No. 797,556. PATENTED AUG. 22, 1905.

A. C. CHENOWETH.

MACHINE FOR MANUFACTURING CONCRETE PILES, COLUMNS, AND THE LIKE.

APPLICATION FILED JAN. 11, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

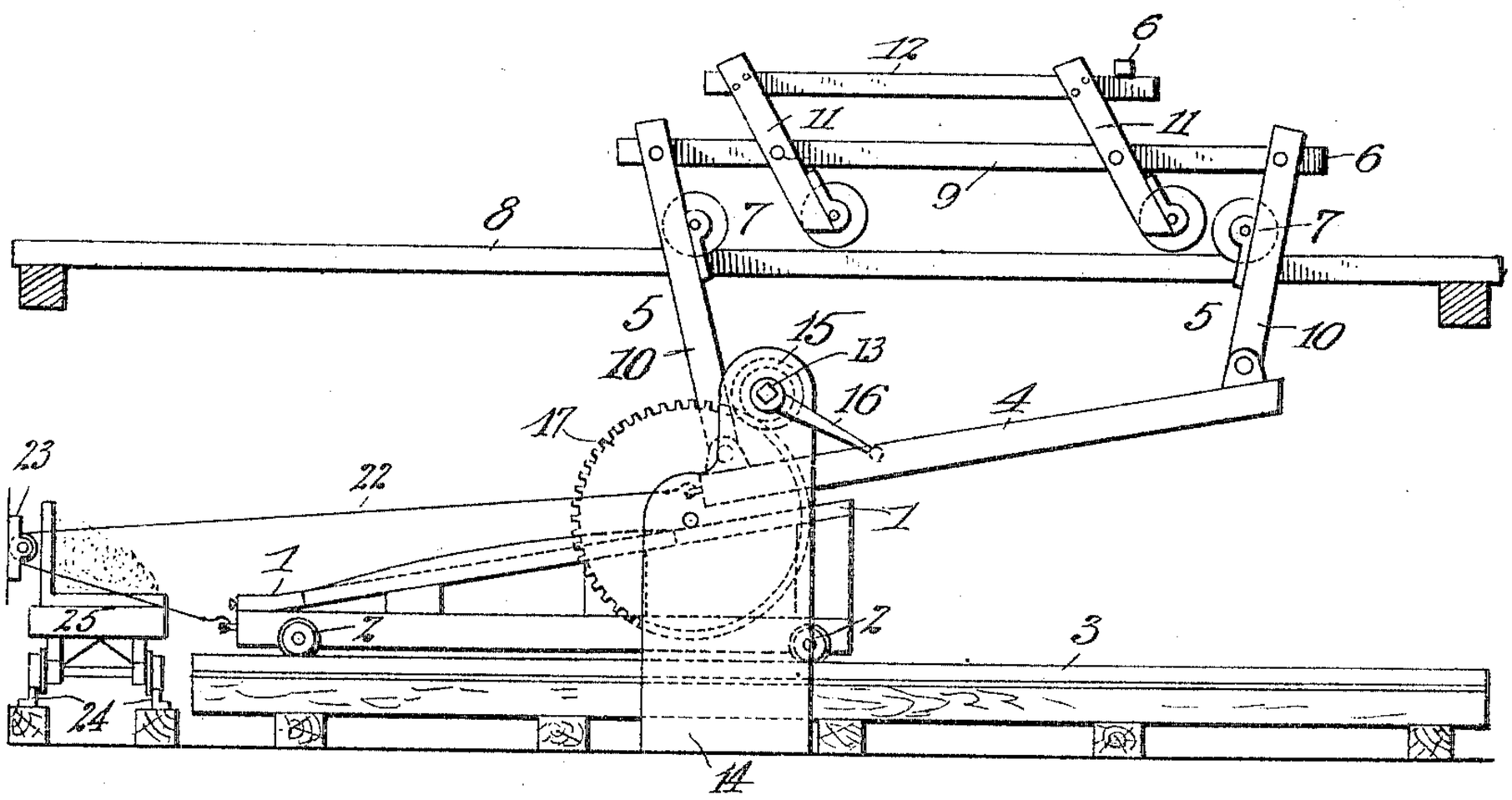
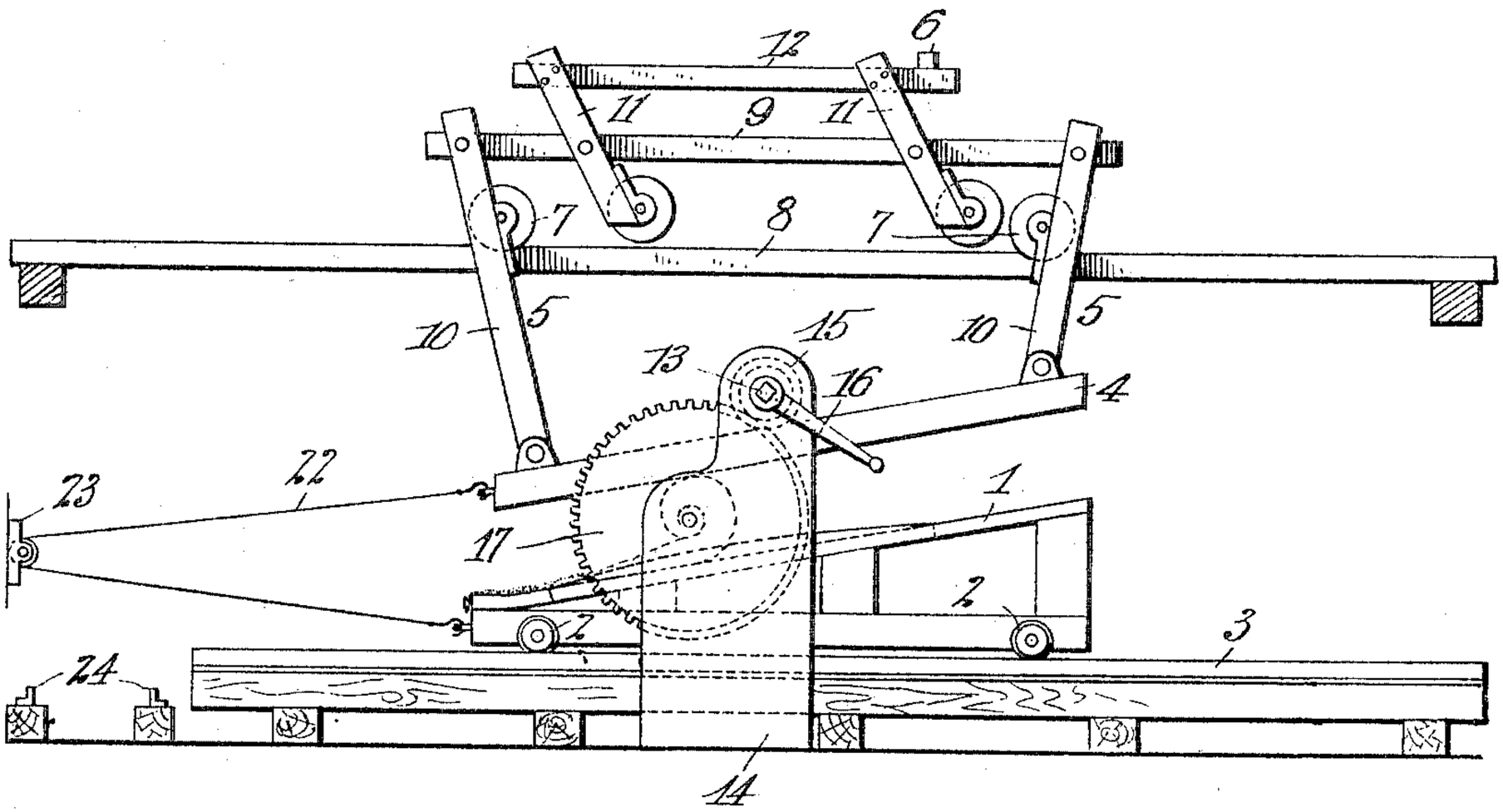


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

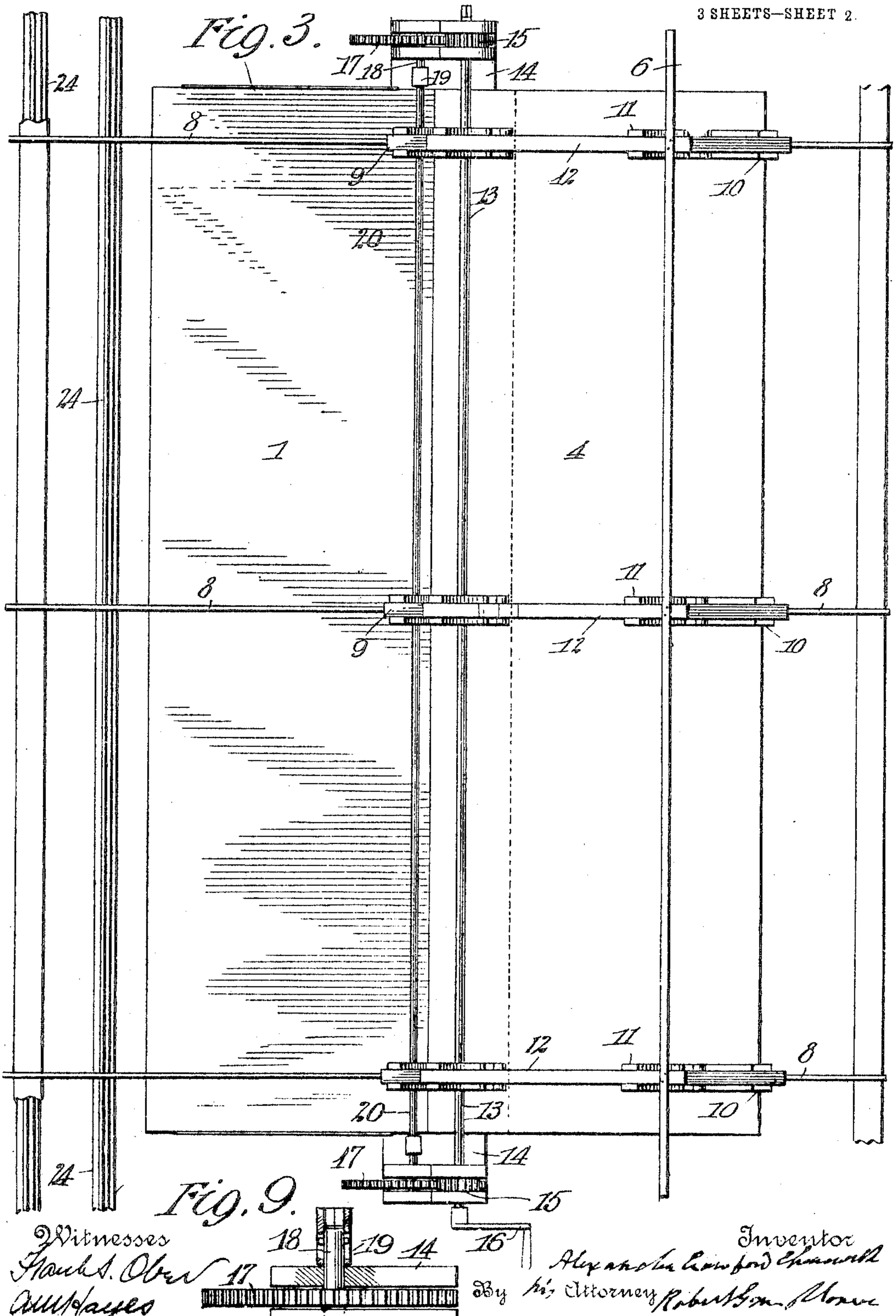

Fig. 9.

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3 SHEETS—SHEET 3.

Fig. 4.

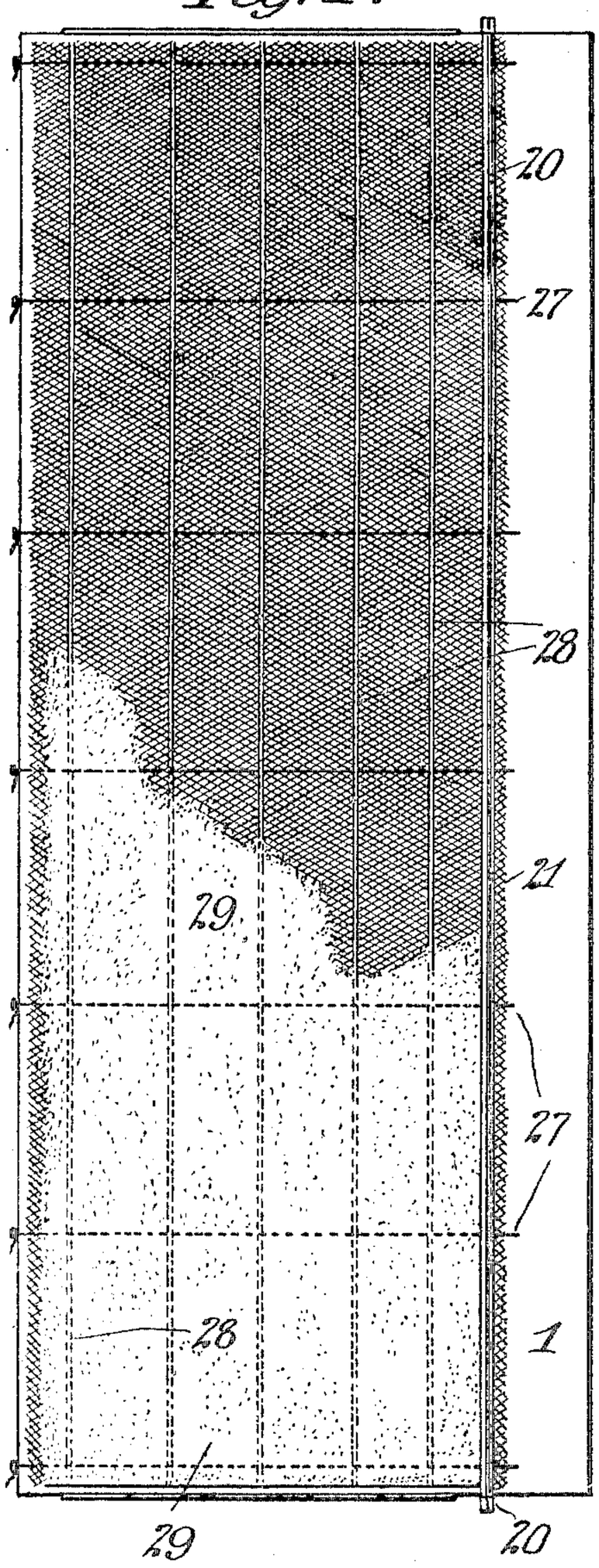


Fig. 5.

Fig. 6.

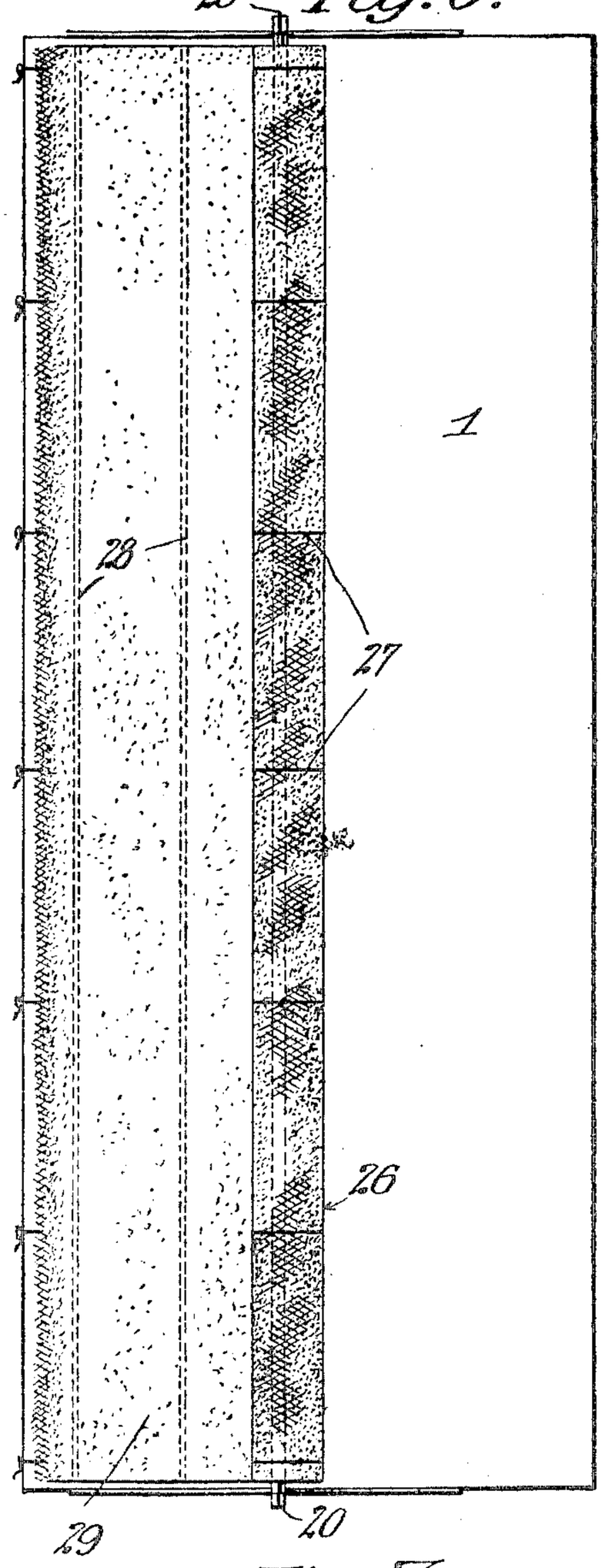


Fig. 7.

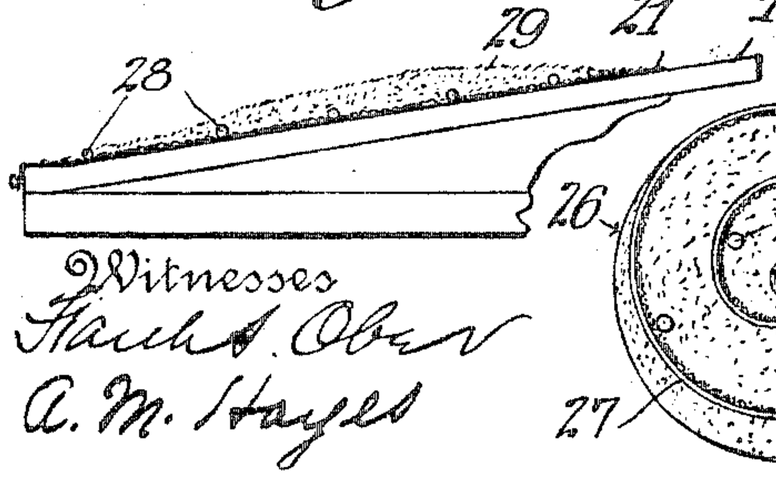
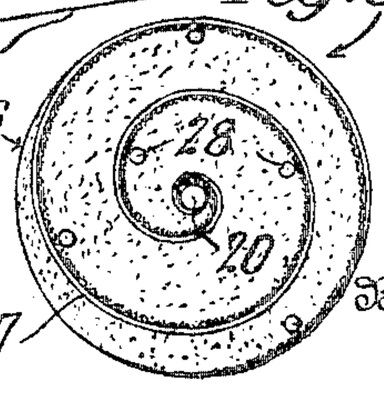
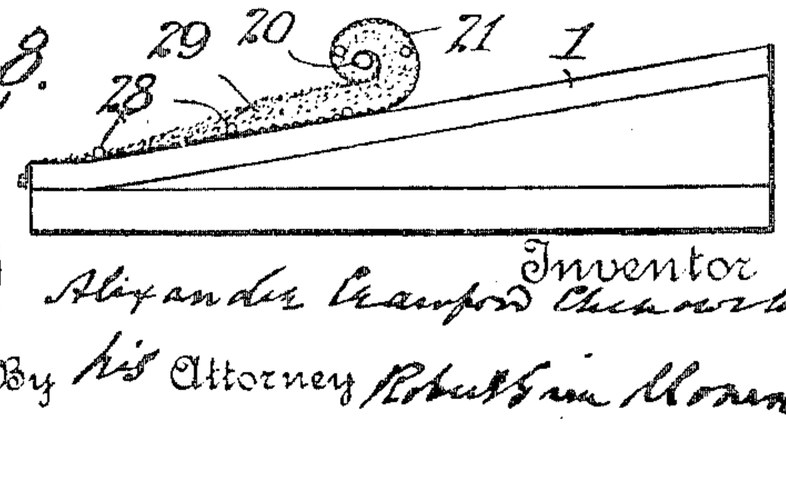


Fig. 8.





Witnesses
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UNITED STATES PATENT OFFICE.

ALEXANDER CRAWFORD CHENOWETH, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JOHN McNAMEE, OF BROOKLYN, NEW YORK.

MACHINE FOR MANUFACTURING CONCRETE PILES, COLUMNS, AND THE LIKE.

No. 797,556. Specification of Letters Patent. Patented Aug. 22, 1905.

Application filed January 11, 1905. Serial No. 240,548.

To all whom it may concern:

Be it known that I, ALEXANDER CRAWFORD CHENOWETH, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Machines for Manufacturing Concrete Piles, Columns, and the Like, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

A concrete or cement pile, column, tie, or the like may be economically made and so fortified and strengthened in its construction as to withstand lateral as well as perpendicular stress and strain by depositing a layer or coating of cement upon a sheet of wire gauze or netting and then turning or rolling the same into the form of a solid cylinder in which the convoluted wire-netting is embedded.

The object of my invention is to provide an apparatus or machine by which this method of construction may be carried out and concrete ties, piles, &c., produced in length and thickness required; and my invention consists in the devices and combination of devices, as will be hereinafter more fully described, and particularly pointed out in the claims.

Figure 1 is an end view of a machine or apparatus embodying my improvements. Fig. 2 is an end view of the same machine, but with the movable parts in different position and showing a partially-rolled pile. Fig. 3 is a plan view of the machine. Fig. 4 is a plan view of the platform on which the wire-netting rests, over a portion of which the cement is shown as spread. Fig. 6 is similar view of platform on which rests a partially-rolled pile, while Figs. 5 and 7 are sectional views of Figs. 4 and 6, respectively. Fig. 8 is a view in cross-section of a concrete pile or column completely formed. Fig. 9 is an enlarged view of gearing for turning the rod about which the concrete-coated wire-netting is rolled.

The platform 1 is mounted upon wheels or rollers 2 2, which travel over rails or guides 3 3. Above this platform, the upper surface of which preferably slants forward, is suspended at a corresponding angle an adjustable platform 4 by means of frames 5 5, which frames are connected from one to another by a bar 6 and fitted with rollers 7 7, moving on rails 8 8. To cross-bars 9 9 of these frames, from which extend the arms 10 10, carrying the platform 4, are pivoted lever-arms 11 11, connected at their upper ends by bars 12 12.

An iron shaft 13, having bearings in supports 14 14, extends between the two platforms and is fitted at each end with toothed wheels 15 15. At one or both ends of the shaft 13 is a crank-arm 16, and the toothed wheels 15 15 intermesh with toothed wheels 17 17. The wheels 17 17 are provided with projecting axles 18 18, fitted with sleeves or chucks 19 19, to receive and hold the rod 20, about which the sheet of wire-netting 21 after being coated with cement is rolled.

A wire or rope 22, connected with the upper platform 4 and passing around the pulley 23, is shown as attached to the lower platform 1, so that as the latter is moved the former is drawn in the opposite direction; but this connection is not essential, because the upper platform once brought in contact with the cement-coated sheet of wire-netting as it is wound about rod 20 is carried along, thereby exerting continuous pressure until the pile is formed. Parallel with the outer edge of the platform 1 may be conveniently arranged a track 24, upon which runs a truck 25 for bringing in the raw cement to spread on the netting and for removing the cylindrical pile or column 26 after it has been formed.

In operating the apparatus a sheet of wire-netting 21, preferably reinforced by longitudinal rods or thick wires 27 27 and heavy cross-wires 28 28, is spread upon the platform 1 and secured to the outer edge thereof, as well as to the winding-rod 20. This rod is then fastened in the sleeves or chucks 19 19. A coating of cement 29 is spread over the netting. The crank is turned and through the intermediary gearing a rotary motion is given to the rod 20 and the sheet of cement-coated wire-netting is rolled into a solid cylinder. As the roll forms the lower platform is pulled back and platform 4, exerting a pressure from above, is drawn forward. The convoluted wire-netting becomes thoroughly embedded in the concrete and a solid concrete pile is formed, reinforced to withstand both longitudinal and lateral stress and strain.

At the end of the operation the upper platform 4 may be raised by bringing the pivoted lever-arms 11 11 to a perpendicular position

and the pile or column rolled over upon the truck for transportation into the yard for drying. The article thus produced is in cylindrical form, but before the cement hardens may be readily compressed into rectangular or such other shape as may be desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an apparatus for manufacturing concrete piles, columns and the like, the combination of a movable platform and means for rolling a sheet of concrete-coated wire-netting upon the platform and simultaneously moving the platform as the pile or column is being formed.

2. In an apparatus for manufacturing concrete piles, columns and the like, the combination of a lower platform, means for rolling a sheet of concrete-coated wire-netting upon said platform and an upper movable platform adjusted to press upon the pile or column as it is being formed.

3. In an apparatus for manufacturing concrete piles, columns and the like, the combination of a movable lower platform, means for rolling a sheet of concrete-coated wire-netting thereon and simultaneously moving such platform, and an upper movable platform adjusted to press upon the pile or column as it is being formed.

4. In an apparatus for manufacturing concrete piles, columns and the like, the combination of an inclined lower platform, an inclined upper platform, and means for rolling a sheet of concrete-coated wire-netting upon said lower platform and in contact with the surface of the upper platform.

5. In an apparatus for manufacturing concrete piles, columns and the like, the combination of a lower platform, means for rolling a sheet of concrete-coated wire-netting thereon, an upper movable platform adjusted to press upon the pile or column as it is being formed and lever-arms arranged to raise or lift said upper platform away from the column or pile.

6. In an apparatus for manufacturing concrete piles, columns and the like, the combination of a lower inclined movable platform, means for rolling a sheet of concrete-coated wire-netting thereon, an upper inclined movable platform adjusted to press upon the pile or column as it is being formed, and lever-arms arranged to raise or lift said upper platform away from the column or pile.

In testimony whereof I have hereunto set my hand, this 3d day of January, 1905, in presence of the two subscribing witnesses.

ALEXANDER CRAWFORD CHENOWETH.

Witnesses:
C. J. HEERMANCE,
A. M. HAYES.