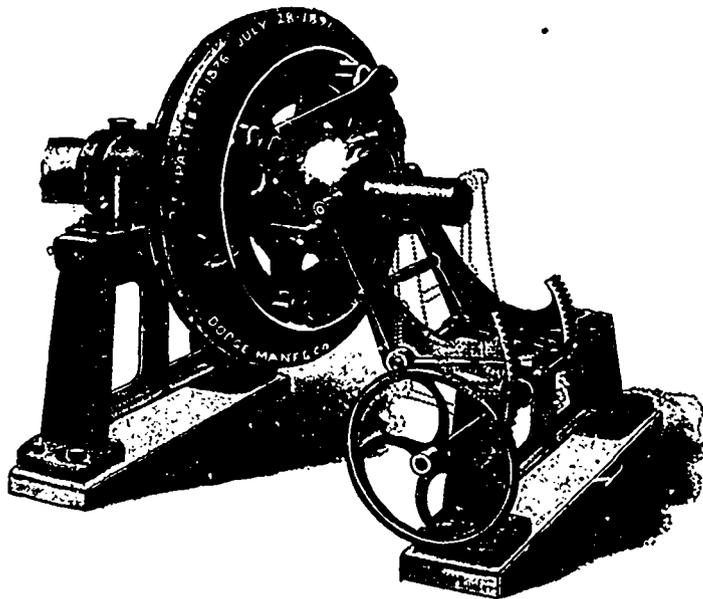


THE DODGE PATENT SPLIT FRICTION CLUTCH AND CUT-OFF COUPLING.

THE utility of friction clutch pulleys for power transmission has been fully demonstrated by long and continuous service, and their advantages over the belt driving shifter are so numerous and obvious that one wonders why their already extensive use is not universal. Even in the matter of first cost the clutch equipment is not greatly in excess of that of tight and loose pulleys, when the extra pulleys and double widths necessary for the drivers are considered. By placing the clutch pulley upon the driving shaft, the belts and all the auxiliary shafting connected or controlled by the clutch are thrown out of action, saving belting, power, oil and danger from hot bearings and pulleys. Amongst the comparatively new clutches on the market is the Dodge Split Clutch, manufactured by the Dodge Wood Split Pulley Company. This clutch is made for service as a cut-off coupling, or may be used in connection with pulleys, gears, sprockets, rope sheaves, friction or hoisting drums, and various other power connections. Its simplicity is readily appreciated by mechanics who have ever had any experience with clutches of more or less complicated mechanism and those having a large number and variety of parts.

The friction disc is made of iron with perforations therein, through which hardwood friction blocks are



DODGE CLUTCH WITH SHIFTER.

fastened, presenting two surfaces of end grain for frictional contact. This disc is a part of the extended sleeve or portion of the clutch connected to the pulley, or whatever driving appliances may be used, and runs loose on the shaft where the clutch is located at the driven end of the transmission. The friction connection is made through two finished cast iron plates, one of which is keyed to the shaft, and which are thrown in contact with the wood filled disc by throwing in a sliding collar which works loose on the shaft, through the thrust of the collar actuating the toggle levers which operate four draw-bolts, forcing the friction plates to

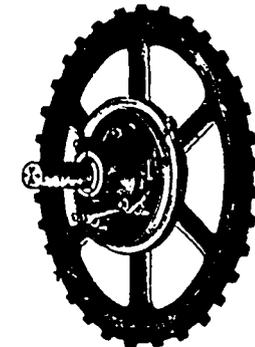


SHOWING SPLIT SLEEVE.

contact with the friction disc this connection operating the pulley or transmission wheel in conformity with the moving shaft. One of the main difficulties existing in the various styles of clutches is the lack of clearance between the friction disc and plates; this trouble is entirely obviated in the Dodge clutch, the clearance being large and instantaneous, actuated by powerful coil springs which separate the plates quickly upon a withdrawal movement on the sliding collar. Two levers are used with four points of contact on the plates, there

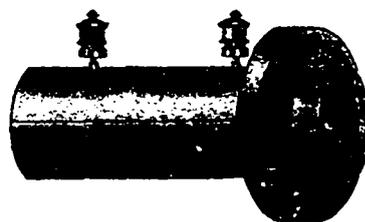
being no loose or rattling joints; the levers are made solid in one piece and have carefully finished fulcrum points on the outer or loose friction plate.

The Dodge Wood Split Pulley Co., appreciating the trade demand for a simple, quick acting clutch, with all possible points of advantage considered, have incorporated the split or separable feature as being one of the most important and quickest of appreciation by consumers. The advantages in a split clutch are manifold, they are easier and quicker to adjust to shaft or repair, and effect quite a saving in time and labor. None of the shafting or other equipment need be disturbed in placing the clutch in position. When this point is fully understood and appreciated we bespeak a more rapid change from the old tight and loose pulley ideas to the modern plan of machine driving. It is the expense of the split clutch as formerly made, as well as the trouble and expense involved in putting on solid clutches that has kept many manufacturers from making the changes long ago. This clutch is put on the market at about the same price as any other first-class clutch, but having the split feature to its credit. The Dodge split clutch is particularly adapted to service with gears, sprockets and other connections, and the only necessary features of these appliances over the regular goods is the large bore necessary to fit the extended sleeve. This sleeve is separate from the friction disc and may be easily detached for repairs without handling any portion of the clutch mechanism. For ordinary service the sleeve is lined with genuine babbit and fitted with compression grease cups to insure continuous efficient lubrication. The pulley is clamped over the sleeve and keyed securely. An improvement of very great practical importance is the patented separable or detachable hub, which bears to the clutch the same relation that the Dodge and Philion bush bears to the pulley. It enables the manufacturers to carry finished clutches in stock to be furnished with hubs as ordered also from stock—or at most with delay of only a few hours. It also enables the owner to keep a clutch on hand, and at the expense of a new hub use it in a shaft of different size or as a cut off coupling, as he may desire.



CLUTCH ON SPROCKET WHEEL.

Many patents have been taken out on the special features, and if the numerous favorable expressions of mechanics and engineers go for anything we feel safe in predicting a large demand for the Dodge patent split clutch. Many shifting devices are shown; one is adjusted to the floor stands used for shaft supports, and another a plain geared apparatus mounted independently and operating through a rock and pinion.



PATENT INTERCHANGEABLE SLEEVE.

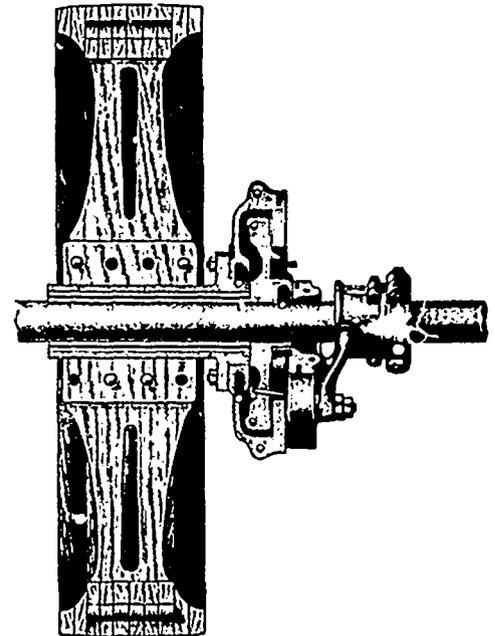
The company issue a handsome catalogue covering their various specialties, and are pleased to mail same free to any one interested. Address, Dodge Wood Split Pulley Company, 68 King Street West, Toronto.

LOOK TO THE BOILER ROOM.

THE enormous coal consumption per unit of output in many electric lighting and power plants is cause for general comment, especially since a recent committee report brought the wide variations of efficiency prominently into notice.

Theories innumerable are advanced to account for the difference between the fuel burned per horse-power in driving the dynamos, as compared with other service; a favorite conclusion seeming to be that compound engines are not satisfactory when working through other than narrow ranges of power variation.

While this is probably true of a great many of the engines used for such work where the cylinder proportions and general make-up are no credit to those responsible for the designs, yet there is little doubt but that one main cause of the trouble must be looked for in another direction. A glance through the power houses



SECTION OF CLUTCH AND PULLEY SHOWING EXTENDED SLEEVE.

discloses the fact that many of them are run on an easy-going basis, no attempt seemingly being made to maintain proper discipline among the attendants, each of whom shifts for himself without let or hindrance from the directing authority.

A genuine fireman, thoroughly trained in the principles of his profession, would blush with shame at the sight of these boiler departments.

In place of clean grates, giving a bright glow beneath, the bars are masked by clinkers, and the ash pits yawn without a ray of light to show what is going on within.

The air wheezes as it forces a passage through the refuse, instead of passing in with that rustling sound that tells of free combustion.

At frequent intervals, between the discussion of politics, or other matter foreign to the work in hand, an individual, whose only claim to being a fireman lies in his ability to heave carbon against the back of the furnace, rises from an ottoman of coal and canvas, and throwing open a furnace door, leisurely proceeds to shovel in a half ton or so of fuel, after which work of art, with no attempt to level the fire, or clear the grate, he throws himself upon his couch for another restful season.

Under the too common management of such places, there seems to be not the slightest incentive offered a man to properly attend his boilers.

An enormous grate and heating surface, and immense chimney, are relied upon to maintain steam, when a few first-class men at the fires would make fewer boilers do better work.—American Machinist.

The number of boiler explosions in saw mills and other wood-working establishments during 1894 was fully up to the average. Some of them were unusually destructive. Country saw mills, whose boilers are in charge of cheap and ignorant men, furnish most of the casualties.