

No. 787,290.

PATENTED APR. 11, 1905.

C. W. GRIFFIN.
MECHANISM FOR RAG CUTTERS.
APPLICATION FILED AUG. 25, 1904.

2 SHEETS—SHEET 1.

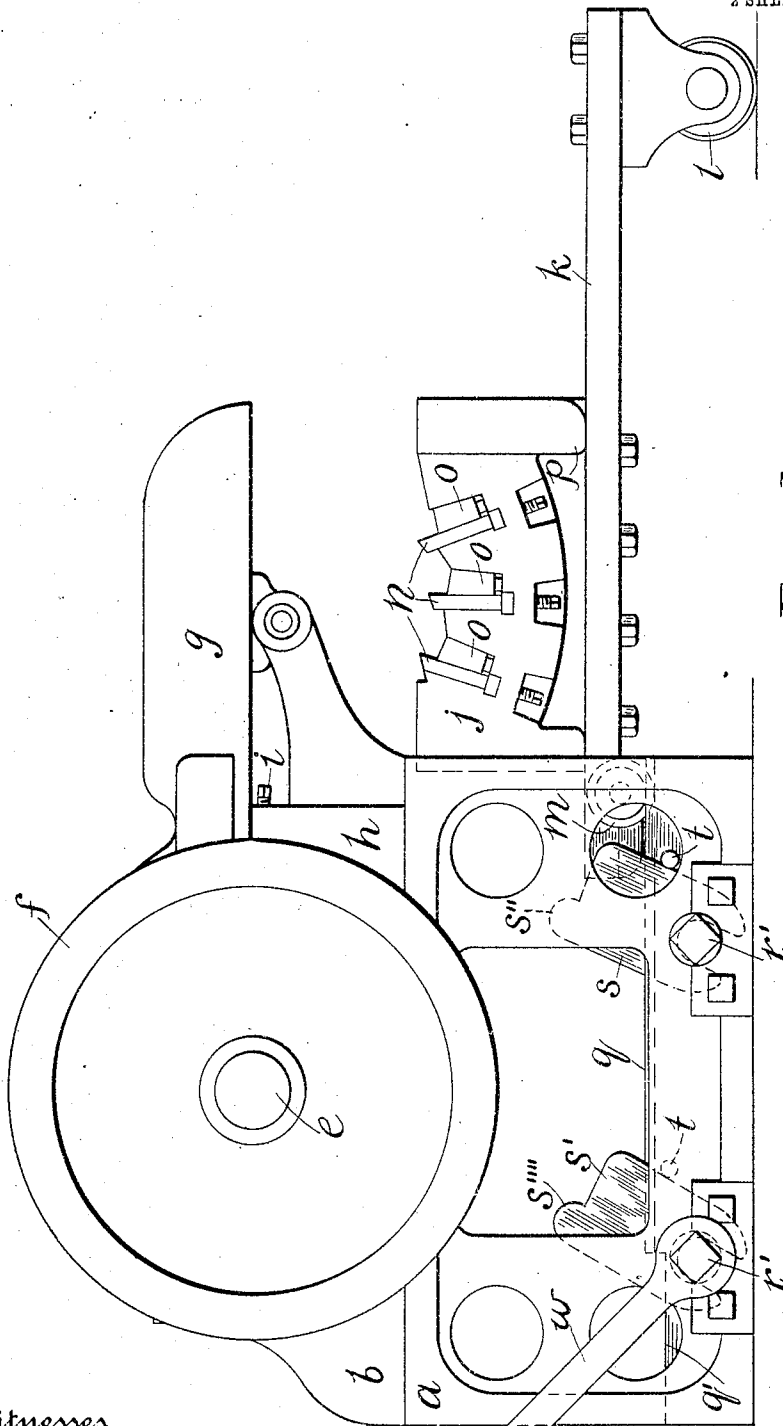


FIG. 1 -

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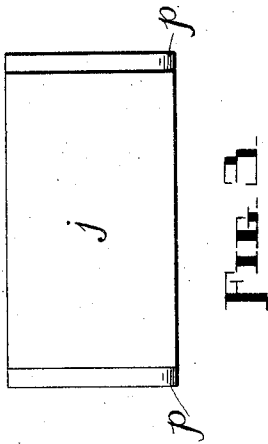
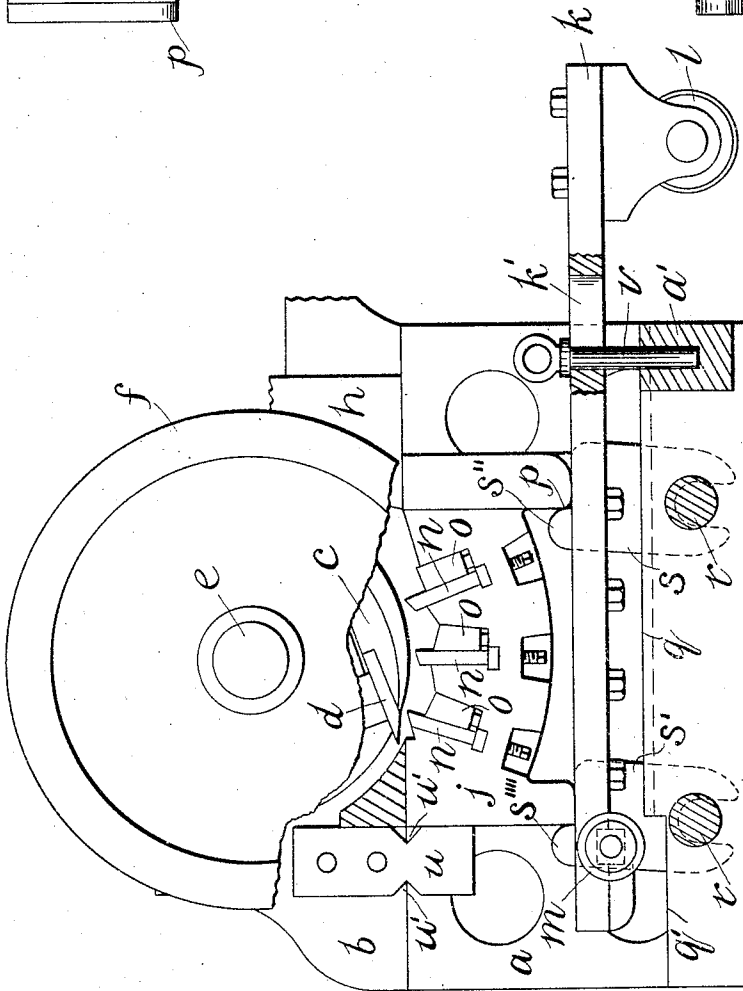
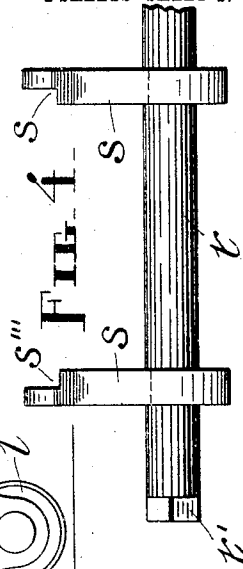


FIG. 2

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. GRIFFIN, OF RIEGELSVILLE, NEW JERSEY, ASSIGNOR TO
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COPARTNERSHIP.

MECHANISM FOR RAG-CUTTERS.

SPECIFICATION forming part of Letters Patent No. 787,290, dated April 11, 1905.

Application filed August 25, 1904. Serial No. 222,069.

To all whom it may concern:

Be it known that I, CHARLES W. GRIFFIN, a citizen of the United States of America, residing at Riegelsville, in the county of Warren and State of New Jersey, have invented new and useful Mechanism for Rag-Cutters, of which the following is a specification.

My invention relates to improvements in machines for cutting paper-stock, and more particularly to the bed or cradle which carries the lower cutting-blades and to means for adjusting the same, said cradle being adapted to be reciprocated and also to be raised and lowered by means of oscillating carrier-blocks, all as hereinafter set forth; and an object of my invention is to provide strong, durable, and positive means for moving the cradle which carries the lower stationary blades into operative position, securing it in such position, and removing it entirely from beneath the cutter-head.

A further object of my invention is to furnish a safety device designed to obviate serious damage in the event that any obstruction which the blades are incapable of successfully acting upon gets between the rotary and lower stationary cutting members.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a rag-cutter embodying my invention, the cradle being shown as withdrawn from beneath the cutter-head and in its lowest position; Fig. 2, a side view, in partial section, showing the cradle in operative position; Fig. 3, a rear end view of the cradle, and Fig. 4 a front edge view of the forward carrier-blocks as they appear in Fig. 1.

In a general way this invention relates to mechanism somewhat similar to features appearing in Letters Patent No. 678,837, issued to me July 16, 1901, and reference to this patent may be had for a more detailed description of the machine in connection with which the present invention is used.

Broadly, my invention comprises a reciprocating support for cutting-blades, with means

to raise and lower said support during its reciprocal movement.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings, *a* and *b* indicate side pieces of the supporting-frame, which frame may be of any suitable construction, and *c* a rotary cutter-head which is supplied with the requisite number of cutters or blades, one of which is represented at *d*. The cutter-head *c* is mounted on a shaft *e*, driven by a pulley *f*. At the front or feed end of the machine is a hopper or feed-table *g*, beneath the rear end of which in a stationary support *h* is a stationary cutter or blade, which does not appear, only the adjusting-screw for such blade being seen at *i* in Fig. 1. The parts thus far mentioned are not materially different from similar parts in the above-mentioned patent.

The blade-support or cradle *j* here employed is mounted on a truck consisting of a platform *k*, having a front roller *l* in the center and a rear roller *m* on each side. The cradle *j* is bolted or otherwise firmly attached to the platform *k* and has three cutting-blades *n* inserted therein and held firmly in place by means of wedges *o*, such blades and wedges being adjusted and operated in a manner similar to that set forth in the before-mentioned patent. More or less than three blades *n* may be used. Lateral extensions or dogs *p p* appear at the front end of the cradle *j*.

The roller *l* is journaled in any convenient manner below the center of the platform *k* and is adapted to support the front end of said platform from the ground when the cradle is lowered. Each rear roller *m* is journaled at the side of the platform *k* and is adapted when the cradle is lowered to travel on a track *q*, extending longitudinally of the machine.

Two shafts *r* extend crosswise of the frame and are journaled in the lower side pieces thereof. On the front shaft *r* carrier-blocks *s s* are mounted and extend upward on each side of the platform *k*, and behind these carrier-blocks are two carrier-blocks *s'*, mounted on the rear shaft *r*. Each carrier-block *s* is pro-

vided on its upper edge at the rear with a lug s'' , cut away, as shown at s''' in Fig. 4, and each carrier-block s' is provided at a corresponding point with a lug s'''' . The lugs s'' extend 5 into the path of the dogs p on the cradle j , and the lugs s'''' extend into the path of the rear end of said cradle or the lower corners thereof. A stop-pin t may be provided in the frame to limit the forward movement of each 10 of the carrier-blocks.

In place of the shafts r trunnions may be provided for the carrier-blocks and suitably journaled in the frame.

A stop-plate u is attached to the side piece 15 b to limit the normal rearward movement of the cradle, and such stop-plate may be notched or indented, as shown at u' u' , or otherwise weakened between the portion which is fastened to the side piece b and the portion which 20 is adapted to be contacted with by the cradle j . The object of thus weakening the stop-plate u is to afford safety means for the cradle, as will presently be explained. Two stop-plates u may be provided, one on each 25 side of the frame.

A slot k' is formed in the platform k for the reception of a lock-pin v , the lower end of such pin when in position being received into a passage in a cross-bar a' of the frame, such 30 passage being immediately below the rear end of said slot when the cradle is against the stop-plate. Any other suitable locking means may be substituted for the pin v for the purpose of performing the same function.

One or both ends of each shaft r may be 35 angular, as shown at r' , to fit an opening in the lower end of a lever w , which lever may be used to assist in manipulating the carrier-blocks.

The operation of my mechanism, assuming 40 that the parts stand as shown in Fig. 1, is as follows: After properly adjusting the blades n the truck, which is now supported at one end on the tracks provided for the purpose 45 and at the other end on the floor, is pushed rearward on a horizontal plane until the back end of the cradle j , which has passed between the lugs s''' , encounters the lugs s'''' and the dogs p encounter said lugs s'''' , when further 50 rearward movement causes said cradle to ride onto the carrier-blocks s and s' . These latter, being actuated to the rear of the positions formerly occupied by them, now raise the cradle into proper position beneath the cutter- 55 head c . Further rearward movement of the cradle is arrested by the stop-plate, which is strong enough to resist the pressure brought to bear by the operation just described. The truck rises with the cradle, and its rollers are 60 now unsupported from beneath. The pin v is next inserted in the slot k' and the passage in the cross-bar a' and prevents forward displacement of the truck. In case an obstruction gets between the blades n and d the strain

produced on the stop-plate u by the rotary 65 cutter-head c acting upon such obstruction will cause said stop-plate to break at the points u' and permit the cradle to be carried rearward and downward as the carrier-blocks pass their 70 centers to the extent permitted by the length of the slot k' , thereby reducing the amount of damage done to the machine to the minimum. Each track q is depressed at the rear at q' , so that the corresponding roller m clears said track in case of an accident. As before stated, 75 a second stop-plate u may be employed, and it should be understood that any suitable mechanical equivalent may be substituted for the stop-plate or stop-plates. When it is desired to readjust the blades n or withdraw 80 them from the vicinity of the cutter-head c for any other purpose, the truck is actuated forward after removing the pin v until it is eased by the carrier-blocks onto the tracks and floor and run out as far as may be necessary. In this operation, as well as the other, 85 one or more levers w may be applied to the angular ends or heads of the shafts r to assist in moving the carrier-blocks with their burden. Of course while the cradle stands clear 90 of the carrier-blocks the lever w is not available, and the truck must be actuated by some other means.

It will be readily seen that contact may be easily and conveniently had between the truck 95 and the carrier-blocks instead of between the cradle and carrier-blocks, it being unimportant which, inasmuch as the cradle and truck are so closely united as to be practically one member. 100

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in mechanism for rag-cutters, with a reciprocating blade-supporting member, of means to raise and lower the same 105 during its reciprocal movement.

2. The combination, in mechanism for rag-cutters, with a blade-supporting cradle mounted to reciprocate, of oscillating carrier-blocks adapted to raise and lower the same during a 110 portion of its reciprocal movement.

3. The combination, in mechanism for rag-cutters, with a blade-supporting cradle mounted to reciprocate, of oscillating carrier-blocks adapted to raise and lower said cradle during 115 a portion of its reciprocal movement, and means to lock the cradle against forward displacement.

4. The combination, in mechanism for rag-cutters, with a blade-supporting cradle mounted to reciprocate, of oscillating carrier-blocks adapted to raise and lower said cradle during 120 a portion of its reciprocal movement, and means to limit the rearward movement of the cradle.

5. The combination, in mechanism for rag-cutters, with a blade-supporting cradle mounted to reciprocate, of oscillating carrier-blocks 125

adapted to raise and lower said cradle during a portion of its reciprocal movement, and means to limit the rearward movement of the cradle, such means being adapted to yield and release the cradle under supernormal pressure.

6. The combination, in mechanism for rag-cutters, with a blade-supporting cradle mounted to reciprocate, of oscillating carrier-blocks adapted to raise and lower said cradle during a portion of its reciprocal movement, and breakable means to normally restrain the cradle at the end of its normal rearward movement.

7. The combination, in mechanism for rag-cutters, with a cradle adapted to move on a given plane, of means adapted to raise said cradle from such plane and to lower it onto the same.

8. The combination, in mechanism for rag-cutters, with a cradle mounted on a truck adapted to travel on a given plane, of oscillating carrier-blocks adapted to raise said cradle and truck from their plane support and return them to the same.

9. The combination, in mechanism for rag-cutters, with a suitable frame provided with a track, of a blade-supporting cradle mounted on a truck provided with track and floor rollers, and oscillating carrier-blocks arranged to raise the cradle and truck from the roller-supports and lower them onto such supports, at the rearward end of the travel of the truck.

10. The combination, in mechanism for rag-cutters, with a reciprocating truck and a blade-

supporting cradle mounted thereon, of oscillating carrier-blocks provided with lugs extending into the path of travel of one of the said reciprocating members.

11. The combination, in mechanism for rag-cutters, with a reciprocating truck and a blade-supporting cradle mounted thereon and provided at its forward end with dogs, of a pair of front oscillating carrier-blocks provided with lugs extending into the path of travel of said dogs, and a pair of rear oscillating carrier-blocks provided with lugs extending into the path of travel of the rear end of the cradle, clearance being left between the lugs on the front carrier-blocks to permit of the passage of the rear end of the cradle, all of said carrier-blocks together being adapted when actuated to raise and lower the cradle.

12. The combination, in mechanism for rag-cutters, with a reciprocating blade-supporting cradle, of oscillating carrier-blocks arranged to raise and lower said cradle during a portion of its reciprocal movement, supports for said carrier-blocks, one or more of such supports being each provided with an angular head, and a lever adapted to fit such head.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. GRIFFIN.

Witnesses:

HARRY W. GRIFFIN,
EDWARD H. APGAR.