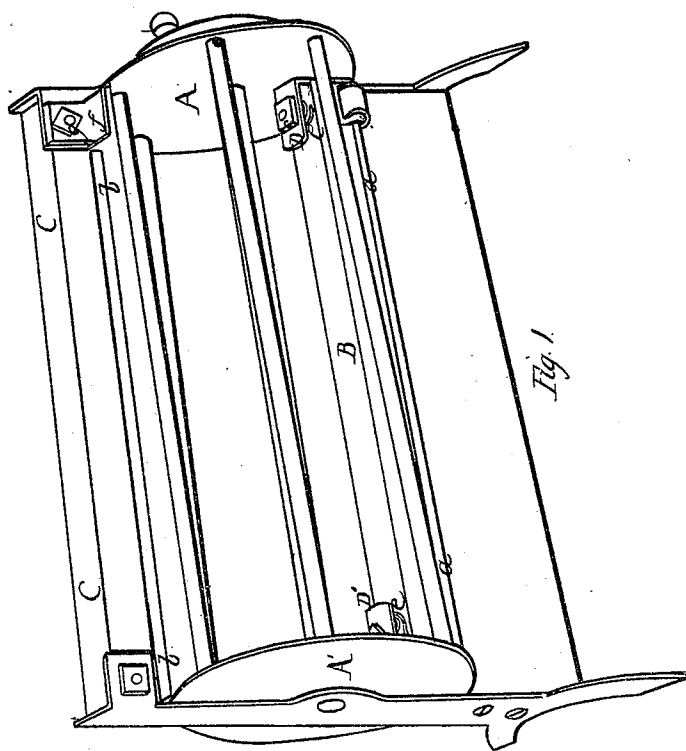
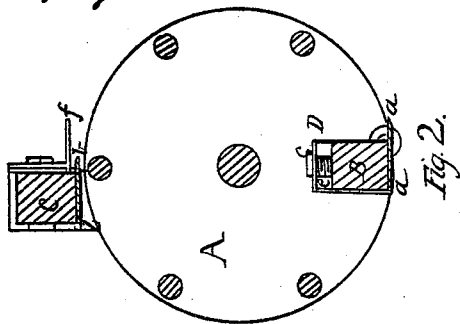


M. Wilder.
Paper Cutting Mach.
N^o 5672. Patented Jul. 18, 1848.



UNITED STATES PATENT OFFICE.

MARK WILDER, OF PETERBOROUGH, NEW HAMPSHIRE.

MACHINERY FOR CUTTING PAPER.

Specification of Letters Patent No. 5,672, dated July 18, 1848.

To all whom it may concern:

Be it known that I, MARK WILDER, of Peterborough, in the county of Hillsborough and State of New Hampshire, have invented
5 a new and useful Improvement in the Manner of Constructing Apparatus for Cutting Paper into Sheets, as it is Delivered from the Cylinder or other Machine in which it is Manufactured in Continuous Lengths; and
10 I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing Figure 1, is a perspective representation of my improved sheet cutting apparatus, which in its general construction and operation, resembles
15 such as have been before used.

A, A', is a reel which is made to revolve with the appropriate speed by means of a whirl and band, or otherwise. This reel
20 must be of such length as is required by the width of the paper that is made on the machine to which it is to be attached. In the place of one of its rounds it carries a bar B, of wood or metal that has attached to it by
25 suitable screw bolts, or otherwise, a cutting knife, or shear blade *a, a*, and to another bar of wood or metal, constituting a part of the frame, and shown at C, C, is attached a stationary knife, or shear blade *b, b*, against
30 which the revolving knife *a, a*, is to operate, so as to cut the paper as it passes between them. Cutting knives, or shear blades, resembling mine in so far as that one of them is stationary, and the other made to revolve,
35 have been used for cutting paper, but the blades have been so placed as to allow them in the act of cutting to operate with their thin edges presented to each other, and not their flat sides as under my arrangement;
40 they have in this case rather bruised than cut the paper apart; their edges when so used are easily injured; they have not the desired stability, and they can not be conveniently made to yield, as one of them is
45 made to do under my arrangement in which the plane of the knife *a, a*, coincides with the periphery of the reel, and the knife *b, b*, lies flatwise against the underside of the bar C, C.

In using the machine as ordinarily constructed with the knife *a, a*, and the bar B, unyieldingly attached to the reel, it has not been found possible to cause the knives to
50 cut the paper accurately, without their requiring frequent adjustment; while they are

also liable to act injuriously upon each others cutting edges. My improvement is intended to obviate these difficulties, and consists in the following arrangement: In the first place, as above indicated, I make
60 the knife *b, b*, stationary, placing its flat side against the underside of the bar C, C; and the flat side of the knife *a, a*. I place on the outer face of the bar B, B, which bar and knife I render yielding in the following
65 manner. To each of the reel heads A, A', is firmly attached a bracket, or projecting piece D, D', which brackets are to sustain the bar B, and its knife *a, a*, in such manner as that said bar and knife shall be capable
70 of receding, to a short distance, when the cutting edge of said knife is brought into contact with the cutting edge of the stationary knife *b, b*. The manner of effecting this will be best seen in Fig. 2, which is a
75 cross section of the reel, and of the bar C, C, just within the end of the bracket D, as seen when looking toward the head A. Through the bar B, and through the bracket D, at each end of said bar, there passes a screw
80 bolt, having on its inner end an adjusting nut *c*; and between these brackets and the bar there is a spiral or other spring *e, e*, that forces said bar and its knife out, and allows it to yield inward as it is brought into contact
85 with the stationary knife. To the end of the bar B, and beyond the end of the cutting knife, is affixed a friction roller *d*; and at the end of the bar C, C. There is an adjustable guide piece *f*, which is attached to the
90 bar by means of a bolt and screw nut *g*; the lower side of this guide piece is flat so as to adapt it to the action of the roller *d*, and this piece may be readily so adjusted as to conduct the edge of the knife *a*, under, and
95 in contact with that of the stationary knife *b*. The cutting edges of the two knives are not precisely parallel as they are brought into contact with each other, that end of the knife *a*, that has the roller attached to it
100 entering first under the knife *b*, and the yielding of the former, by means of the springs, keeps the two edges in contact and causes their cutting action to be perfect.

It will be manifest that the bar C, C, and
105 its knife *b, b*, may be made the yielding bar and knife, and that the bar B, and its knife *a, a*, may be permanently attached to the reel, producing, under this arrangement, an effect the same with that above described,
110

and that by means substantially the same. I, however, prefer the attaching of the yielding knife to the revolving reel.

Having thus fully described the nature of my improvement in the manner of constructing the apparatus for cutting paper into sheets, and shown the operation of the same, what I claim therein as new, and desire to secure by Letters Patent, is—

10 The so combining of the cutting knives, or shear blades, therewith, as that they shall operate with their flat sides against each

other in the act of cutting, in combination with the apparatus herein described by which the yielding knife is borne up against the stationary knife and its action thereon regulated by the aid of a friction roller and of an adjustable guide piece, substantially in the manner, and for the purpose herein fully made known. 15

MARK WILDER.

Witnesses:

THOS. P. JONES,
WM. J. DONOHOO.