

addition of the spring plank with the columns attached thereto. These spring planks may be noticed to the rear in fig. 3, where a small pile is kept for the operators, being constantly replenished from the rear of the shop, where the columns are rivetted to the spring plank, by a gang whose duty it is to see that the assemblers are provided at all times with all the necessary material to proceed with the work without delay. The spring plank, on being lowered into place by the jib crane to the rear, is fitted with the spring equipment between the columns

long enough for two trucks when there is a large gang operating at one time. At the same time as the truck bolts on both sides are being tightened up, the brake rigging members that belong to the truck are being put in position on the truck, so that on leaving this point, the truck in itself is entirely completed. Passing a little further along the shop, the body bolster is located over the truck bolster from the awaiting pile of these members near the door of the building. There is a swinging jib crane at this point for this purpose.

ging. The draft springs are temporarily bolted together between their end plates, and dropped into position in the coupler yoke. The coupler is then rivetted in, and the cover plate rivetted down over all as shown to the left in the illustration. Both ends are similarly equipped at the one setting, when the centre sill is ready for assembly into the car.

**UNDERFRAMING.** All the wooden parts entering into the assembly of the car are machined in the shop across the midway from the car shop, beyond the point of

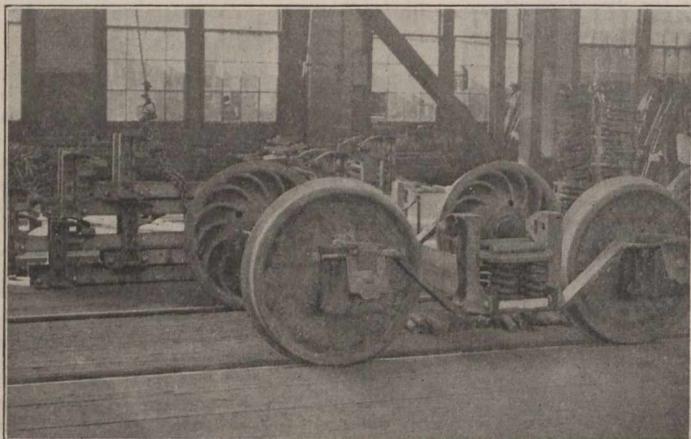


Fig. 3.—Second Step in Car Truck Assembling.

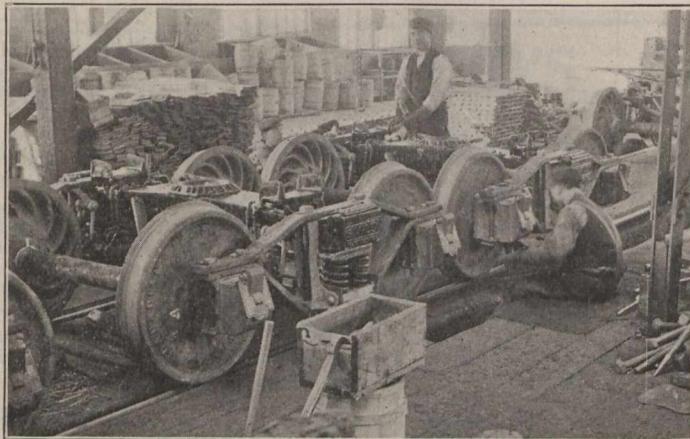


Fig. 4.—Final Step in Car Truck Assembling.

at each end. This consists first of all of a couple of pieces of hard wood placed on the spring plank, on top of which is the four coil spring with guiding cap over top, carrying two rollers.

Passing the truck thus far assembled a little further along, places it in the position to the left in fig. 4, where the truck bolster is lowered into position on the truck between the guides. These truck bolsters are also kept in piles alongside of the track, as shown to the rear in this illustration, within range of the same jib crane used in the last operation of placing in position the

**STEEL CENTRE SILL.** The buildings which comprise the Angus shops are located along both sides of a central midway, which runs through the works. The truck shop is on the west side of the midway, with the freight car shop alongside. The blacksmith shop is across the midway from the truck shop, and located in the opposite direction from the car shop. It is at the rear of this blacksmith shop, in a small lean-to, that the steel centre sills are fabricated from the structural shapes that enter into their make-up. The constructional work on these is of the usual form, with the custom-

assembly of the sills shown in fig. 5. Alongside of this place is the point of assembly of the steel centre sill to the two trucks. There are two tracks for this operation, the process being carried on concurrently on both tracks. The trucks from the truck shop are run out on to turntables in a track running the length of the midway, run along this track, and by two other turntables can be run across to either of the tracks for the assembly of the sill to the trucks.

Between the two assembly tracks, as indicated in fig. 6, there is a pile of wooden

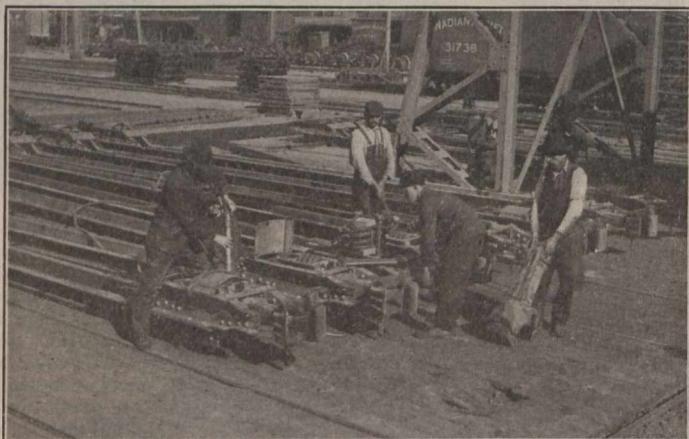


Fig. 5.—Fitting Draft Gear into Centre Sill.

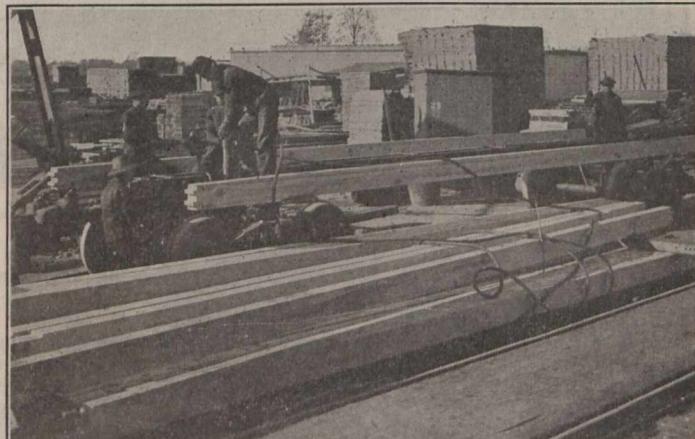


Fig. 6.—Rivetting Centre Sill to Body Bolster.

spring plank on the truck. In the same position, the upper arch bar is placed in position from the store pile to the rear. With all these parts assembled, the column bolts are slipped into position in the column bolt holes, and the truck is then ready to be moved along to the position to the right in fig. 4, where the bolts on both sides of the truck are tightened up over spring washers by the operator. It will be noticed that along both sides of the track, there is a depressed channel, on the edge of which the operator can conveniently sit while tightening up the bolts. This channel is

any flangers, punchers, riveters, etc. The sills as there produced are shown in fig. 5 to the right, in the row lying on the ground.

The sills shown in fig. 5 are on a tract of ground across the midway from the car shop. To the right of the midway crane column in this illustration, there is kept a store of steel centre sills from the shop at the rear of the blacksmith shop, from which the few shown on the ground are drawn by means of a steam yard crane operating on the industrial track to be seen in the lower right hand corner of fig. 5. Here the sills are equipped with the necessary draft rig-

side sills completely machined ready for assembling. On to two trucks located the proper distance apart, two of these side sills are dropped, the body bolster fitting into the notches in the lower face of the side sill, correctly aligning the car trucks, and squaring the body bolsters with regard to each other. When the trucks and body bolsters are thus squared up with regard to each other, the steel centre sill is placed in position on the two trucks, and the rivet holes are aligned. Both ends are then rivetted to the body bolsters, making a perfect and permanent alignment of the underframing.