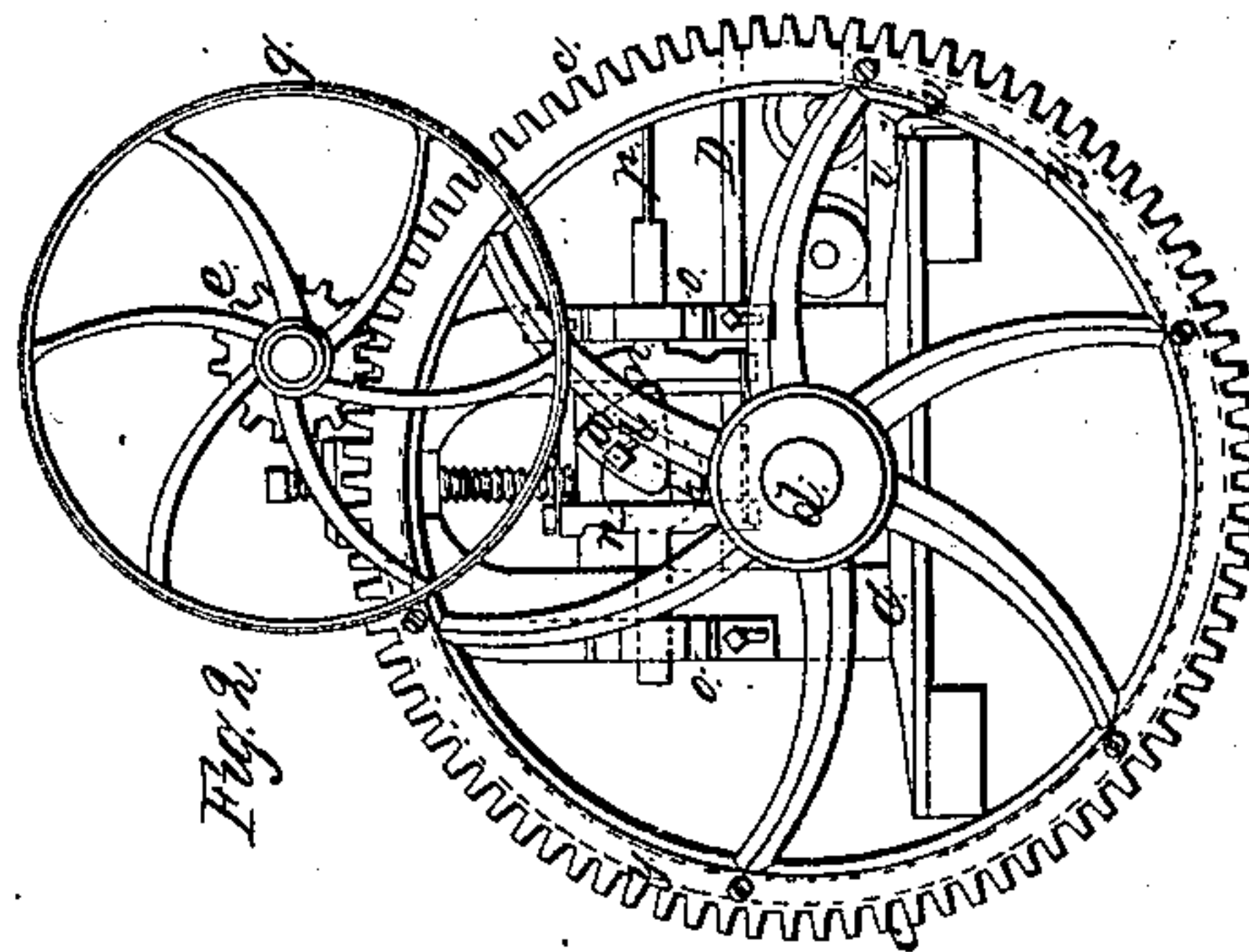
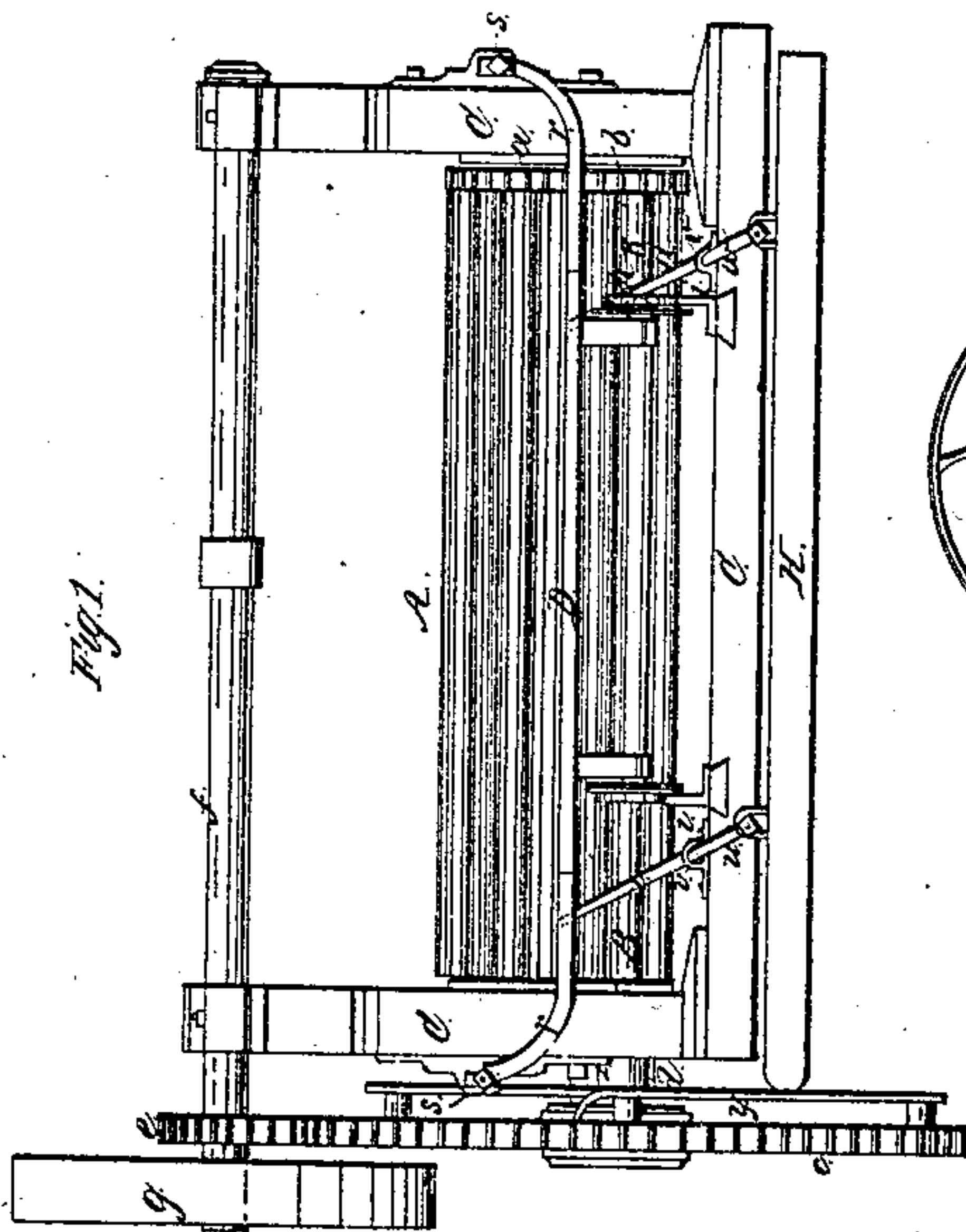
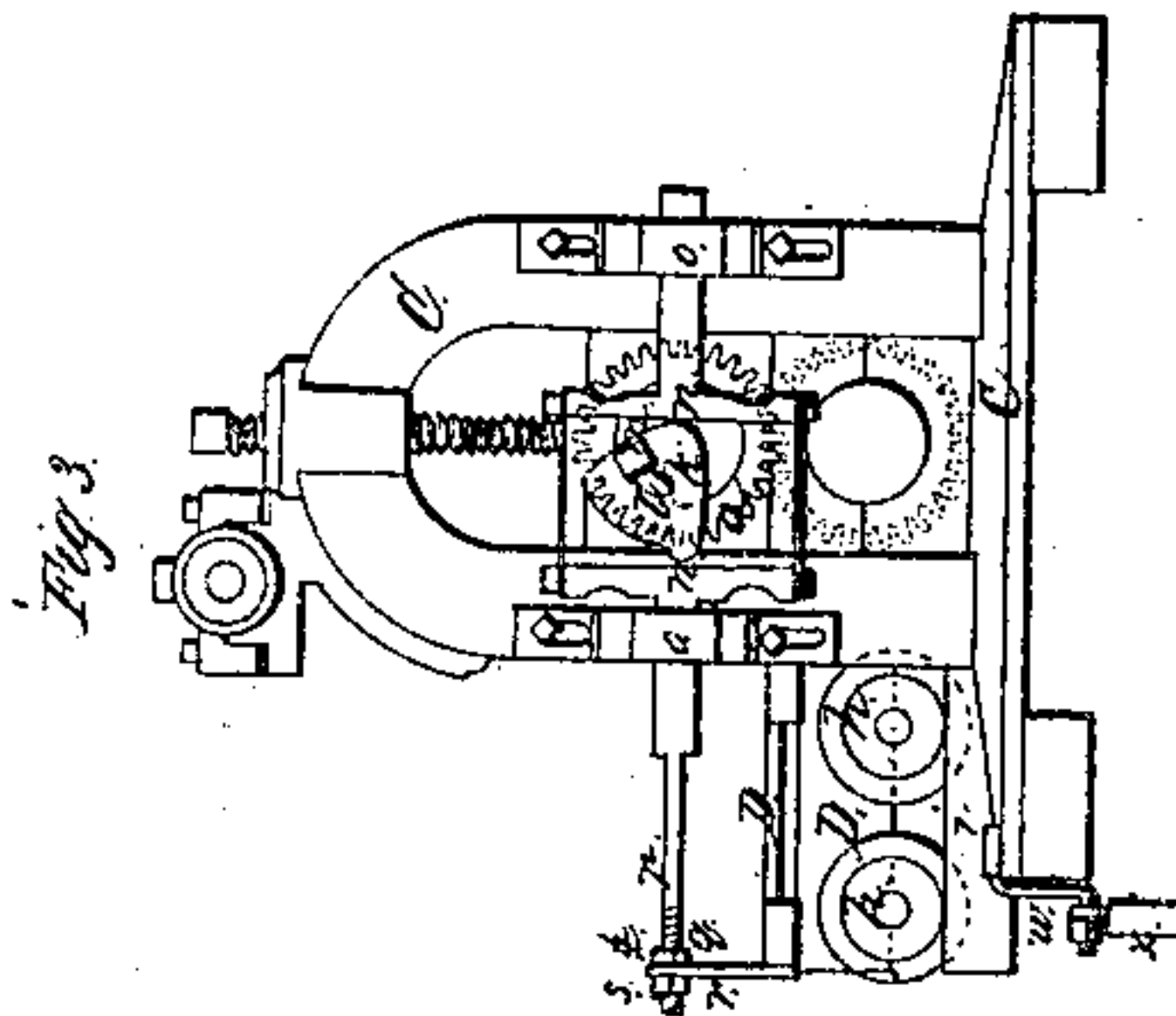
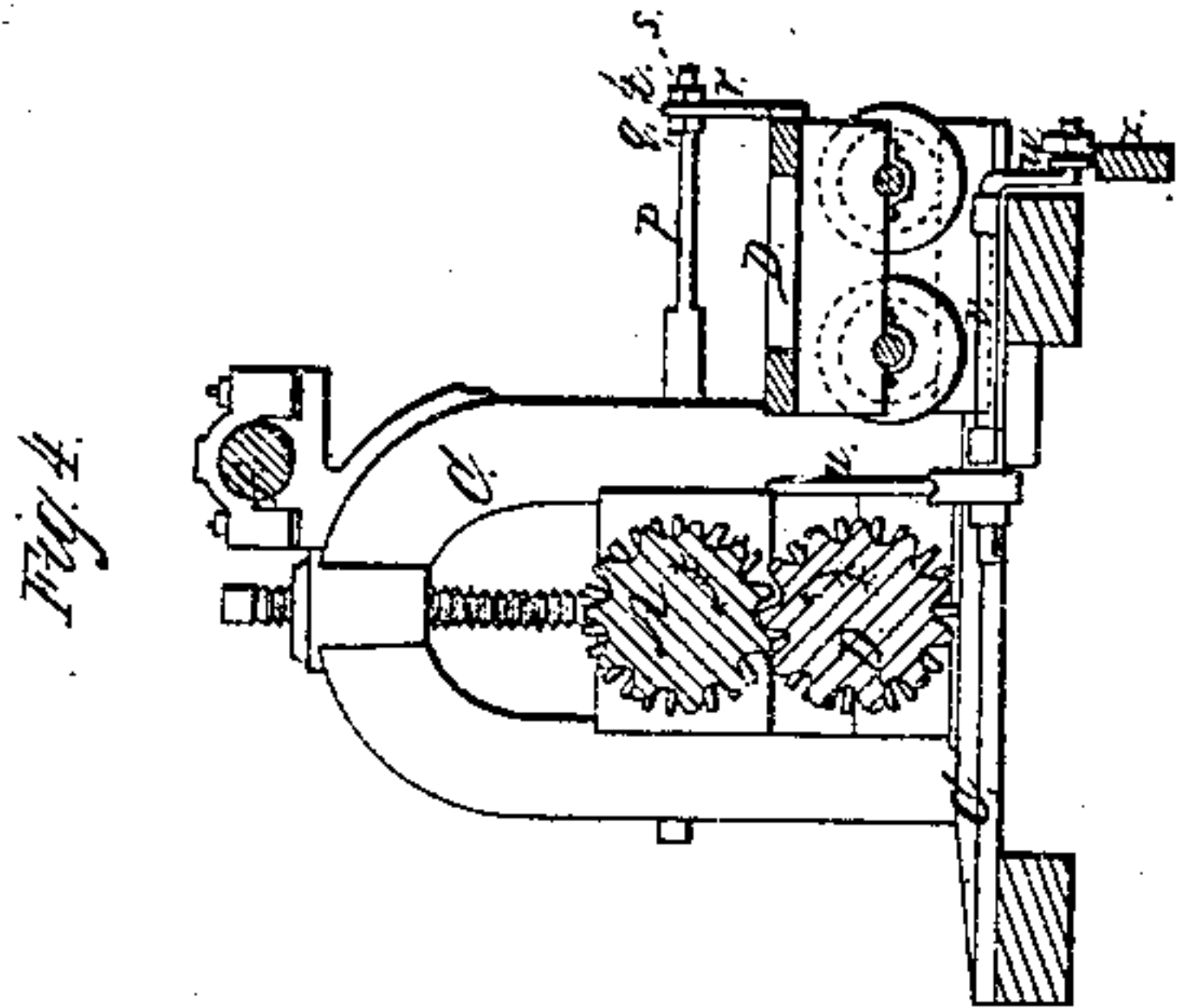


T. W. H. MOSELEY.
CORRUGATING SHEET METAL.

No. 39.418.

Patented Aug. 4, 1863.



Witnesses;
R. H. Lacy
H. D. Hale Jr

Inventor;
Thos. W. H. Moseley

UNITED STATES PATENT OFFICE.

THOMAS W. H. MOSELEY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CORRUGATING SHEET METAL.

Specification forming part of Letters Patent No. 39,418, dated August 4, 1863.

To all whom it may concern:

Be known that I, THOMAS W. H. MOSELEY, a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Machine for Corrugating Sheets of Metal or other Material; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Figs. 2 and 3 end views, and Fig. 4 a transverse section, of such machine.

The machine in question is a combination of the following elements—viz: First, a pair of fluted or corrugating rollers; second, mechanism for rotating the said rollers; third, a carriage for supporting a sheet of metal to be corrugated, and for introducing such sheet between the corrugating rollers; fourth, mechanism for imparting the proper intermittent reciprocating motions to the said carriage; fifth, mechanism for gaging the sheet or determining its correct position on the carriage preparatory to the sheet being moved up to and introduced between the corrugating-rollers.

The combination is automatic in its action, and accomplishes the crimping or corrugating of a sheet of metal with great perfection. In fact, it would be next to impossible to feed the sheets to the rollers by manual power alone, and have them so properly and accurately corrugated as they can be by my said machine, for when fed in by hand a sheet would be likely to have its corrugations more or less out of parallelism with the outer edges of the sheets, and, furthermore, the corrugation at one edge, instead of being of the proper size or form relatively to that at the opposite edge of the sheet, would be likely to vary more or less therefrom.

My machine has adjusting devices or mechanism by which its carriage can be very accurately adjusted with the reference to the bite of the corrugating-rollers.

In the drawings the pair of fluted corrugating rollers is shown at A B, one being arranged directly over the other, and each having its journals suitably supported in boxes or bearings upheld by a frame, C. The flutings of each roller run lengthwise of it, and those of one engage and work with those of the other in a manner analogous to that in which the teeth of two gears co-operate and interwork.

The mechanism for rotating the corrugating rollers may be thus explained. A gear *a* at the end of one roller engages with a similar gear, *b*, at the adjacent end of the other roller. A larger gear, *c*, is fixed on the shaft *d* of the lower roller, and engages with a pinion, *e*, carried by a driving shaft, *f*, to which rotary motion may be given by means of a driving-belt working on a pulley, *g*, fixed on the said shaft. When the shaft *f* is revolved, the rollers A B will be put in movement in the direction as denoted by the arrows in Fig. 4.

The carriage for introducing the sheet of metal into the bite of the rollers is represented at D, it being supported by wheels *h h*, resting on horizontal and parallel rails *i i*, each of which is arranged at right angles to the corrugating-rollers.

The mechanism for operating the said carriage may be thus explained: At each end of the shaft of the upper roller there is a cam, *k*, which has a curved slot arranged in it, as shown at *l l* in Figs. 2 and 3. A clamp-screw, *m*, extends through the said slot, and is screwed into the end of the shaft, and eccentrically with respect to the axis of the shaft. Each of the said cams *k* is spanned by a yoke, *n*, in manner and made as shown in Fig. 3, the said yoke being supported by and so as to be capable of sliding horizontally within bearings *o o*. Each of the yokes (there being two of them) has a rod, *p*, projecting from it, and furnished with a long screw, *q*, formed upon it. The said screw simply passes through but does not screw into an arm, *r*, extending from the carriage D, there being two of such arms, and they being arranged as shown in Figs. 1, 3, and 4.

There are two nuts, *s t*, screwed on each screw *q*, and with respect to the arm *r* thereof, as shown in Figs. 3 and 4. By means of the said arms *r r*, screws *q q*, and the nuts *s t* the carriage may be adjusted either into or out of parallelism with the said rollers.

The arrangement and application of each of the cams *k*—that is, its being arranged eccentrically with respect to the shaft to which it is affixed, and its application to the shaft by means of a slot and a clamp-screw enables the cam to be adjusted at any time so as to cause the carriage to properly introduce the sheet of metal into the bite of the corrugating-rollers.

The next portion of the machine—viz., the

mechanism for gaging the sheet of metal or determining its correct position on the carriage—I shall now proceed to describe.

Two arms or fingers, *u u*, extend upward from the front ends of two rock-shafts, *v v*, at whose other ends there are cranks *w w*, the said parts being arranged relatively to one another and within the machine, as shown in Figs. 1, 3, and 4 of the drawings. A heavy bar or weight, *x*, is suspended by staples from the wrists of the two cranks, and at one end rests against a retainer or curved bar, *y*, which is represented in the drawings as affixed to the inner side of the rim of the gear *c*. The said retainer in length is about two thirds that of the said rim, and is parallel to the wheel. At one end the retainer slopes down to the wheel, or terminates in a cam, *z*. (See Fig. 1)

The carriage should have reciprocating intermittent movements—that is to say, it is to be moved forward toward the rollers—and, next, for a short period—that is, long enough for the sheet to be drawn away from it—the carriage is to remain at rest. Next, the carriage is to be retracted or moved in an opposite direction, and is next to remain at rest long enough for a workman to lay or properly place and adjust a sheet on it. While the carriage may be in its rearmost position, and at rest, the fingers or arms *u u* should stand vertically, or nearly so, and extend above the plane of the top surface of the carriage, and they should so remain until after the sheet may have been placed and adjusted on the carriage, which having taken place, the said arms should be moved into an inclined position, and so as to be below the top surface of the carriage. In placing the sheet on the carriage, the attendant is to force the sheet forward thereon until its front edge may abut against the two arms, they serving to define the correct position of the sheet on the carriage. After the descent of the arms may have taken place the advance movement of the carriage should follow.

The cam *z* serves to so move the weight *x*

as to depress the arms *u u*, the retainer *y* operating to maintain the said weight *x* stationary during the period in which the arms *u u* are to remain depressed. The gravitating power of the weight *x* operates to actuate the rock-shafts so as to raise the arms into their upright positions.

I claim as my invention—

1. An automatic combination or machine, consisting of the above-described elements, or their mechanical equivalents—viz., of, first, two fluted or corrugating rollers; second, mechanism for rotating such rollers; third, a carriage for supporting a sheet of metal to be corrugated and for introducing such sheet between the corrugating-rollers; fourth, mechanism for imparting the proper intermittent reciprocating motions to the said carriage; fifth, machinery for gaging the sheet of metal or determining its correct position on the carriage preparatory to the sheet being moved up to and introduced between the corrugating-rollers.

2. The arrangement and application of each of the cams *k* with respect to its corrugating-roller or the axis thereof, constructed and operating substantially as and for the purpose described.

3. In combination with the sheet-carriage *D* and the mechanism for imparting to it reciprocating intermittent movements, as described, (such mechanism being the cams *k k* and yokes *n n*,) a mechanism—viz., the screws *q q* and nuts *s s t t*—for adjusting the carriage into parallelism with the corrugating-rollers.

4. The combination for determining the position of a sheet of metal on the carriage *D*, the said combination consisting of the arms *u u*, the cranked shafts *v v*, the weight *x*, the retainer *y*, and the cam *z*, the whole being arranged and so as to operate substantially as hereinbefore specified.

THOS. W. H. MOSELEY.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.