

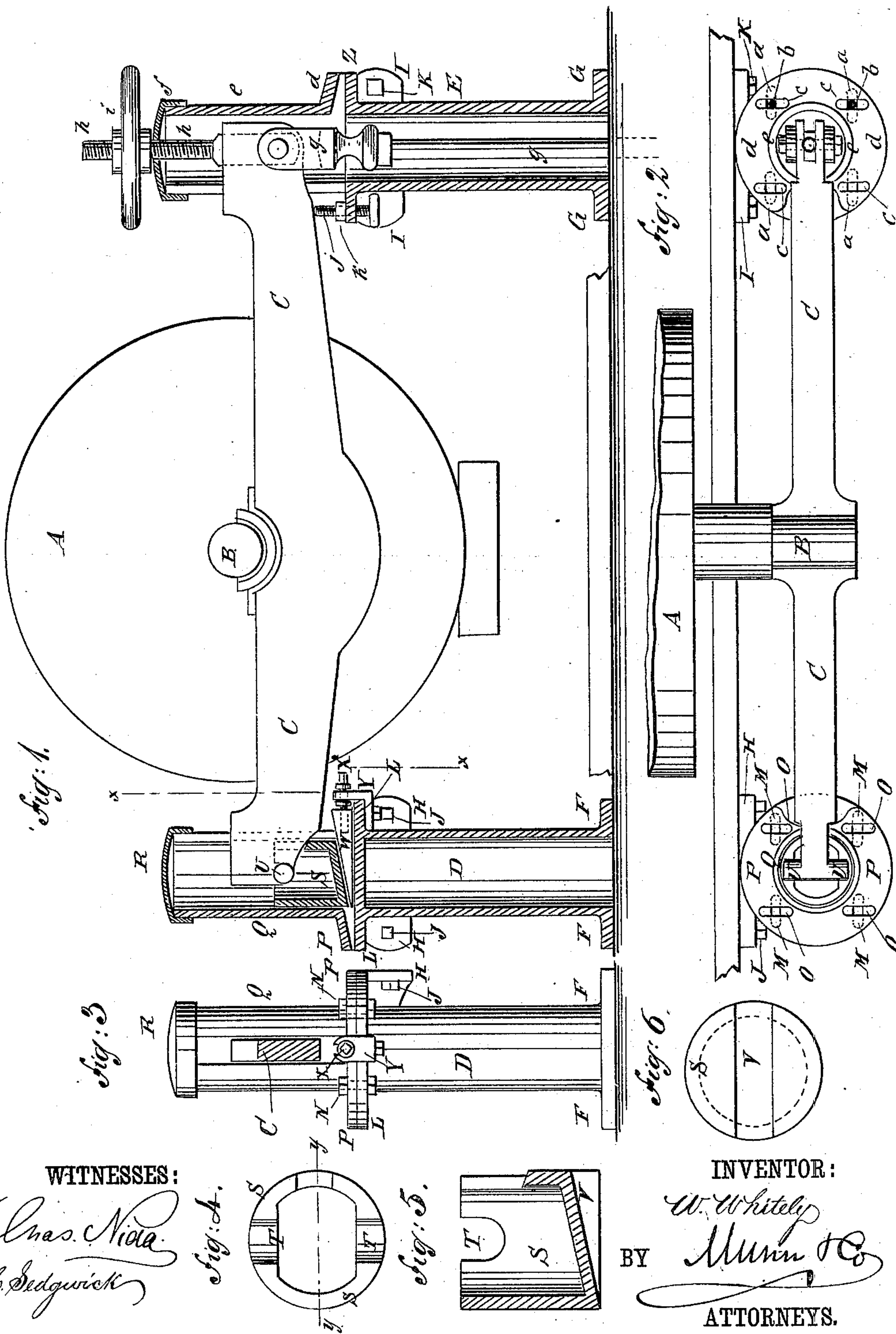
(No Model.)

W. WHITELY.

RAG ENGINE FOR PAPER MAKING.

No. 299,307.

Patented May 27, 1884.



WITNESSES:

Chas. Viola
C. Sedgwick

Fig. 4.

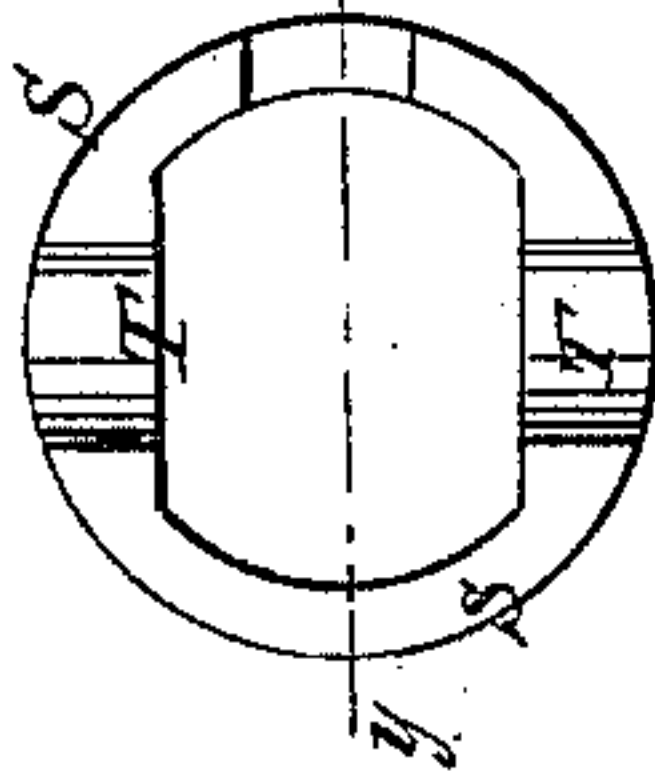


Fig. 5.

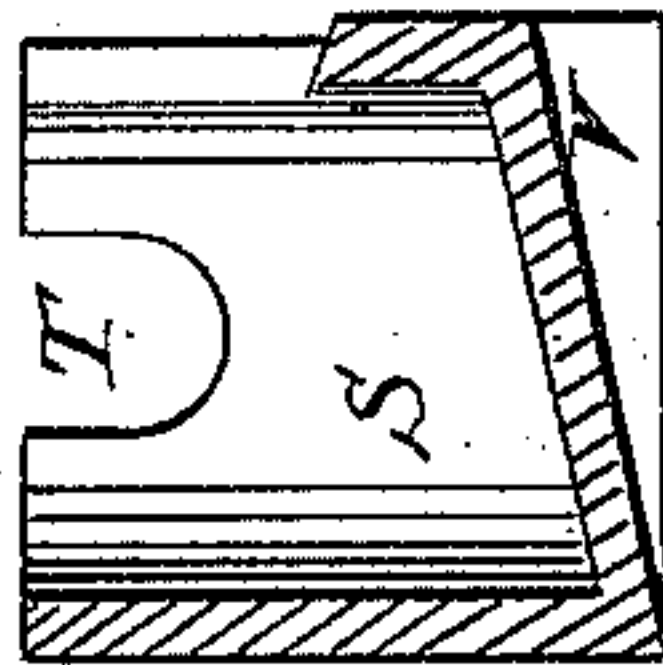
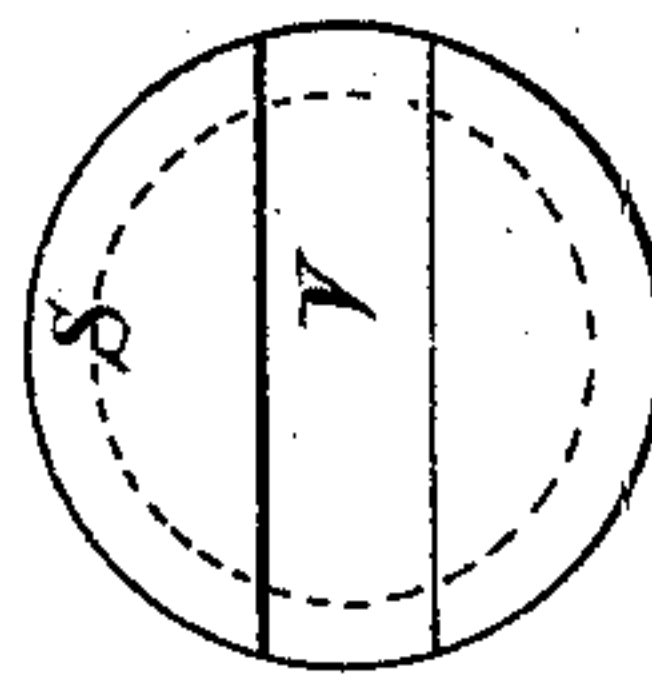


Fig. 6.



INVENTOR:

W. Whitely

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM WHITELEY, OF HOUSATONIC, MASSACHUSETTS.

RAG-ENGINE FOR PAPER-MAKING.

SPECIFICATION forming part of Letters Patent No. 299,307, dated May 27, 1884.

Application filed September 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WHITELEY, of Housatonic, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Rag-Engines for Paper-Making, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of my improvement, shown in connection with a lighter and roll of a rag-engine. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of a fulcrum-post, the lighter being shown in section through the line *xx*, Fig. 1. Fig. 4 is a plan view of the fulcrum-shell. Fig. 5 is a sectional side elevation of the same, taken through the line *yy*, Fig. 4. Fig. 6 is a bottom view of the same.

The object of this invention is to facilitate the leveling and adjusting of the rolls in rag-engines.

The invention consists in a rag-engine constructed with the lighter-supporting posts made in two parts, flanged at their adjacent ends to receive the connecting-bolts, the upper parts being slotted to receive the ends of the lighters, and provided at their upper ends with caps to allow the lighters to be readily removed. The top flange of the lower part of the post is provided with slots parallel with the side of the tub, and the base-flange of the upper part of the post is provided with slots at right angles with the side of the tub, to receive the fastening-bolts, so that the upper parts of the posts can be readily adjusted to adjust the roll. The lower part of the post at the fulcrum end of the lighter is made with a close top, upon which, within the slotted upper part of the said post, is placed a slotted shell having bearings in its upper edge to receive the pivots of the lighter. In the bottom of the fulcrum-shell is formed a tapered groove, in which is placed a wedge provided with an adjusting-screw swiveled to a slotted lug, whereby the said shell-bearing can be readily adjusted. The lifting-rod passes up through the lower part of the post, and is pivoted to the lighter within the slotted upper part of

the said post to make the machine compact. With the lifting end of the lighter is connected a screw, which passes up through a hole in the post-cap, and has a hand-nut upon its upper end, so that the end of the lighter can be readily raised and lowered. In a screw-hole in the top flange of the lower part of the post, and directly beneath the edge of the lighter, is placed a screw, to catch the lighter in case of breakage, and prevent the roll from coming in contact with and damaging the bed-plate, as will be hereinafter fully described.

A represents the roll, B the roll-shaft, and C a lighter, of a rag-engine.

D is the lower part of one of the posts that support the fulcrum ends of the lighters C, and E is the lower part of one of the posts that support the movable or lifting ends of the said lighters C.

Upon the lower ends of the parts D E are formed flanges F G, which rest upon and are secured to the floor or timbers beneath the floor.

Upon the parts D E, near their upper ends, at one side of the engine, are formed lugs H I, to receive the bolts J K, that secure the posts to the side of the tub. At the other side of the engine the posts are set back from the tub, to allow a pulley to be placed upon the roll-shaft B between the said posts and the said tub. The upper end of the part D of the post is closed, and has an annular flange, L, formed around it, in which are formed short slots M, to receive the bolts N, that pass through short slots O in the annular flange P of the upper part, Q, of the post, so as to fasten the said parts D Q to each other securely. The upper end of the part Q of the post is closed with a loosely-fitting cap, R. The side of the upper part, Q, of the post is slotted from top to bottom, to receive the end of the lighter C, and within the said part is placed an open-topped shell, S, which is slotted at one side to receive the end of the lighter C, and has half-round bearings T formed in its upper edge, to receive the gudgeons U, formed upon the opposite sides of the end of the lighter C, and serve as a fulcrum to the said lighter.

In the closed bottom of the shell S is formed a tapered groove, V, to receive the wedge W, which rests upon the closed top of the lower

part, D, of the post, and in the thicker end of which is formed a screw-hole to receive the screw X. The screw X is swiveled to a slotted lug, Y, bolted or otherwise secured to the flange L, so that by turning the said screw X' in one or the other direction the shell S can be raised or lowered to level the roll A. Around the upper end of the lower part, E, of the lifting-post is formed an annular flange, Z, in which are formed short slots *a*, to receive the bolts *b*, that also pass through short slots, *c*, formed in the base-flange *d* of the upper part, *e*, of the post.

It will be observed that the slots *M a* of the flanges L Z are parallel with the side of the tub, and the slots *O c* of the flanges P *d* are at right angles with the said side, so that the upper parts, Q *e*, can be readily adjusted, as may be required. The side of the upper part, *e*, of the post is slotted from its upper to its lower end, to receive the end of the lighter C, and the open upper end of the said part is closed by a cap, *f*. The end of the lighter C is pivoted to the upper end of the lifting-rod *g*, which passes down through the lower part, E, of the post, and is operated in the manner described in Letters Patent No. 282,818, issued to me August 7, 1883, or in any other convenient manner.

To the end of the lighter C is pivoted the lower end of the screw *h*, which passes up through a hole in the center of the cap *f*, and has a hand-nut, *i*, screwed upon it above the said cap, so that the end of the lighter can be raised by turning the said hand-nut *i*.

j is a set-screw which passes up through a screw-hole in the flange Z, in such a position as to be directly beneath the lower edge of the lighter C, and has a nut, *k*, screwed upon its upper part, so that the said screw can be locked in place by turning the nut *k* down against the flange Z. The screw *j* is designed to be so adjusted as to catch the end of lighter C should any part of the mechanism break, and before the roll could come in contact with and damage the bed-plate.

By making the lighter-supporting posts in two parts, connected by bolts, the upper parts can be readily detached to give convenient access to the ends of the lighters and allow the said lighters to be easily removed when required.

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

1. In a rag-engine, the lighter-supporting

posts made in two parts, flanged at their adjacent ends to receive the connecting-bolts, the upper parts being slotted to receive the ends of the lighters, and provided at their upper ends with caps, substantially as herein shown and described, whereby the lighters can be readily removed, as set forth.

2. In the lighter-supporting posts of rag-engines, the combination, with the top flange of the lower part provided with slots parallel with the side of the tub, of the base-flange of the upper part having slots at right angles with the side of the tub, and the fastening-bolts, substantially as herein shown and described, whereby the upper parts of the posts can be readily adjusted to adjust the roll, as set forth.

3. In a rag-engine, the combination, with the lower part, D, of the post, having a close top, and the slotted upper part, Q, of the slotted shell S, having slot-bearings T, substantially as herein shown and described, to provide a movable fulcrum for the lighters, as set forth.

4. In a rag-engine, the combination, with the lower part, D, of the post having closed upper end, the slotted upper part, Q, and the bearing-shell S, having an inclined groove, V, in its bottom, of the wedge W, the adjusting-screw X, and the slotted lug Y, substantially as herein shown and described, whereby the said shell-bearing can be readily adjusted, as set forth.

5. In a rag-engine, the combination, with the post made in two parts, E *e*, and the lighter C, of the lifting-rod *g*, placed within the post, substantially as herein shown and described, whereby the machine is made more compact, as set forth.

6. In a rag-engine, the combination, with the post E *e*, the perforated cap *f*, the lighter C, and the lifting-rod *g*, of the screw *h* and the hand-nut *i*, substantially as herein shown and described, whereby the lighter can be readily raised and lowered, as set forth.

7. In a rag-engine, the combination, with the flange Z of the lower part, E, of the post, and the lighter C, of the stop-screw *j*, substantially as herein shown and described, whereby the lighter will be caught in case of breakage, to prevent the roll from dropping upon and injuring the bed-plate, as set forth.

WILLIAM WHITELEY.

Witnesses:

F. N. DELAND,
C. G. CHURCH.