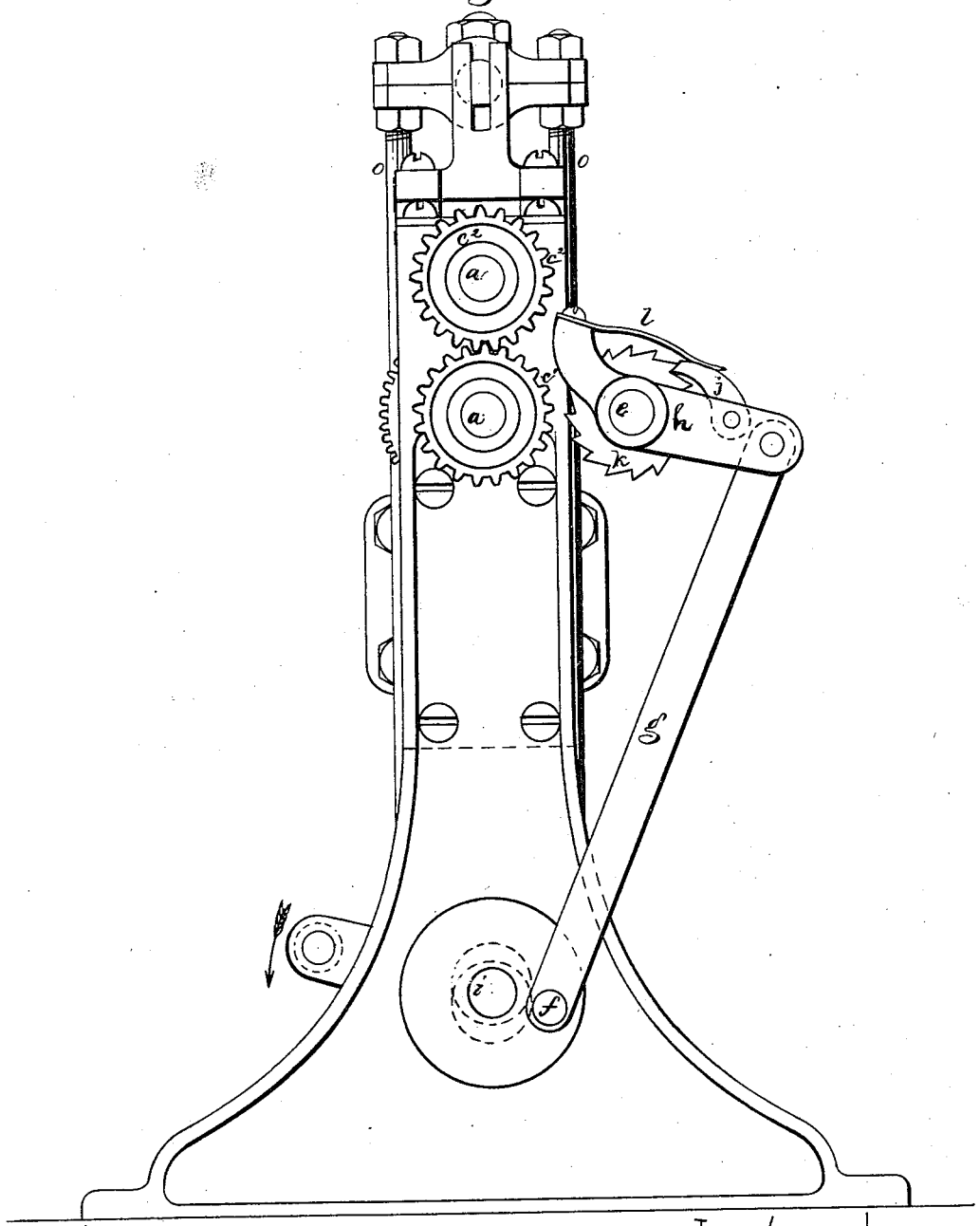
3 Sheets--Sheet 2.

B. F. STURTEVANT

Machine for Severing Sole-Fastening Webs.

No. 166,430. Patented Aug. 3, 1875.

Fig. 2.



Witnesses.
L. H. Latimer.
Wm. Pratt.

Inventor.
Benjamin F. Sturtevant
per Cosby & Gregory Attys.

3 Sheets--Sheet 3.

B. F. STURTEVANT.

Machine for Severing Sole-Fastening Webs.

No. 166,430. Patented Aug. 3, 1875.

Fig. 4.

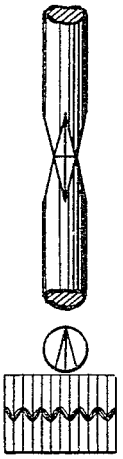


Fig. 5.

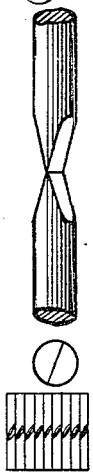
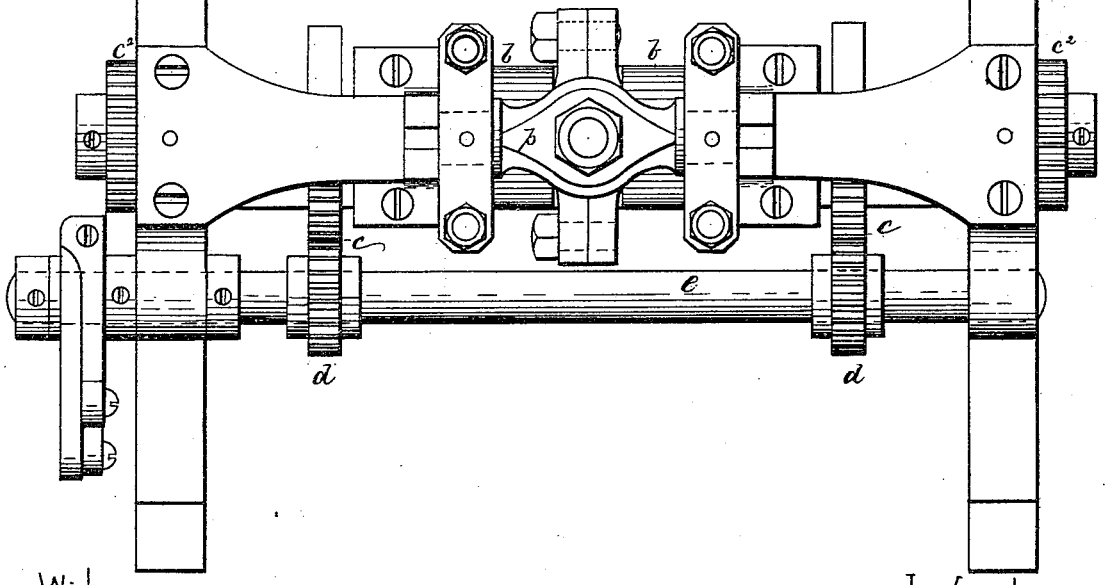


Fig. 6.

Fig. 3.



Witnesses.
L. H. Latimer.
Wm. Pratt.

Inventor.
Benjamin F. Sturtevant
per Cross by Gregory Atty's.

UNITED STATES PATENT OFFICE.

BENJAMIN F. STURTEVANT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR SEVERING SOLE-FASTENING WEBS.

Specification forming part of Letters Patent No. **166,430**, dated August 3, 1875; application filed March 17, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN F. STURTEVANT, of Boston, in the county of Suffolk and State of Massachusetts, have invented a Machine for Severing Sole-Fastening Webs, of which the following is a specification:

This invention relates to a machine for severing sole-fastening webs; and consists in mechanism for forming points or entering ends on the separate woof or weft parts of webs of sole-fastening material, the mechanism at the same time severing a web into two narrower webs.

The mechanism is shown in front elevation in Figure 1, in end elevation in Fig. 2, and in plan in Fig. 3, Figs. 4, 5, and 6 showing detached views of forms of cutters used to produce different shapes and arrangements of entering points or ends, and showing also the result of the action of such cutters on the sole-fastenings.

The material to be operated upon, whether of metal, fibrous matter, or ligneous or other suitable matter being arranged in webs of width sufficient when cut apart to form two narrower webs, in which the width corresponds with the desired length of the sole-fastenings to be produced, as explained and set forth in applications for Letters Patent of the United States heretofore made by me, is received between two pairs of properly-fluted feeding and carrying rolls, to which are given intermittent rotary motion, and between the ends of said rolls cutters are made to approach and to recede from each other intermittingly to cut assunder one (or in some cases more than one) part at each approach, the cutters operating to sever the material when the feed-rolls are at rest.

A suitable frame being provided, shafts *a a a a* are journaled therein, bearing on their inner adjacent ends the feed-rolls *b b b b*, fluted to correspond with the size and form of the sole-fastening material to be operated upon, and on the outer ends of said shafts are equal gears which give isochronal movements to the feed-rolls, said gears being driven through gears *c* c^1 c^2 from pinions *d d* mounted on shaft *e*. Commonly one machine will be adapted and proportioned to operate on webs of uniform width and of uniform sizes and shape; but the rolls may be made interchangeable for others adapted to different sizes, and the cutters may be made interchangeable with others. The rolls are preferably made long enough to receive the widest webs to produce the longest sole-fastenings used, and to prepare for operating on narrower webs any well-known form and method of adjustment of gages may be employed to keep the webs in the path required for action thereupon by the cutters in the proper line between the outer edges of the web. The rolls are preferably made with each one of each pair, properly fluted, as shown; but in some cases it will be sufficient to flute but one roll of each pair. One of the inner bearings of each pair of rolls has a slight yielding spring action to pinch the material and to accommodate slight variations in its size. The shaft *i*, to which power is applied in any suitable manner, is journaled in and near the base of the frame, and carries at one end a crank-pin, *f*, which works a connecting-rod, *g*, pivoted to a pawl-carrying lever, *h*, rocking on shaft *e*. The pawl *j* is pivoted to lever *h*, and is kept in mesh with the teeth of ratchet *k* fixed on shaft *e*, by spring *l* fixed on lever *h*, so that it will be obvious that constant rotation of shaft *e* gives through the mechanism described the desired intermittent motion to shaft *e*, which is imparted to the rolls *a a a a*, through mechanism before specified.

On the shaft *i* are made or fixed eccentrics or cranks *m m* and *n*, the former being alike as to throw and position, and arranged to work through the rods *o*, the cross-head *p*, which moves in suitable guides formed in the frame. The cross-head *p* carries the upper cutter *q*, guided in a socket, *r*, attached to the frame. The crank or eccentric *n*, through link *s*, works the cutter *t*, which is guided by socket *u*, in line with the upper cutter *q*. The arrangement of parts must be such that the feed movement of the rolls will take place while the cutters are sufficiently far apart to prevent their engagement with the weft. The adjuncts of this mechanism, not shown in the drawings, are a delivering-roll, on which the wide web is wound, and a take-up roll or rolls or reels arranged to deliver and take up the material, and in some cases it will be conven-

A. TITTMAN.

Electro-Magnetic Engines.

No. 166,431. Patented Aug. 3, 1875.

Fig. 1.

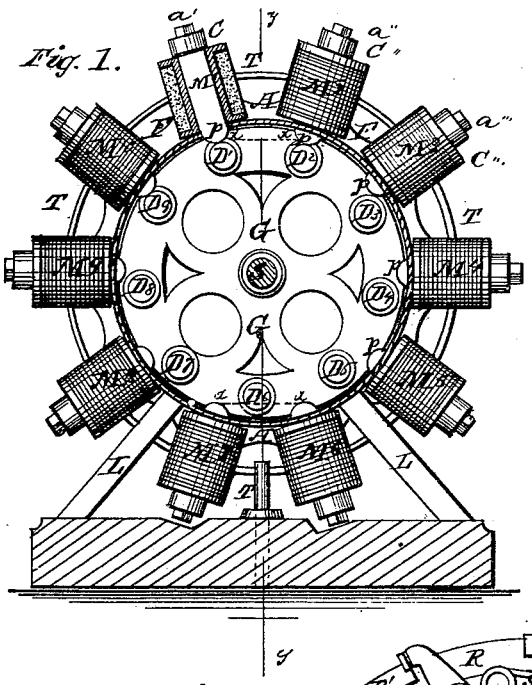


Fig. 2.

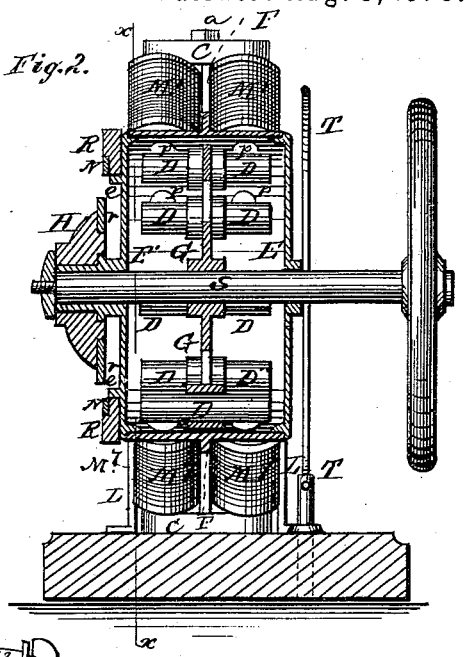


Fig. 3.

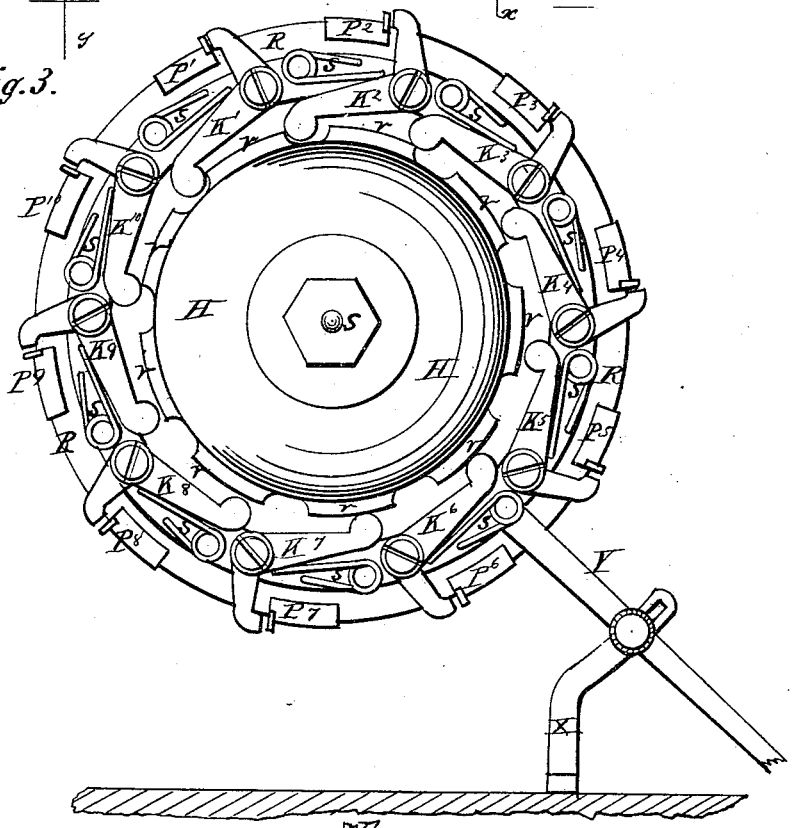
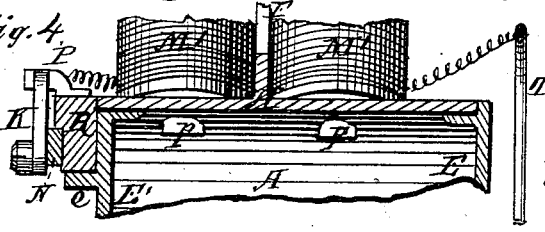


Fig. 4.



WITNESSES:

P. C. Dieterich.

W. C. McArthur.

INVENTOR:

A. Tittman

per: T. A. Alexander

ATTORNEY.