

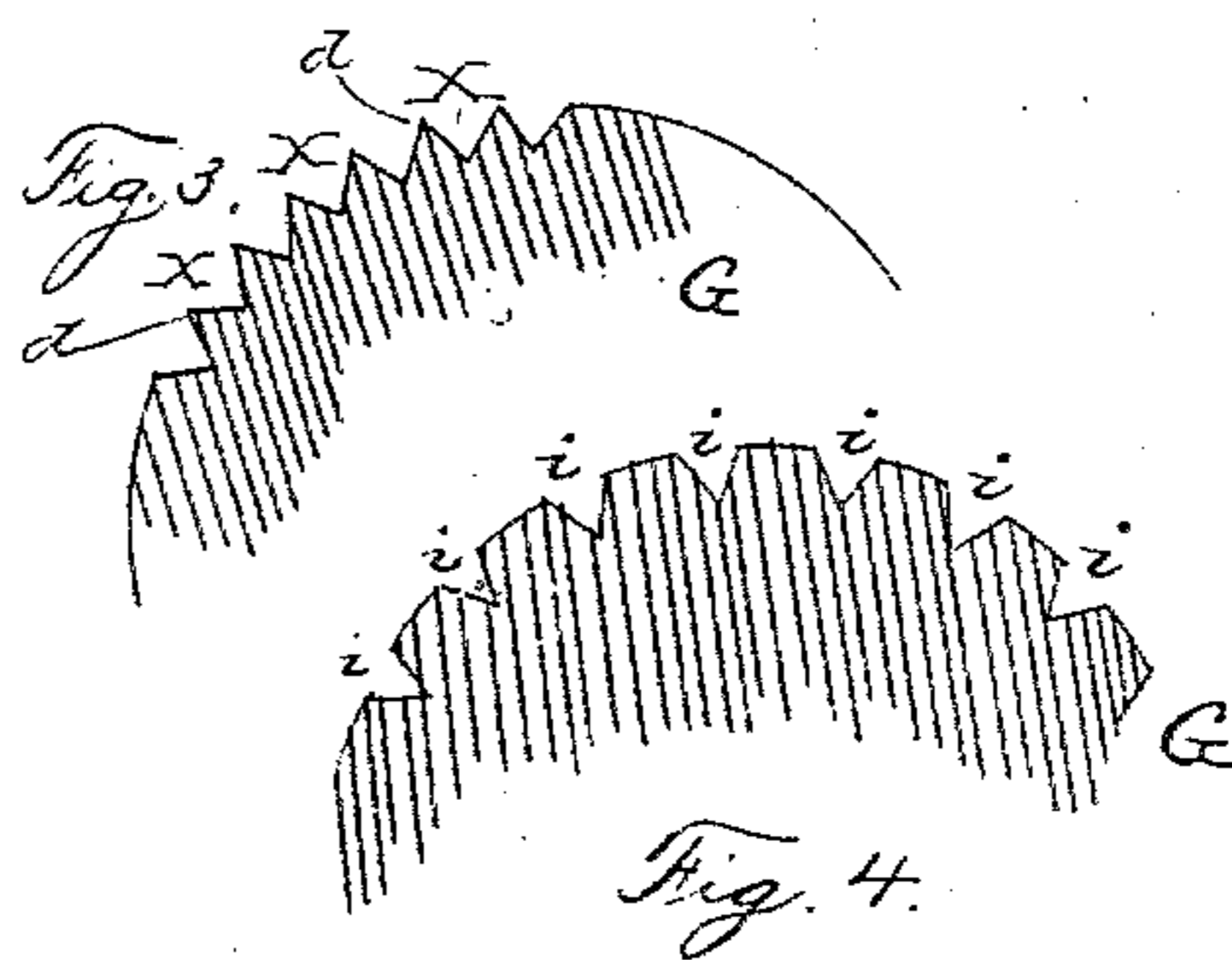
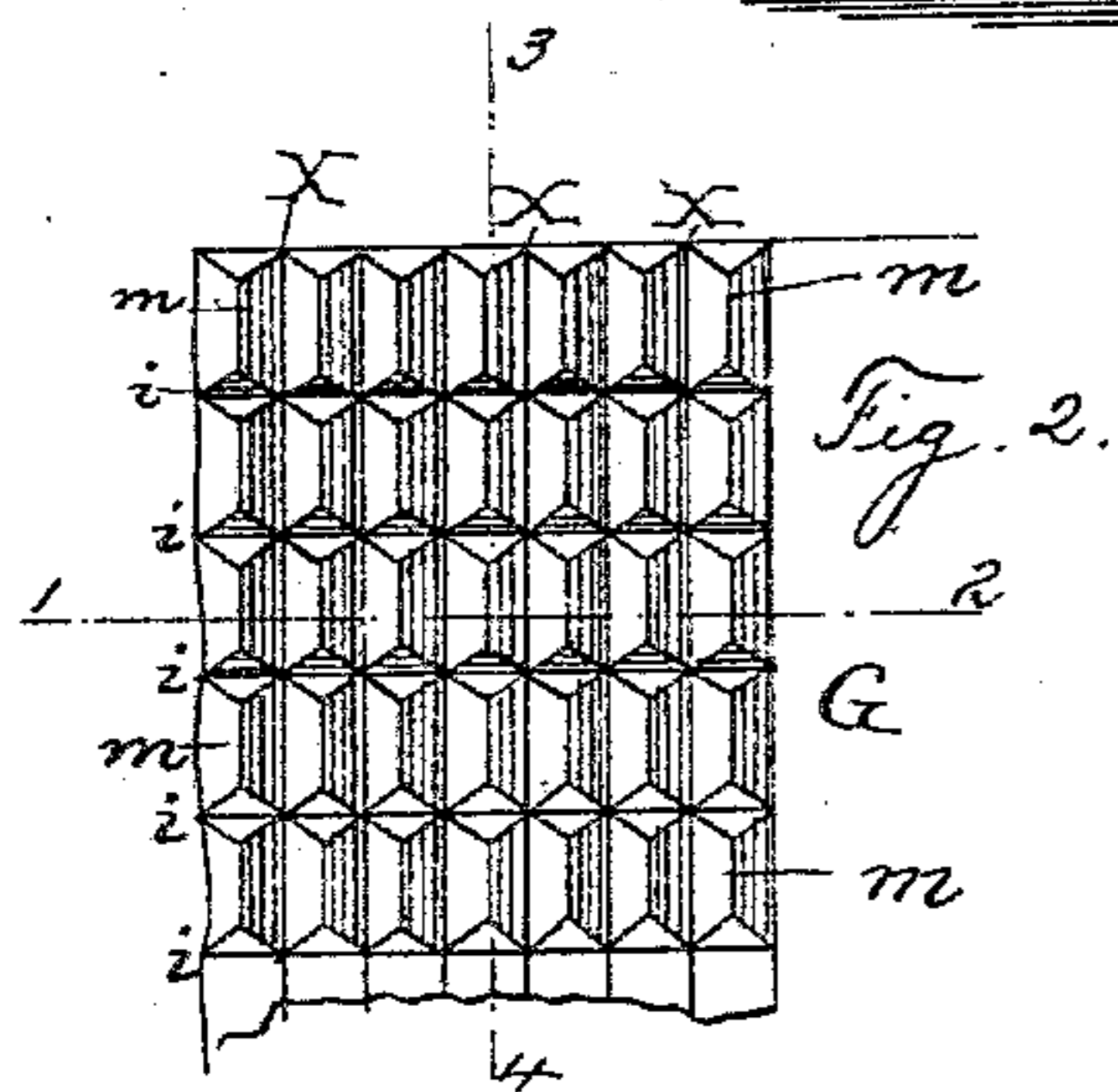
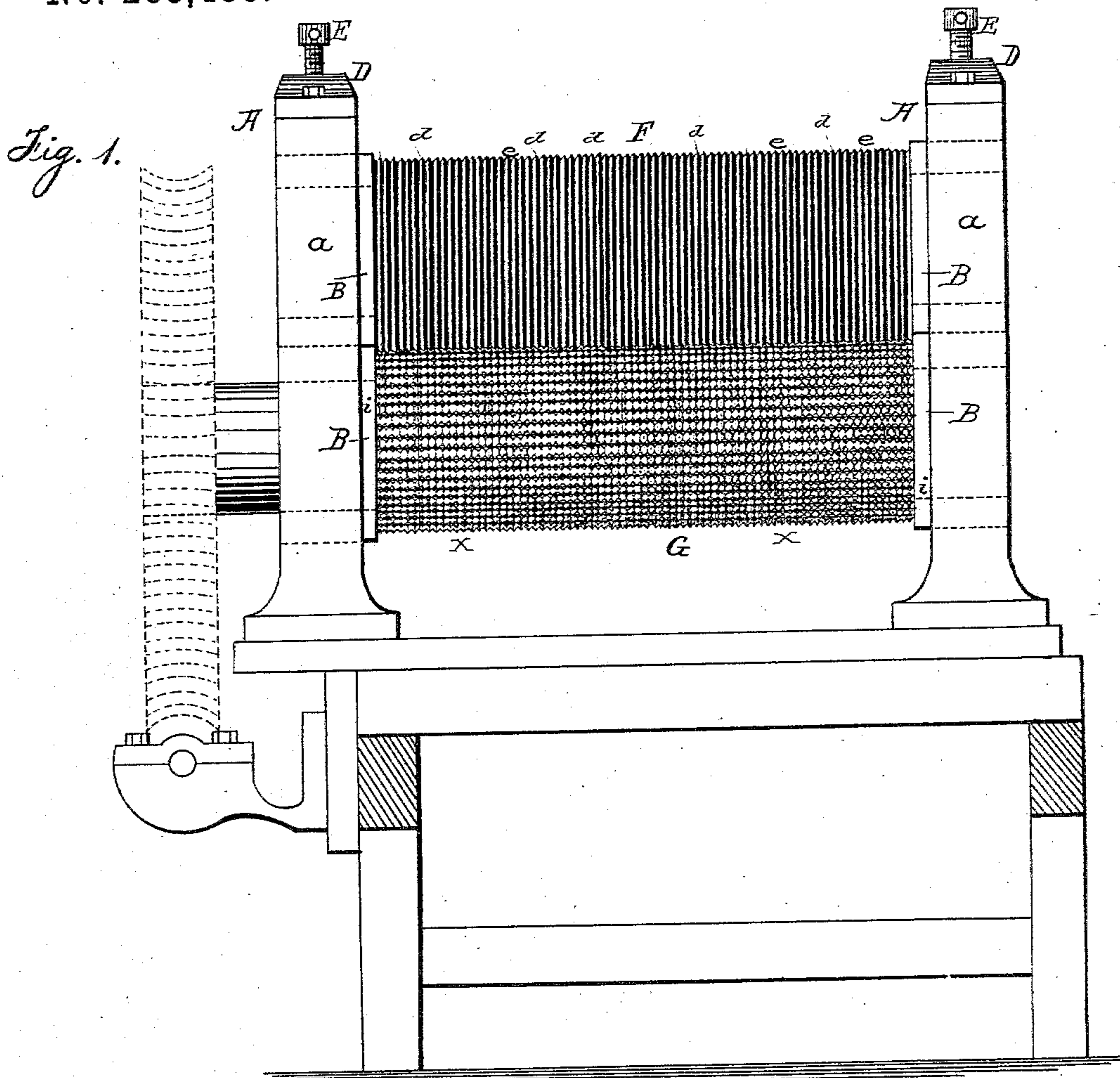
(No Model.)

J. W. HYATT

MACHINE FOR PERFORATING SHEET METAL.

No. 283,488.

Patented Aug. 21, 1883.



Witnesses:

Chas. C. Gill
Herman Gustow

Inventor:
John W. Hyatt
By his Atty.
Rowland Cox

UNITED STATES PATENT OFFICE.

JOHN W. HYATT, OF NEWARK, NEW JERSEY.

MACHINE FOR PERFORATING SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 283,488, dated August 21, 1883.

Application filed August 10, 1881. Renewed January 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HYATT, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Machines and Processes for Perforating Sheet Metal, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improved process and machine for perforating sheet metal, the machine consisting of two parallel rolls having suitably-formed corrugated surfaces and running with their surfaces meshing together, as hereinafter more fully set forth.

The object of the invention is to produce a thin sheet of metal which is perforated without removing any part of the metal, and, by preference, given a corrugated surface at the same time, so as to resemble and be capable of performing the functions of what is known as "wire-cloth." By means of my invention I produce a sheet of perforated metal corresponding to wire-cloth of the finest mesh, as well as to that of a coarser grade.

Referring to the accompanying drawings, Figure 1 is a side elevation of a machine embodying the elements of the invention. Fig. 2 is an enlarged view of a detached portion of the surface of the lower roller, G. Fig. 3 is a section through the line 1 2, and Fig. 4 is a section through the line 3 4 of same.

A indicates the ends of the machine, each consisting of two standards, *a*, which act as guides for the journal-blocks B, placed between them. The upper ends of the standards *a* are connected at each end of the machine by the removable caps D, having at their center threaded apertures, in which are inserted the set-screws E, whereby the relation of the upper to the lower roller may be regulated according to the thickness of the sheet of metal.

The rollers F G are of about equal size, and have their ends mounted in the journal-blocks B. One end of the lower roller, G, projects beyond the standard A, and to it power is applied. In the present instance this end of the roller is supplied with a worm and pinion; but any other suitable power may be substituted therefor. The surface of the roller F is entirely covered with the alternating grooves *e* and elevations *d*, which grooves mesh with a

counterpart series of grooves, X, turned in the lower roller, G. The roller G, in addition to being provided with the annular grooves X, is also grooved longitudinally, as at *i*, the latter grooves intersecting the grooves X, and being separated corresponding distances apart, whereby the projections *m* are formed between the grooves over the entire surface of the roller, and in positions to enter the grooves *e* in the roller F when the machine is in operation. These projections in cross-section are in the form of an inverted V, and their length is the distance the longitudinal grooves *i* are separated, which is governed according to the character of the work to be performed. The length of the projections *m* controls the size of the perforations in the sheet of metal; hence when fine perforated work is to be produced the grooves *i* will be close together, and farther apart when coarser perforations are desired.

In the operation of the machine, motion being communicated by the worm and pinion, the sheet of metal, which will by preference be of brass, is fed between the rollers F G. In its passage between the rollers it is forced into the annular grooves *e* X, the effect being to draw the sheet so tightly over the projections *m* as to break or perforate it over its entire surface, and as it is drawn over the projections *m* and breaks it enters and receives the impression of the longitudinal grooves *i*. After the sheet has been passed between the rolls it is ready for use. It can be employed with satisfactory results for nearly all purposes to which wire-cloth is usually applied, and can be produced at a minimum cost.

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

The rollers F G, the former supplied with the alternating grooves *e* and elevations *d*, and the latter with the grooves X *i*, alternating with the projections *m*, substantially as set forth.

In testimony that I claim the foregoing improvement in machines and processes for perforating sheet metal, as above described, I have hereunto set my hand this 8th day of August, 1881.

JOHN W. HYATT.

Witnesses:

CHAS. C. GILL,
HERMAN GUSTOW.