glasses? I often see objects in my glasses reflected from behind me, one very clear reflection and the other dim to the right of the right eye and to the left of the left eye. I have also noticed my own reflection in the same way in a looking glass when held close to the face, but not when held at a distance of a foot away. A. There are two surfaces of every lens or mirror of glass coated on its back, by a practical man for the use of all practical Both of these surfaces reflect light from behind and to the side of the one wearing the glasses. If it is lighter in front than at the back, one does not notice these reflections and the images they form; but if it is dark in front and light behind the person, one can see the objects behind him. He may even see a double reflection of the same object, one from the front surface and the other from the back surface of the glass. One may easily amuse himself by experimenting in order to learn how much he may see in his glasses in this way.

(10376) S. A. H. asks: A friend makes the statement that a wagon wheel in motion moves faster at the top than at the bottom or portion on the ground. Is this the case? A. To answer the question, "Does the top of a wagon wheel move faster than the bottom?" it is necessary to define the word"move." When that is done it becomes eviresponding change in the methods of accounting that the question is very indefinite. A and management. This is especially true of rotating wheel moves with the same velocity in every part, as measured in degrees of the circumference. If it did not it would break such corporations led to the writing of th in pieces. The wheel has another motion as a whole along the road. In this respect the ested in corporations in an administrative of wheel moves all together and therefore with executive capacity, and especially to the accordance. the same velocity. Still another motion is that countant. It includes books, forms, and methods of any point of the wheel with reference to a line on the ground. At one moment a point on the rim of the wheel is in contact with this line; it then rises till it is the entire diameter of the wheel above the line, and then descends till the point is again in contact with the ground. The wheel has meanwhile gone a distance equal to its circumference. The point has risen in a cycloid and moved down again in the same kind of curve. At any moment the woint of the rim which is coming down to the ground is also coming to rest as viewed from that point of the ground. It touches the ground for an instant and moves up again. Since it was descending and now is ascending it is evident that between the two it must have come to rest. Since it is at rest for the PH instant it is in contact with the earth, that point is a center of motion, the hub is moving with a certain rate and the rim at the top is moving twice as fast as the hub in a forward direction. Now the front point of the rim is moving vertically down and the rear point is moving vertically upward at the same moment. This is one of the perpetually recurring ques-We have answered it hundreds of We have published notes upon it many times. Among recent notes, see Notes and Queries in Vol. 92, Nos. 16, 20, 25; Vol. 93, No. 2, price 10 cents each.

(10377) W. L. S. writes: I notice your answer to queries, No. 10297, in issue of January 19, 1907, and also remember sub stantially the same answer to a question about a year ago-that water would not burst barrels in freezing if the barrels were open at one end. On the contrary, they will burst in Ec very cold weather, as I know from experi-For twenty-five years I was engaged in milling in southeast Missouri and for ten years had to get new barrels or repair the old ones every spring. At last I put in each barrel a piece of straight-grained wood about 2 x 2, with a hole ¾ inch bored through it about half the distance from the bottom to top of barrel. This piece of wood was allowed to extend 3 or 4 inches above the barrel After putting in these pieces of wood our barrels would last, and hold water, for five or six years, and would freeze solid during the winter without injuring the barrels.

(10378) F. B. asks: How many pounds pressure would I get on a 12-inch pipe, running to a turbine, with a tank of water holding one and one-half million gallons of water, with a ten-foot fall? How many horse-power would it give me? How many horse-power would I gain with every ten-foot fall through the same pipe? How many horse-power will it require to lift a six-inch stream of water 100 feet with the best pump, and will it take twice as much power to lift a 12-inch stream the same height? A. You would have 4 1-3

10 pounds; lead shavings, 1/2 pound; zinc oxide, 21/2 pounds; Venetian turpentine, 1/4 pound. Boil for several hours, then strain, and dissolve in the strained composition 21/2 pounds white gum copal. Remove from the fire, and when partly cold, add oil of turpentine (purified), sufficient to bring it to proper consistence. Moisten the cloth thoroughly in benzole and give it a flowing coat of the var-2. Varnish the cloth with Canada bal sam dissolved in turpentine, to which may be added a few dreps of castor oil, but do not add too much, or it will not dry. Try a little piece first with a small quantity of varnish. The kind of cloth to use is fine linen: don't. let the varnish be too thick,

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the same height? A. You would have 4 1-3 pounds per square inch pressure at the turbine. It is possible to obtain 5 horse-power from the 12-inch pipe, and the same for each additional 10-foot fall. It will require about 12 horse-power to fill your 6-inch pipe at full flow, and four times as much power for a 12-inch stream with four times as much water.

(10379) C. N. M. asks how to make tracing cloth. A. 1. Boiled linseed oil (bleached), 10 pounds: lead shayings. 14, pound zinc issue 12 pounds: lead shayings. 14, pound zinc issue 12 pounds: lead shayings. 14, pound zinc issue 12 pounds: lead shayings. 15 pounds: lead shayings. 16 pounds: lead shayings. 17 pounds is lead shayings. 18 pounds is prinkler, G. I. Reckwood. rejies the first proportion of the proposal period to same personates, making, 6. Liebinecht, 1842,471 to 842,471 colleges and self-after the same for each advancement apparatus, H. G. Traver. 842,27 Amusement apparatus, R. Dodson 842,67 Amusement apparatus, R. Dodson 842,67 Animal trap, W. D. Armstrong 842,56 Animal trap, F. Kunkel 1842,56 Armstrong 64 years of dynams, commutation of currents in Arrival & I.a Cour. 842,16 Attendance institute, W. B. Rose 842,39 Attendance institute, W. B. Rose 842,39 Attendance institute, T. Taylor 842,47 Automatic sprinkler, J. Taylor 842,47 Automatic sprinkler, G. I. Reckwood. rejieve for the first proposal personates, making, 6. Traver 842,47 Alloy, magnetic, R. A. Hadield. 842,47 Alloy

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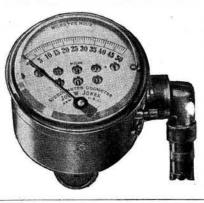
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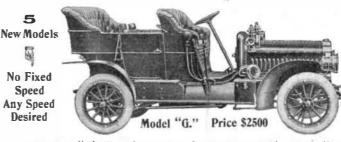
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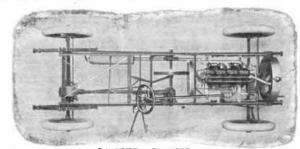
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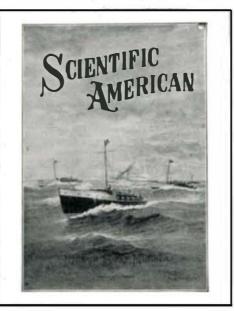
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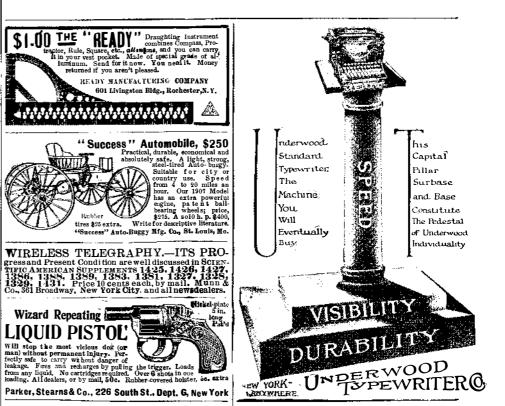
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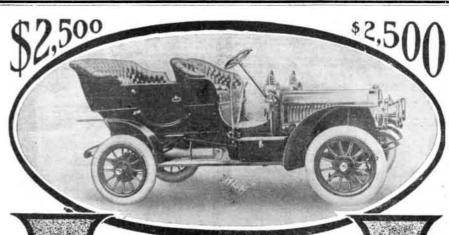
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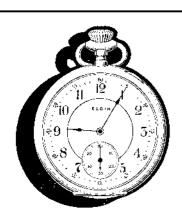
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