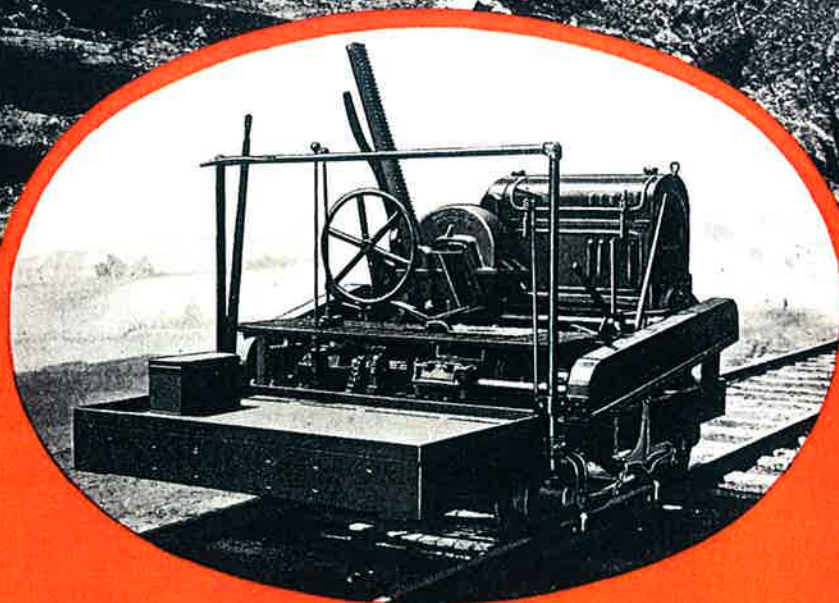
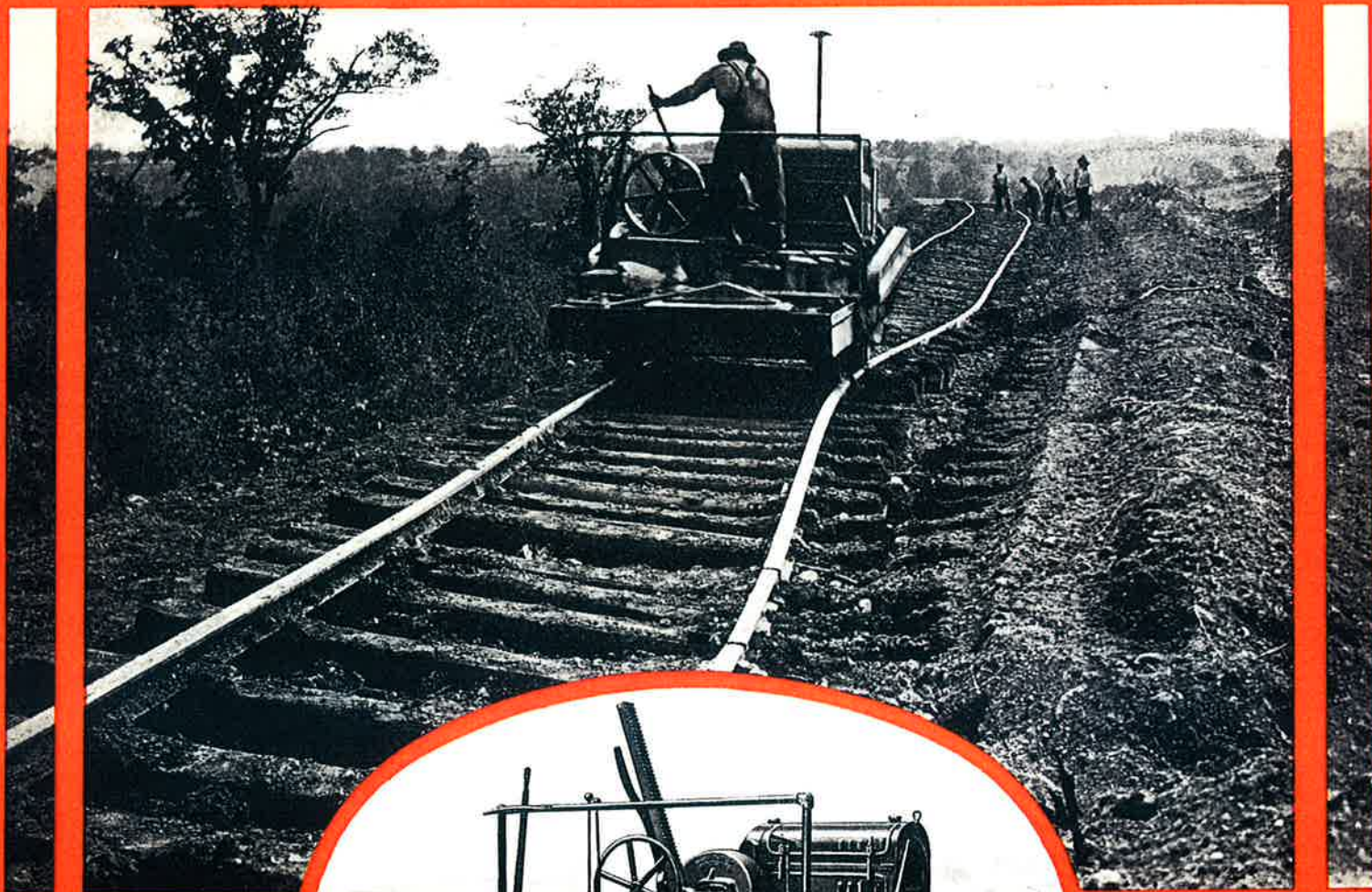


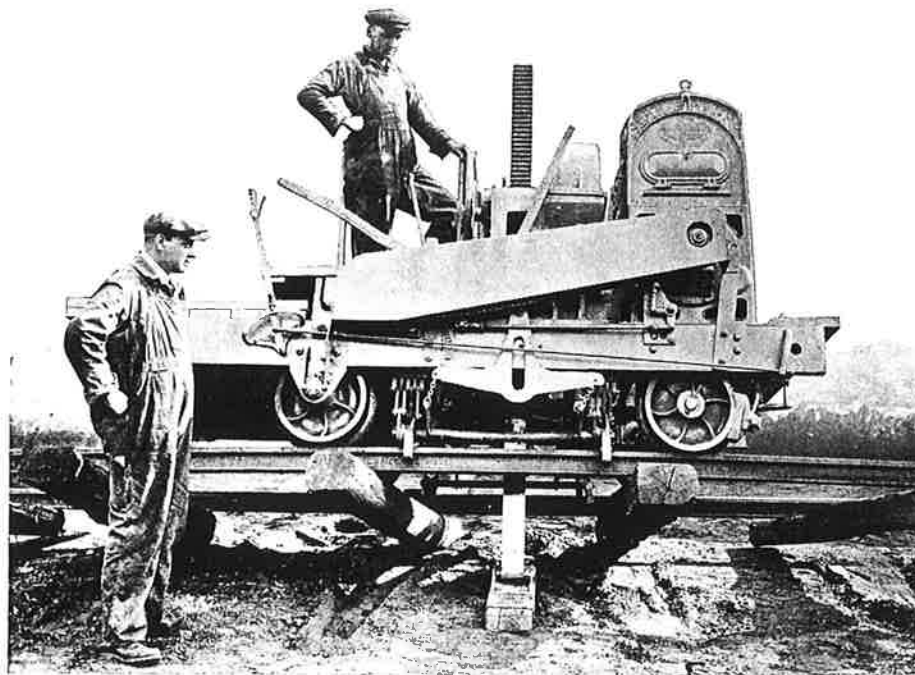
NORDBERG PATENTED TRACK MACHINE



BULLETIN
86A

Shifting track
on the waste
dump of a
large quarry

NORDBERG MFG. CO.
Milwaukee, Wis., U. S. A.



Equipped with a single spud, arranged for shifting track laterally.

Wherever Track Must Be Shifted

The Nordberg Track Machine was developed to shift track laterally or to raise track vertically thus replacing the large number of men normally required to do this work by hand. For lateral shifting, the machine is furnished as shown above. The principle of operation is shown diagrammatically on page 4.

The machine consists of a welded steel framed car powered by an engine of ample capacity to provide the lifting action and for traveling. Suitable drives and controls are provided for operation.

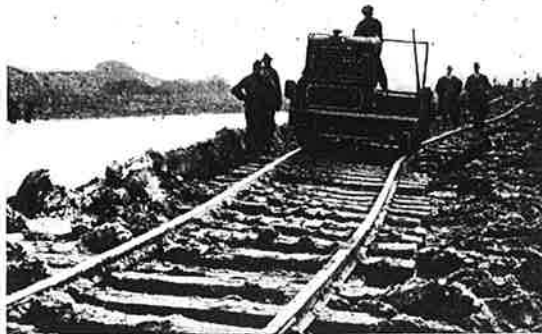
The Track Machine is applicable for shifting track on waste dumps, open pit mines,

quarries, gravel plants and construction jobs. When equipped as shown on page 3, it is equally suitable for building up fills, elevation work, etc.

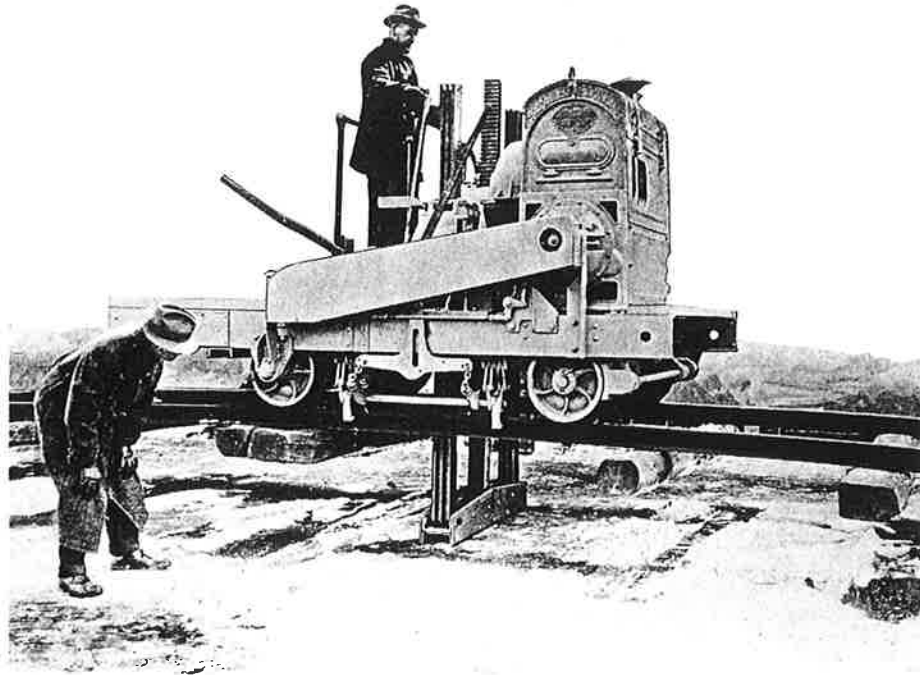
Compared with hand shifting, the Track Machine will accomplish as much as 80 men with bars. It will not kink the rails nor injure the joints. It will work in soft footing and in places where it would be almost impossible to work by hand. Having a lifting capacity of 50,000 pounds, it will lift and shift track that is deeply embedded or frozen in. At each shift a lateral movement of 18 to 36 inches can be secured, depending upon the condition of the track and the material under the track.



Shifting track in the construction of a railroad yard. With the Track Machine, it is not difficult to shift track to the inside of a curve.



Forty men were replaced on two waste dumps. The material was soft, blue clay, which made hand shifting almost impossible.



The Track Machine equipped with leveling device for raising track.

On Ballasting and Other Raising Jobs

By adding the leveling device to the standard machine shown on the opposite page, it is a simple matter to adapt the Track Machine for track raising work. When so arranged, the machine will lift both rails together, or one higher than the other as in banking a curve, and hold the track indefinitely in the raised position. Clamp levers control the vertical movement of these lifting spuds, permitting a very close regulation of lift being secured. *This device can be attached to any standard gauge machine in an hours time and can be quickly removed when the machine is needed on a shifting job.*

With this device a lift of three feet can be secured, allowing access for working on the rail bed, or for removing ties without the interference of jacks. When used for raising work, not only does the Track Machine displace the jack gang, but also men required for the digging of jack holes and setting of jack blocks. Another feature of the machine is that its use is not hindered by mud, sand, cinders, slag and other soft materials, which make the use of jacks a difficult task. Due to its great lifting capacity, the Track Machine is especially suitable on heavy duty raising.



Making a five foot raise in grade, working in soft sticky clay. On the same job the Machine was also used for ballasting.



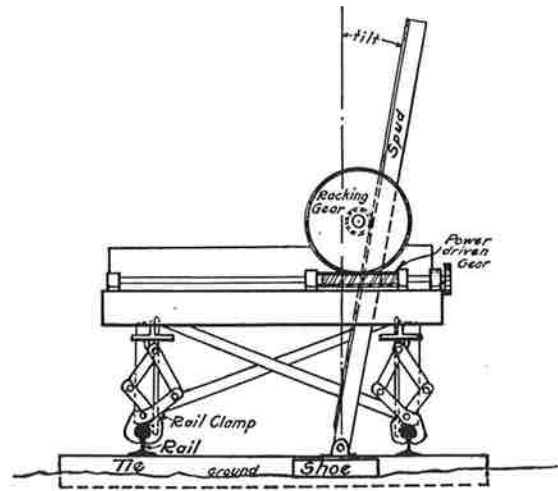
A main line elevation job where the track had to be kept in condition for service. This machine is equipped with run-off wheels.

Principle of Operation of the Track Machine

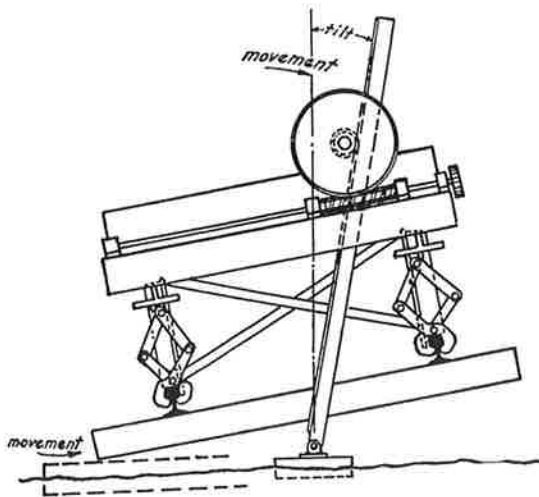
SHIFTING TRACK

The Nordberg Track Machine requires but one man for its operation. Upon reaching track that is to be shifted or raised, the operator throws a convenient lever at the side, thereby clamping the machine to the rails. The spud, so located that the spud shoe comes between the ties, is then racked down after being given the proper angle or tilt depending upon the direction and amount of shift desired. This position is shown in the sketch at the right.

When the spud shoe comes to rest on the ground, a powerful force is exerted upward, pulling the rails and ties free from their embedded positions. With the spud offset from the center of the track, that side will be raised first. As the spud continues to move down-



Clamped to rails with spud set for shifting track.



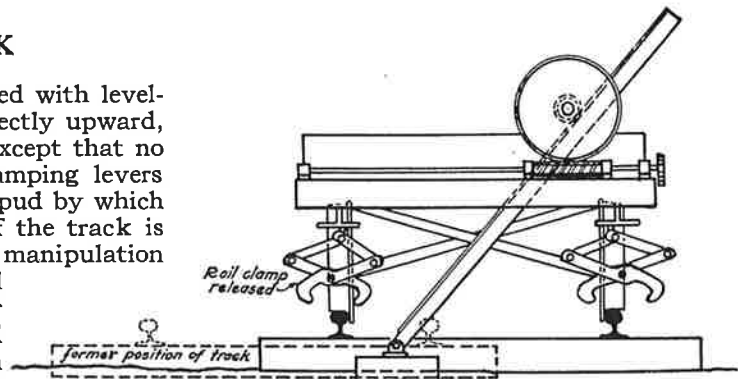
Track lifted at one side.

ward, the height of the raise increases and more track is lifted, until the load becomes so heavy on the tilted spud that the Track Machine lays or falls over gently carrying a considerable section of track over to a new position. The amount of the shift varies from eighteen inches to three feet, depending upon conditions. The operator soon determines from experience the amount of tilt that must be given the spud. Tilting is done by a hand wheel located immediately in front of the operator.

After the track has been shifted the required distance, the rail clamps are released, the machine moved ahead 30 to 50 feet and the operation repeated until the entire track has been moved over.

RAISING TRACK

When the machine is equipped with leveling device for raising track directly upward, the operation is quite similar except that no tilt is given to the spud. Clamping levers are provided for each leveling spud by which the movement of either side of the track is readily controlled. By proper manipulation it is possible to raise one rail higher as in banking a curve or both rails level and then held in that raised position. With good footing a lift of three feet can be secured.



Track shifted to a new location.

Track Machine with Rail Laying Attachment



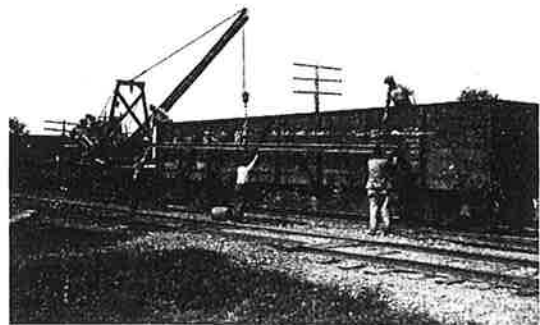
Laying 130 pound, 39 foot rails with the Track Machine equipped with rail laying attachment.

Here again is shown another use to which the Track Machine can be put. By adding a hoist and boom to any standard machine, it can easily be converted into a rail laying and material handling crane. For those who have rail to lay, this inexpensive attachment will prove a great saver in labor. It is especially suitable for contractors and railroads, as it

aids in keeping the machine busy and deriving the greatest return on the investment. The mast and boom can be attached and removed in a few hours time again making it suitable for shifting and raising work. The safety hoist prevents accidents due to carelessness on the part of the operator.



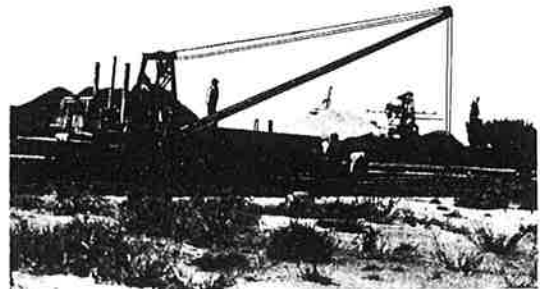
A typical rail laying job for which the Track Machine was used. It is fast enough to keep the large spiking gang busy.



Mounted on a flat car, it is useful in loading and unloading rails. The smooth control and safety hoist features are valuable in this service.



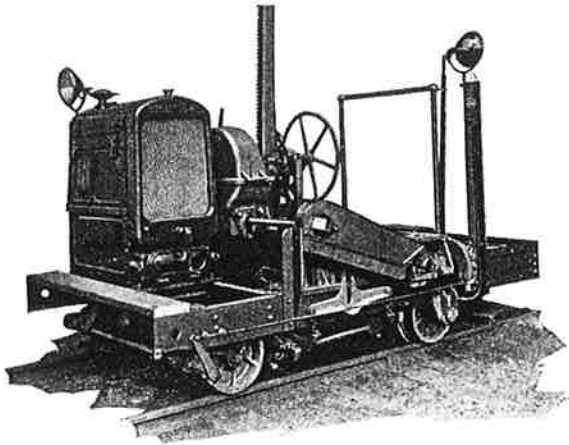
In moving up, the machine has a sufficient power to push the car of rails ahead for each setting.



Unloading direct from a car and laying two tracks at a time on a yard construction job.

NORDBERG TRACK MACHINE

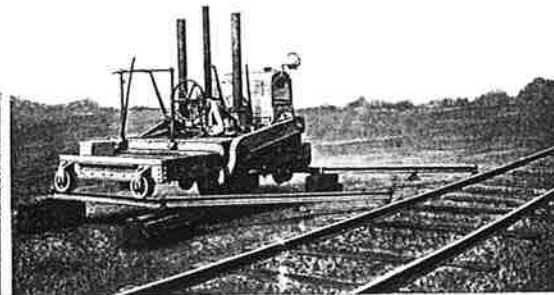
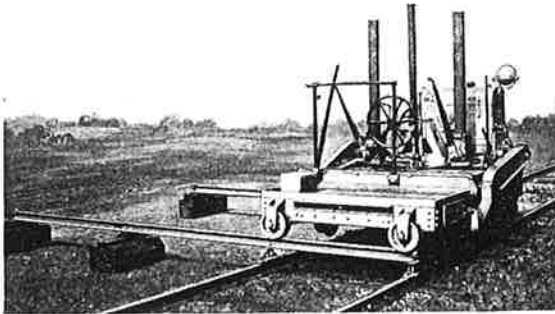
Other Special Attachments



ELECTRICAL EQUIPMENT

Where track shifting and raising is done at night, the Track Machine can be electrically equipped for night work. This includes a generator, battery, starter, headlights front and rear, and track lights beneath the car to aid in spotting the spud shoe.

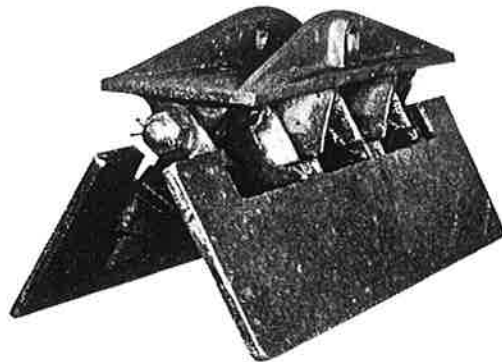
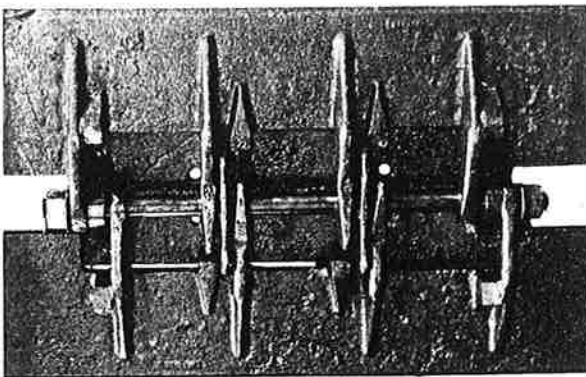
RUN-OFF WHEELS



Run-off wheels can also be provided when the machine is used on track where traffic must be maintained. With the aid of the lift-

ing spud, it is a simple matter to set the run-off rails in place and roll the machine to one side to clear the track.

EXPANDING SPUD SHOE



When working in soft ground, where it is difficult to get a firm footing, a self-expanding spud shoe can be supplied to replace the one ordinarily furnished. The above illustration shows the shoe contracted in the raised position, which permits it to pass between the ties. A comparison of areas of the standard and expanding shoes is also shown.