### ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Robert Wilson, of Grubville, Mo. This invention covers a novel combination and arrangement of parts in a coupler designed to be automatic in operation, and which can be used with the ordinary form of link if desired.

A steam boiler has been patented by Mr. Mortimer S. Rexford, of Norman, Dakota. It is a twin cylindrical boiler, with one cylinder above the other and connected by circulating pipes at the sides, and having the grate and fire chamber between them, being designed to occupy but little room, have a large fire space, and also include the advantages of a feed water heater.

A danger signal for bridges has been patented by Mr. Milon O. Godding, of Monrovia, Cal. The invention covers novel tripping devices combined with a falling signal, and also means for exploding a cartridge, to permit the signal to be made known in the night time, to notify a moving train of the burning of a bridge or the destruction of the roadbed by a washout or snow slide, etc.

A railway rail crossing has been patented by Mr. James Rice, of Prairie Creek, Ind. It is intended to take the place of the stock guard ordinarily employed, being of simple construction and designed to normally lie flat between the tracks and at their sides, so that cars may pass without interruption, while it will effectually prevent stock from escaping up or down the track.

### AGRICULTURAL INVENTIONS.

A grain adjuster for binders has been patented by Mr. Frederich E. R. Malke, of Christney, Ind. It is an appliance for evening up grain delivered to the binding table of a harvesting machine, and the invention covers novel features in its construction and the arrangement of parts.

A mower has been patented by Mr. Albert L. Quilliam, of Chateaugay, N. Y. This invention covers an improvement in mowers, having two cutter bars which reciprocate in opposite directions simultaneously, and is designed to afford a construction of machine calculated to work perfectly in the field and be of very light draught.

A bran remover has been patented by Mr. George W. H. Safely, of New Orleans, La. It is for removing the bran from rice and other grain after hulling, there being a shaft journaled vertically in a vessel containing the grain, in connection with a screw having threads downwardly inclined, whereby the grain is carried rapidly downward and such circulation is secured as to remove the bran.

A plow has been patented by Mr. Thomas A. Blanchard, of Appling, Ga. It is so constructed as to facilitate the vertical adjustment of the plow mouldboard and sweeps relatively to the plow beam, to regulate the depth at which the plow shall work in the ground, and provides for setting the sweeps at different angles to the line of draught and for adjusting their faces at varying vertical resistances to the soil, while the handles may be easily adjusted to the height of the plowman.

### MISCELLANEOUS INVENTIONS.

An improvement in suspenders has been patented by Mr. Jacob Katzenberg, of New York City. All buckles and metal pieces at the front, which soil and wear the shirt, are dispensed with, and the metal at the back is reduced to a minimum, the straps being adjusted as to length by buckles at the back.

A pump has been patented by Mr. John B. Drake, of Goshen, Ind. A crank arm is pivotally connected with the pitman carrying the plunger, a shaft turning in the pump head carrying the crank arm, while an arm secured to the outer end of the shaft has three crank pins, one adapted to be connected with the windmill rod, a pump handle being secured to the other two.

A burglar alarm has been patented by Messrs. Scott C. Freeman and John B. Soward, of Nevada, Mo. The invention consists of a novel construction and combination of parts whereby, when a window or door attached to the device is opened, a bell or bells will be caused to ring until stopped by an inmate of the house, or until the power of the device is exhausted.

A feathering paddle wheel has been patented by Mr. Robert J. Jones, of Carrollton, Washington Ter. It is designed to be operated the full depth of the vessel, and to avoid loss of power and steam by being thrown out of the water when the vessel lurches in a rough sea, the invention covering various novel features of construction and the combination of parts.

A truck has been patented by Messrs. William J. Kennedy and Louis A. De Mayo, of Jersey City, N. J. The invention consists in the novel construction of the standards adapted to receive the carrier, and in the peculiar bearings of the carrier, so that the load may be easily and quickly dumped without removing the carrier, or the carrier may be readily detached from the truck.

A ship's log has been patented by Mr. Eugene E. Haskell, of Forestville, N. Y. It is an instrument to be suspended by a cable and carrying a propeller wheel, whose revolutions, according to the rate of progress through the water, will make and break electric contacts, which will be recorded on a register to indicate the number of revolutions per minute, whereby the speed of a vessel may be determined.

A wheel has been patented by Mr. Austin J. Hanks, of Wilmington, Ohio. This invention relates to improvements in what are known as "suspension wheels," and the hub is made up of two pairs of disks, the inner disks being formed with corks, and the outer disks with ribs or flanges to serve as supports for the corks, with other novel features, making a wheel especially designed for tricycles, and adapted for use with any light vehicle.

A running gear for vehicles has been patented by Mr. Alfred W. Johnson, of New Brunswick, N. J. This invention covers devices whereby both the front and rear axles are fitted to swivel or turn centrally of their length, whereby greater flexibility is given to the vehicle, and the wheels of the two axles are made to skew in common when turning the vehicle, the axles carrying the wheels simultaneously swiveling in opposite directions.

A road cart has been patented by Mr. Wilber M. McCrossen, of West Branch, Mich. The axle is dropped centrally, and the body supported through springs on the dropped portion, while the thills are fitted at their rear end loosely on the axle, and to the thills, adjacent to the front end of the body, are secured front springs incased in barrels depending from the thills, with other novel features, making a cart easy to get into and out of, and which is designed to be easy riding and free of horse motion.

A valve mechanism for sewerage systems forms the subject of two patents issued to Mr. Charles H. Shepherd, of New York City. These inventions cover improvements on a former patented invention of the same inventor, one being designed to provide devices for retarding the closing of the valve at the end of the sewage pipe, to give the contents of the pipe time to escape before the valve closes, and the other providing mechanism by which the discharge valve of the sewage pipe may be opened or closed, and by which the valve may be held securely in a partly open position in case anything should become lodged between the valve and its seat.


## SCIENTIFIC AMERICAN BUILDING EDITION.

**JUNE NUMBER.—(No. 32.)**

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3. A cottage of field stone and wood, perspective and floor plans.
4. Perspective and floor plans for a seaside cottage, cost about five thousand dollars.
5. Sketch of a residence at Minneapolis, Minn.
6. Perspective view of a small suburban or seaside cottage costing one thousand eight hundred dollars.
7. Sketch of the residence of Ex-Gov. Hamilton at Kenwood, Ill.
8. Plans and perspective view for a cottage costing, complete, one thousand and fifty dollars.
9. A cottage on Prospect Ave. and 165th Street, New York. Perspective and floor plans. Cost, seven thousand dollars.
10. Floor plans and perspective view for a residence of moderate cost.
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13. Full page of illustrations of North St. Paul, Minnesota.
14. Page engraving of the new City Hall, Holyoke, Mass.
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16. Villa. Penmaenmayr Building Estate, North Wales. Wm. Dawes, architect.
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**Names and Address** must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication.

**References** to former articles or answers should give date of paper and page or number of question.

**Inquiries** not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn.

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**Minerals** sent for examination should be distinctly marked or labeled.

(1) B. S. B. (Col.) desires a recipe for making good cider from boiled cider. We can get the boiled or condensed cider here, but it is hard to get apples in this country. A. We cannot. Boiled cider, in our experience, is used chiefly for cooking purposes. The following makes somewhat of a substitute for cider. Water 1 gallon, common sugar 1 pound, tartaric acid ½ ounce, yeast 1 tablespoonful; shake well, make in the evening, keep cool, and it will be fit to use next day.

(2) I. H. F. writes to F. B. P. (39), who inquires for a remedy for removal of warts. With a match or similar small stick, apply several times strong nitric acid to the center of wart, which can easily be done in such manner as to avoid touching the tender skin around the wart. Let dry, and after a day or two repeat the operation, after which the wart will disappear. Should the acid reach tender point, through the wart, cease the application and at once apply a stream of cold water. I have succeeded with this several times.

(3) C. W. D. writes: Our fishermen in Lake Erie fish in water 500 ft. deep, and on their nets use floats of white cedar about 3½ in. and 1¾ in. diameter, with a ⅜ in. hole through the center. These floats soon get water-soaked at that great depth, and are useless. How can that best be prevented, so that they will retain their buoyancy? A. We suggest boiling the floats in paraffine.

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**June 19, 1888,**

**AND EACH BEARING THAT DATE.**

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