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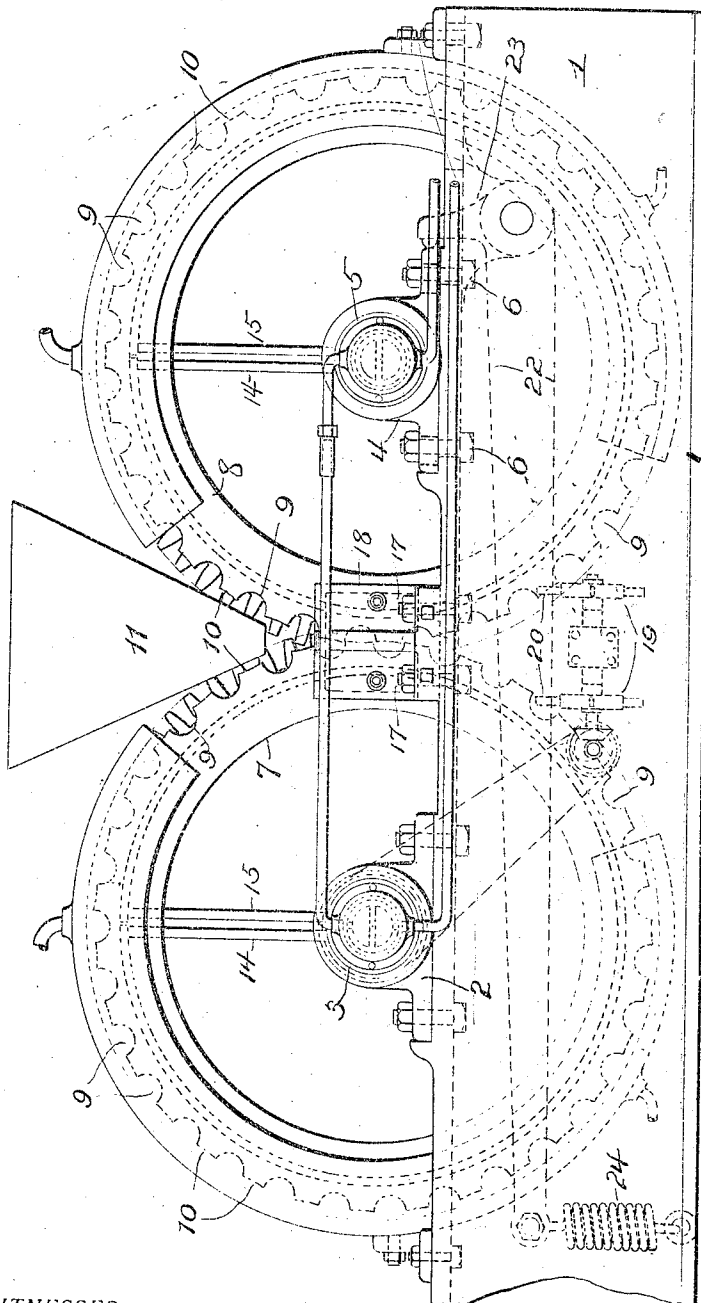
BRIQUETING MACHINE.

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940,959.

Patented Nov. 23, 1909.

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WITNESSES

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# UNITED STATES PATENT OFFICE.

FRANK H. ELSWORTH AND CHARLES L. DOWELL, OF ANDERSON, INDIANA.

## BRIQUETING-MACHINE.

940,959.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed March 20, 1905. Serial No. 307,093.

*To all whom it may concern:*

Be it known that we, FRANK H. ELSWORTH and CHARLES L. DOWELL, residents of Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Briquetting-Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in briquetting machines, the object of the invention being to provide wheels having peripheral molds with improved means for heating the molds, improved means for applying end pressure to the briquets in the molds, and improved means for compensating for overcharge of the molds and maintaining the machine in gear.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in side elevation illustrating our improvements. Fig. 2 is a view in cross section. Fig. 3 is a section through a mold wheel. Fig. 4 shows the form of briquets and Figs. 5 and 6 are modified shapes of mold wheel peripheries.

1 represents a supporting frame, provided with fixed bearings 2, for a shaft 3, and movable bearings 4 are also secured on frame 1 and in which a shaft 5 is mounted. These bearings 4, are provided with slots to receive bolts 6, to secure them to the frame and the slots permit movement of the bearings on the frame within certain limits, for a purpose which will hereinafter appear.

On shafts 3 and 5, mold wheels 7 and 8 respectively are secured. These mold wheels are provided in their peripheries with curved pockets 9 or molds cut at any angle to the axis of the wheel and curved teeth 10 between the pockets to fit in the pockets of the other wheel and complete the molds in which the briquets are pressed, material being supplied from a hopper 11, located above and between the wheels.

The shafts 3 and 5 are bored to receive hollow cylinders 12, and the latter are divided by a partition 12<sup>a</sup> into steam inlet and exhaust chambers. These steam chambers

have revolving joints 12<sup>b</sup> connected by pipes 13 to convey steam thereto and therefrom, and inlet and exhaust pipes 14 and 15 connect the respective chambers of the cylinders with ducts leading to annular steam passages in the rim portions of the mold wheels, and by this means the molds are kept warm to prevent sticking of the briquets therein, and steam hoods U-shape in cross section encompass the greater portion of the wheels to keep them heated.

To give the necessary end pressure to the briquets in the molds, blocks 16 are adjustably secured to the frame 1 by bolts 17 and have curved or rounded enlargements 18 at their inner ends located against the meeting edges of the mold wheels, and as the latter carry the briquets down between the curved or rounded enlargements 18, the briquets will be given the necessary end pressure to press them into proper form. The enlargements 18 have steam chambers connected to the pipes 13, and stripper wheels 19 are located at the bottom of the wheels 7 and 8 and are provided with fingers 20 to move through the molds and eject any briquets that may stick.

The shafts 3 and 5 are connected by large gear wheels 21, one of which being driven by any desired mechanism, and the teeth of these gears 21 are sufficiently long to permit the shafts 3 and 5 to be moved slightly farther than normal distance apart to relieve an overcharge of material in the molds. To compensate for this movement of the shafts, the sliding bearings 4 are provided, and are engaged by the short arms of bell-crank levers 22, pivoted in brackets 23 on frame 1, and the long arms of the levers are connected by a cross bar and held down by a coiled spring 24, which latter will be expanded when the bearings 4 move backward and will draw the bearings back to normal working position, when the excess of material has passed through.

Figs. 5 and 6 illustrate slightly modified forms of mold wheel peripheries.

Slight changes might be made in the general form and arrangement of the parts described without departing from our invention and hence we would have it understood that we do not restrict ourselves to the precise details set forth but consider ourselves at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of our invention.

Having fully described our invention, what we claim as new and desire to secure by Letters-Patent, is:—

In a machine of the character described, 5 the combination with two mold wheels having peripheral molds, of intermeshing gears driving said wheels, movable bearing boxes for one of said wheels and gear to compensate for an excess of material in the molds 10 between the wheels, bell-crank-levers, each having its short arm bearing against a mov-

able bearing box, and a spring connected with the long arms of said bell-crank-levers.

In testimony whereof, we have signed this specification in the presence of two sub- 15 scribing witnesses.

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CHARLES L. DOWELL.

Witnesses:

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SAMUEL A. CULVER.