H. H. Ricketson,

Machine for Cutting up Whale Blubber.

No. 9,478. Patented Dec. 14, 1852.

Fig. 6.

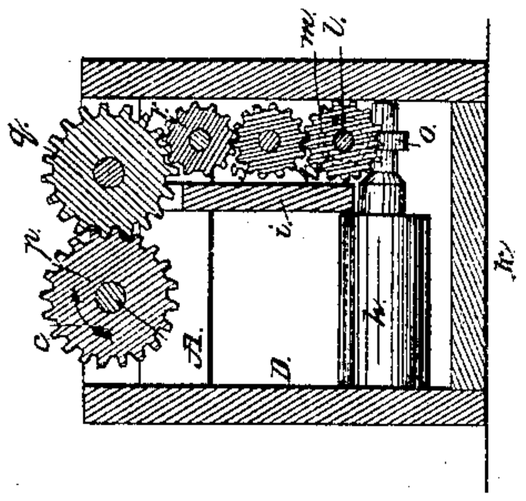


Fig. 3.

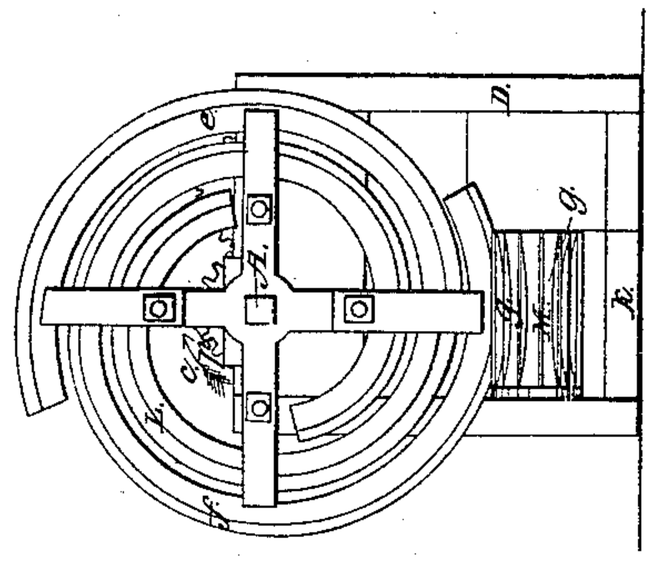


Fig. 5.

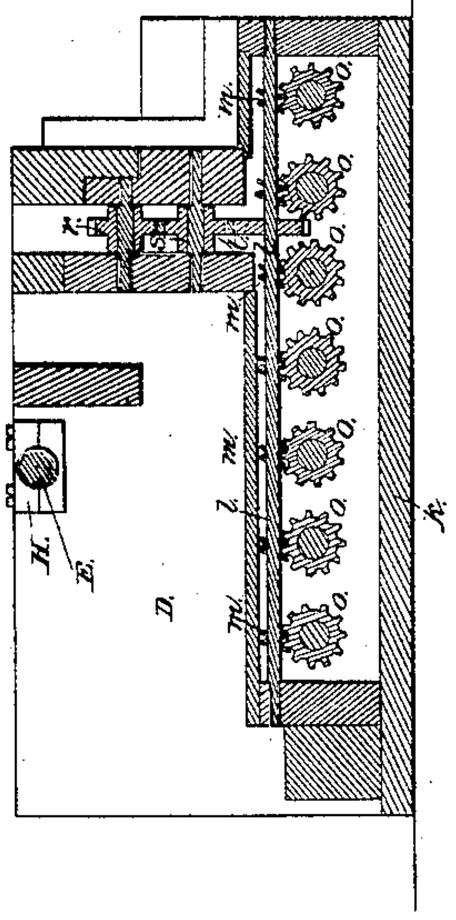


Fig. 4.

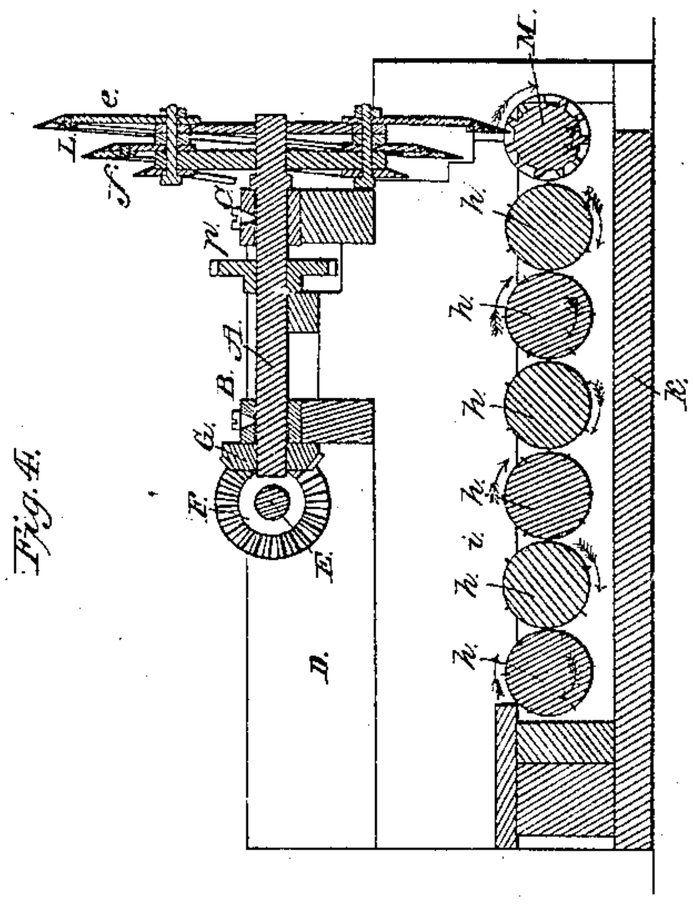


Fig. 1.

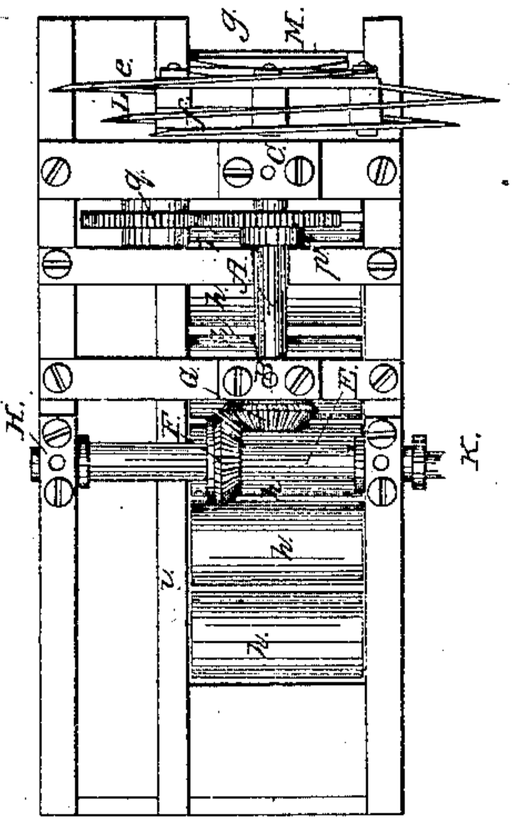
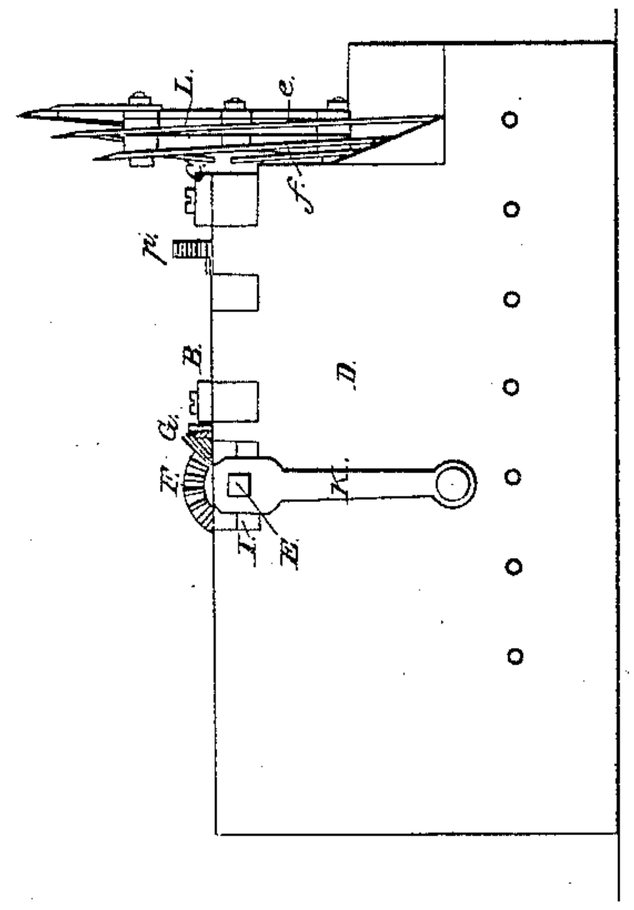


Fig. 2.



UNITED STATES PATENT OFFICE.

LYDORIANN RICKETSON, (ADMINISTRATRIX OF HENRY H. RICKETSON,) OF NEW BEDFORD, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CUTTING WHALE-BLUBBER.

Specification forming part of Letters Patent No. **9,478,** dated December 14, 1852.

To all whom it may concern:

Be it known that HENRY H. RICKETSON, late of New Bedford, in the county of Bristol and State of Massachusetts, but now deceased, did while living invent a new and useful or Improved Machine for Cutting up Whale-Blubber; and I, LYDORIANN RICKETSON, administratrix of his estate, do hereby declare that the said machine is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a top view of the said machine. Fig. 2 is a side elevation of it. Fig. 3 is an end elevation of it. Fig. 4 is a vertical and longitudinal section of it, taken through the shaft of its spiral cutting-wheel. Fig. 5 is a vertical and longitudinal section of it, the said section being taken through the worm-shaft of the feed-rollers. Fig. 6 is a transverse and vertical section taken through the train of gears that connect the main shaft and worm-shaft.

In the said drawings, A represents the main shaft, which is supported and made to revolve in suitable bearings or boxes, B C, arranged at the top part of a box or frame, D. This shaft is connected with another shaft, E, by means of two bevel-gears, F G, fixed on them, respectively, as seen in the drawings.

The latter shaft revolves in bearings H I, and has a crank, K, fixed on one end of it, for the purpose of enabling a person to put it in rotation, and thereby impart to the first-mentioned shaft a rotary motion in the direction denoted by the arrow *c*.

On the outer end of the main shaft A is a spiral cutting-wheel, L, formed of two or more knives, *e f*, arranged in a spiral around the shaft, as seen in the drawings, the external edge of each of these knives being ground sharp and made to continually increase in distance from the axis of the shaft as it winds around it. This spiral knife or wheel of spiral knives acts in conjunction with a fluted bed wheel or roller, M, placed under it and with its axis horizontal and standing at right angles with the axis of the shaft. Each of the flutes *g g* of this roller is made deeper in the middle than at the two ends, and it is so curved from the middle toward the ends as to correspond, or approximately correspond, to the curve of the knife-edge.

In rear of this roller, and within the box, is a series of feed-rollers, *h h h*, which feed-rollers are made with projecting points on their external curved surfaces. They are placed between one of the sides of the box, and a partition, *i*, carried longitudinally through it, which partition serves, in connection with the said side, to guide the strip of blubber toward the cutting-wheel.

The rollers are raised above the bottom *k* of the box, so as to allow the oil that passes out of the blubber or may drop from it while it is passing over the rollers to pass down between the rollers and drop upon the bottom of the box, and be discharged out of its front end or some other proper part of it.

Between the said partition and the other side of the box there is what may be termed the "worm-shaft" *l*, there being a series of worms or endless screws, *m m m*, fixed on it, which are made to engage respectively with a series of worm-gears, *o o o*, fixed upon the axles of the feed-rollers and bed-roller.

There is a spur-gear, *p*, fixed upon the main shaft A, which is made to put the worm-shaft in motion by means of a train or series of gears, *q r s t*, the gear *t* being fixed upon the worm-shaft, so that when the cutting-wheel is put in motion the several feeding-rollers and the bed-wheel will be also put in rotation in the direction denoted by the arrows thereon.

In the process of removing blubber from a whale it is generally taken from him in the shape of a strip, which is cut or peeled from the whale in a spiral or helix extending around him from head to tail, the carcass being rolled over and over during the process of cutting and removing the blubber from the whale. This piece generally varies from nine to eleven inches in thickness, and is very tough and firm in its consistence. These long strips are termed by whalers "blanket-pieces," and they are usually cut up or reduced into what are termed "horse-pieces," which are themselves reduced or sliced so as to become what are termed "books," which, when formed, are pitched into a large tub, where they are boiled for the purpose of removing the oil.

The operation of reducing the blanket-pieces

to horse-pieces, or cutting them up by lateral cuts through them is performed by the machine in question, and for this purpose it is necessary that the knives should cut with a drawing stroke, and that the cutting-edge should advance in the direction in which the blanket-piece may be in movement; otherwise it could not cut the blanket-piece in the required manner. If a cutting-wheel composed of a single plane plate be used, the forward movement of the blanket-piece would have to be stopped during the time the knife was passing through a strip of blubber. As soon as one of the spiral slicing-knives above mentioned has passed through the blubber from one side of it to the other, the other one takes it in rear of the cut so made and makes another drawing and gradually-descending cut through it.

The improved machine is found very useful on shipboard, as by putting the cutter-wheel in motion or revolution it continually cuts the slices with a drawing and descending stroke, while they continue to move forward without any interruption in their motion. While one of the knives in its passage across the fluted roller under it works into and through one of the flutes from end to end of it, the other knife, during its passage over and down upon the roller, will work in a similar manner into the next succeeding flute.

I am aware that in machines for cutting straw or such like matters a cutting-cylinder has been made to operate on a bed-roller, and that the knives on the said cutting-cylinder have been arranged in a helix upon it. It is not claimed that such constitutes, in any respect, the invention of the said RICKETSON, deceased; but

What is claimed is—

The wheel composed of two or more spiral knives made to rotate on an axis arranged parallel and in the direction of movement of the strip of blubber to be cut, all substantially as above set forth, meaning to claim two or more spiral knives formed, arranged, and made to operate with respect to and in combination with a set of bed and feed rollers, substantially in the manner, and for the purpose of cutting blubber, substantially as above described.

In testimony that the above is a true description of the aforesaid invention of the aforesaid RICKETSON, deceased, I, LYDORIANN RICKETSON, administratrix of his estate, have hereto set my signature this 24th day of August, A. D. 1852.

LYDORIANN RICKETSON.

Witnesses:

JAMES L. JENNEY,

ALBERT D. HATCH.