Jan. 25, 1927.

1,615,696

E. GUTIERREZ

CASTING MACHINE

Filed June 22, 1925

3 Sheets-Sheet 1

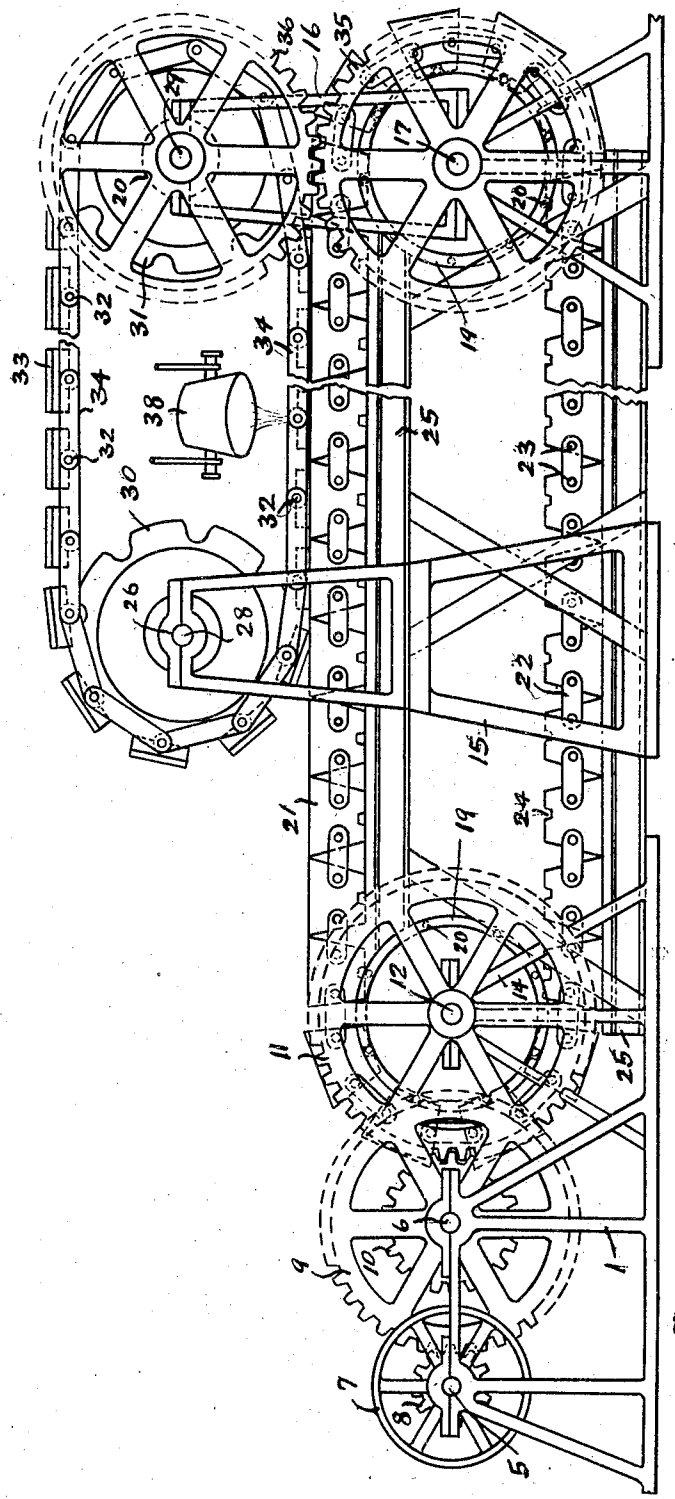


Fig. 1.

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Filed June 22, 1925 3 Sheets-Sheet 2

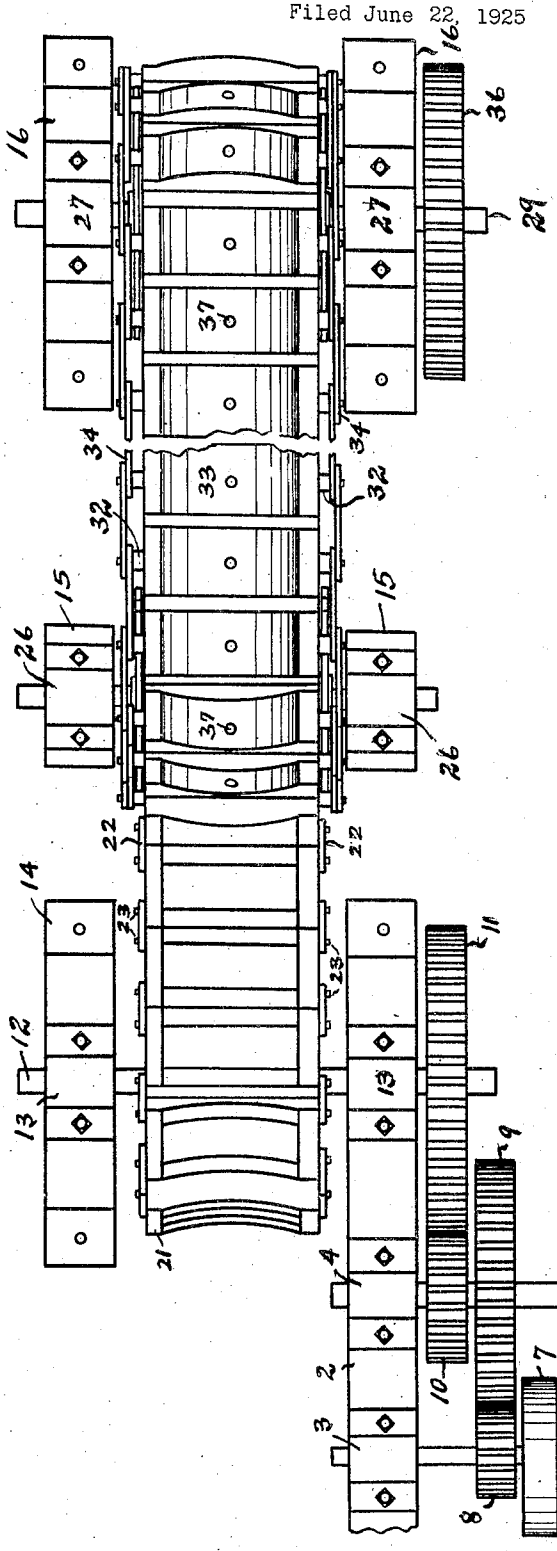


Fig. 2.

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3 Sheets-Sheet 3

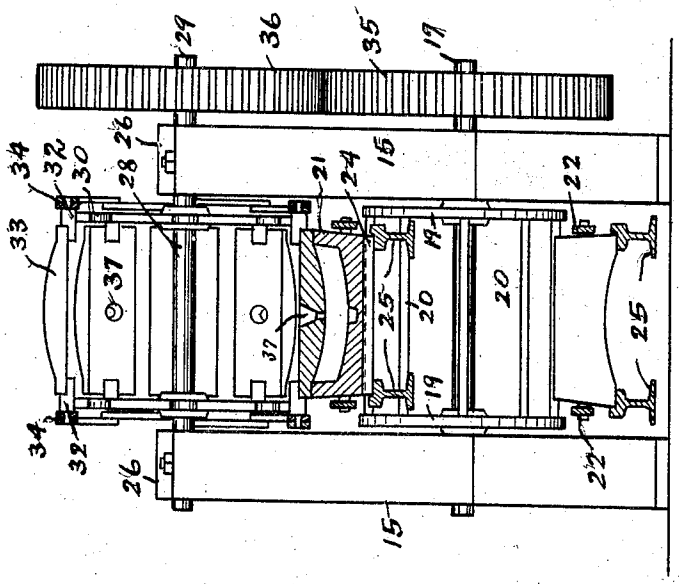


Fig. 3.

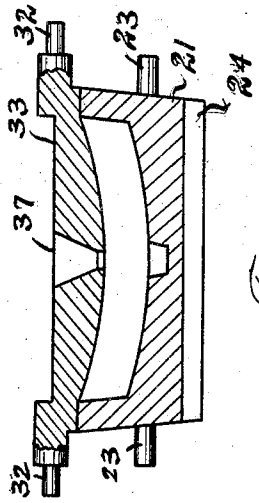


Fig. 4.

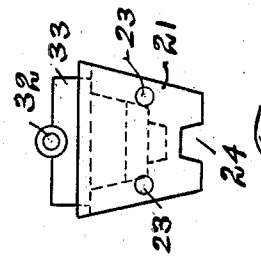


Fig. 5.

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UNITED STATES PATENT OFFICE.

EMILIO GUTIERREZ, OF PIEDRAS NEGRAS, COAHUILA, MEXICO.

CASTING MACHINE.

Application filed June 22, 1925, Serial No. 38,684, and in Mexico June 24, 1924.

This invention relates to new and useful improvements in a moulding machine.

One object of the invention is to provide a machine of the character described, specially designed for casting brake shoes, for use on the brakes of railway trains, and the like.

Another object of the invention is to produce a moulding machine of the character described by means of which the brake shoes, and similar metal objects may be quickly, cheaply and easily moulded and delivered for use.

With the above and other objects in view this invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:—

Figure 1 shows a side view of the machine.

Figure 2 shows a plan view thereof.

Figure 3 shows a rear end view, partly in section.

Figure 4 shows a longitudinal sectional view of one of the moulds, and

Figure 5 shows an end view thereof.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numerals 1, 2, designate side supporting frames for the shaft bearings 3, 3 and 4, 4 in which the respective shafts 5 and 6 rotate. The shaft 5 has a fixed belt pulley 7 thereon and a spur pinion 8, also fixed thereon and in mesh with the large spur gear 9 fixed on the shaft 6. The shaft 6 also has a smaller spur gear 10 fixed thereon and in mesh with a relatively large spur gear 11, which is fixed on one end of the shaft 12. This shaft is mounted to rotate in the bearings 13, 13, one of which is located on the supporting frame 2 and the other of which is located on the opposite supporting frame 14.

Intermediate the ends of the machine there are the side supporting frames 15, 15, and at the discharge end of the machine there are the side supporting frames 16, 16.

Mounted in suitable bearings in the supporting frames 16, 16 there is a transverse shaft 17, in substantially horizontal alignment with the shaft 12. The respective shafts 12 and 17, each have a pair of spaced discs, as 19, 19 fixed thereon, within the corresponding supporting frames and the spaced drive bars 20 have their respective ends anchored in the margins of the respective pairs of discs 19. These respective pairs of discs and drive bars form, in effect, driving spiders.

The nowels, or lower halves 21 of the casting bars are connected into an endless belt, or series, by means of side links 22, whose ends have bearings to receive the end pintles 23, formed integrally with said nowels. Said endless belt operates over said spiders and the respective nowels have the lengthwise bottom notches 24, to receive the bars 20 thus forming a driving connection between the spiders and endless belt. Upper and lower tracks 25, 25 are provided between the spiders along which the belt travels, and by means of which the upper and lower turns, or sections, thereof are maintained in substantially horizontal alignment.

The frames 15 and 16 are extended upwardly and mounted in bearings 26, 26, and 27, 27 on their upper ends are the respective shafts 28 and 29, upon which are fixed the pairs of sprockets 30, 30, and 31, 31, formed to engage the end pintles 32, 32 of the copes, or upper halves, 33, of the casting boxes. These copes are connected into an endless belt, or series, by the side chains 34, 34, whose links are connected by means of the corresponding pintles 32 whose ends are reduced and fitted through coinciding bearings in the adjacent ends of the respective links. The shaft 17 has a fixed end gear wheel 35 in mesh with a corresponding gear wheel 36, fixed on the shaft 29 and the belt, or series of copes 33 are thereby driven. The copes 33 are spaced to register with the corresponding nowels 21 as the belts move, and thus form complete casting boxes or moulds, as illustrated in Figures 4 and 5. As shown the moulds are formed to cast brake shoes adapted to be used on the brakes of railway trains.

Each cope is provided with a gate 37 through which the molten metal may be poured into the mold, from the pot 38.

The metal is poured into the moulds in succession, the mechanism being stopped intermittently for this purpose. An ordinary type of clutch may be employed for connecting the power with, and disconnecting it from, the draining mechanism, and thereby making it possible to intermittently stop the movement of the moulds while pouring

the metal therein. The clutch has not been shown for the reason that any conventional type of clutch may be employed.

What I claim is:—

A machine for casting brake shoes including a framework, a pair of driving spiders mounted therein to rotate on transverse axes, each spider comprising a pair of spaced discs and spaced driving bars whose respective ends are anchored to the margins of said discs, a series of nowels, side links connecting said nowels into an endless belt, said nowels having lengthwise bottom notches to receive the spider bars, thus forming a driving connection between the spiders and nowels, upper and lower tracks supported by the framework along which said nowels travel as the series revolves, a pair of transverse shafts rotatably mounted in the framework above said nowels, a pair of sprockets spaced apart and fixed upon each of said last mentioned shafts, a series of copes, each cope having end pintles adapted to be engaged by the corresponding sprockets, side chains whose links have end bearings, said end pintles of said copes connecting said links into side chains, said copes being disposed to register with the corresponding nowels as they revolve, each cope having a gate through which the molten metal may be poured into the mold formed by each cope and its corresponding nowel.

In testimony whereof I have signed my name.

EMILIO GUTIERREZ.