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RAIL-ROAD NEWS.

Indiana and Ohio Central Railroad.

Among the roads which will meet with an early completion is the Indiana and Ohio Railroad. This important link commences at Crestline, 78 miles southwest from Cleveland, and runs to Fort Wayne, Ind., a distance of 131 miles. The amount or stock taken to January, 1852, is $711,000—being about one-half the entire cost of the road, independent of the right of way, which will no doubt be negotiated upon favorable terms. The region through which this road passes, though comparatively new, is increasing in population and wealth in a greater ratio than any other part of Ohio, and Allen County, Ind., has increased in population nearly 200 per cent., within the last ten years.

Dangers of Railroads.

Many accidents happen through careless ness of thoughtful forecast. On Thursday the 6th inst., four young ladies were killed on the Watertown and Rome Railroad, this State, while amusing themselves on a hand-car. They thought all the trains for the day had passed, and while they were on the track a freight train suddenly came upon them; they then became paralyzed, and before they could jump off, were mangled in a fearful manner. This accident, we trust, will be a warning to others. When will the time come for our Railroads to be enclosed?

A locomotive engine factory is about to be established at Montreal, C. E. A company from Dundee, Scotland (Kimmond & Co.), is the firm. They must build upon the principle of American locomotives, not those of England and Scotland, to be successful. Wood will be used for fuel, and the roads are different, so that the same locomotives we use in the States, and best suited for the railroads in Canada.

The citizens of Albany propose to erect a manufactory for building locomotives. It would be a very excellent place indeed for such a purpose.

Traffic of the Wheeling Bridge.

The passage of horses and cattle over the Wheeling Bridge during the last winter, has been immense. Since the 1st of December the number has probably been not less than 70,000, about double the number passed during the same months last year. Were the bridge not there, this immense amount of western product could not, for a large part of the time, have passed the river at all, but must have remained at the West.

Honor to Agassiz.

The Paris correspondent of the Boston Atlas states that the Academy of Sciences, of France, at their last session, unanimously voted to give the Cuvier prize to Prof. Agassiz for his "Researches sur les Poissons Fossiles." This is the first time the prize has been given.

SLATER'S HEATING AND FIRE-PROOF BOILER FRONT.

Figure 1.

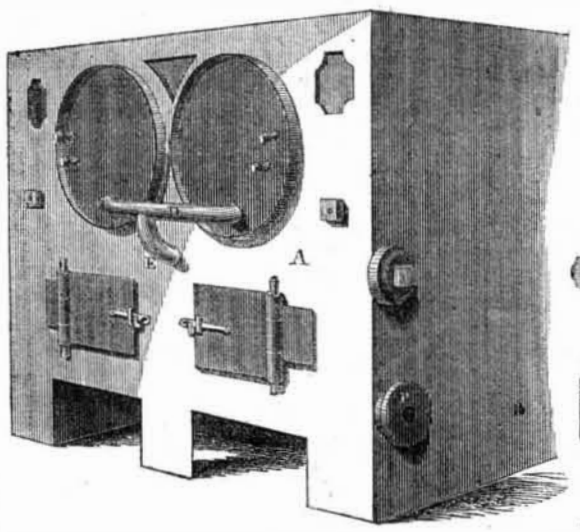
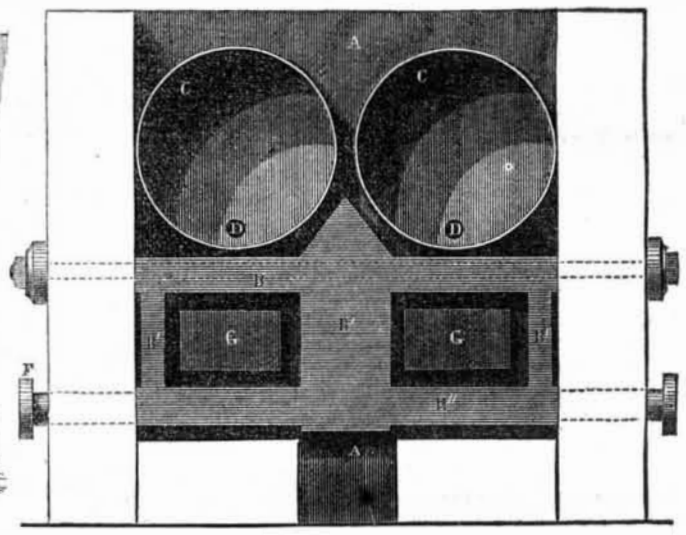


Figure 2.



The accompanying engravings are views of improvements on Steam Boilers, by James Slater, of Macon, Ga., who has taken measures to secure a patent for the same. Fig. 1 is a perspective of the outside front of the boilers and furnaces. Fig. 2 is an inside or back view of the boiler front and furnaces. The same letters refer to like parts.

A is the front plates or casing, through which passes strong screw-bolts on each side, to the back and side plates. Surrounding the furnace doors, B B′ B″ B′, and B″, fig. 2, indicate water chambers. The water is fed to the boilers, C C, from the chambers by the pipe, E, and branch-pipes, D, fig. 1. The water is fed into the chambers, B′ B′, by the pipe, F, which has a flange for coupling with another pipe. On the other side of the front is a pipe similar to F, which is used for a blow-off; G G are the furnace doors. It will be observed that the water is fed in through the chambers forming part of the fronts of the furnaces, and, in passing to the boiler, it (the water) absorbs a great deal of heat from surrounding the furnace door sides, bottom, and top, and it passes into the boiler at a considerable high temperature. This preserves the fire box of common furnaces, while, at the same time, it economizes fuel by enlarging the heating surface in a very simple manner, without taking up any more space. According to the way in which the water is thus fed into the boiler or boilers, the sedimentary must all—or nearly all—be deposited in the lower feed chambers or passages, B B″, before it enters the boiler. The blow-off being placed so low, therefore, the whole of such matters can be blown out by opening the cock. The boiler or boilers will thus be kept free from incrustations and sedimentary matters. The transverse and longitudinal screw bolts passing through the water spaces keep the plates firm and secure. This boiler front can be cast all in one piece, or in sections with the water passages, or it can be made of good plate-iron. The figures, with this explanation, will enable any mechanic, or reader of the Scientific American, to understand the improvements claimed by the inventor. The boilers are the same as those in common use. The water chambers and the mode of keeping sediment out of the boilers, are the peculiar features of the improvement.

More information may be obtained by letter addressed to Mr. Slater.

TAFT'S FRICTIONAL COUPLING..---Fig. 1.

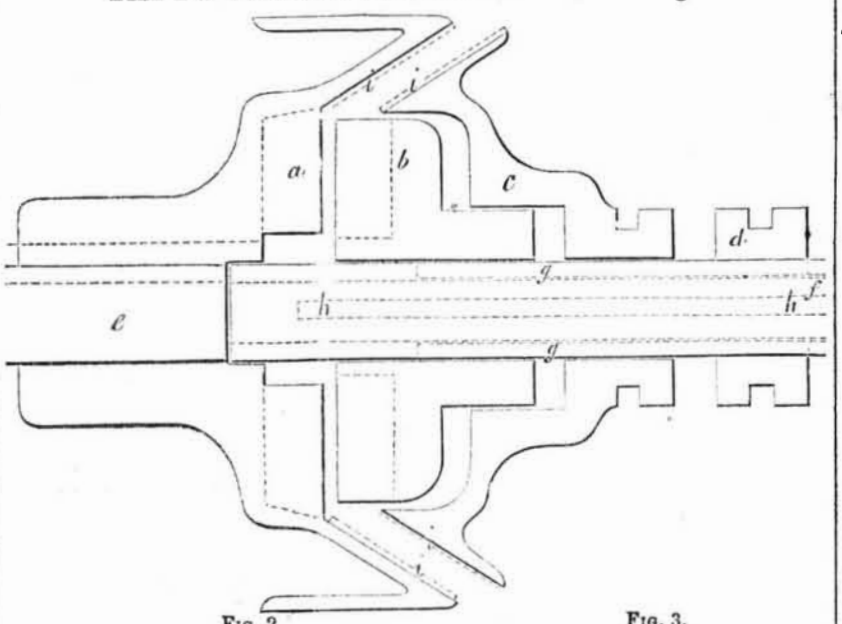


Fig. 2.

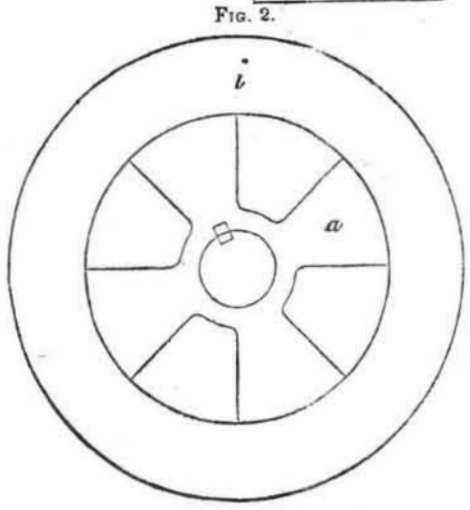
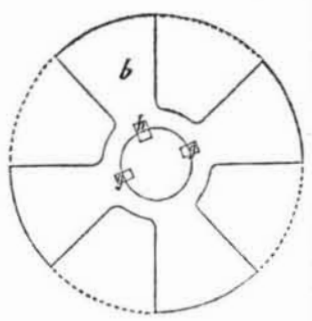


Fig. 3.



The accompanying engravings are views of improvements on Shaft Coupling, by George Taft, of Worcester, Mass. Fig. 1 is a longitudinal section, and figs. 2 and 3 are transverse sections; the same letters refer to like parts on all the figures. *a* is a coupling, made fast to the drifting-shaft, *e* and *b* is its fellow, which slides upon the shaft, *f*, and is connected to the collar, *d*, by the rods, *g g*, which move freely in groves in the shaft, *f*; *c* is a friction coupling, having its face, *i*, covered with leather, to work with the face, *i*, of the coupling, *a*; *h h* is a *spline* to convey motion from couplings *b* and *c* to shaft *f*.

All consumers of power have long felt the necessity of some device that would enable them to bring to rest, and start again, sectional parts of a main line of shafting, without stopping the engine. Such an improvement becomes peculiarly necessary in large establishments, where power is hired out to different tenants, and where the end of the line is remote from the engine. There have been some ingenious frictional devices proposed to accomplish this desirable result, which, however, have failed in practical use; the sudden throwing on or off of working belts, causing a momentary slip of the frictional contact. To combine all the good qualities of the frictional yielding clutch, with the rigid security of the lock coupling, has been the object of Mr. Taft's efforts. The section of shaft at rest is gradually brought up to the velocity of the moving sections, by frictional contact of a divided pulley, one half of which is keyed to the one section of shafting, and the other moving on a *spline* on the other section. When both shafts are revolving with equal velocity, their unity of motion is secured against all accident by a rigid locking of the two sections, which relieves the frictional surfaces from strain. The value of devices of this kind depends on the simplicity and permanency of their combinations, and we think