

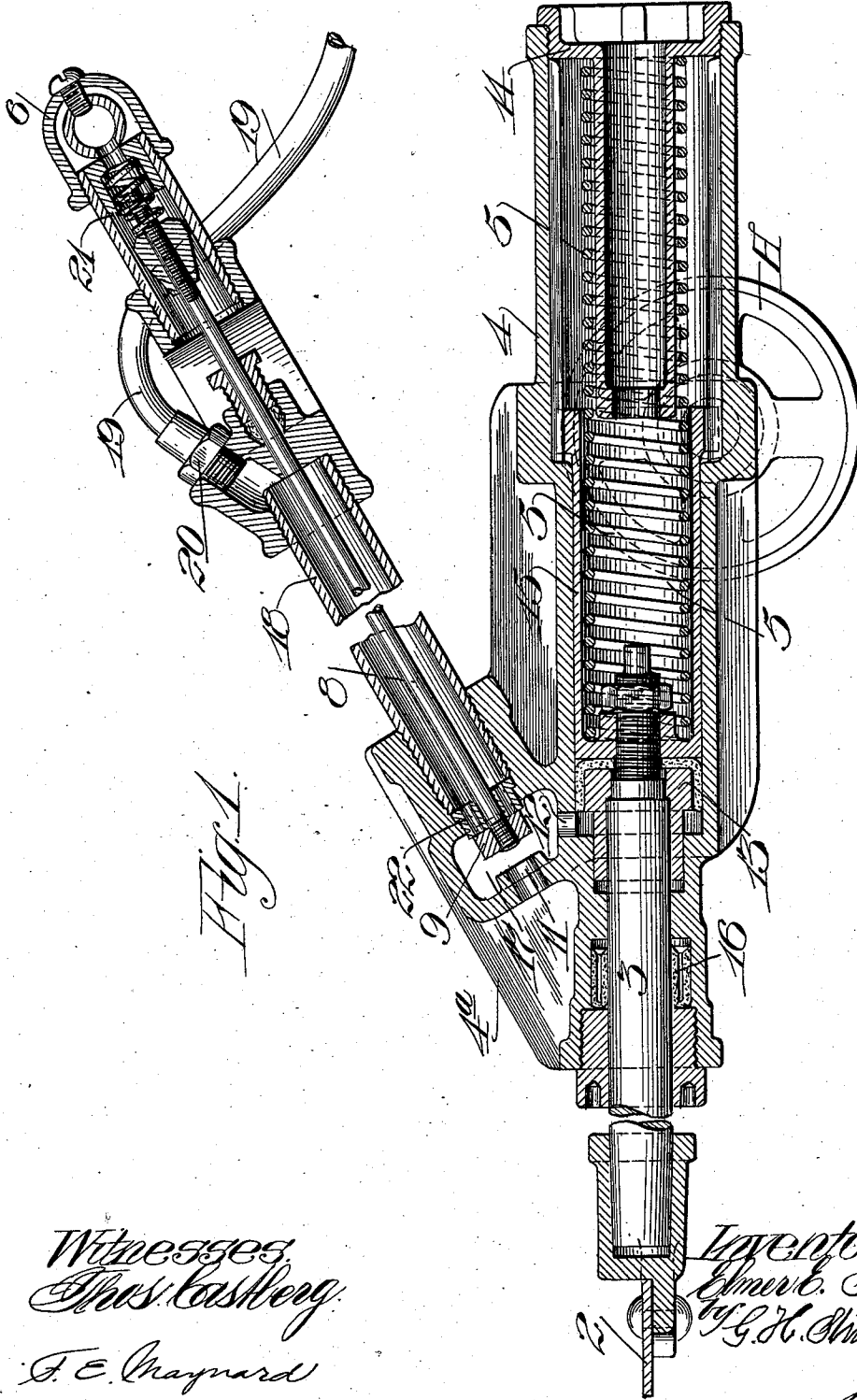
E. E. PAXTON.
CANE CUTTER.

APPLICATION FILED MAY 9, 1911.

Patented June 4, 1912.

2 SHEETS-SHEET 1.

1,028,486.



Witnesses
Thos. Kashberg
J. E. Maynard

Inventor
E. E. Paxton
by G. H. Strong
his Atty

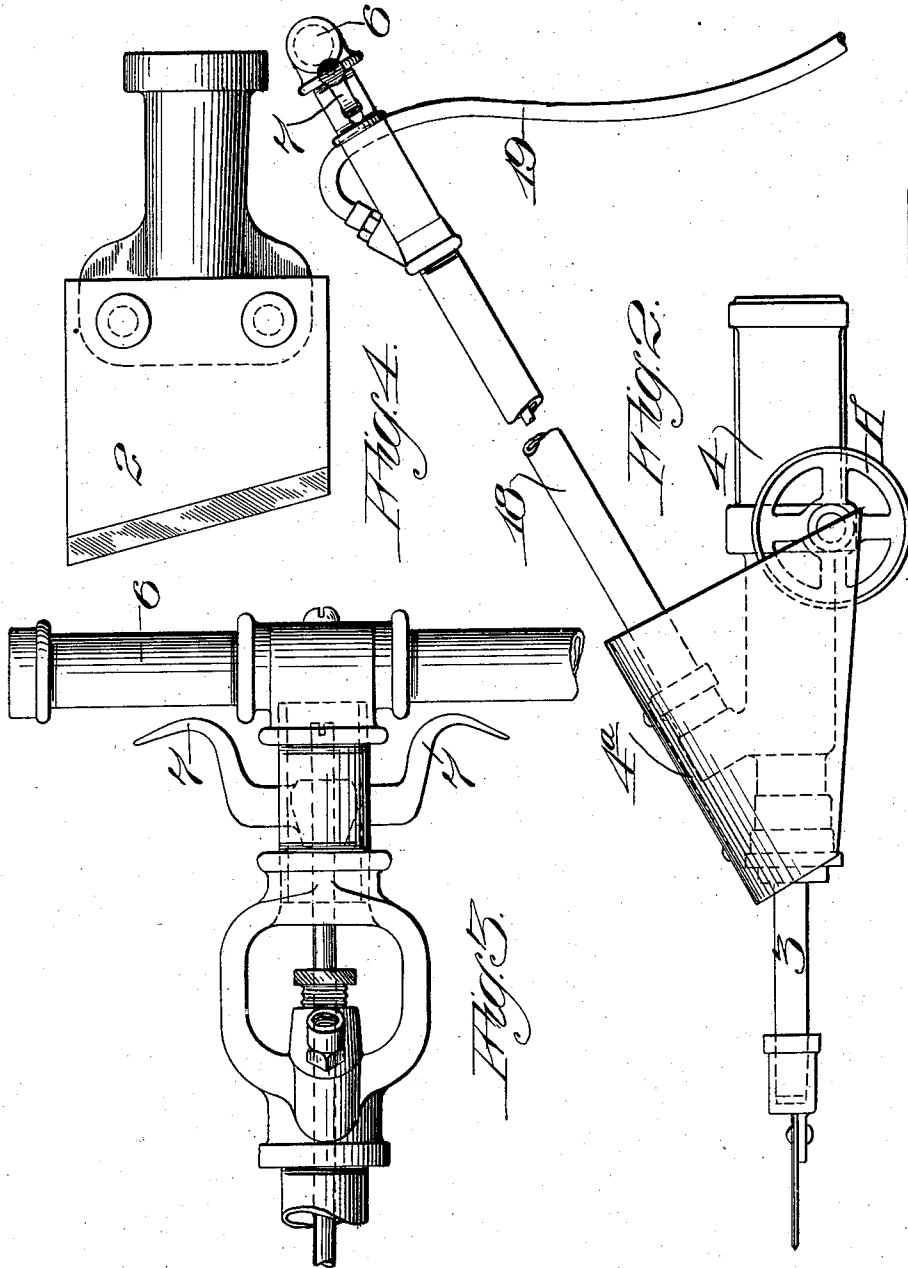
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UNITED STATES PATENT OFFICE.

ELMER E. PAXTON, OF HONOLULU, TERRITORY OF HAWAII.

CANE-CUTTER.

1,028,486.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed May 9, 1911. Serial No. 626,031.

To all whom it may concern:

Be it known that I, ELMER E. PAXTON, a citizen of the United States, residing at Honolulu, in the county of Honolulu and Territory of Hawaii, have invented new and useful Improvements in Cane-Cutters, of which the following is a specification.

My invention relates to an apparatus which is especially designed for cutting sugar cane or like stalks which it is desirable to sever closely to the ground.

It consists of a spring-actuated, reciprocating cutter mounted so as to be portably moved along the rows and with proper relation to the work to be done, and in conjunction therewith, of a means for retracting the cutter and compressing the spring, releasing the same to allow the cutter to act; the whole being also portable and instantly adjustable to suit irregularity of the surface and the position of the work to be done.

It consists in the combination of parts and details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a vertical section. Fig. 2 is a side elevation of the machine. Fig. 3 is a plan view, showing the guiding handle and valve actuating triggers. Fig. 4 is a view of the cutter.

The object of this invention is to provide a powerful cutter for severing sugar cane from the ground.

The apparatus includes a structure in which there is a substantially horizontal spring containing case 4 and an inclined angularly placed portion 4^a which carries the tubular air shaft and the guiding handle. This structure is mounted upon a pair of wheels, as at A, and being properly balanced upon these wheels, it may be tilted by means of the handle 6 or turned from side to side while the apparatus is being pushed along between the rows of cane.

The cutter 2 is a powerful blade, preferably having the cutting edge inclined transversely. This is carried by a piston or plunger 3, which is slidable within the cylinder casing 4; the rear portion of said casing containing a powerful spring 5, the rear end of which may abut against the head of the cylinder, as at 14, and the other end extending into a tubular portion 15 which is movable within the cylinder 4. This has an inner head and a plunger or piston 13, into which the shank 3 of the cutter is secured

so that it may be reciprocated, as will be hereafter described.

The piston is packed to be fluid-tight and the packing 16 around the piston rod insures a fluid-tight movable joint at this point. The part 4^a contains a valve chamber 17 within which is a valve 9 closable upon a discharge port or seat 11.

12 is a port opening between the valve chamber 17 and the interior of the part 4, with such relation to the piston 13 that when air or other fluid under pressure is allowed to enter this chamber, the piston 13 will be retracted against the spring 5 and the latter will thus be compressed to any desired degree. The spring may be held, if desired, by a latch, but I have here shown it as being temporarily held in its retracted position by the pressure of the air as above.

The air is admitted into the chamber 17 through a tubular shaft 18, which extends in line with the angular portion of the apparatus, and which tube also carries the operating handle 6 which is fixed transversely and through which movements of the apparatus are controlled. Air is admitted into this tube 18 preferably through a flexible connection, such as the hose at 19, and the source of this compressed air may be an air compressor driven by gasoline or other engine mounted on a truck, which may also carry tanks for the gasoline, water, etc., in any usual or suitable manner not here shown. The hose lines 19 may be employed as necessary, connecting with several of the cutters, so that a considerable extent of territory may be covered and the cutters operated from a single motor.

The air admitted through the pipe or hose 19 passes through a nipple or connection 20 into the chamber 18, and its admission into the valve chamber 17 is controlled by the valve 9. This valve is fixed to a stem or rod 8, which extends up through the tubular chamber 18 and is normally closed by the action of the spring, as at 21.

7 are levers or triggers connected with the valve stem 8 and having their outer ends contiguous to the handle 6, so that by these triggers the valve stem 8 may be actuated to open the valve 9 so as to admit compressed air through the port 12 behind the plunger or piston 13 and thus retract the cutter against the tension of the spring 5. The opening of this valve 9 for admission of air through the ports 22 and 12 at the same in-

stant closes the discharge port 11 which connects with the opposite side of the valve chamber 17; a suitable seat for the valve being provided at this point. The cutter is released and the spring allowed to force it forward whenever the cutter is in the desired position with relation to a stalk to be cut; thus the reciprocations of the valve will alternately allow the spring to be compressed, the cutter retracted and the release of the spring allows the cutter to be impelled forward with sufficient force to cut stalks of any size.

The engine or motor and its truck may be hauled by animal power, and the lengths of hose, which may be made up to seventy-five feet, if desired, will enable the apparatus to cut a swath 150 feet wide, thus rapidly harvesting the crop.

The small wheels upon which each of the cutting structures is mounted, serve as a fulcrum allowing the cutter to be raised or depressed, or turned to one side or the other by the movement of the handle guided by the operator. Thus, stones or rough places in the ground may be avoided and the cutter always brought to the point where the canestalk emerges from the ground so that the entire stalk will be cut, which is absolutely necessary in an apparatus of this kind.

It will be understood that the cutting blades are removable, and that they may be of different forms to suit different conditions which may arise.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A cane and stalk cutter, including a substantially horizontal, cylindrical chamber and a divergently inclined connection therewith, a piston and spring located in the first named chamber and a cutter and shank connected therewith, an air supply connection with the inclined portion of the apparatus, a valve chamber contiguous to the junction of the two parts with an inlet port to the piston chamber and an exterior discharge port, a valve controlling said ports, a steering handle, and a lever mechanism contiguous thereto whereby the valve may be opened and closed to actuate the spring and cutter.

2. A cane and stalk cutter, consisting of

a substantially horizontal tube and a divergently inclined tubular connection therewith, wheel supports therefor, a cutter, the shank of which is reciprocable in the horizontal tube, a piston and a hollow shell fitting said tube and with which the cutter shank is connected, a spring inclosed within the tube and shell, an air pressure supply connected with the inclined tube, a valve controlled port at the junction of the convergent tubular members, by which air is first admitted to retract the piston and compress the spring and then released to allow the spring to act.

3. A portable cane and stalk cutter, comprising a horizontal tube and a divergently inclined tubular connection therewith, a spring-impelled cutter, having a shank operable in said horizontal tube, an air pressed retracting piston operating in the horizontal tube and acted upon by the spring, said inclined tubular connection and said horizontal tube having ports at their junction, and a valve chamber and valve in the inclined tubular connection whereby air may be alternately admitted and exhausted, said valve having a stem, levers by which the stem and valve may be moved, and a guiding handle contiguous to the levers whereby the stem may be manually reciprocated.

4. A cane stalk cutter including convergent cylindrical tubes mounted upon bearing wheels, one of said tubes being horizontally disposed, and outwardly acting blade with guided shank and a plunger movable in the horizontal tube, a spring contained in said tube adapted to impel the cutter, a compressed air supply to the inclined tube, a valve chamber located at the junction of the tubes, having alined inlet and discharge ports, and a port to the plunger chamber, a guiding handle at the upper end of the inclined tube, movable levers contiguous to the handle, a slidable stem, and a valve actuated thereby to simultaneously open or close the inlet and discharge ports and connect either with the plunger chamber.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ELMER E. PAXTON.

Witnesses:

A. M. LOWELL,
E. F. MELANPHY.