F. Roys,

Corrugating Sheet Metal.

No. 100,929. Patented Mar. 15. 1870.

Fig 1

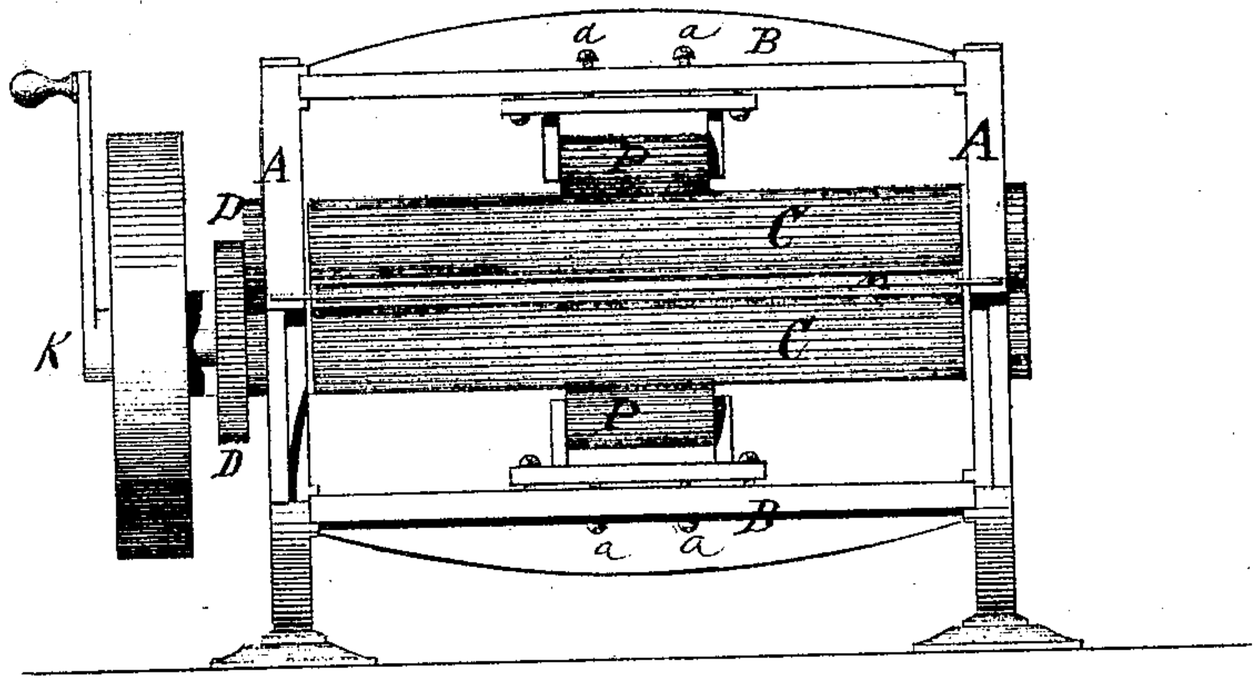


Fig 2

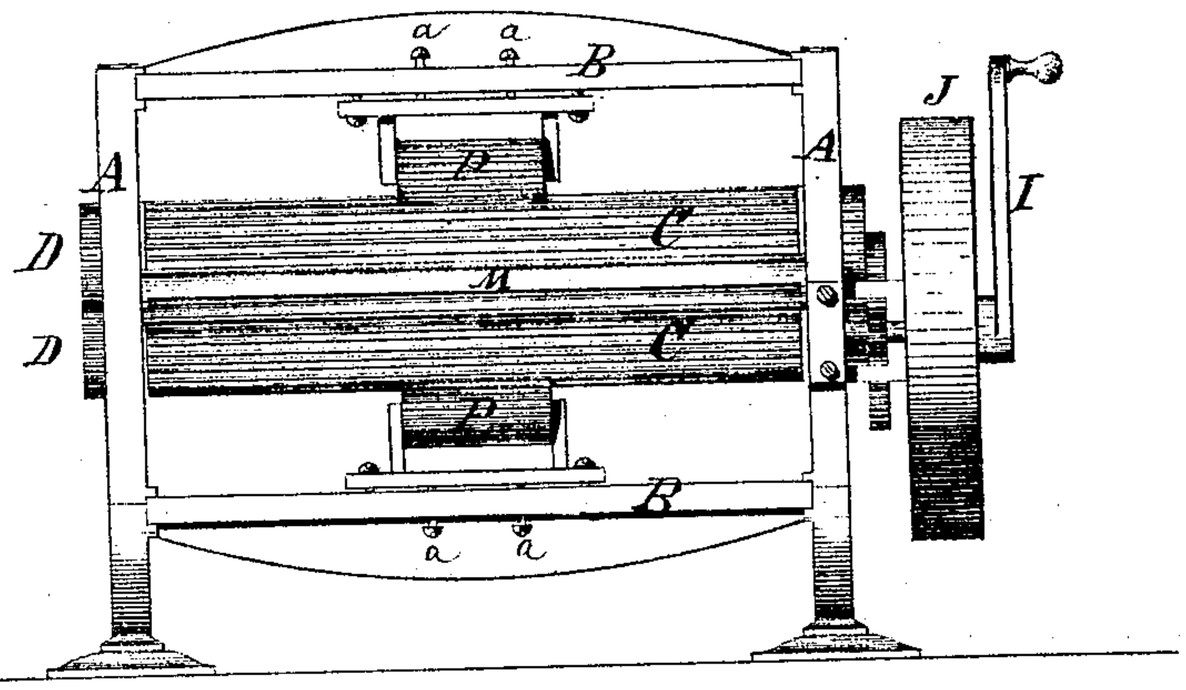


Fig 4

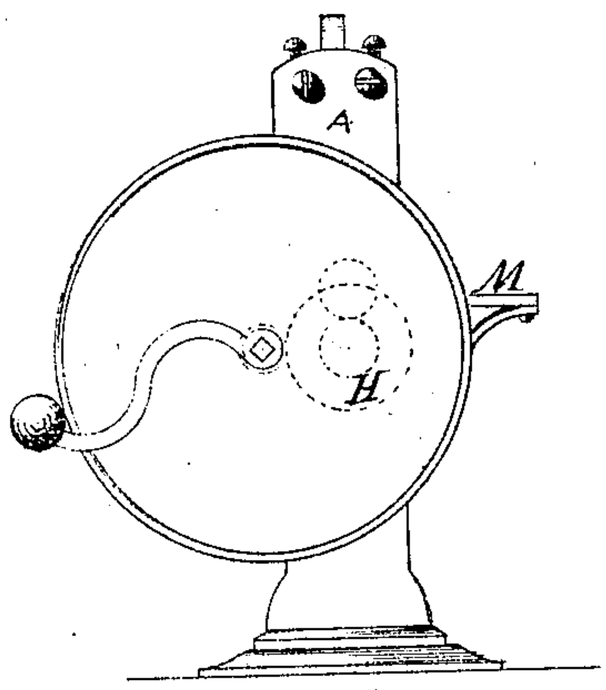


Fig 3

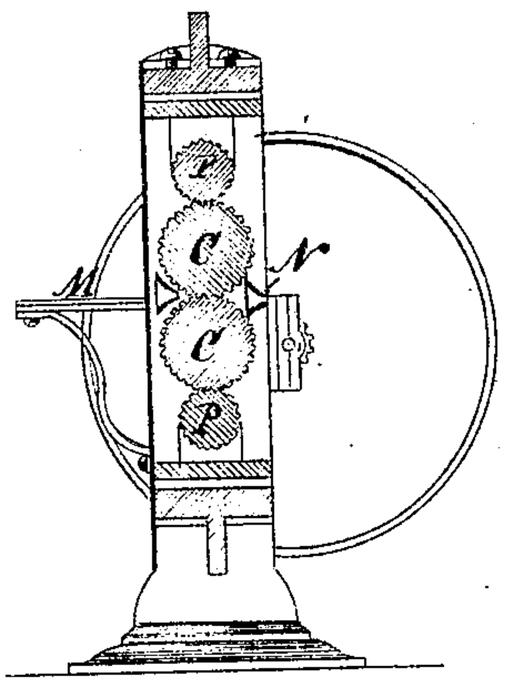
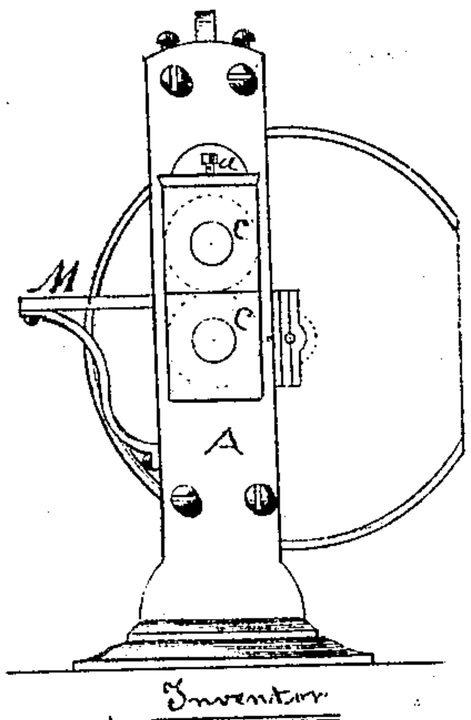


Fig 5.



Witnesses.

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FRANKLIN ROYS, OF EAST BERLIN, CONNECTICUT.

Letters Patent No. 100,929, *dated March* 15, 1870.

IMPROVED MACHINE FOR CORRUGATING SHEET METAL.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FRANKLIN ROYS, of East Berlin, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Machines for Corrugating Metal Sheets; and to enable others skilled in the art to make and use the same I will proceed to describe, referring to the drawings, in which the same letters indicate like parts in each of the figures.

The nature of this invention consists in arranging supporting or pressure-rollers above and below the main rollers, and near the center thereof, in a metal-corrugating machine, the object of which is to prevent the rollers from springing, between their bearings, or, in other words, to support the center of the corrugating-rollers, so as to cause them to produce a uniform corrugation in the sheets of metal which pass between them.

In the accompanying drawings—

Figure 1 is a front elevation.

Figure 2 is a back-side elevation.

Figures 3, 4, and 5 are end elevations.

A is the frame-work of the machine.

B B are girts or beams, of strong proportion, and extend across from one side of the machine or frame to the opposite side of the frame, and are secured firmly thereto.

C C are corrugated rollers, of greater or less depth of corrugations, as may be found desirable, and are made or formed in the common way.

These rollers have their bearings in boxes arranged in the frame-work A, and are adjusted to their relative positions with each other, and are secured by keys or set-screws, in the common way of adjusting rollers in their relative positions with each other.

And in order to secure uniform action of the corrugated rollers with each other, gears D D are secured firmly upon each end of said roller-bearings or shafts, outside of the frame-work, and a larger gear, H, is secured upon the outer end of the lower roller, or its shaft, to which the power is applied by means of crank I or pulley J, through the shaft K and gear L.

M is a shelf, secured to the frame-work, upon which the sheets of metal are placed to be introduced to the action of the rollers.

N is a guide-plate or funnel, to guide the sheets of metal directly to the action of the corrugating-rollers.

N′ is also a guide-plate or funnel, to conduct the corrugated sheets of metal from the rollers.

This machine, as thus far described, may have been used before, but when used in this way the rollers are very liable to spring, and the corrugated sheets will be imperfectly corrugated in the center of the sheet, or between the ends of the corrugations formed upon the sheets. They will also be liable to warp or bilge, and will not lay true upon a flat surface.

To obviate this difficulty, and to secure a uniform shape and depth of corrugation in the metal sheet, and to produce a true surface, or so that the corrugations will lay true and evenly upon a flat surface, I provide pressure-rollers P P, arranged in a frame-work, Q, upon the girts or beams B B, so that they can be compressed against the rollers C C, by means of set-screws *a a*, so as to prevent the possibility of the rollers P P springing or yielding in the center more than at the ends, thereby securing the same uniform shape and depth of corrugation in the center of the sheets that are produced at the ends or edge.

I do not claim supplementary supporting-rollers arranged above and below working-rollers when said supplementary supporting-rollers are of the same length, and their bearings are the same relative distance apart as the working-rollers, because, with such rollers, it is impossible to increase or diminish the pressure upon the working-rollers near their center, or between their bearings, independent of their end pressure, which is very desirable to accomplish in a corrugating-machine. This mode of supporting working corrugated rollers is peculiar for a corrugating-machine, but may be of very little importance for smooth-surface rollers for rolling sheet-metal, because the smooth-surface rollers have no facility for holding one in a true line and relative position with the other, as is the case in my rollers having alternate elevations and depressions, one working into the other, and thus holding them in a true line and relative position with each other.

I believe I have thus shown the nature, construction, and advantage of this invention, so as to enable others skilled in the art to make the same therefrom.

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

The arrangement herein described of the housings A, corrugated rollers C C, girts or beams B B, corrugated rolls P P, and adjusting-screws *a a*, for the purpose set forth.

FRANKLIN ROYS.

Witnesses:

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E. W. BLISS.