July 22, 1930. M. RIGHETTO 1,771,099

MACHINE FOR CENTRIFUGALLY CASTING CONCRETE SLEEPERS

Filed Oct. 24, 1928

Fig. 1.

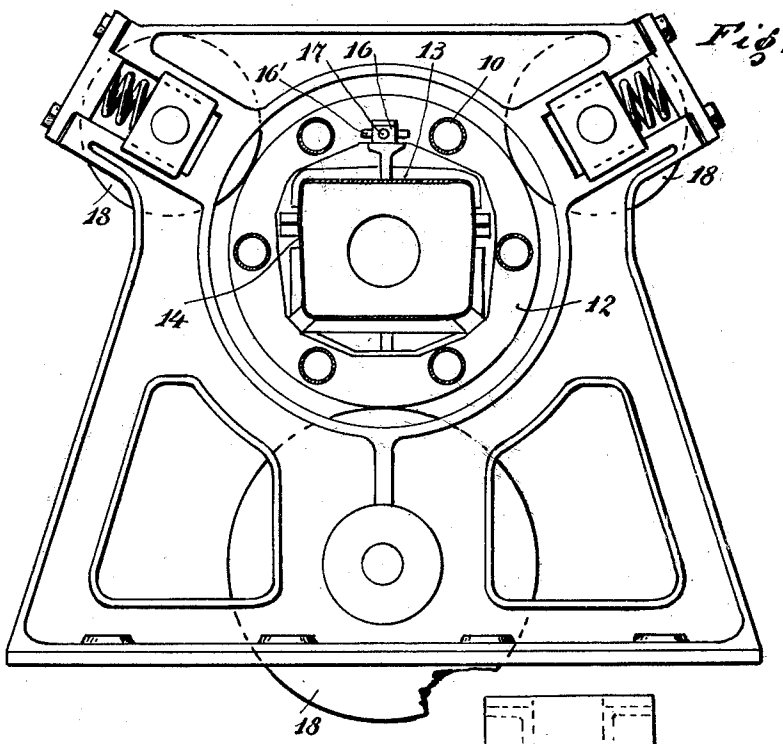


Fig. 2.

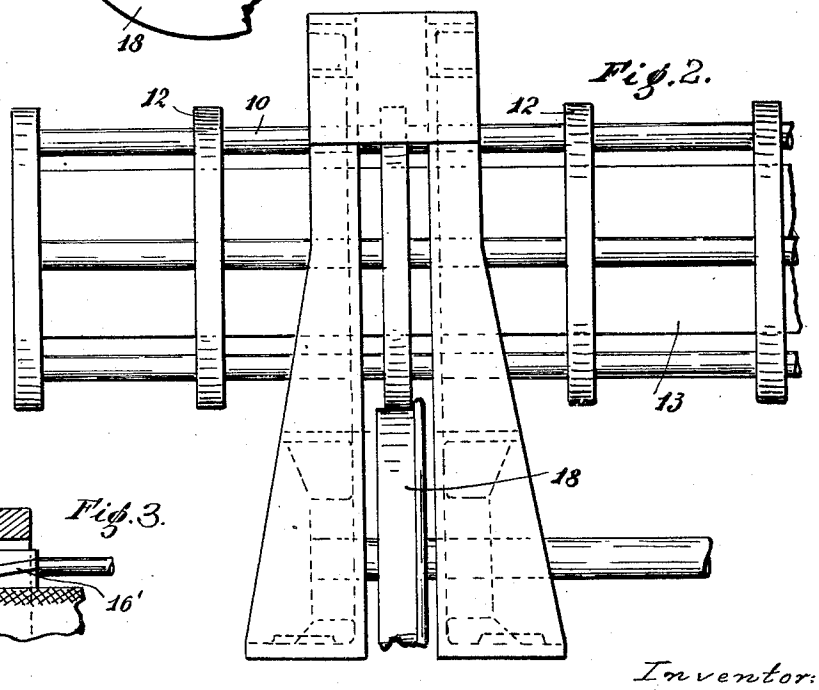


Fig. 3.

Inventor:

Marco Righetto

By Louis Townley Jr.

Attorney.

Patented July 22, 1930 1,771,099

UNITED STATES PATENT OFFICE

MARCO RIGHETTO, OF MILAN, ITALY

MACHINE FOR CENTRIFUGALLY CASTING CONCRETE SLEEPERS

Application filed October 24, 1928, Serial No. 314,692, and in Germany November 22, 1927.

This invention relates to machines for centrifugally casting concrete bodies, particularly concrete sleepers of special form and construction to prevent all movement of the rail with regard to the sleeper and to insure the absence of any kind of vibration of the sleeper.

In the accompanying drawing:

Figure 1 is a face view of the improved casting machine, showing, in section, a sleeper in place therein;

Fig. 2 is a side view of the machine; and

Fig. 3 is a detail, partly in section, of the means for fixing the counter-mould to the rotating part of the machine.

The machine, as shown in the drawing, comprises, essentially, a rotating skeleton cage 10 consisting of a circular series of spaced parallel bars provided with a plurality of spaced annular metal supports 12 arranged transversely to the cage axis; the internal profile of which supports is such as to allow the introduction and removal, at either end of the cage, of the counter-mould 13 which encloses the mould 14 of the sleeper to be cast. The counter-mould is formed in two or more parts shaped so as to follow the shape of the mould 14; and it is adapted to impart to the mould the required strength, and to allow it to be fastened in position within the rotating cage so as to follow the latter in its rotary movement and to distribute by centrifugal force the mass of concrete contained in the mould.

The mould or shell 14 is made of thin sheet metal, and is likewise formed in two or more parts which are joined together after the introduction of the concrete and of the reinforcement, if used, into the mould, and before the latter is inserted in the counter-mould 13.

The mounting of the counter-mould 13 in the cage 10 is effected by sliding along the inner edge surface 11 of the supports 12 the corresponding parts of the outer surface of said counter-mould. This operation is effected during the removal of another counter-mould containing an already-cast sleeper; and in order to obtain satisfactory cast sleepers, it is necessary that the counter-mould be connected to the cage in such a manner as not to allow any relative movement between these parts.

Accordingly, there are arranged within the said cage, corresponding with the supports 12, small blocks 16 provided with inclined wings 16′ (Fig. 3) engaging in inclined grooves formed in said supports; these blocks being secured to a rod 17 which can be moved in the direction of its axis.

It will be clear that, with this arrangement, when the rod 17 is moved in one direction, the blocks 16 will move towards the cage 10; and when the rod is moved in the opposite direction, the blocks will be displaced towards the counter-mould 13.

This fastening operation, therefore, is effected very rapidly and allows the machine to be operated satisfactorily with only two counter-moulds, one being charged and emptied while the other is working. The machine is very simple and easily transportable, and the control of the rotation of the cage 10 can readily be effected by means of a belt or other suitable means adapted to rotate the lower wheels 18.

What I claim is:

1. A machine for centrifugally casting concrete bodies, comprising a thin-walled metal moulding shell to contain the concrete; a plurality of longitudinally-disposed members conjointly forming a counter-mould enclosing said shell to strengthen the same and so shaped internally as to conform exactly to the outer surface of the shell; a cylindrical skeleton cage consisting of a circular series of spaced parallel bars disposed with their axes parallel with one another, and a plurality of annular metal supports fixed transversely to said bars in spaced parallel relation, said supports having their internal peripheral edges shaped to permit the introduction and removal of the counter-mould and enclosed shell at either end of the cage; means for releasably locking the counter-mould and shell directly to the annular supports; and means for rotating said cage.

2. A machine according to claim 1, in which the locking means comprises a plu-

rality of blocks for binding engagement with the counter-mould, and an endwise-movable rod mounted in the cage and whereto the blocks are fixed for bringing them into and out of such engagement.

3. A machine according to claim 1, in which the locking means comprises a plurality of blocks for binding engagement with the counter-mould, and an endwise-movable rod mounted in the cage and whereto the blocks are fixed for bringing them into and out of such engagement; each block being provided with a wing for sliding engagement in an inclined groove formed in the adjacent annular support.

In testimony whereof I affix my signature.

MARCO RIGHETTO.