet invariably if a man be taken ill, may be from standing in a draught strong enough to blow a tracing off a table, he is "docked" for the time he is away. It

would be interesting to obtain a list of the firms that give their men a holiday without taking a day's pay from their already magnificent remuneration.

The draughting profession at present is a delusion and a snare, as regards the general machinery business, and the old plea that a man is "learning something" is no excuse for a firm paying their head draughtsman \$18 per week. A man can keep on "learning something" until he is ready to die of old age, living on small pay. So many people say, "It is so hard to find a good draughtsman." Why, most men who arriveat the age of 30 either get away from the board or out of the business, driven to desperation by the "learning something" basis of pay. Suppose, through nothing but competency, he secures a very remunerative position. Invariably he is obliged to isolate himself from civilization in some small country village, or in some swamp, where many concerns locate their works; and once there he stands a good chance of staying there, unless of the exhibition was the variety of new pedals. Some he is "fired." Some companies, heaven bless them ! realize that draughtsmen are human beings, and a roll of honor should be framed for them. There should also be a list of firms that should be avoided by any man who has any regard for fair treatment and health. Long hours, rushing, driving work, contemptible pay, Cork handles, or handles of cork and rubber com- and hopeless prospects take away all interest in the profession, which is certainly on the decline.

"CONDENSATION."

-----A Trolley Telephone.

A writer in the N.Y. Sun states that passengers riding on the electric railway between West Farms and Mount Vernon have the privilege of listening to an The re-enforcing of the tubes of the frames near the acoustic manifestation that in a remarkable manner joints is effected in various ways. A piece of tube illustrates some of the earlier experiments in developmay be brazed into the frame tube. In one make ing the telephone. The track is a single one and the cross plates of steel, in another what is virtually an potential of the current is high; its amperage is also considerable. As a result, when a car is waiting on a switch for one coming in an opposite direction, the ap-

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secure what is termed a narrow tread.

Another very noticeable movement is in the direction of adjustable handle bars. Many wheels are now ¹² dismounting, to raise or lower the handles.

¹⁵, vided with a battery.

ns by a clutch to the crank axle. The same wheel can ignited carbon.

of frame is the Humber diamond. Several wheels with the approaching car. A mile away the noise of the wheels is distinctly audible, and a the distance of 1.00 feet the sound becomes a loud roar. Outside the car, ²¹ changing the gear without dismounting. The cranks however, practically nothing is heard until the moving

**** Arc Light Dangers,

Over the street doors of one of our most extensively provided with mechanism enabling the rider, without patronized dry goods stores arc lights are suspended for purposes of illumination. Throngs of ladies are Among the lanterns are two classes of electrical ones, constantly passing to and fro under these lights. We One is supplied by a dynamo driven from a friction noticed a narrow escape for a lady the other evening. wheel bearing against one of the tires; the other is pro- Fire fell from the arc lamp and just grazed her dress as she passed under the lamp. The inflammable na-

Several novelties appear, such as a bicycle with ture of women's apparel is such as to render it dangerbamboo substituted for the steel tubes of the frame. ous for them to stand or pass under arc lights. There Another is adapted to be driven by both hands and should be a law to prohibit the use of open arc lights. 20 feet, the handle bars being attached to a lever that is It would be easy to arrange a glass basin or plate un-' pushed and pulled by the arms, and which connects ¦ der the lamp to catch and arrest any falling bits of the