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P. THIELMANN & J. MEISENBURG.

APPARATUS FOR MAKING FRAMES FOR MINE CAGES AND THE LIKE.

APPLICATION FILED JAN. 24, 1905.

Fig. 1

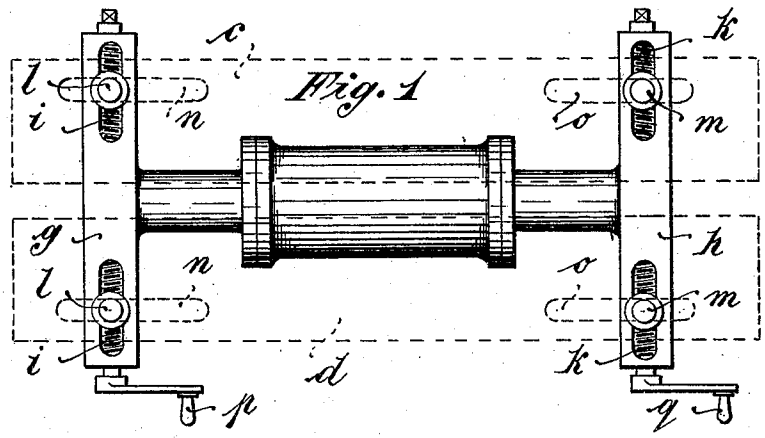


Fig. 2

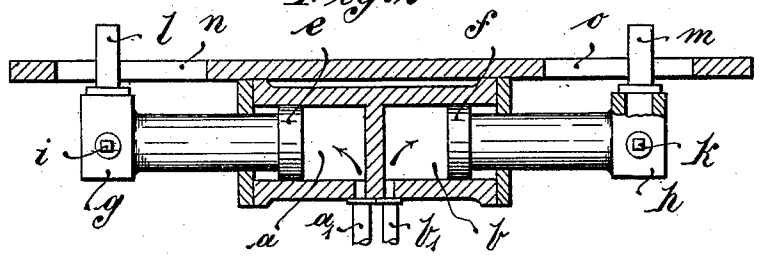
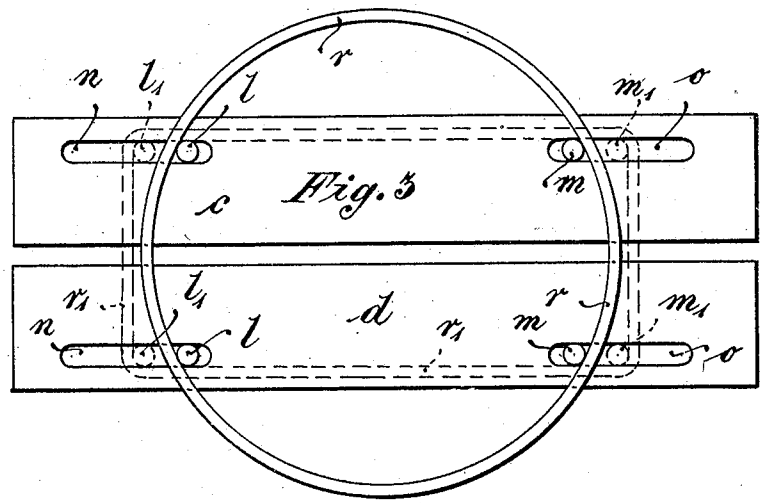


Fig. 3



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APPARATUS FOR MAKING FRAMES FOR MINE-CAGES AND THE LIKE.

No. 823,711. Specification of Letters Patent. Patented June 19, 1906.

Application filed January 24, 1905. Serial No. 242,531.

To all whom it may concern:

Be it known that we, PETER THIELMANN, residing at 29 Fisherstrasse, and JOHANN MEISENBURG, residing at 2 Sternbuschweg, in the city of Duisburg, in the Kingdom of Prussia, German Empire, subjects of the German Emperor, have invented certain new and useful Improvements in Apparatus for Making Frames for Mine-Cages and the Like, of which the following is a specification.

Our invention relates to apparatus for making seamless rectangular iron frames for mine-cages and the like from rolled or other weldless rings.

One form of the apparatus is illustrated in the accompanying drawings, in which—

Figure 1 is a plan of the apparatus, the top plates being removed, and Fig. 2 a vertical section thereof. Fig. 3 is a plan view illustrating the use of the apparatus.

The apparatus consists of two pressure-cylinders *a b* in connection with a hydraulic pump (not shown on the drawings) from which pipes *a' b'* conduct to the cylinders. Located above the cylinders are plates *c d*, guided in suitable manner. Each of the pistons *e f* is connected with a strong cross-head *g h*, respectively. Within these cross-heads are located spindles *i k*, having right and left handed threads, and on these spindles travel the pins *l m*, which project through slots in the cross-heads and other slots *n o* in the plates *c d*. The screw-spindles *i k* may be turned by handles *p q*, fitting over square heads provided for the purpose.

The mode of operation is as follows: By turning the handles *p q* the bolts *l m* are first adjusted on the spindles until they occupy a position exactly corresponding to the width of the rectangular frame being made. The ring *r* in red-hot state is then laid over them. Thereupon the pump is worked and the pressure-water entering the cylinders forces the pins *m l* outward to the left and right hand, respectively. When the pins have arrived in the positions *l' m'* corresponding to the dimensions of the rectangle *r'* to be manufactured, as shown in Fig. 3, the pressure is removed and the pistons retracted, whereupon the rectangle *r'* can readily be lifted off and, if necessary, finished off by hand or otherwise.

It will be obvious that in place of a hydraulic plant the apparatus may be actuated by pneumatic pressure or by other suitable means.

Having thus described our invention, we claim—

Apparatus for transforming seamless rings into rectangular frames for mine-cages and the like, comprising two parallel cross-heads, right and left hand screwed spindles turning therein, vertical pins traveling on the spindles, slotted platforms through each of which one pin of each cross-head projects, pistons connected with the cross-heads, and pressure-cylinders in which the pistons work, substantially as described.

In witness whereof we have hereunto signed our names, this 10th day of December, 1904, in the presence of two subscribing witnesses.

PETER THIELMANN.
JOHANN MEISENBURG.

Witnesses:
PETER LIEBER,
WILLIAM ESSENWEIN.