

ENGLISH RAILWAY COUPLINGS.

As inquiry is sometimes made respecting the best forms used for coupling cars on English railways, we have thought some of our readers might be interested in the following illustrations, which we take from *Engineering*, which it states embody the latest devices for coupling and uncoupling. They are the invention of Edward J. Hill, of London. Figs. 3 and 4 represent an uncoupler solely, while the arrangement shown in Figs. 1 and 2 serves both to couple and uncouple. The uncoupler, Figs. 3 and 4, consists of a stamping or steel casting which stands astride of the wagon hook and is pivoted on the shackle pin or Gedge link. When placed in position, a touch with a hammer turns over the fingers or horns, which embrace the top of the link in the draw bar or the shackle pin, and secures the uncoupler. The device is operated by means of a chain fastened at the center to the end of the uncoupler, and which then passes round two guide pulleys, and ends in two staples, one over each buffer. A hand ring is secured near each end of the chain, and by pulling on one of these rings the uncoupler is raised, and in rising it lifts the coupling chain up the hook until it carries it over the point and allows it to drop free. The operation is perfectly simple, and any one can perform it without instruction—the chain is pulled, the uncoupler is raised, and the link is pushed off the hook, much in the same way that the unfortunate hedge sparrow is hoisted over the brink of the parental nest by the sagacious cuckoo. Several uncouplers are in experimental use on the London, Chatham, and Dover Railway, and have been highly approved by the district inspectors.

Simple as is the foregoing arrangement, it is inferior to that shown in Figs. 1 and 2, which performs the double function of coupling and uncoupling. There is bolted to the headstock of the wagon a bracket in which there is pivoted a long arm which normally lies parallel with the end of the wagon above the hook. The bracket is so tilted that when the arm is moved from the position shown in Fig. 2 to that in Fig. 1, the end rises considerably, until it comes into a direct line with the opposite drawbar hook of the next truck, when it is arrested by a stop in the bracket. This end is provided with an eye, through which there runs a chain connected at its outer extremity to a light clip fixed to the last link of the coupling chain. The other end of the hand chain runs round a sheave over one buffer, and is then connected to a stranded wire, which has a handle situated near the other buffer. Now, when the handle is pulled (Fig. 2), or the chain (Fig. 1), the arm is rotated on its pivot, carrying the coupling chain forward. At the same time the hand chain is drawn through the eye and the end of the arm, and lifts the coupling until it stands in a position (Fig. 1) ready to drop over the hook of an approaching vehicle. By suddenly releasing the hand chain, the coupling is effected. When uncoupling is to be effected, the operation is just as easy. Tightening the hand chain brings the arm up over the coupling, and then a pull lifts the link off the hook, the hand chain is then re-

leased gently, and the coupling chain swings aside clear of the hook and falls into the position illustrated in Fig. 2.

The Dangers of Gasoline.

The Michigan State Board of Health, in a circular just published, gives the following succinct rules for the use and care of gasoline. Every person employing or keeping gasoline should keep constantly in mind the following facts and cautions respecting its use:

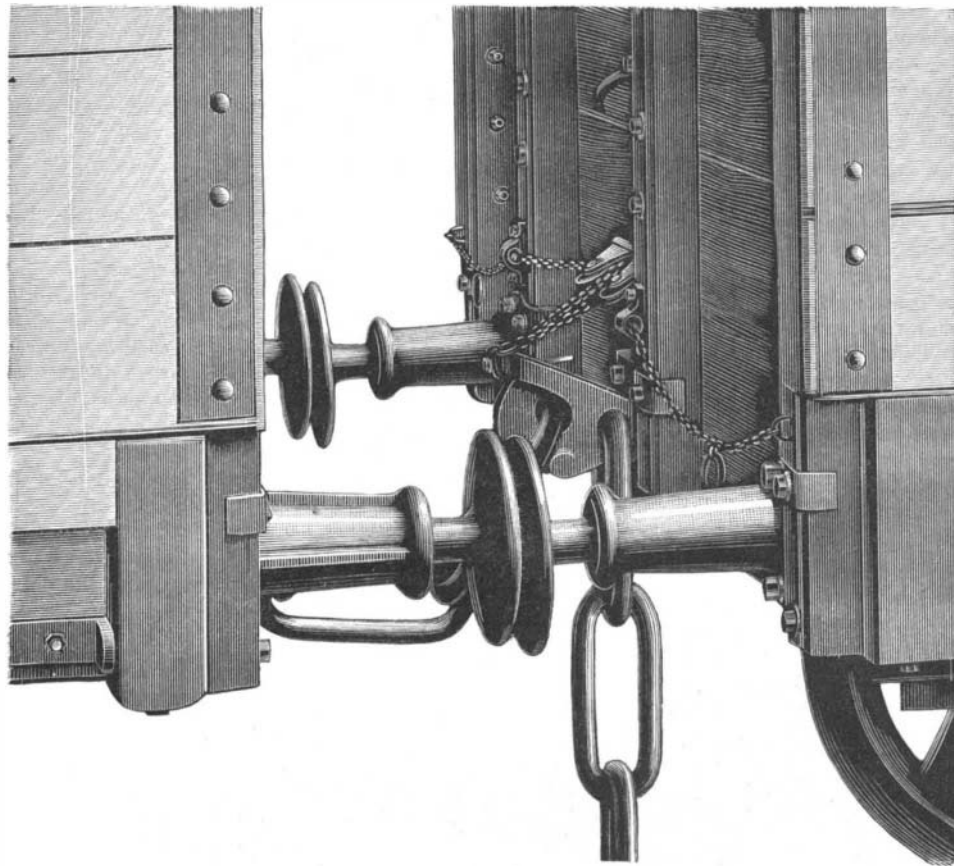


Fig. 4.

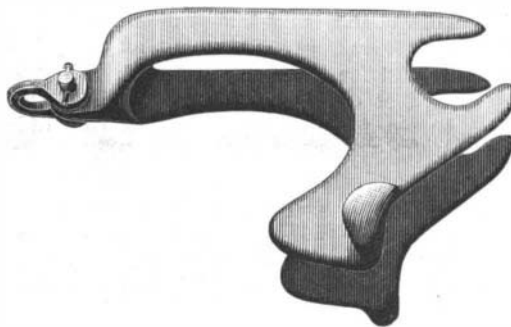


Fig. 3.

1. Gasoline is an extremely dangerous, explosive substance. 2. It should be kept in a cool, well ventilated place, if possible out of doors, or in an outbuilding, never in a kitchen, closet, or cellar. 3. A vessel containing gasoline, unless tightly closed, should never be brought within ten feet of a lamp, stove, grate, flame, or fire of any sort. The small flame of a match or even a spark is sufficient to explode the gas when present in sufficient quantity. 4. The vapor of gasoline may be carried by a draught or current of air, and thus be brought in contact with fire at considerable distance, even greater than that mentioned in the pre-

ceding paragraph, consequently gasoline should never be opened or poured from one vessel to another in a current of air, unless the current is from the room out of doors. 5. The danger in connection with the use of gasoline stoves is not so much in the stoves themselves as in having the gasoline about, yet, by continued use, the valves of a stove may become worn, so that leaks may occur, and thus a stove may become a source of great danger. 6. If an overflow of gasoline occurs from being turned on too freely, from leakage of valves, or from the blowing out of the generating burner, as sometimes accidentally occurs, the surplus gasoline should be carefully wiped up, and the room should be well aired by the opening of windows and doors before the burner is lighted. 7. If an open vessel containing gasoline has been standing in a room over-night, or an overflow has occurred during the night, or if there is found in a room a strong smell of gasoline at any time, the room should be opened and well aired before a match is lighted or a lighted lamp or candle is carried into the room. 8. Gasoline should never be used for lighting a fire. An explosion, which may possibly be fatal in its effects, is almost certain to follow. 9. The use of gasoline lamps is, if possible, attended with even greater dangers than the use of gasoline stoves. 10. A wise regard for safety will lead to disuse of gasoline in any form for domestic purposes. 11. Gas or kerosene stoves may be substituted for gasoline stoves, but neither gas, gasoline, nor kerosene stoves are so safe or healthful as the ordinary wood or coal stove. The ordinary stove aids in the ventilation of the room, and carries away the poison-

ous gases formed by the combustion of the fuel, whereas the other forms of stoves discharge the products of combustion into the air of the room, compelling the occupants to breathe the poisonous gases. Neither gas, gasoline, nor kerosene stoves should ever be employed in other than very open or well ventilated rooms, unless provided with a special flue or ventilating duct for the purpose of carrying off the products of combustion.

An Expression of Animal Sympathy.

While riding along a country road in the environs of Cincinnati, Ohio, about the 1st of last October, I noticed a remarkable and very amusing display of animal intelligence. In a field beneath some trees at the bottom of a very high hill stood facing each other a donkey and a young bull. The bull was standing very patiently, slightly nodding his head up and down, while the donkey, with a rather heavy stick about two feet long in his mouth, was scratching his companion's forehead. Once the donkey dropped his instrument, but, without hesitation, lowered his head, picked up the club again with his teeth, and continued scratching very gravely, to the evident satisfaction of the bull. We often see two cows "rubbing horns," and whether this was a return for a similar favor from the bull or not, the donkey very clearly realized his poverty in the matter of horns, and happily supplied the deficiency.—Charles L. Edwards, *Amer. Naturalist*.

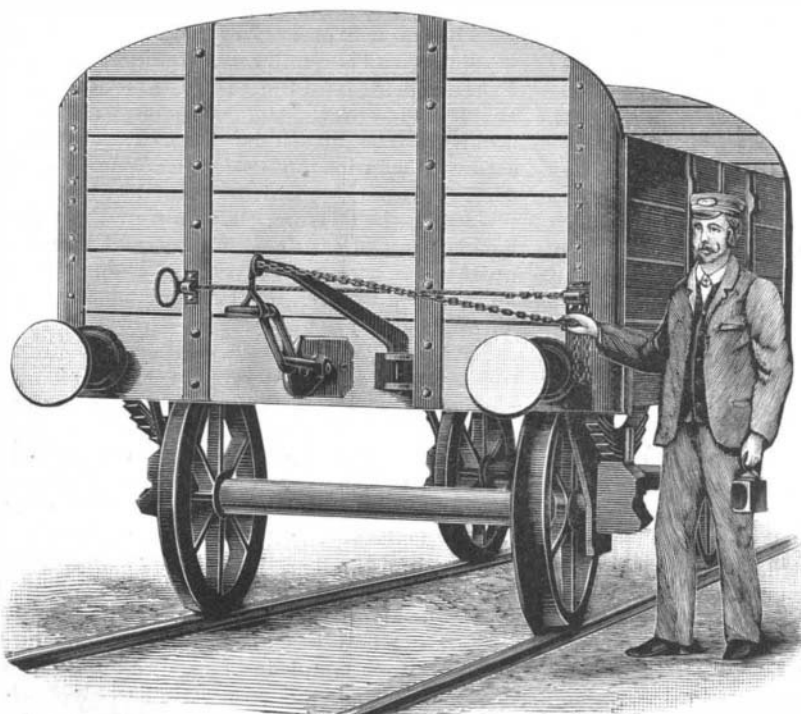


Fig. 1.

ENGLISH COUPLING AND UNCOUPLING DEVICES.

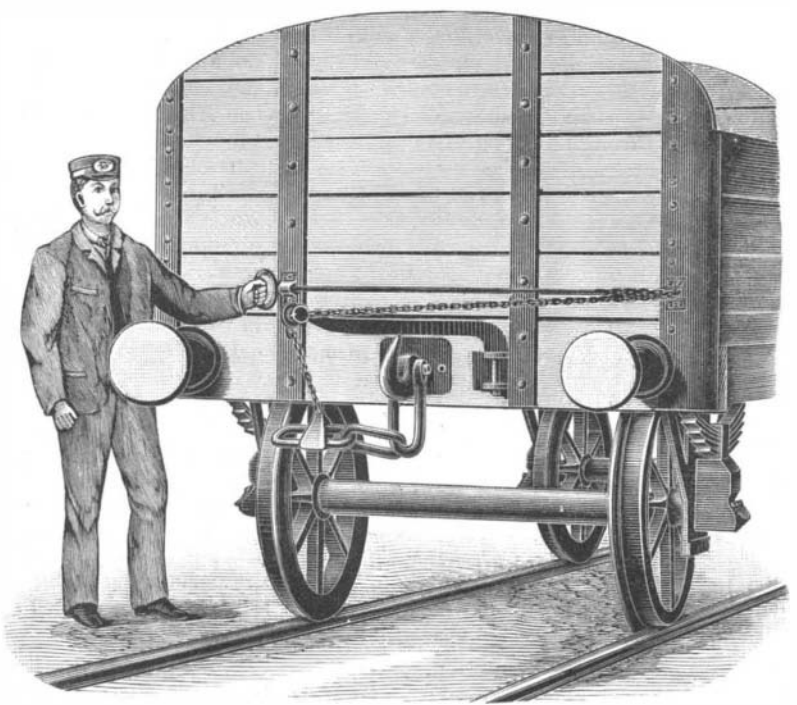


Fig. 2.