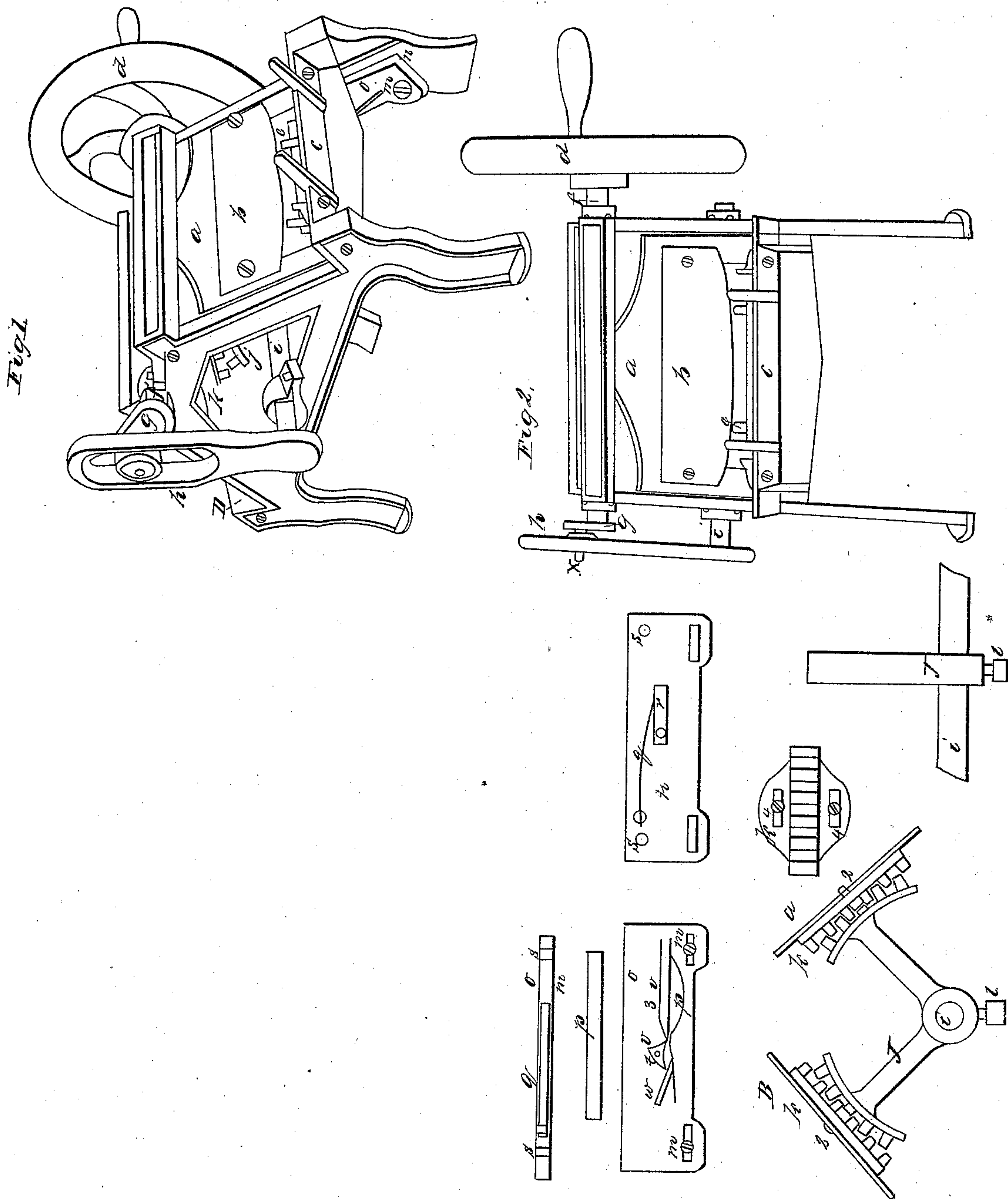


*Zchoch & Kiefer,
Cutting Shingles,
N^o 31,937, Patented Apr. 2, 1861.*



UNITED STATES PATENT OFFICE.

GUSTAVUS ZCHECH AND JACOB KIEFER, OF INDIANAPOLIS, INDIANA.

SHINGLE-MACHINE.

Specification of Letters Patent No. 31,937, dated April 2, 1861.

To all whom it may concern:

Be it known that we, GUSTAVUS ZCHECH and JACOB KIEFER, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Shingle-Machines; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 a transverse section.

The nature of our invention consists in a new device for cutting shingles on each side of the machine alternately with the revolution of the fly wheel, and in a provision for adjusting the knives after they have become much worn by continued use, also in the use of a vibrator of a different construction from those used in any other machine.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

We construct our machine with a frame sloped on both sides of its center (as shown at Fig. 1) at an angle of about forty five degrees, thus giving it the shape and capacity of a double acting machine.

The block to be cut into shingles is placed on the vibrating table (*e e*) and against the breast plate (*c, c*). Then by turning the fly wheel (*d, d*) the shaft (*f, f*) revolves and carrying with it the crank (*g, g*) and the pin (*x, x*) which works in the slotted yoke (*h h*) and the slotted yoke (*h, h*) being fastened on the shaft (*i i i i*) turns the section of wheel (*J J J*). This section of wheel (*J J J*) being fastened to the shaft (*i, i, i, i*) by means of the set screw (*l l*) has a rocking motion and working at the same time into the segments of cogs (*k k k k*) causes them to rise and fall alternately according to the revolution of the fly wheel (*d, d*), and the segments of cogs (*k k k k*) being bolted to the knife plates (*a a a*) and B by the adjusting screws (*2, 2*) give them the requisite motion for cutting the shingle.

(*k k k k*) is a segment of cogs in which are formed the two slots (*4, 4*). By this

provision we are enabled to adjust the knife plates (*a a a*) and B with ease after the knives have become worn much by use by taking out the screws (*2 2*) and setting them forward the distance of one tooth or more as may be required.

(*o o*) and (*n, n, n*) represent a vibrator fastened to the side of the machine and directly under the breast plate (*c*) Fig. 1. This is formed of two plates (*o o*) and (*n, n, n*) with a recess or space between them formed by the two studs (*s s s s*). Within this space is the flat spring (*q, q*) pressing on the lug (*r*) which works with and on the pin (*t t*).

(*v*) is a triangled guide one point of which connects with the point of the guide (*u*) and the pin (*3*) which is attached to the vibrating table (*e e*) passes along on the top of the guide (*u*) until it strikes the point of the guide (*v*), which being fastened on the pin (*t t*) turns around, permitting the pin (*3*) to pass between the points of the guide (*u*) and the guide (*v*) when it strikes the spring (*p p*) and passes between the spring (*p p*) and the guide (*w*). The guide (*v*) being connected with the lug (*r*) by the pin (*t t*) and the spring (*q q*) pressing on the lug (*r*) the guide (*v*) flies back to meet the point of the guide (*u*) when the pin (*3*) returns again passing under the guide (*v*), also along under the guide (*u*), when again it returns and passes between the top part of the guide (*w*) and the back part of the guide (*v*), then returning rises over the guide (*v*) and rests where it started from.

In addition to the advantage previously described in regard to the section of wheel and the segments of cogs there is another very important one to be taken into consideration. By this combination of parts we are enabled to regulate the stroke of the knives from seven inches to twelve inches, thus preventing the same from being any more than what is actually necessary to cut the shingle from off the block, while in other machines the length of stroke being always the same a portion of the knife must necessarily pass under the breast plate without cutting anything to make allowance for the wear of the knife. From this the advantage in this case by

shortening or lengthening the stroke of the crank (*g g*) must be perfectly obvious, since that if we have narrow lumber to cut we would desire to make short strokes and for
5 thick lumber long strokes.

What we claim and desire to secure by Letters Patent is—

The guide (*v*) working on the pin (*t, t*) when used for the purpose set forth.

GUSTAVUS ZCHECH.
JACOB KIEFER.

Witnesses:

CHARLES KIEFER,
EDWARD GUTH.