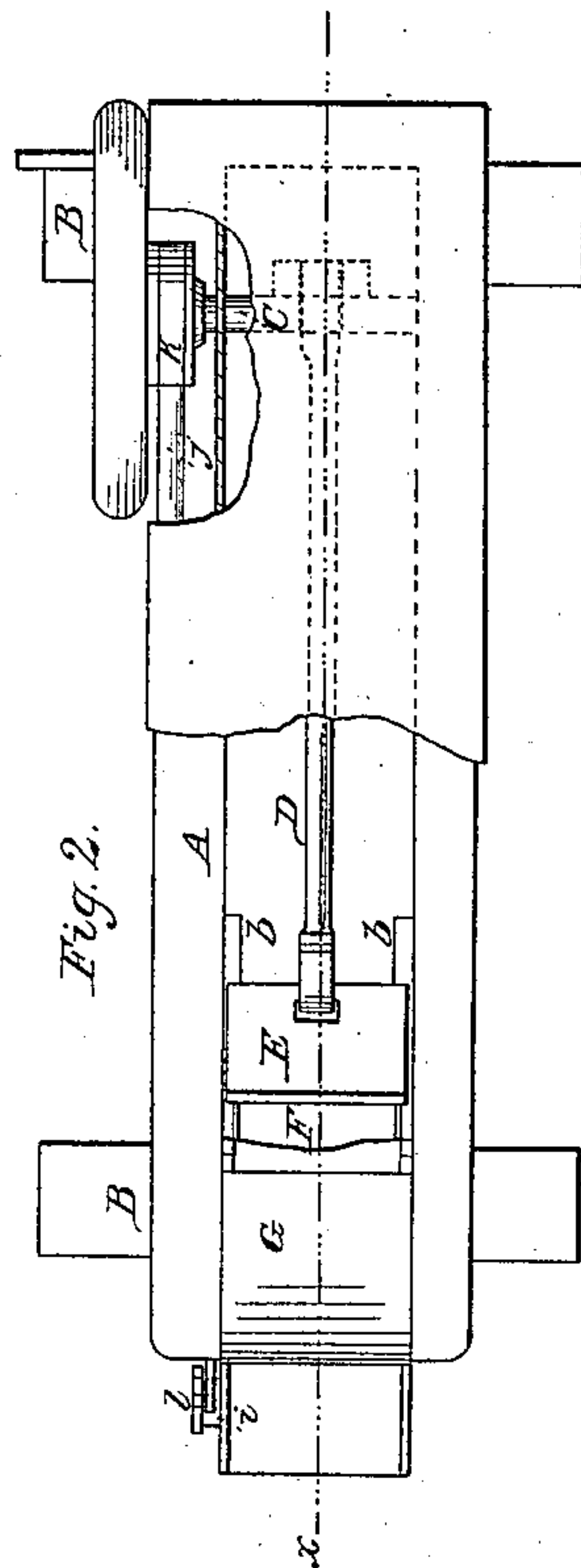
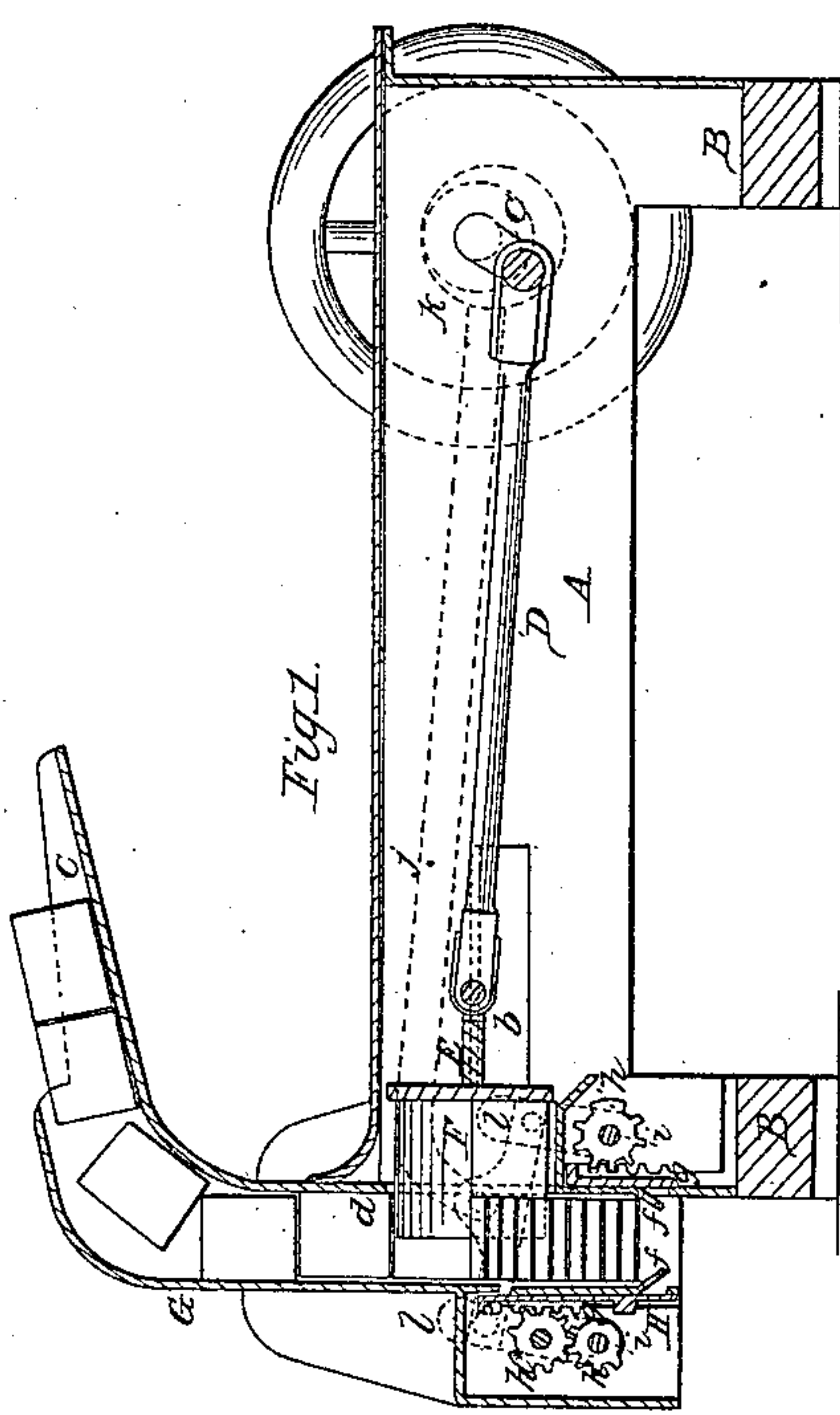
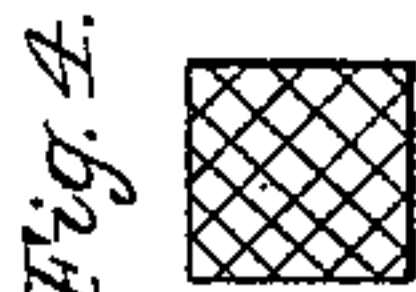
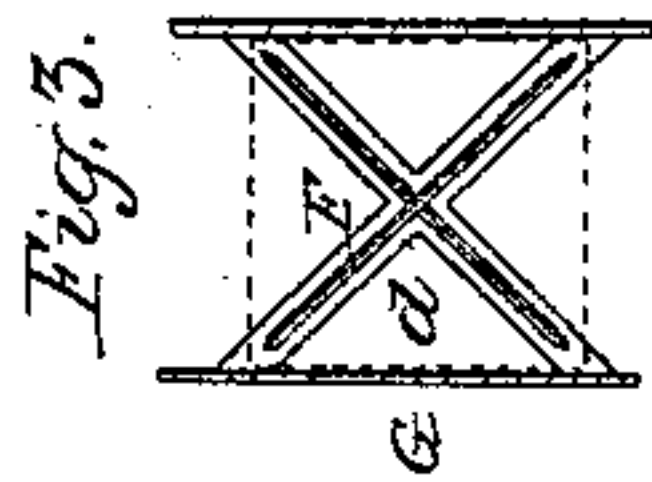


N^o 47,019,

Patented Mar. 28, 1865.



Witnesses.
M. M. Livingston
C. L. Topley

Inventor:
Johann H. Hildebrandt,

UNITED STATES PATENT OFFICE.

JOHAN HENRY HILDEBRANDT, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WOOD-SPLITTING MACHINES.

Specification forming part of Letters Patent No. 47,019, dated March 28, 1865.

To all whom it may concern:

Be it known that I, JOHAN HENRY HILDEBRANDT, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Machine for Splitting Wood; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same, partly in section. Fig. 3 is a detached face view of the knife and cleaving-plate. Fig. 4 is a diagram showing the manner in which the blocks are cut out.

Similar letters of reference indicate like parts.

This invention consists in the use in machines for splitting wood of a four-winged knife, the wings of which radiate from a common center, in combination with a suitable conductor, through which the blocks descend by their own gravity in such a manner that by the action of said knife the blocks are gradually cut up in three and four sided pieces of a convenient size for burning, and of such a shape that they can be conveniently banded.

The invention consists, also, in the application of a feeder composed of two reciprocating-toothed bars, in combination with the knife, in such a manner that when the knife is thrust forward, whereby the split portion of the wood in the conductor is separated from that which has to be split, the feeder is drawn up over the edge of the lowest pieces in the conductor, and as the knife goes back said feeder descends and pushes out one layer of split pieces, allowing the blocks to descend sufficiently far for a fresh cut.

A represents a box or frame, which is supported by suitable legs, B, and the sides of which form the bearings for the crank-shaft C. The crank *a* of this shaft connects by a rod, D, with the head E, to which the knife F is attached. Said head slides back and forth in suitable guides, *b*, and the knife is made

with four wings, which radiate from a common center, under an angle of forty-five degrees, or under any convenient angle, as clearly shown in Fig. 3.

The wood to be split is fed into a conductor, G, which rises from the end of the frame, forming a platform, *c*, on which the blocks are placed by hand, and its inner side, *d*, forms the clearing-plate, being provided with a cross-shaped slot, through which the knife passes. The blocks descend through the conductor by their own gravity, and they are exposed to the action of the knife gradually, so that the same are cut up in small triangular and quadrangular pieces of convenient size for burning and bundling, as shown in Fig. 4.

The requisite feed is produced by the feeder H, which consists of two toothed bars, *f*, to which a reciprocating rising and falling motion is imparted by suitable mechanism. This mechanism may be changed at pleasure, and I do not wish to confine myself to the precise arrangement shown in the drawings, though I will describe it in order to show how the motion is effected.

Each of the feed-bars *f* is conducted to a toothed rack, *g*, which slides up and down on the outside of the conductor, and to which motion is imparted by pinions *h*. These pinions are mounted on small rock-shafts *i* and on an axle. An intermediate pinion, *h**, is applied, so that the motion of both racks takes place in the same direction. The rock-shafts *i* receive their motion by a rod, *j*, which extends from an eccentric ring, *k*, on the crank-shaft to arms *l*, mounted on the ends of said rock-shafts, as shown in Fig. 1 of the drawings in dotted lines. These arms are provided with several holes, and by shifting the connecting rod from one hole to another the feed can be increased or decreased at pleasure.

When the knife is thrust forward, so that the same separates the split portion of the wood from that to be split, the feed-bars *f* are drawn up over the edge of the lowest piece or pieces of wood, the knife itself forming the resistance which prevents the pile of wood from receding upward, and as the knife begins to recede the feed-bars descend and push out of the conductor a sufficient quantity of wood,

or, in other words, the lowest layer, so that, the pile in the conductor descends for the distance of a new cut.

By this arrangement the blocks are cut up in regular pieces of a convenient size for burning and of the best possible shape for bundling.

I claim as new and desire to secure by Letters Patent—

1. The combination of the conductor G, through which the blocks descend by their

own gravity, and the inclined-plane knife F, constructed and arranged to operate as specified.

2. The feeder H, constructed substantially as herein specified, and operating in combination with the conductor G and knife F, in the manner and for the purpose described.

JOHAN H. HILDEBRANDT.

Witnesses:

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