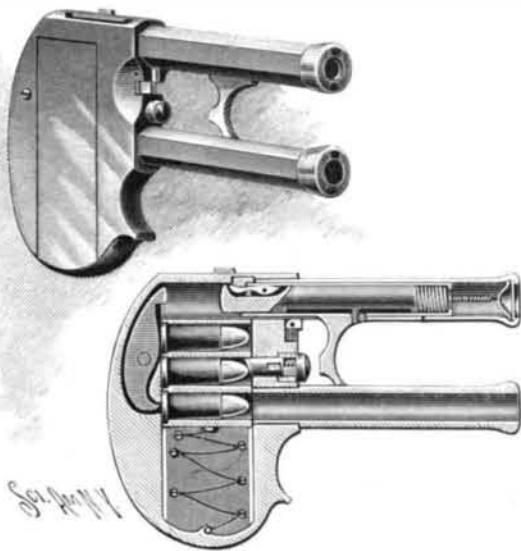


A NOVEL REPEATING PISTOL.

A pistol especially designed to be conveniently carried in the pocket by bicyclists and others wearing somewhat closely fitting garments, and which may be held more steadily than the ordinary pistol when firing, is represented in the accompanying illustration and has been patented by August Nygren, of Elizabeth, Minn. According to this improvement, the extreme length of a 32 caliber weapon is designed to be 4 3/4 inches, of which the barrel measures 4 1/4 inches from the rim of the cartridge, the depth being 3 1/4 inches and the thickness at the thickest part 1/8 inch. The ball is ejected from the lower one of the two barrels, the other carrying the bolt mechanism and the trigger being located between the two barrels, the feed device presenting a cartridge each time that the trigger is pulled and released. As shown in the sectional view, both barrels are in communication with a chamber in the grip or handle section, a cartridge block sliding on ribs in this chamber having separate partitions to accommodate three or more cartridges and a spring normally tending to draw the cartridge block downward. The trigger is attached to the bottom side of a cylindrical jacket sliding in the upper barrel, and in this jacket slides the firing bolt, against the front end of which bears a spiral spring, while a spring of less strength connects the front end of the bolt with a loop or keeper extending across the front end of the upper barrel. In a recess near the heel of the firing bolt is pivoted a spring-

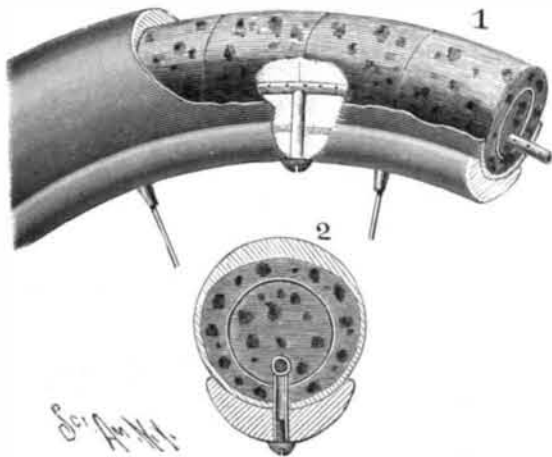


NYGREN'S MAGAZINE PISTOL.

pressed pawl, normally locking the firing bolt from backward movement, but with the forcing backward of the cylindrical jacket by pulling on the trigger, the pawl is released, when the compressed spiral spring drives the firing bolt violently into contact with the head of a pivoted firing pin in the rear of the magazine chamber, causing the firing point of the pin to suddenly strike the cap of the cartridge in the lower chamber of the cartridge block. After firing, the jacket and firing bolt are drawn back to normal position by the spring extending to the front end of the upper barrel. A safety catch is provided, by the use of which the trigger may be locked against movement when the weapon is not likely to be used.

A PUNCTURE-PROOF TIRE.

A tire which is puncture-proof, and designed to possess the resiliency, elasticity and other desirable qualities of a pneumatic tire, without any of its disadvantages, is represented in the accompanying illustration, and has been patented by Franz A. Hamp, of No. 210 East Pearl Street, Cincinnati, O. Fig. 1 is a view in perspective of a portion of the rim and of the tire, the



HAMP'S PUNCTURE-PROOF TIRE.

outer covering of the latter being partly broken away, while Fig. 2 shows a cross section of the tire and rim. The body of the tire consists of a suitable number of cork sections, nearly cylindrical in shape, glued or cemented together, inclosed by rubber tubing, the latter of greatly increased thickness on the tread por-

tion. It is provided that the cork sections may, if desired, be made concave, or straight, or angular, on their tread portion, and thus allow for a corresponding enlargement and fitting of the tread portion of the rubber covering thereon. Each cork section of the tire has a tubular opening, which, when the sections are connected together, constitutes a continuous tubular channel, in portions of which, preferably at opposite inner faces of the tire, are introduced perforated tubes of aluminum or other metal, as shown in Fig. 1, each tube being connected with a branch tube extending through the rim of the wheel. The outer ends of the branch tubes are closed by screws, which serve also to hold the tire to an engagement with the rim, and it is designed to introduce through these tubes, to the interior of the tire, a fluid consisting of amyl alcohol, margaric acid and glycerine, to keep the cork elastic and moist, and preserve the rubber and prevent it from cracking or becoming hard. Rings are also pressed into each end of each cork section, to protect the tire against extraordinary pressure, and these rings are preferably connected together with a rod or other device. It will be seen that, no matter to what degree the outer covering of the tire may be damaged, it will still be serviceable.

Nativity of Pullman Wage Earners.

An interesting table has been compiled by Duane Doty, civil engineer of the company, showing the nativity and the length of service of the 4,803 wage earners at Pullman. It is as follows, says The Industrial World :

Where born.	Number.	Number of each type.
American—		
United States.....	1,491	1,491
Scandinavian—		
Denmark.....	63	
Finland.....	6	
Norway.....	90	
Sweden.....	962	1,121
German—		
Austria.....	62	
Bohemia.....	17	
Other German states.....	552	631
British—		
Canada.....	214	
England.....	290	
Scotland.....	90	
Wales.....	23	617
Dutch—		
Holland.....	518	518
Irish—		
Ireland.....	182	182
Latin—		
Belgium.....	4	
France.....	5	
Italy.....	96	
Switzerland.....	17	122
All others—		
Hungary.....	19	
Poland.....	85	
Russia.....	13	
Other countries.....	4	121
Totals.....	4,803	4,803

Number of wage earners who have been dwellers at Pullman :

Seventeen years.....	52
Sixteen ".....	200
Fifteen ".....	170
Fourteen ".....	219
Thirteen ".....	202
Twelve ".....	250
Eleven ".....	171
Ten ".....	324
Nine ".....	277
Eight ".....	270
Seven ".....	341
Six ".....	378
Five ".....	381
Four ".....	310
Three ".....	340
Two ".....	416
One ".....	502
	4,803

Whole number of males.....	4,575
Whole number of females.....	228
Number owning their homes.....	958
Number not living or boarding in Pullman.....	2,024

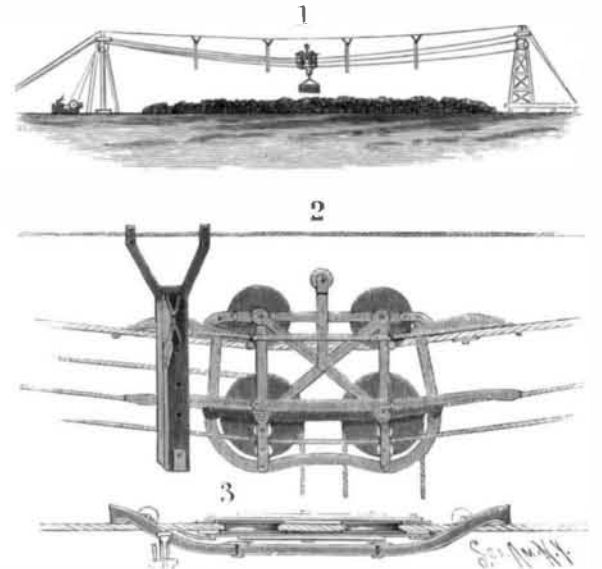
Or 42 per cent of the whole number.

The average length of time these operatives have lived here or in this immediate neighborhood is seven and a half years.

A CABLEWAY CARRIER AND CARRIAGE.

The illustration represents an aerial hoisting and transportation apparatus by which the hoisting rope and endless carriage rope are properly supported and the carriage is automatically switched past the carriers. The invention has been patented by Carl E. Richson, of Brooklyn, N. Y., and is being introduced by Gus. Pers. Wern, M.E., of the De la Vergne Refrigerating Machine Company, foot of East 138th Street, New York City. A fixed rope or cable suspended across the space between towers or elevated points, as shown in Fig. 1, carries a series of hangers which support a main cable forming a track for the carriage from which the load is suspended, the hangers having means to engage the cable and pulleys to support the hoisting rope and the endless carriage rope, and there being means for switching the carriage past the hangers and returning the cable and the ropes to the hangers after the carriage has passed. On the cable below the one supporting the

hangers travel pulleys journaled in the frame of the carriage, the latter being connected, as usual, with an endless rope passing over pulleys on the towers, to wind on a suitable windlass, for moving the carriage backward and forward, there being also in the frame of the carriage pulleys over which pass a hoisting rope connected with suitable mechanism for raising and lowering the load. Fig. 2 represents an enlarged side view of the carriage and one of the hangers, Fig. 3 being a plan view. To allow the carriage to pass the hangers, the

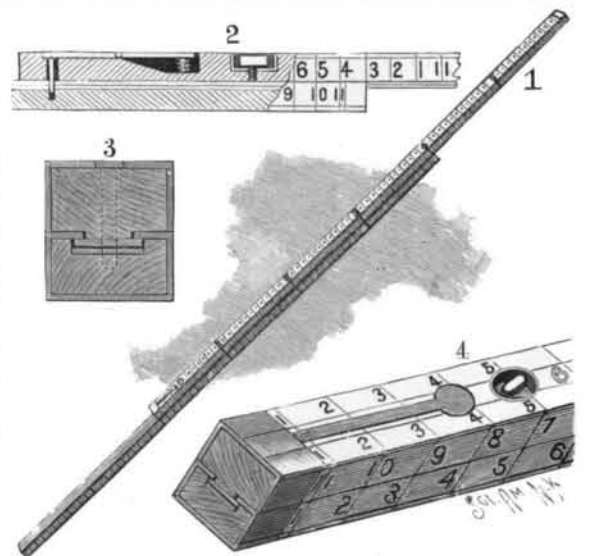


RICHSON'S SUSPENSION CABLEWAY CARRIER AND CARRIAGE.

carriage frame is provided with a sectional track, pivoted end sections of which are arranged to swing up and down relatively to a fixed central section, the end sections being also curved to swing over to the other side of the cable, as indicated in Fig. 3, there being on the outer ends of these sections pulleys adapted to travel on the cable, springs pressing on the hinged end sections to hold the pulleys in engagement with the cable. On each of the hangers is a transverse lever carrying at its free end a wheel extended from the inner face of the support to engage the track on the carriage at either of its end sections, according to the direction in which the carriage is traveling, the arrangement being such that the carriage and hanger will be moved laterally apart as the carriage passes the hanger, the cable and ropes being lifted off their pulleys for this purpose and again returned to them after the carriage has passed the hanger. In this manner the hoisting rope and the carriage rope are suitably supported at intervals on the hangers, so that none of the rope is slack.

AN EXTENSIBLE MEASURING POLE.

A pole for making lineal measures, and which may be readily extended in length, being without projecting parts and composed of sections adapted to slide on



HEGARTY'S MEASURING POLE.

each other, is shown in the accompanying illustration, and has been patented by Reuben Hegarty, of Madera, Pa. Fig. 1 shows the complete pole, partially extended, Figs. 2 and 3 representing lengthwise and transverse sections and Fig. 4 a view of one end. The two members of the pole are held together against lateral play, but capable of lengthwise movement, by means of a flanged rib on one member fitting in a correspondingly flanged groove in the other member. To hold the members rigid with relation to each other, a spring-pressed detent in one member carries at its outer end a pin adapted to enter one of a series of openings in the meeting face of the other member, as shown in Fig. 2, while to hold the members adjusted at any other point a thumb-screw located in one member is adapted to be brought to a wedging engagement with the other member, both the thumb-screw and the detent lying entirely within their respective recesses, so that there are no projecting parts.