No. 768,931. PATENTED AUG. 30, 1904.

S. DAVIDSON.

METAL LATH FORMING MACHINE.

APPLICATION FILED NOV. 9, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.

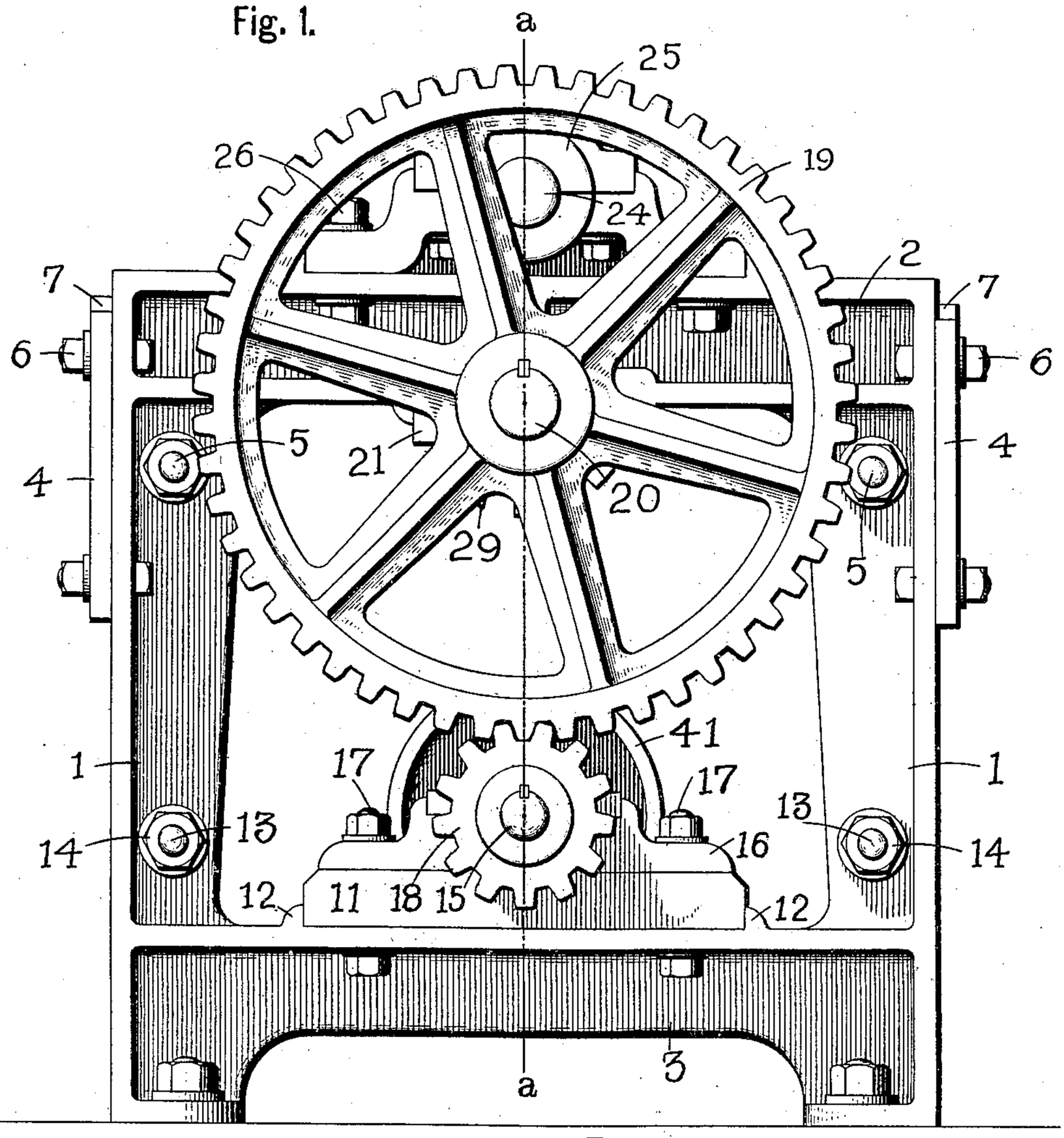


Fig. 2.

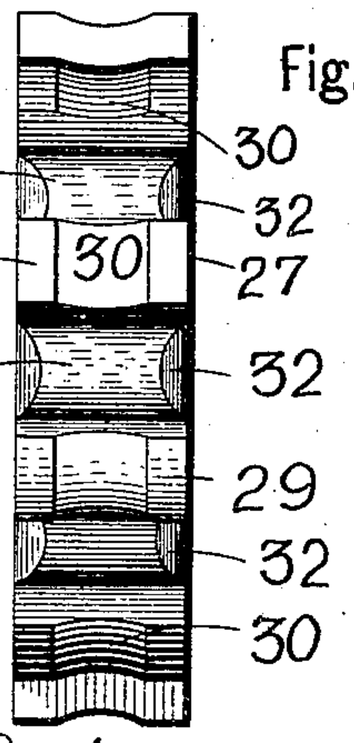


Fig. 3.

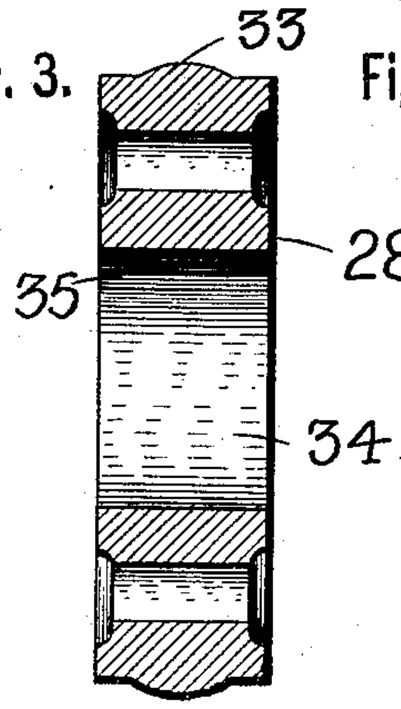
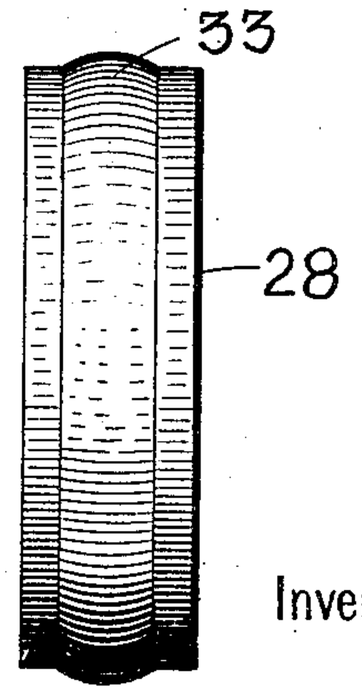


Fig. 4.



Witnesses.

Chas. Pankow

Fred. A. Neubauer.

By

Samuel Davidson.

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Attorney.

Inventor.

No. 768,931. PATENTED AUG. 30, 1904.

S. DAVIDSON.

METAL LATH FORMING MACHINE.

APPLICATION FILED NOV. 9, 1903.

NO MODEL. 3 SHEETS—SHEET 2.

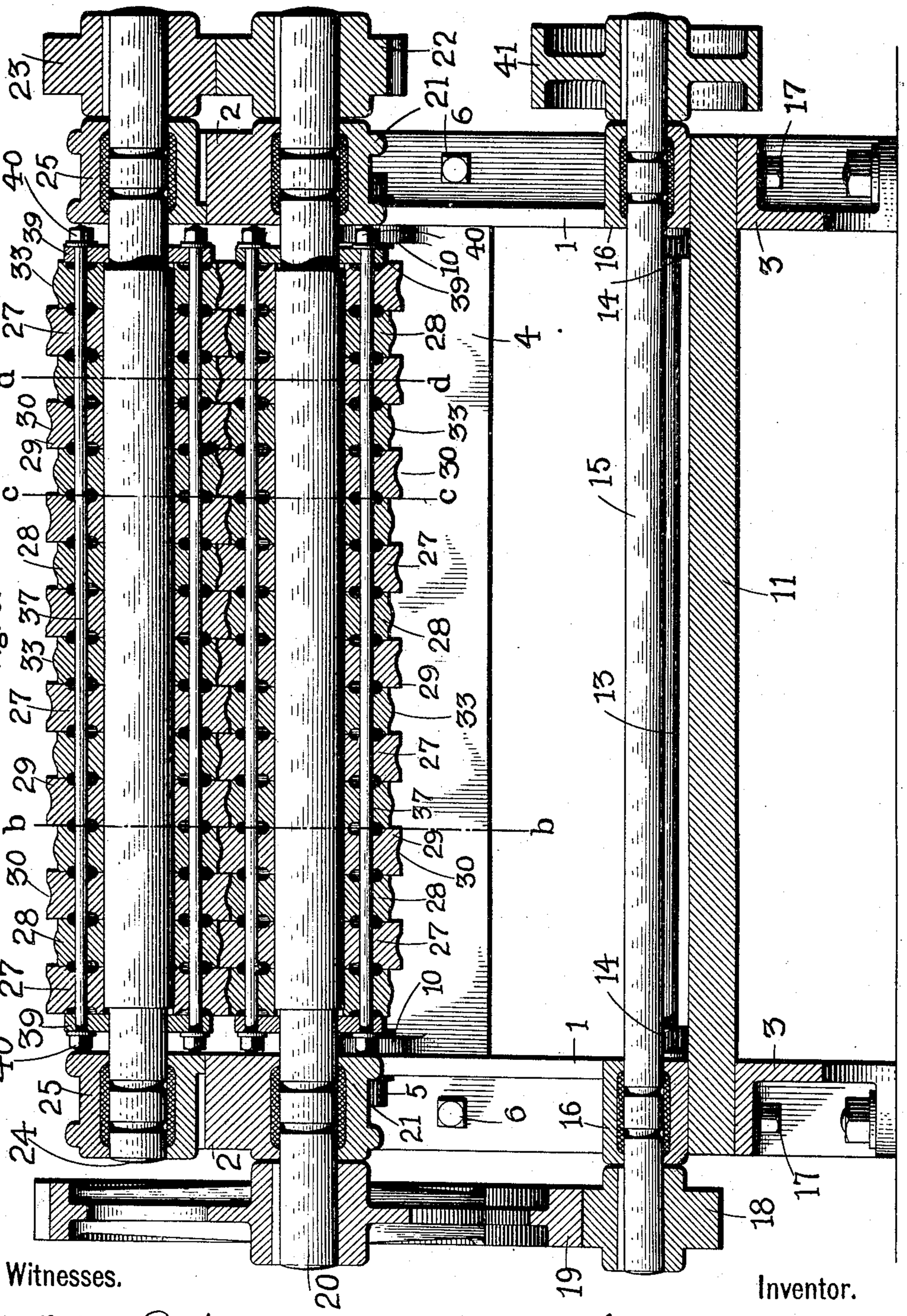

Fig. 5.

Witnesses.

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No. 768,931. PATENTED AUG. 30, 1904.

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METAL LATH FORMING MACHINE.

APPLICATION FILED NOV. 9, 1903.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 6.

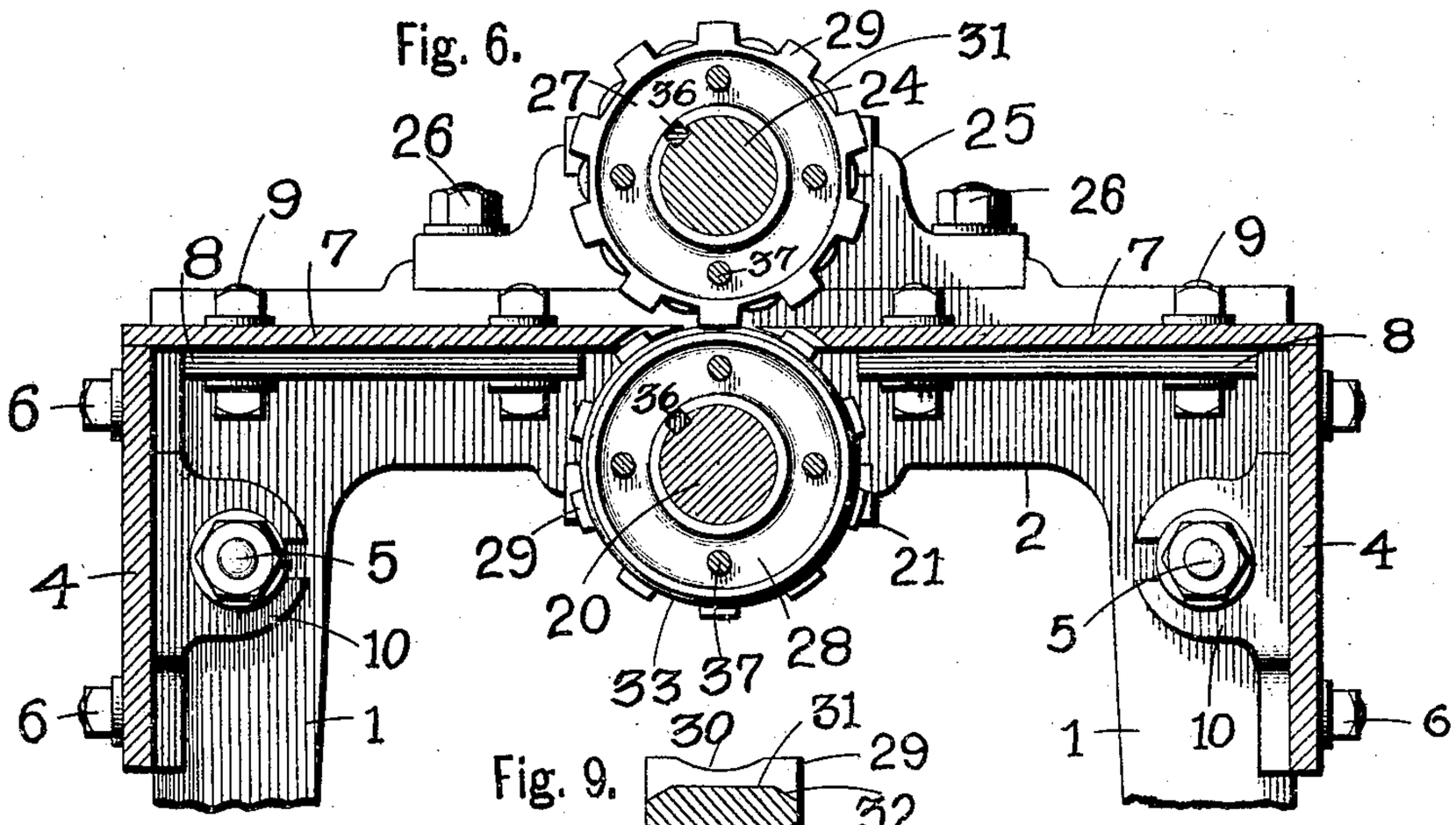

Fig. 9.

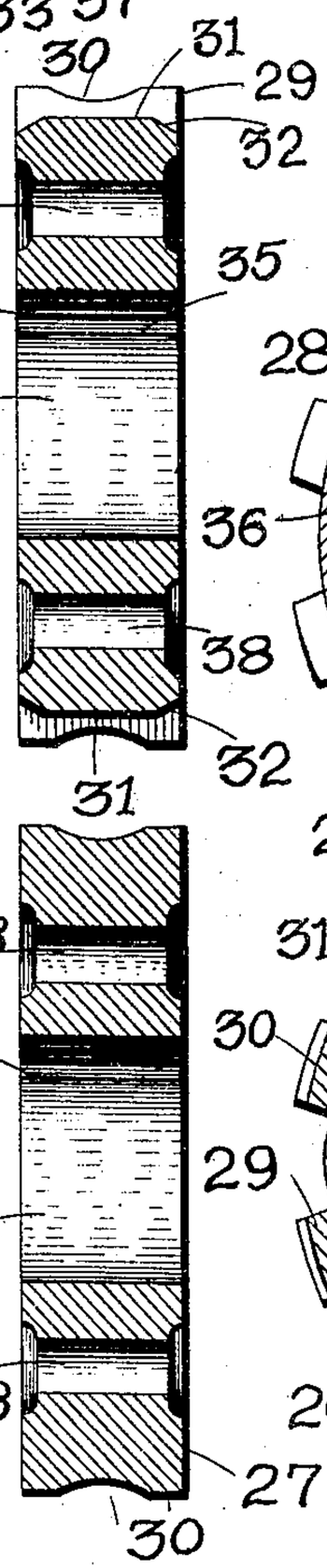

Fig. 7.

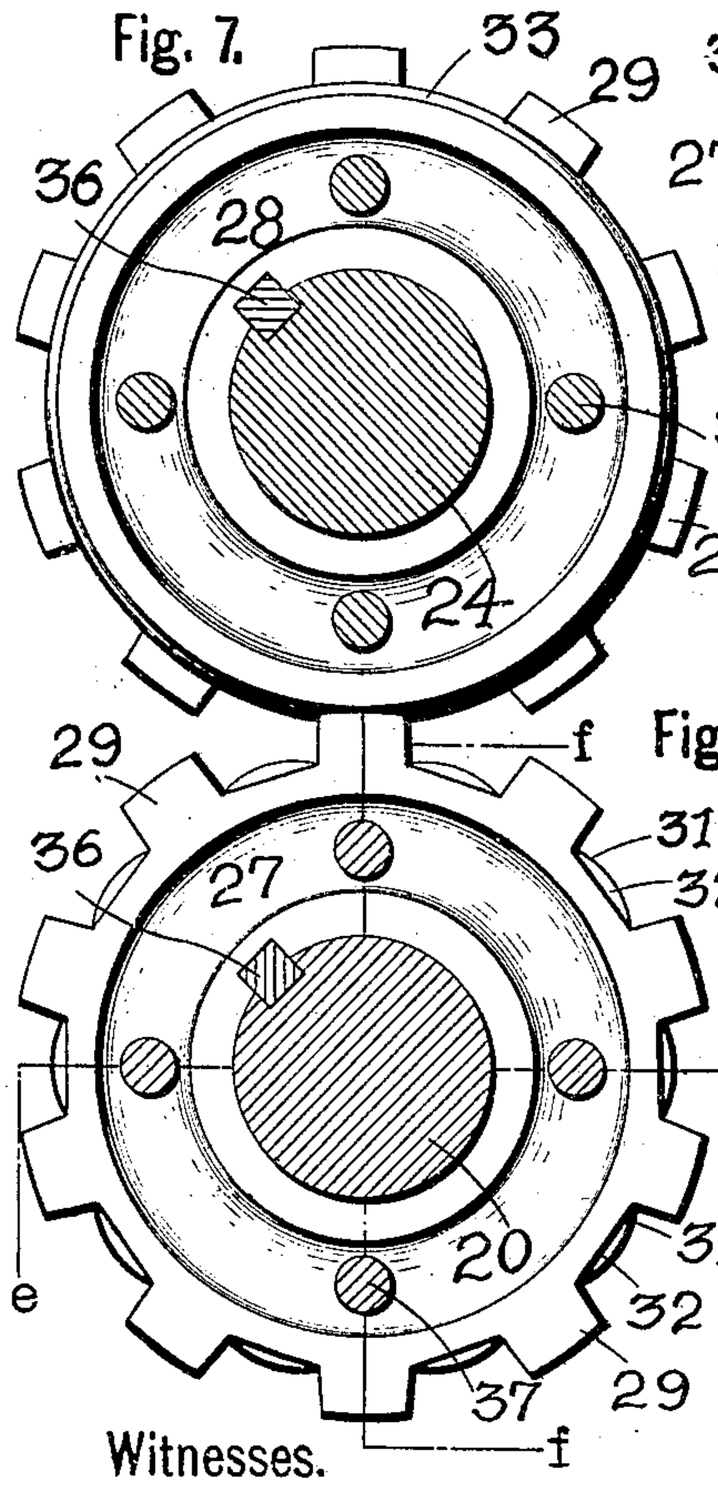

Fig. 8.

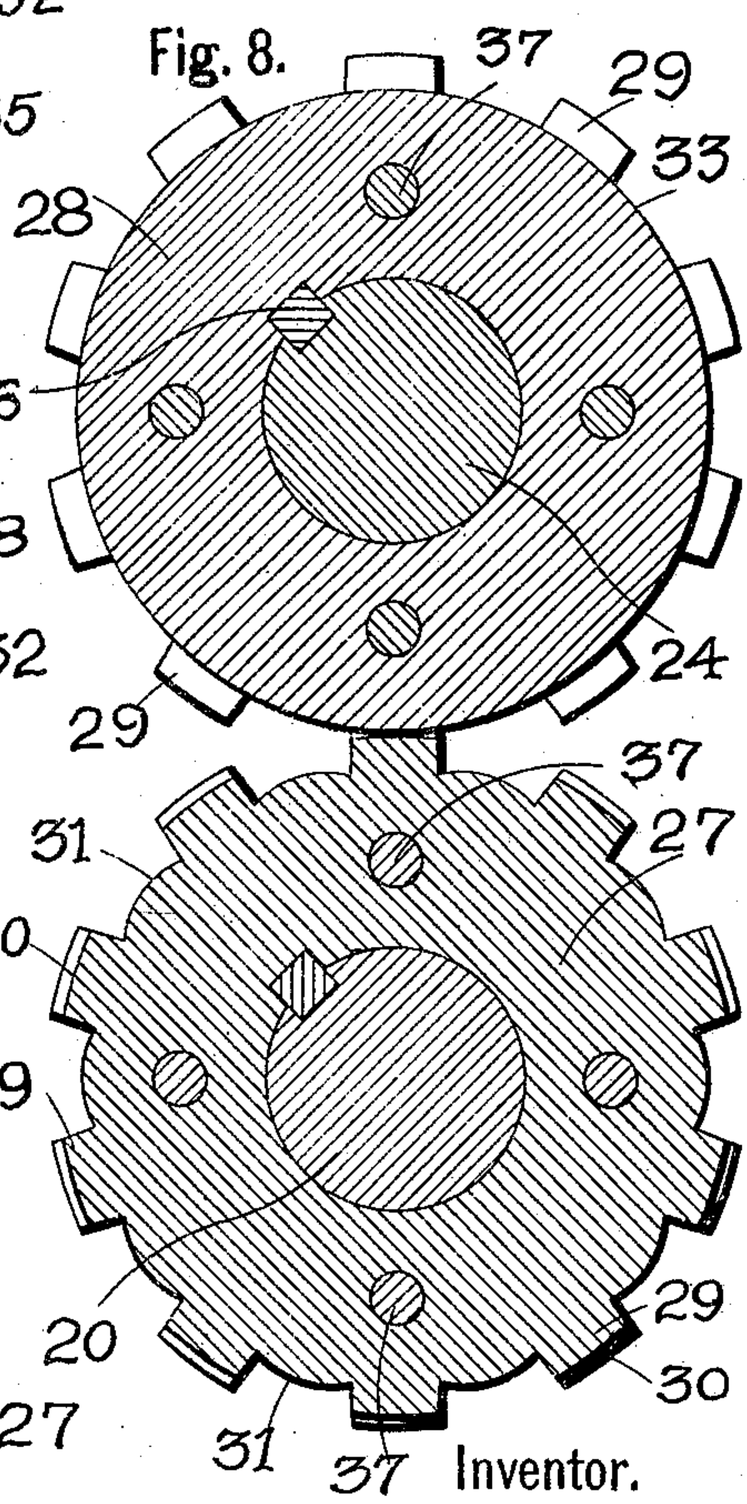

Fig. 10.

Witnesses.

Chas. Pankow.

Geo. A. Neubauer.

Inventor.

By Samuel Davidson

A. J. Campbell Attorney.

No. 768,931. Patented August 30, 1904.

UNITED STATES PATENT OFFICE.

SAMUEL DAVIDSON, OF BUFFALO, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO BUFFALO FIRE PROOF LATH COMPANY, OF BUFFALO, NEW YORK.

METAL-LATH-FORMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 768,931, dated August 30, 1904.

Application filed November 9, 1903. Serial No. 180,346. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL DAVIDSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Metal-Lath-Forming Machines, of which the following is a specification.

This invention relates to a machine for forming metal lathing from waste or damaged material; and the object of the invention is to produce a machine which will form the lathing in such a manner as to obtain the greatest amount of strength and also provide air-spaces between the plaster.

The invention also relates to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of the machine. Fig. 2 is an end elevation of one of the toothed cutters. Fig. 3 is a central transverse section through one of the cutters having an annular convex ridge formed upon its face. Fig. 4 is an end elevation of one of the cutters shown in Fig. 3. Fig. 5 is a central vertical section through the machine on line *a a*, Fig. 1. Fig. 6 is a transverse fragmentary section through the machine on line *b b*, Fig. 5. Fig. 7 is an enlarged detached transverse section through the forming-rollers on line *c c*, Fig. 5. Fig. 8 is an enlarged detached transverse section through the forming-rollers on line *d d*, Fig. 5. Fig. 9 is a transverse section through one of the toothed cutters on line *e e*, Fig. 7. Fig. 10 is a transverse section through one of the toothed cutters on line *f f*, Fig. 7.

In referring to the drawings for the details of construction like numerals designate like parts.

The frame of the machine is preferably formed as shown in Figs. 1, 5, and 6 and comprises two end members each of which is provided with legs 1, a top cross-piece 2, and a bottom cross-piece 3, side plates or members 4, which are secured to the legs 1 of the end frame members by bolts 5 and 6, and top plates or members 7, which are secured to inwardly-extending flanges 8 on the top cross-pieces 2 by bolts 9. The bolts 5 extend through the legs 1 and laterally-extending slotted lugs 10, which are formed integral with the side plates 4.

A wood plank 11 is secured to the top surface of the bottom cross-pieces 3 of each end frame member, being held rigidly between upwardly-extending lugs 12, formed integral with the cross-pieces 3. (See Fig. 1.) The frame is additionally strengthened by truss or tie rods 13, which extend from the legs 1 of one end frame member to the legs 1 of the other frame member, being secured in place by nuts 14.

A longitudinally-extending shaft 15 is journaled in bearings 16, which are secured at each end of the plank 11 by bolts 17, passed through the bearings 16, the plank 11, and cross-pieces 3. This lower shaft 15, which I term the "driving-shaft," has a pinion 18, keyed to one end thereof, which meshes with a gear-wheel 19, keyed to one end of a longitudinally-extending shaft 20. The shaft 20 is journaled in bearings 21, which are secured to the bottom surface of the top cross-pieces 2 of the end frame members and has a gear-wheel 22 keyed to one end, which meshes with a similar gear-wheel 23, keyed to the end of a similar longitudinally-extending shaft 24. This shaft 24 is journaled in bearings 25, which are mounted upon the top surface of the top cross-pieces 2 and secured thereto by bolts 26. (See Figs. 1 and 6.)

The mechanism for forming the lathing is mounted upon the shafts 20 and 24 and consists of a plurality of toothed rings 27 and plain rings 28, which are mounted alternately upon the shafts, as shown in Fig. 5. Each tooth 29 of the rings 27 is provided with a shallow concaved depression or curved hollow 30 in its top surface, and the bottom of the space between the teeth 29 is rounded at 31 to a curve greater than the normal curve of the circumference of the ring, thereby producing a slight radial projection, as shown in Fig. 7, and beveled at its ends or edges 32, as

shown in Fig. 2. By this means portions of the peripheries of each roller between the teeth of each row are convexed on a radius shorter than the distance between the center of the roller and the bases of said teeth, forming rounded portions which contact with and press against parts of the lath-sheets as the teeth disengage themselves from the sheet, and thus serve to facilitate the removal of the teeth and also aid in maintaining the sheet in flat condition.

The plain rings are each provided with an annular convexed ridge or enlargement 33, formed in the center of its face, and the rings are placed upon the shafts 20 and 24, so that a toothed ring 27 on the shaft 24 will be directly above a plain ring 28, mounted upon the lower shaft 20, and a toothed ring 27 on the lower shaft 20 will be directly beneath a plain ring 28, mounted upon the upper shaft 24. The rings 27 and 28 are each provided with a central opening 34, through which the shaft passes, and a keyway 35 in which a feather or key 36 on the shaft fits to secure the rings on the shaft. The rings 27 and 28 are additionally secured upon the shafts 20 and 24 by longitudinally extending the rods 37, which pass through the openings 38 in each ring and through openings in circular washers 39, which are mounted adjacent to each end ring on the shafts 20 and 24. (See Fig. 5.) The rings 27 and 28 are drawn tightly against each other by these tie-rods 37, which are held in place by nuts 40, screwed upon each end thereof, thereby preventing longitudinal movement upon the shaft. (See Fig. 5.)

A pulley 41 is placed upon one end of the shaft 15, by means of which the machine may be operated.

The purpose of forming the rings 27 and 28 with concaved depressions in the teeth which register with the convexed ridge upon the plain ring is to form the lathing with curved depressed and raised portions, thereby strengthening the lathing and providing air-spaces in the walls between the plaster. One of the great advantages of this form of rings is that the lath comes from the mechanism in a substantially straight condition instead of being curved or rolled up by the operation of pressing the lath sheets into shape between the rollers, owing to the stiffening of the lath sheets by the formation of the longitudinal curved portions.

I claim as my invention—

1. A machine for forming lath having a series of rollers each comprising a plurality of rings, and at least one of said rings of one roller being toothed and said teeth being provided with peripheral depressions, and having the surface of the bottom of the space between the teeth of a curve greater than the normal curvature of the ring, and another ring having an annular enlargement adapted to fit in the peripheral depression in the teeth, substantially as set forth.

2. In a machine for forming metal lath, a pair of rollers each having a continuous circumferential projection and an adjacent circumferential row of separated teeth having peripheral depressions, the teeth of one roller being arranged opposite to the continuous projection of the other roller, substantially as set forth.

3. In a machine for forming metal lath, a pair of rollers each having a circumferential projection and an adjacent circumferential row of separated teeth which project outwardly beyond said circumferential projection, the teeth of one roller being arranged opposite to the circumferential projection of the other roller, the portions of the peripheries of each roller between the teeth of each row being convexed on a radius shorter than the distance between the center of the roller and the bases of said teeth, substantially as set forth.

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Witnesses:
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