8429X

Sheet 1 - 2 Sheets

# S. Ustick,

**No Printed Specification Available**

## Straw Cutter,

Patented Oct. 3, 1834

Fig. 1

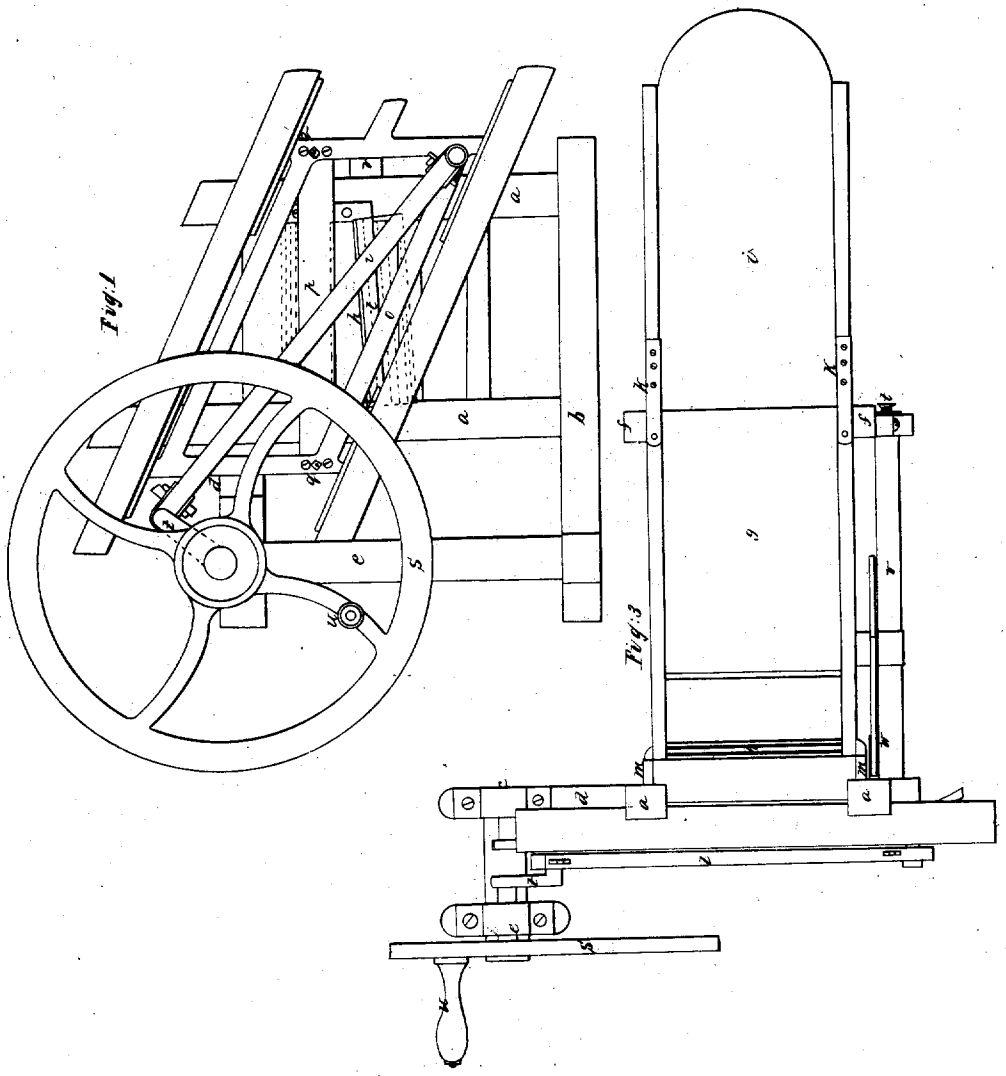


Fig. 3



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

No Printed Specification Available

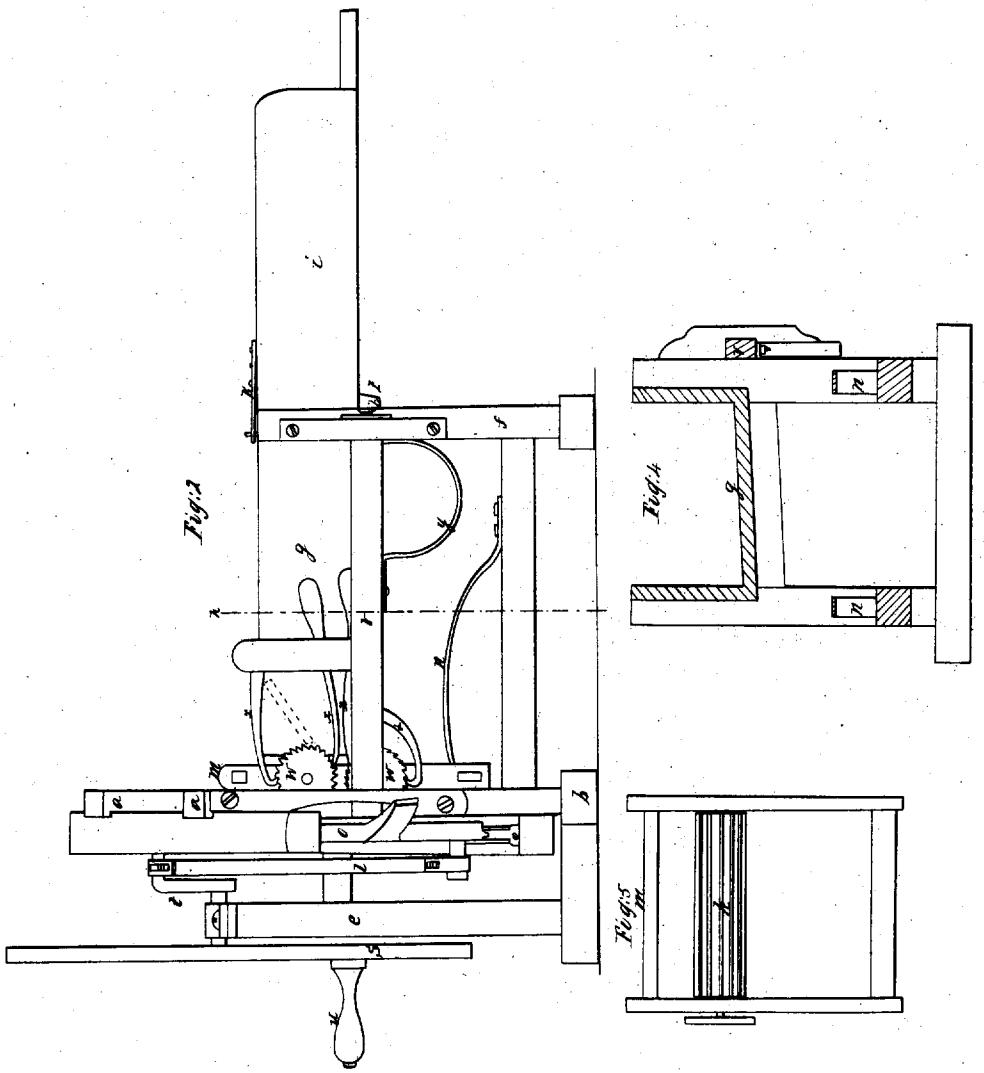
8429X

Sheet 2 - 2 Sheets -

# S. Ustick,

## Straw Cutter,

Patented Oct. 3, 1834.




N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

8429X

# Stephen Ustick's Strawcutter

The Schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said Stephen Ustick, himself of his improvement in the Strawcutter, called Stephen Ustick's Strawcutter

To all to whom these Presents shall come;

Be it known, that I, Stephen Ustick of Philadelphia in the county of Philadelphia, state of Pennsylvania have invented a new and useful improvement on the strawcutter, and that the following for cutting, straw, hay and cornstalks called Stephen Ustick's Strawcutter, and that the following is a full and exact description of the construction & operation of the said Machine as invented or improved by me

In the first place I have a frame constructed as follows - Two posts which I call the front trough posts, are framed into a base piece, one foot asunder, said base piece extends beyond the right hand post, and has a post which I call the first crank post framed into it 6 inch from said post, the first crank post is framed at top into one end of a rail, which is framed at its other end into the right hand trough post above specified - This rail serves as a foundation for a gudgeon box of the crank which is described below. The other gudgeon box of the crank rests on a cap of a post which I call the second crank post, which is in front of the first one and connected by two rails one near the bottom of the posts and the other a few below the top, as to allow the cranks above specified to work above it - There are two posts which I call the back trough posts framed into a base of the same distance asunder as the front trough posts and are connected above by a rail on which the back end of the trough is nailed - The back trough posts are framed below on one

8199X

and of two rails which are framed at their other end into front trough
posts. The sides of the trough are framed into the front trough posts
at one end and nailed at their other end on the inside edges of the back
trough posts, the said posts being cut out the thickness of the sides to
receive them. The bottom of the trough is in a horizontal position length-
wise. The right hand edge is one inch lower than the left hand one. It
extends from the back of the sides of the trough to a fluted cast iron
feed roller in front, whose gudgeons turn in the side of the trough just
behind the front trough posts. The top of said roller extends 1 inch
above the bottom of the trough. The sides of the trough are tapered
from the said feed roller to their back end, to make the trough wider
behind than before. This trough is only 2 feet in length. I extend
the trough 2 feet 6 inch. further by having a separate trough to
fit at front to its back, and fastened thereto by having strips of
iron fastened on the top edges at front which extend over the top
of the back trough posts and fit by means of holes in their front
ends on iron pins which are permanent in the ends of the posts
and by a strip nailed on the back of the front trough at the sides
and bottom. The trough is made in two pieces as described above
for the purpose of the back part being taken off, when the machine
is not in use, so that the machine may then take up but little
room. There is an opposing edge fastened on the mouth of the
trough by means of screws, it consists of a bottom and 2 uprights
therefrom, the screws are in the uprights. The top of the bottom
part of said edge ranges with the top of the feed roller above spo-
ken of and is of the same height. There is a shield of iron, extend-
ing from it to the roller in a descending position, which serves
to guide the straw in front of the roller over the opposing edges.
There is another feed roller like the above over it. It is in a
horizontal position lengthways and its gudgeons work in a
frame whose uprights work between the front trough posts and
the rail which are fastened to the sides of the trough. The uprights have
a rail at top above the roller and one at their bottom which is near

the bottom side rails of the Machine. There are two springs one to each side of the said frame which are fastened at one end to the bottom side rails of the machine their other ends bear on the bottom rail of the roller frame. These springs are to incline the upper roller towards the lower one to compress the straw.

There is a cast iron frame, with short tongues at each corner which slide in cast iron grooves inserted in edges of two rails which are fastened on the front of the machine by means of screws or bolts. Said rails are in an oblique position, and may be more or less oblique, running downwards from the right side of the machine. There is a Knife at the back side of said frame, in such a position with it as to be parallel with the top feed roller. The back edge of it comes against shoulders of the frame. Each end of the bevel side rests on two screws, which run through the frame. There is one screw at each end of the Knife in a counter position with the above and between them The heads of these are countersunk into the face of the Knife. They have taps on their back ends, which bear against the front of the Knife frame. The use of the first described screw is to regulate the set of the Knife, the Knife frame vibrates by means of a crank and pitman &c. The pitman is connected with the frame by a pivot which is fastened in the lower corner of the latter. There is a balance wheel on the front end of the crank, which has a handle in one of its arms by which the crank is turned. In the downward motion of the Knife frame, the Knife cuts the straw, when it has nearly returned, the straw is fed by means of a shape knob of the lower end of the frame working against the front end of a horizontal shaft which works in boxes that are screwed to the trough posts of that side of the machine, there being a catch dawn on the inside of said shaft which operates on a ratchet wheel of the bottom roller and one dawn to an upright of said shaft, operates on a ratchet wheel of the top roller. The upper catch is above the ratchet wheel,

the lower one is belonged to ratchet wheel, is kept up against it, by the tail of it being heavier than the bill part. The top roller is kept from turning backwards, by means of two palls hung on the upright of the roller frame operating on the ratchet wheel. The bottom roller is kept from turning back, by two palls hung on the guiding strap of the knife frame at that side of the Machine. The upright of the roller frame has a slit in it, which works over the gudgeon of the bottom roller on which the ratchet wheel is. As the knife frame goes down, the catch shaft above described slips forward by means of a half circle spring, whose tail bears against the back box of the catch shaft its head is screwed on the lower edge of the shaft. The feed of the rollers is regulated by a flat head screw in the back end of the catch shaft which slides in a hole of a plate fastened on the trough post. The head of said screw coming against the plate, prevents the catch shaft being pushed too far forward by the spring described above.

There is a board with the grain of the wood perpendicular fastened to the upper rail of the roller frame above described in front of the upper roller, extending to within 1/2 inch in height of the bottom of the roller. Its face is nearly as far in front as the opposing edge. The use of it is, to prevent the straw from rising on the upward motion of the knife. By the position of the knife with the rollers and the opposing edge and the direction of the knife frame as described above, I get a much greater draw of the knife on the straw, than can otherwise be obtained with a crank of equal length, which makes it cut much easier.

What I claim as my invention, is the arrangement of the bottom of the trough, the opposing edge, the feed rollers, the position of the knife and the direction of the knife frame, collectively, and the general construction of the Machine as above described.

In testimony, that the above is my invention, I have hereunto affixed my hand, this nineteenth day of September in the year of our Lord One thousand Eight Hundred and thirty two. Witnesses

John C. Pierson  sig. Stephen Ustick

Allen Ward.

[1549 words]

Dec. 1832.

Recorded Dec. 1839

J. D. M.