Dec. 31, 1929. J. R. LINNEY 1,741,944

SINTERING MACHINE

Filed Oct. 9, 1928

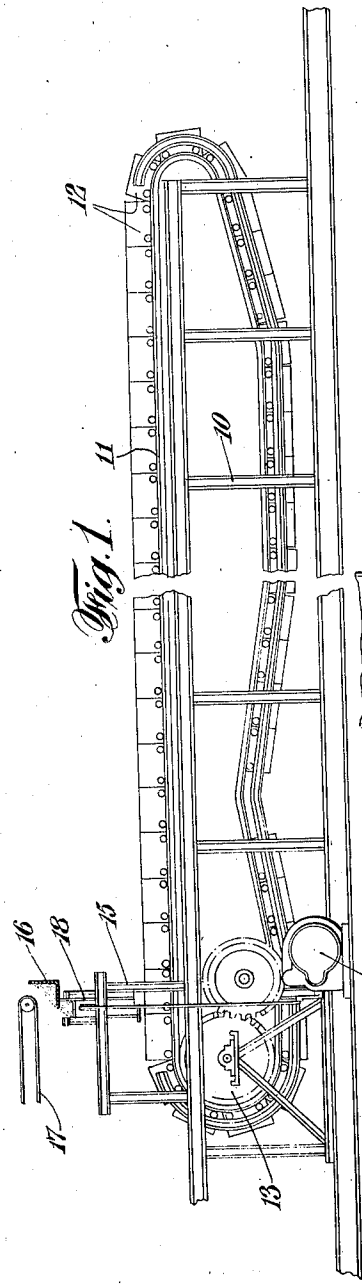


Fig. 1.

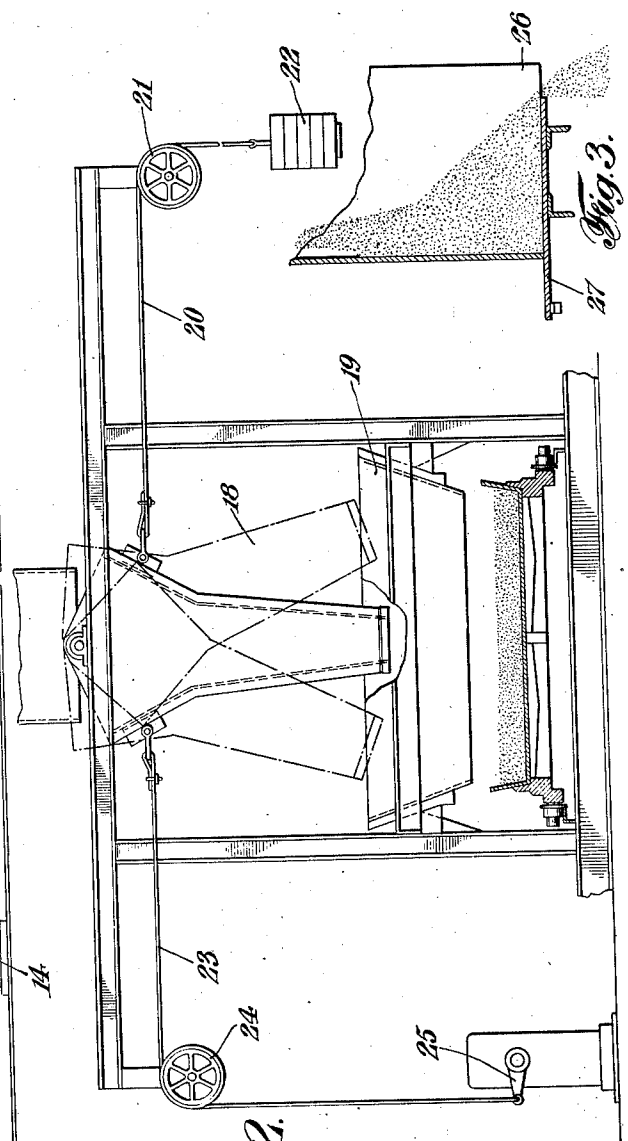


Fig. 2.

Fig. 3.

Inventor
Joseph R. Linney
By his Attorneys
Kenyon & Kenyon

Patented Dec. 31, 1929

1,741,944

UNITED STATES PATENT OFFICE

JOSEPH R. LINNEY, OF CLINTON COUNTY, NEW YORK

SINTERING MACHINE

Application filed October 9, 1928. Serial No. 311,295.

This invention relates to ore sintering machines and particularly to an apparatus consisting of a train of separate pallets or grates adapted to form a continuous moving grate for continuously sintering the ore fed upon it and discharging it upon the completion of the sintering operation.

An object of this invention is a simple and improved means for feeding the ore to the grate in which wear is reduced to a minimum and even distribution of the ore on the grate is accomplished.

According to this invention a swinging spout is provided for conveying the ore from the feed hopper to the grate. This spout is mounted to swing laterally of the grate and is provided with means to discharge the ore in the direction of movement of the grate. The spout is provided with an aperture in one side wall and with an adjustable bottom. The latter is so adjusted that the ore piles up thereon until it forms its own angle of repose and then discharges onto the grate bars. By allowing the ore to form its own angle of repose in the swinging spout it runs on itself, thereby eliminating any wear on the spout.

Other objects, novel features and advantages of this invention will be apparent from the following specification and accompanying drawings wherein:

Fig. 1 is a side elevation of a sintering machine equipped according to the invention;

Fig. 2 is an enlarged section on the line 2—2 of Fig. 1 and

Fig. 3 is an enlarged section through the lower end of the spout.

The sintering machine consists of a frame 10 provided with an endless track 11 upon which a train of pallets or grates 12 is mounted to travel. The grates are elevated and propelled by means of the sprocket wheel 13 which is driven by any suitable source of power 14. At the end of the apparatus adjacent the driving wheel 13 there is provided a frame 15 which supports a hopper 16 to which material to be sintered is supplied by the conveyor 17.

Below the hopper 16 there is provided a swinging spout 18 mounted to move transversely of the direction of travel of the grates 12. The lower end of this spout discharges into a funnel 19, the lower end of which is substantially the same width as the grates 12 so that the swinging of the spout does not spread the ore beyond the side of the grate. A cable 20 is attached to one side of the spout 18, passes over a pulley 21, and has a weight 22 attached thereto. A cable 23 has one end attached to the other side of the spout 18, passes over a pulley 24 and has its other end attached to a machine driven crank 25. The front face of the swinging spout 18 is cut away as at 26 to provide a discharge aperture and the lower end of the spout is closed by an adjustable plate 27.

The ore to be sintered is supplied to the hopper 16 by the conveyor 17 and from the hopper 16 it passes into the swinging spout 18 and piles up on the bottom plate 27 until the angle of repose is reached. After the ore has formed its own angle of repose it then discharges through the aperture 26 onto the grate bars 12 by which it is carried while the sintering operation is performed in the well known manner.

The spout is swung continuously transversely of the train of grates by means of the crank 25, weight 22 and cables 20 and 23. The ore is thus uniformly distributed over the entire surface. By allowing the material to form its own angle of repose in the swinging spout 18 it runs over itself thereby eliminating any wear on the spout. The bottom plate is adjustable and when set by trial at the proper adjustment allows the material to be distributed uniformly over the grate bars.

I claim:

In a sintering machine having a continuously moving train of grate bars, ore feeding means comprising a spout hinged at its upper end and having a lateral discharge opening at its lower end, an adjustable bottom plate for said spout, means to oscillate said spout and means to feed ore continuously to said spout.

In testimony whereof, I have signed my name to this specification.

JOSEPH R. LINNEY.