No. 808,786.

PATENTED JAN. 2, 1906.

O. TVERDAHL.

POLISHING MACHINE FOR SAD IRONS.

APPLICATION FILED FEB. 2, 1905.

3 SHEETS—SHEET 1.

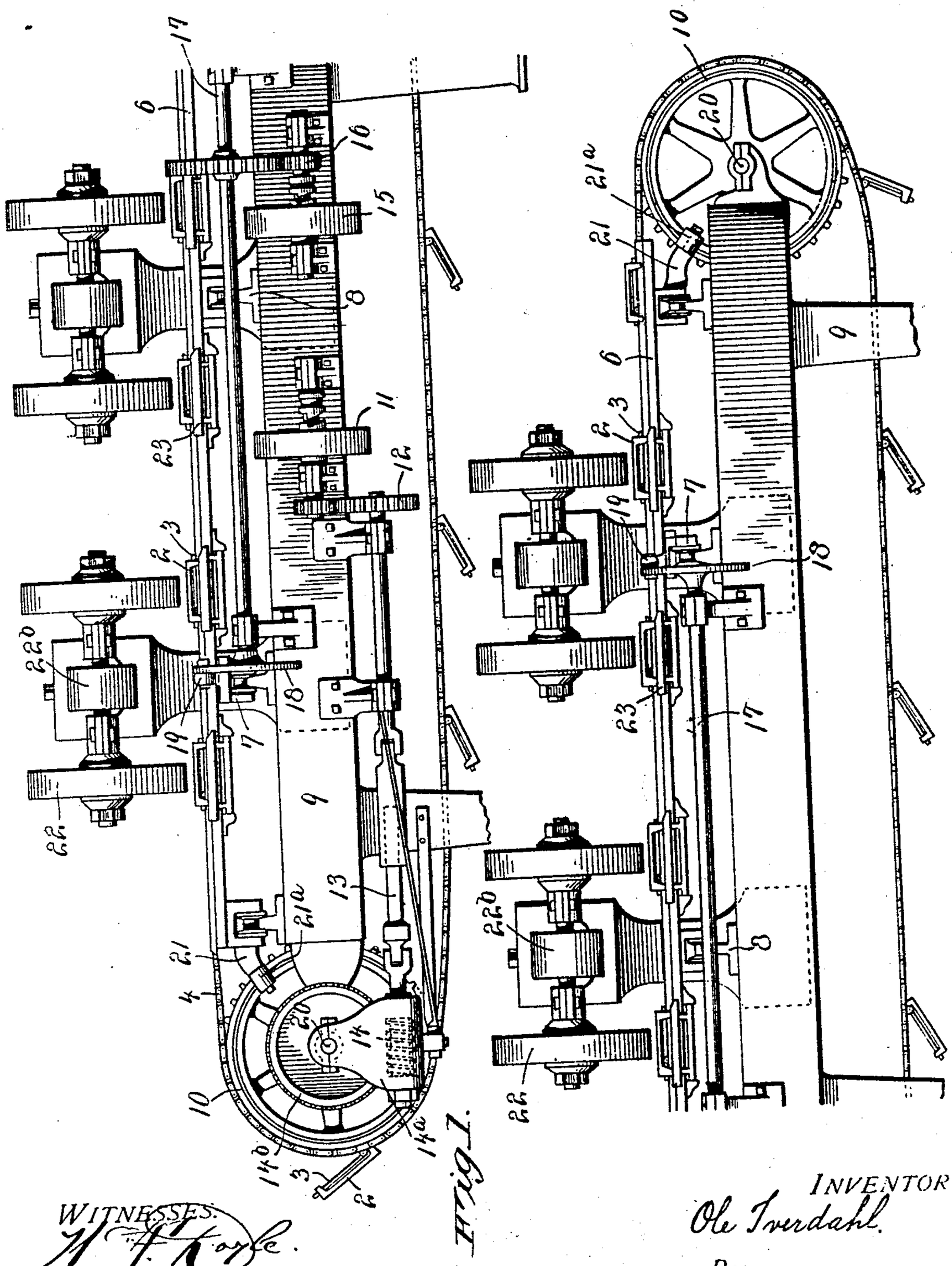

Fig. 1.

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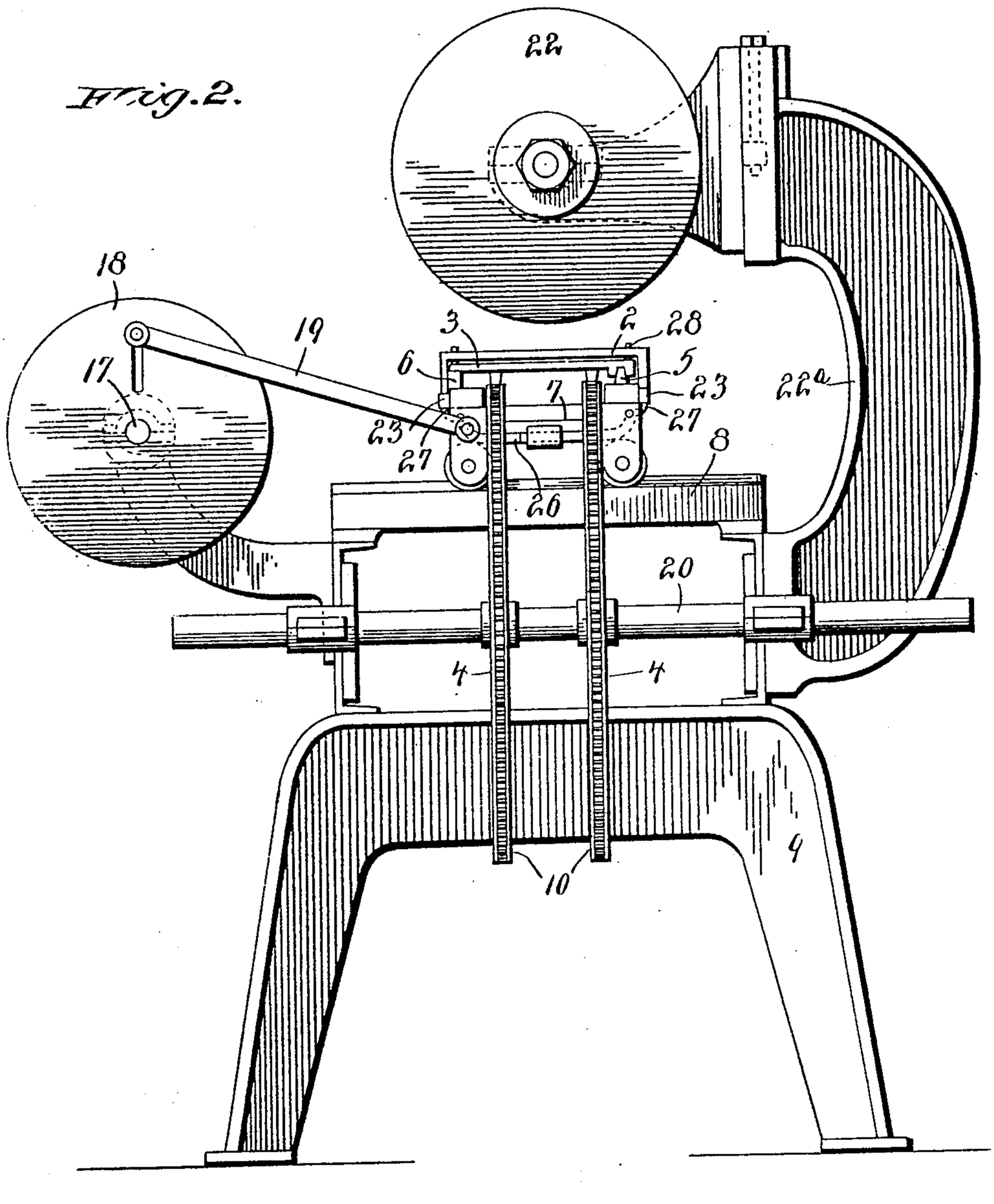
3 SHEETS—SHEET 2.

Fig. 2.



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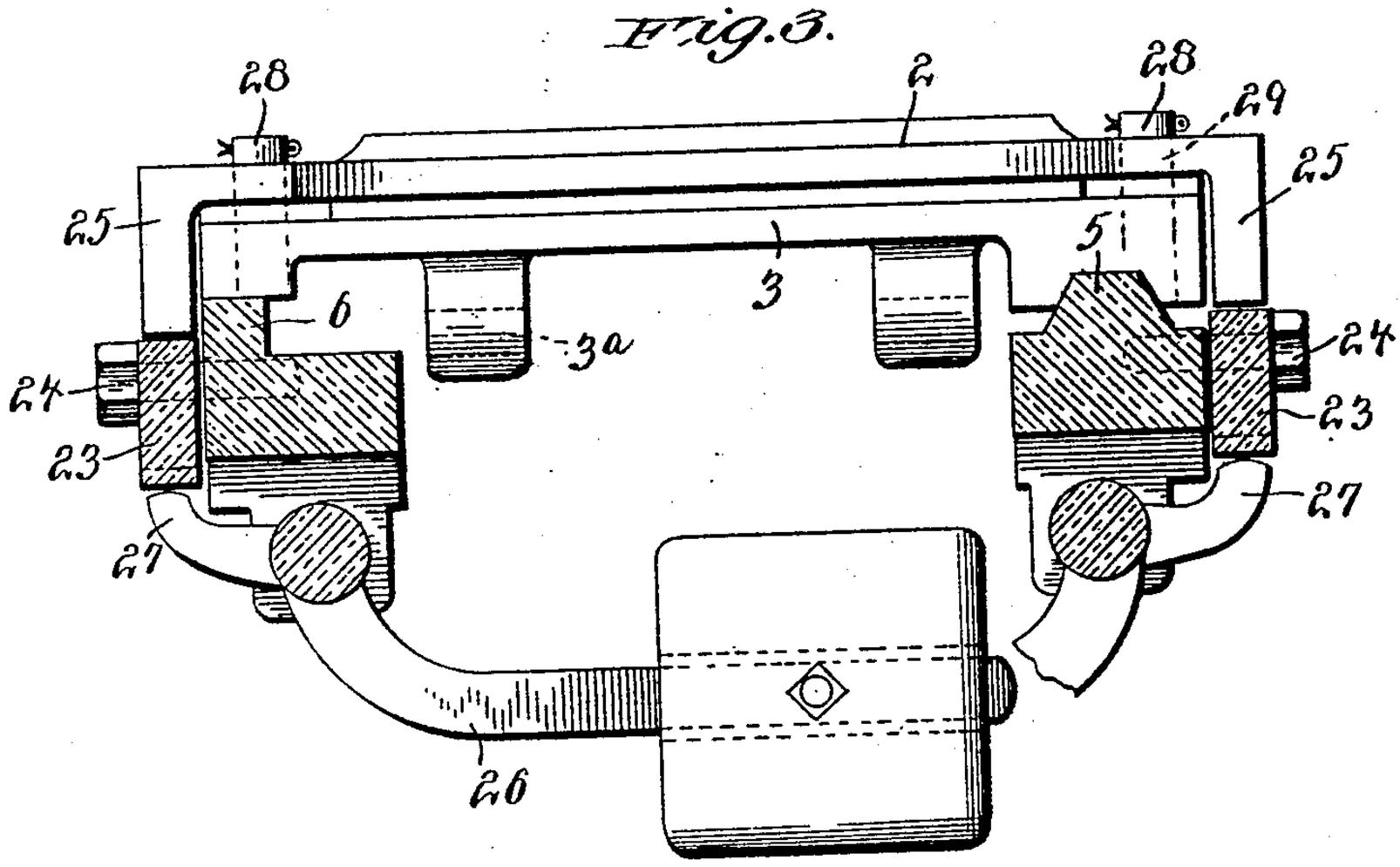
3 SHEETS—SHEET 3.

Fig. 3.



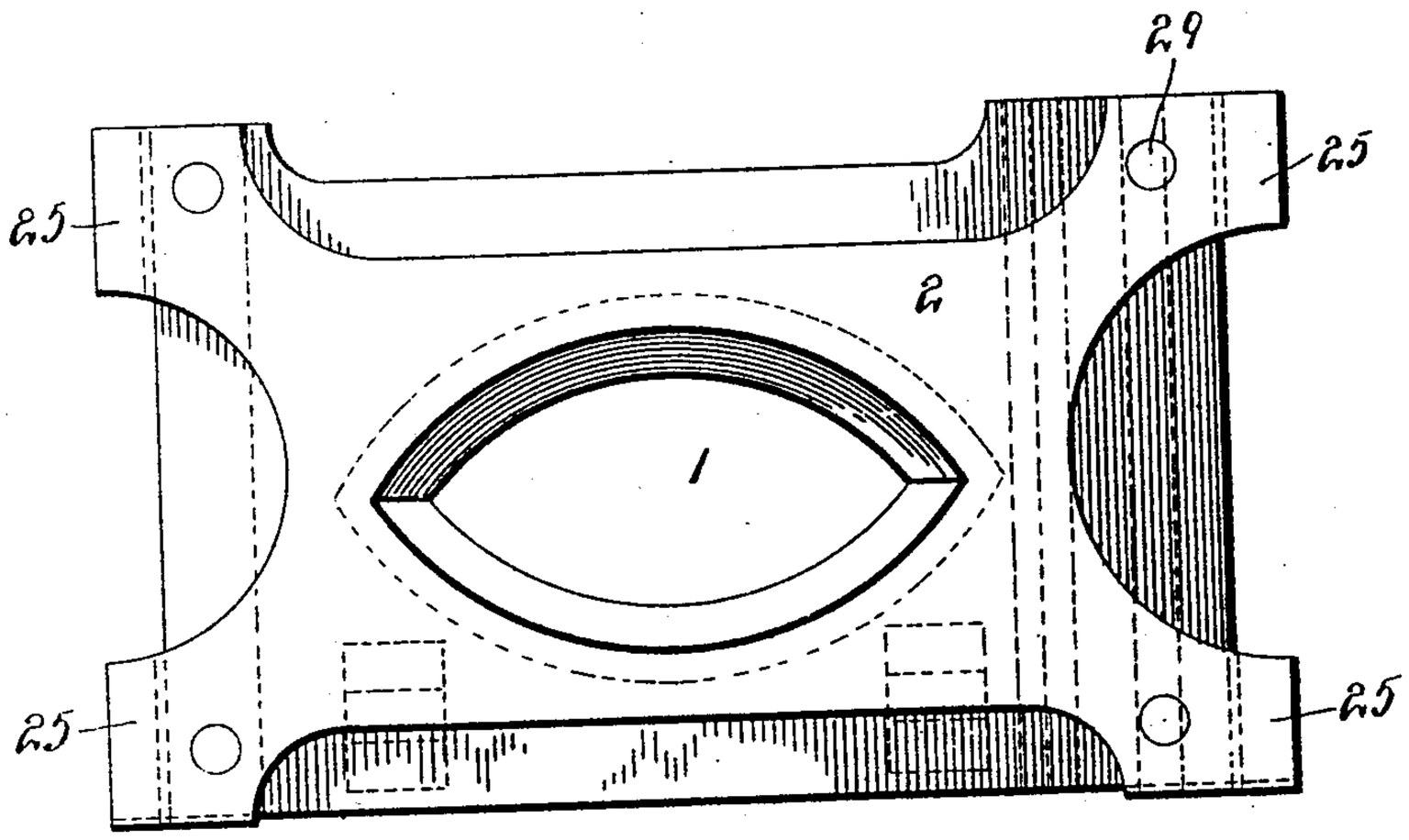


Fig. 4.

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UNITED STATES PATENT OFFICE.

OLE TVERDAHL, OF MINERAL CITY, OHIO, ASSIGNOR OF ONE-HALF TO THOMAS J. RITTENHOUSE, OF COSHOCTON, OHIO.

POLISHING-MACHINE FOR SAD-IRONS.

No. 808,786. Specification of Letters Patent. Patented Jan. 2, 1906.

Application filed February 2, 1905. Serial No. 243,866.

To all whom it may concern:

Be it known that I, OLE TVERDAHL, a citizen of the United States, residing at Mineral City, in the county of Tuscarawas and State of Ohio, have invented new and useful Improvements in Polishing-Machines for Sad-Irons, of which the following is a specification.

This invention is a machine designed particularly for grinding and polishing the faces of sad-irons, and has for its object to produce an improved machine of the kind, as will more fully appear hereinafter.

Speaking generally, the machine embraces a belt which travels both lengthwise and laterally, and above the belt are a series of grinding and polishing wheels. The belt carries holders, and its upper run travels over a track which has means thereon to lift the holders, so that the face of the sad-irons will be forced against each wheel as it passes.

In the accompanying drawings, Figure 1 is a front elevation of the machine. Fig. 2 is an end elevation thereof. Fig. 3 is a sectional view showing the means for raising and lowering the holder. Fig. 4 is a plan view of one of the holders.

Each sad-iron is placed upside down in a socket 1 of a holder 2, which is removably mounted on a supporting-plate 3, which is pivoted at one end, by means of lugs 3^a, to links in the chain belts 4. As many holders may be attached to the belts as desired. The movement of the belt causes the supporters 3 to travel along longitudinal rails or slides 5 and 6, which are properly positioned to form a track under the grinding-wheels 22. These rails are in turn mounted on laterally-movable carriages 7, the wheels of which travel on rails 8, mounted on the main frame 9 of the machine. The belts 4 extend around sprocket-wheels 10 at both ends of the main frame. The sprocket-wheels at one end are operated by means of a driven pulley 11, cog-gear 12, a knuckle-jointed shaft 13, and worm-gear 14. The shaft 13 has knuckle or universal joints and is also extensible by means of a squared sleeve to accommodate lateral movement given the wheels 10, as hereinafter described. The carriages 7 are operated by a driven pulley 15, cog-gear 16, a long counter-shaft 17, crank-disks 18 at the ends of the shaft, and connecting-rods 19, connected to two of the carriages. By these means the carriages, rails, the supporting-plates, and holders are moved endwise at a relatively slow rate and at the same time are moved back and forth by means of the connecting-rods 19 at a relatively rapid rate. To accommodate the lateral movement of the sprocket-chains incident to the back-and-forth movement mentioned, the axles 20 of the sprocket-wheels move endwise in their bearings. This keeps the wheels in alinement and preserves the proper position. The lateral movement of the sprocket-wheels is made positive and definite by means of guide-arms 21, projecting from the end carriages and carrying bearing-rollers 21^a against the sides of the wheel-rims.

The grinding-wheels 22 are mounted rigidly upon arms 22^a, projecting from the rear side of the main frame, and are located directly over the median line of travel of the holder. To effect the lifting action essential to press the face of the irons against the grinding-wheels, lifting or supplemental slides are loosely secured to the rails 5 and 6 by means of bolts 24, which extend through vertical slots in the supplemental slides, so that the slides will yield as the irons pass under the grinding-wheels. At each corner of the holder 2 are depending flanges 25, which rest on the supplemental slides 23. These slides are normally pressed upward to the extent permitted by the slots by means of weighted levers 26, which are pivoted on the under side of the rails 5 and 6 and are provided with arms 27, which bear against the under side of the supplemental slides 23, thereby normally forcing them upward to the extent permitted by the slots. The iron is thus brought against the grinding-wheels with a force dependent on the weight and leverage used on the lever.

The holders 2 are held in position on the supporting-plates 3 by means of the pins 28, which pass through holes 29 in the corners of the holders, the holder being thus free to move to a limited extent up and down on these pins. The near or entering ends of the supplemental slides are sloped off, so that the supporting-flanges 25 will freely travel up and onto the side slides, which form practically the entire support for the sad-iron and its holder during the time it is under each grinding-wheel. By means of the weighted levers each end of the holder is yieldingly lifted independent of the other end as the

holder passes under the grinding-wheel, so as to take up any difference there may be in the depth of the iron from end to end, whereby the entire face of the iron is presented with an even pressure against the grinding-wheel as the same is carried lengthwise under it and at the same time moved laterally to and fro, as described.

The grinding-wheels are driven in pairs by pulleys 22^b upon the short shafts connecting the various pairs. The worm-gear 14 is hung by a hanger 14^a from the shaft 20, so that it is held in engagement with a gear 14^b on the shaft 20.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a polishing-machine, in combination, a polishing-wheel, a traveling holder for the article to be polished, and means to move the holder laterally and longitudinally across the wheel.

2. In a polishing-machine, in combination, a polishing-wheel, a belt carrying holders for the articles to be polished, and means to press said articles against the wheel, said belt having a reciprocating lateral motion, in addition to its longitudinal run.

3. In a polishing-machine, in combination, a frame, a series of polishing-wheels overhanging the same, a belt which travels over the frame and under said wheels, article-holders carried by the belt, and means to lift the holders to press the articles against the wheels.

4. In a polishing-machine, in combination, a frame, a series of polishing-wheels overhanging the same, a track on the frame, under the wheels, a belt which travels along said track, holders carried by the belt, and means beside the track, under each wheel, to lift the holders, to press the articles carried thereby against the wheels.

5. In a polishing-machine, in combination, a series of polishing-wheels, a track thereunder, laterally-reciprocating carriages which support the track, a belt which runs along the track and moves laterally therewith, and holders for the articles to be polished, attached to the belt and movable therewith under the wheels.

6. In a polishing-machine, the combination of the polishing-wheel, the belt which travels thereunder, the holders carried by the belt, and means to yieldingly lift the holders as they pass under the wheel, to press the articles therein against said wheel.

7. In a polishing-machine, in combination, a frame, laterally-movable wheels at the ends thereof, a belt which runs around said wheels and over the frame, means to reciprocate the belt and wheels laterally, a series of polishing-wheels mounted over the frame and belt, and holders carried by the belt and constructed to carry articles under and against the polishing-wheels.

8. In a polishing-machine, the combination with a polishing-wheel, of a track thereunder, a belt which travels along the track, holders supported on the belt, lifting-slides arranged beside the track, upon which the holders ride as they pass under the wheel, to press the articles carried thereby against the wheel, and weighted levers supporting said slides.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OLE TVERDAHL.

Witnesses:
CHARLES B. HUNT,
MARY M. HUNT.