

(No Model.)

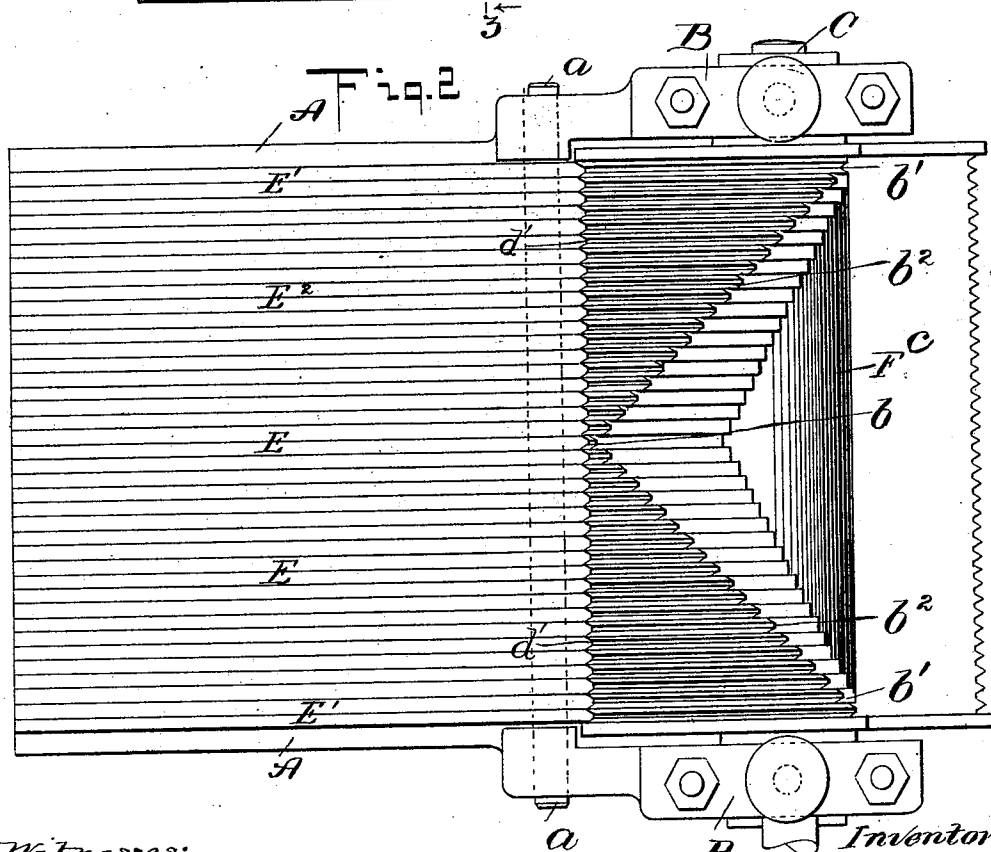
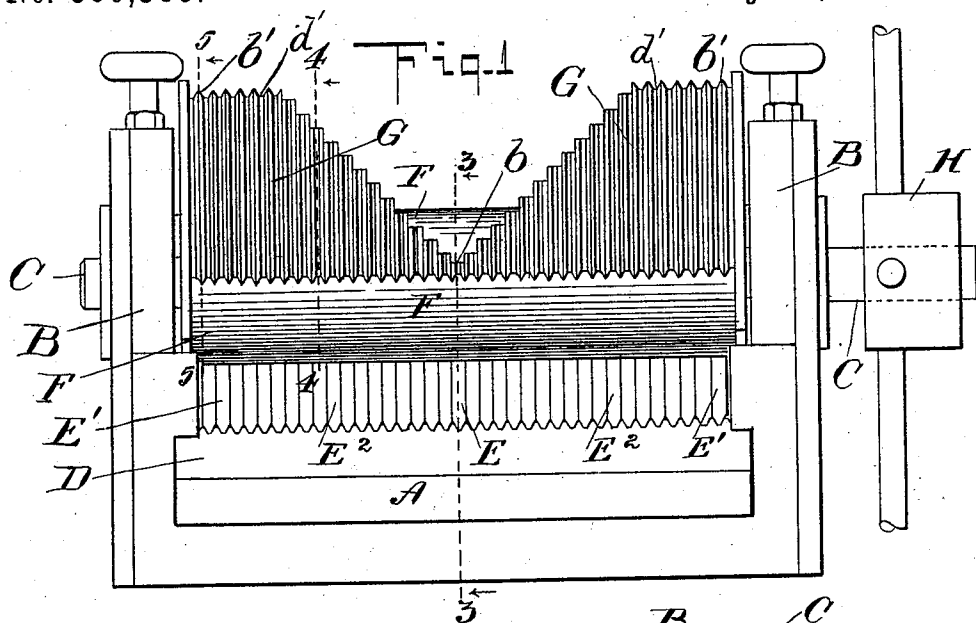
2 Sheets—Sheet 1.

R. PARKER & B. F. SUTTON.

MACHINE FOR CORRUGATING SHEETS OF RUBBER OR THE LIKE.

No. 560,365.

Patented May 19, 1896.



Witnesses:

Edmund A. France.

George Barry Jr.

 *Inventors,*
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Russell Parker & Benjamin F. Hutton.
by Attorneys,
Frederick Howard

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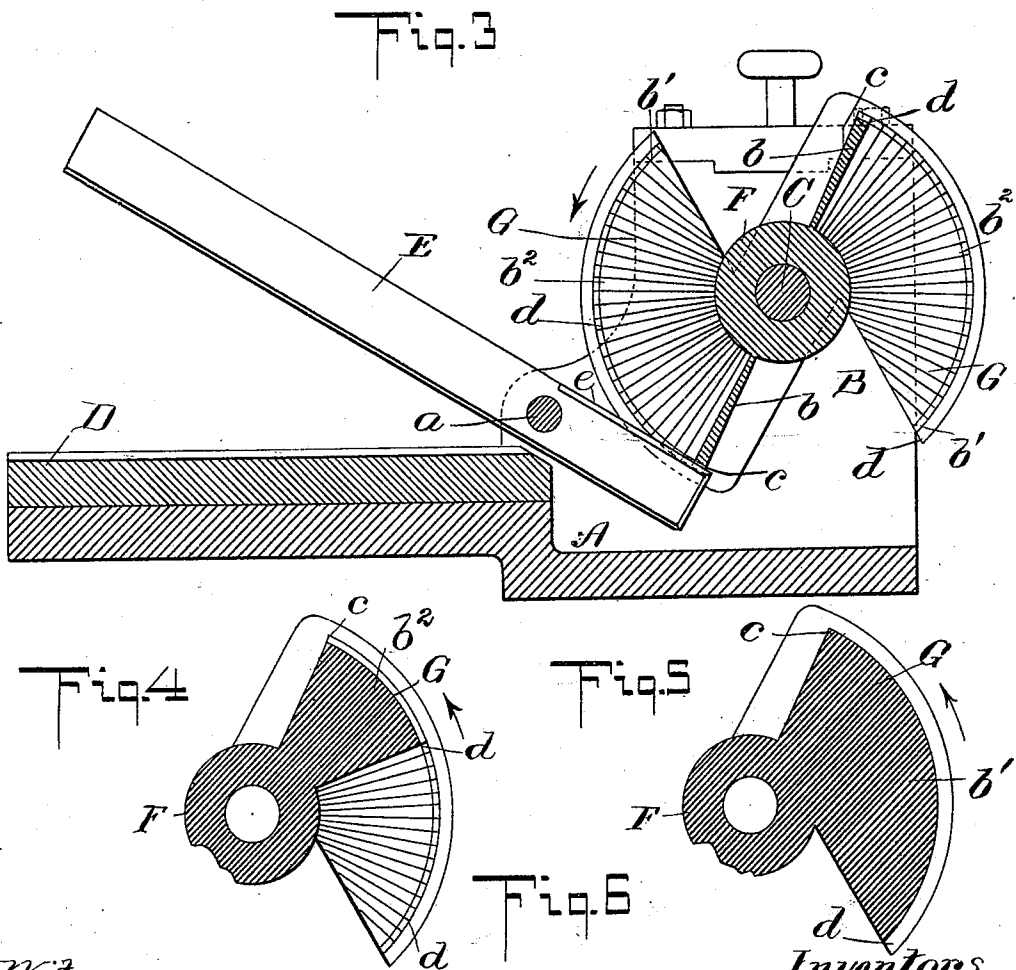
2 Sheets—Sheet 2.

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Patented May 19, 1896.



Witnesses:
Edmund A. Francis.
George Barry Jr.

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E. Russell Parker & Benjamin F. Sutton.
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UNITED STATES PATENT OFFICE.

RUSSELL PARKER AND BENJAMIN F. SUTTON, OF BROOKLYN, NEW YORK.

MACHINE FOR CORRUGATING SHEETS OF RUBBER OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 560,365, dated May 19, 1896.

Application filed February 21, 1896. Serial No. 580,146. (No model.)

To all whom it may concern:

Be it known that we, RUSSELL PARKER and BENJAMIN F. SUTTON, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Machines for Corrugating Sheets of Rubber or the Like, of which the following is a specification.

This invention is more especially intended for corrugating sheet-rubber, but may be used for corrugating sheets of other material or fabric.

The principal elements of a machine embodying the invention are a corrugated bed-plate and a series of corrugating-blades, which are pivotally attached to said bed-plate and whose edges conform to the corrugations of the said plate and which are all raised or moved back together from the said plate to allow the insertion between their edges and the said plate of a sheet to be corrugated and are afterward caused to come successively into operation on the said sheet to corrugate successively different portions thereof.

We will first describe the invention in detail with reference to the accompanying drawings of a machine in which it is embodied, and will afterward point out its novelty in claims.

Figure 1 represents a rear view of the machine; Fig. 2, a plan view of the same; Fig. 3, a central longitudinal vertical section of the same in the line 3 3 of Fig. 1. Figs. 4 and 5 are sectional views, taken on the lines 4 4 and 5 5, respectively, in Fig. 1, of one of the cams for tripping the corrugating-blades. Fig. 6 represents an end view of a corrugating-blade, illustrating a modification of the invention.

Similar letters of reference designate corresponding parts in all the figures.

A B designate the framing of the machine, consisting of a base A and two standards B, which contain the bearings for a shaft C. On the base A is firmly secured the corrugated bed-plate D, the upper face of which is corrugated according to the pattern of the corrugations to be produced in the sheets of rubber or other material, the ridges and furrows of the corrugations running in a direction transverse to the shaft C.

E E' E² are the corrugating-blades pivoted on a fixed shaft or pivot *a*, which is common

to all of them and which is supported in the standards B in front of the shaft C and over or behind the rear end of the plate D. These blades, projecting in front and rear of the shaft or pivot *a*, constitute levers, of which the shaft or pivot *a* is the common fulcrum. The said blades or levers are, as shown in Figs. 1 and 2, each of a width or lateral thickness equal to the combined width of a ridge and a furrow of the corrugations in the plate D. The transverse sectional form of the operative portions of their lower edges, which project in front of the shaft *a* and over the said plate, is such that when the said blades are all closely confined together side by side, as shown in Figs. 1 and 2, the combination of the transverse profiles of said edges correspond with the transverse profile of the plate D or with the corrugation to be given to the upper face of a sheet.

On the shaft C is a cam-body F, from which project in opposite directions two tripping-cams G for operating on the rear ends of the lever-like blades E E' E², to lift and drop the operative portions of the said blades. The said cams G are each composed of a series of sector-shaped leaves *b b' b²*, corresponding in width and number with the corrugating-blades and each ranging with one of the blades. The said leaves have their arcs of corresponding radius but of different length. Those ends *c* of the said leaves which are presented in advance as the cams rotate in the direction of the arrows shown in Fig. 3 are all on the same line parallel with the shaft, so that the cam-leaves operate on their respective blades E E' E² to lift all together from the plate D, so that the sheet to be corrugated can be laid beneath the blades upon the said plate, but the rear ends *d* of the said leaves occupy less or more advanced positions according to the length of their arcs, and the said leaves will liberate and produce the dropping of their respective blades one after another. In the example represented the shortest cam-leaf *b* is at the middle of the length of the cam-body and acts upon the central corrugating-blade E, and the longest cam-leaves *b'* are at the ends of the cam-body and act upon the outermost blades E' of the series, and the intermediate leaves *b²* are arranged in step fashion, as shown in Figs. 1

and 2, between b and b' , so that the central blade E will be first dropped and the others dropped in regular succession from the center to the sides of the plate D, so that they will commence the corrugating operation at the middle of the width of a sheet and proceed with said operation toward the sides and so allow the sheet to contract toward the middle as the corrugation progresses in such manner as to avoid its being torn or unduly strained.

In order to prevent any lateral movement of the blades when rising and falling or when raised, the edges of the cam-leaves are represented as made of V form in their transverse section, as shown at d' in Figs. 1 and 2, and the ends and rear portions of the upper edges of the blades are beveled, as shown at e in Fig. 3, to correspond with the said grooves.

Instead of the corrugating-blades being only of a width or thickness to produce one ridge and furrow of the corrugation at a time, they may be, as illustrated by E^3 , Fig. 6, of a width and form to produce two or more ridges and grooves at once, but we generally prefer the first-described construction. The shaft may be turned by a hand-wheel H or by power, as may be found desirable.

The number of cams G on the shaft C is immaterial to the invention. There may be one or more.

What we claim as our invention is—

1. In a corrugating-machine, the combination of a corrugated bed-plate, a series of lever-like blades arranged side by side over

said plate on a common fulcrum-pivot with their length parallel with the grooves and furrows of the bed-plate and each having that edge which is presented toward the said plate of a transverse sectional form corresponding with a portion of the profile of the corrugations of the said plate, and a rotary cam for operating on said blades to raise them from said bed-plate and to control their dropping successively toward said plate, substantially as herein described.

2. In a corrugating-machine, the combination of a corrugated bed-plate, a series of separate corrugating-blades pivoted side by side opposite said plate, and a rotary cam having several leaves arranged in step form for raising said blades together from the bed-plate and for dropping them successively, substantially as herein described.

3. In a corrugating-machine, the combination of a corrugated bed-plate, a series of separate corrugating-blades pivoted side by side opposite said plate, and a rotary cam having several leaves which coincide at their forward ends but have rearward projections increasing in step form from the middle to the ends of the cam for the purpose of raising the several blades together but of dropping them in regular succession from the middle to the outer ones, substantially as herein described.

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