

shaft. Both cylinders are connected to a four-way valve, operated with one lever, so that when one pinion is engaged the other is automatically released. By using compressed air instead of steam for the thrust frictions, all troubles from condensation are eliminated and positive action is assured.

An air pump and reservoir tank are provided on the machine for furnishing compressed air for the air thrust frictions. The pump is automatic so that it will maintain whatever air pressure it may be set for.

The rigging engine is double cylinder, direct motion, set directly in front of the skidding engine. It has three friction drums, one for transfer line to change setting of the main cable, one for the setting or "straw" line, and one for heel block line to tighten the main trolley cable. Each of these drums is operated with hand lever and screw thrust frictions.

The loading engine is double cylinder, duplex, reversing; having one engine above the other, mounted on the front end of the machine. Two separate lines are used for loading, one operated by each of these two engines. The upper engine has one drum fixed to the gear. The lower engine has two friction drums, one for load line and the other for spotting cars.

The loading drum is set up with a screw thrust by hand so that all members in connection with the thrust mechanism revolve with the drum when loading, assuming the properties of a fixed drum having no rubbing surfaces.

The car spotting drum is operated with a regular thrust screw and lever.

For loading purposes the two engines are operated by one man with a lever connected to each reversing throttle, so that the two loading drums are started, stopped, or reversed, simultaneously or independently of each other. A set of operating levers is furnished on each side so that the operator may work from whichever side of the machine is most convenient.

The loading engine is mounted on a longitudinal axis centrally located in the engine bed to provide a tipping adjustment to either side for properly leading the loading lines to the blocks on either side of the head tree. The engine is held in the position desired by pivoted holding down bolts along either side of the bed, having lock nuts above and below the lower flange of the bed.

All operating levers for the skidding engine are banked on an elevated platform where they are convenient to handle and from this position clear vision for the operator to either side of the machine is obtained.

