(No Model.) 2 Sheets—Sheet 1.

F. P. BALDNER.

CONDENSING TRUMPET FOR SPINNING MACHINES.

No. 420,506. Patented Feb. 4, 1890.

Fig. 1.

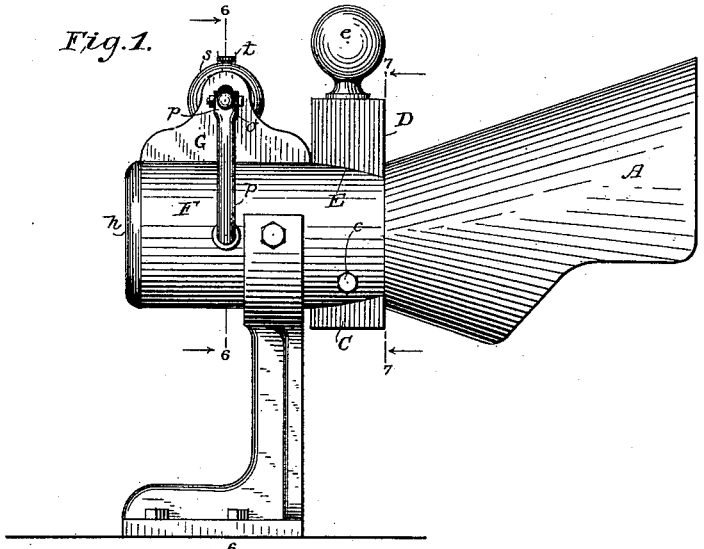


Fig. 2.

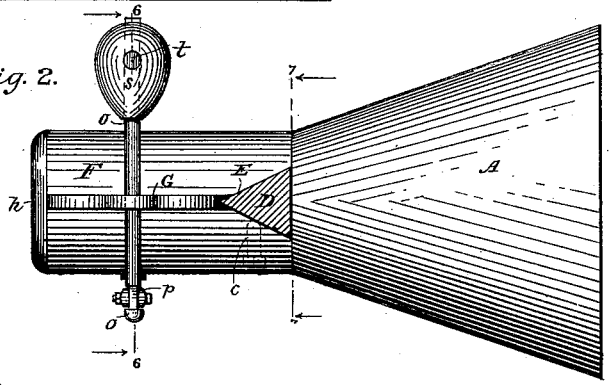
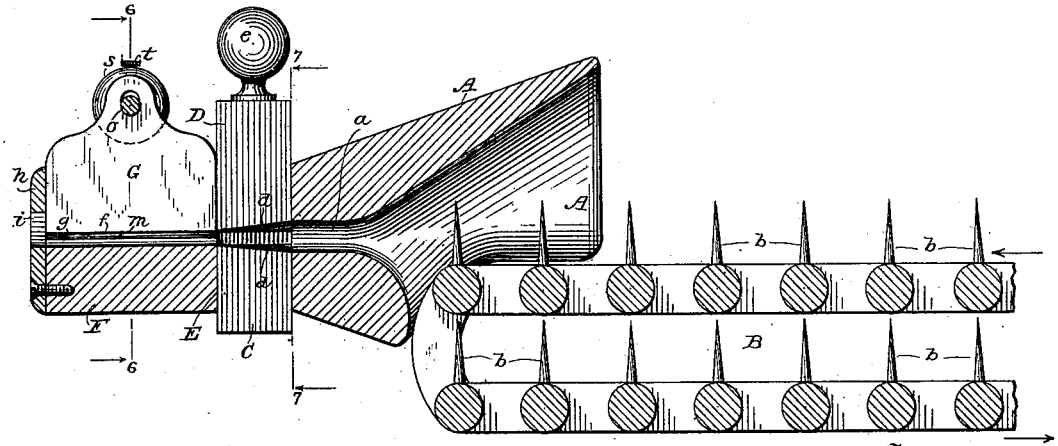


Fig. 3.



Witnesses
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Inventor
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(No Model.) 2 Sheets—Sheet 2.

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No. 420,506. Patented Feb. 4, 1890.

Fig. 4.

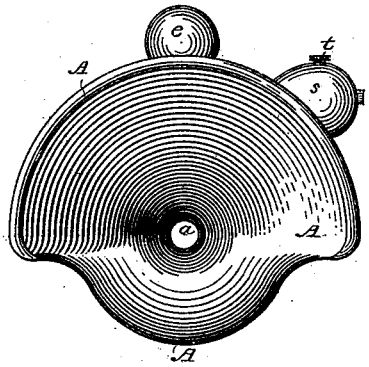

Fig. 5.

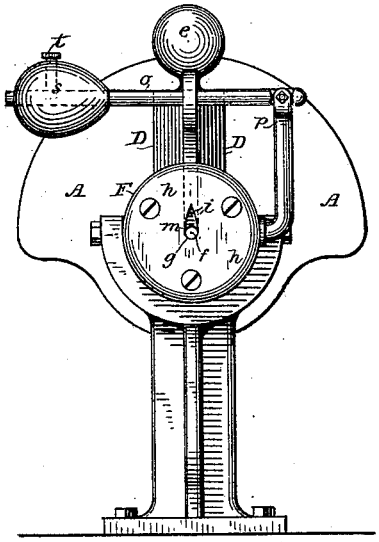

Fig. 6.

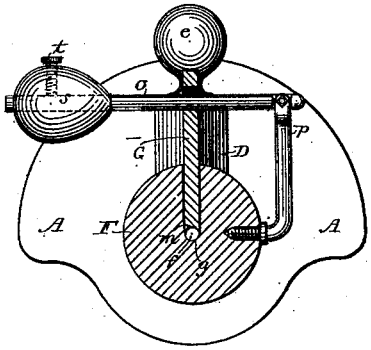

Fig. 7.

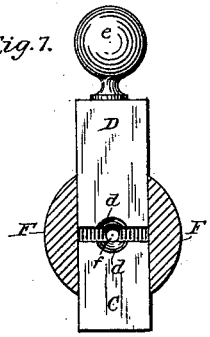

Fig. 8.

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UNITED STATES PATENT OFFICE.

FREDERICK P. BALDNER, OF XENIA, OHIO.

CONDENSING-TRUMPET FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 420,506, dated February 4, 1890.

Application filed June 29, 1889. Serial No. 316,082. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK P. BALDNER, of Xenia, in the county of Greene and State of Ohio, have invented certain new and useful Improvements in Condensing-Trumpets for Spinning-Machines, of which the following is a specification.

The present improvements relate to condensing-trumpets provided with devices for the purpose of nipping the slivers and polishing the same, such as are shown, for example, in Letters Patent to Furst and Chadwick, numbered 214,901, and dated April 29, 1879.

The present improvements are illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the improved trumpet. Fig. 2 is a plan view thereof, partly in horizontal section. Fig. 3 is a longitudinal section of the trumpet, showing its location with reference to the gill-bars and hackle-pins. Fig. 4 is a front end view of the trumpet, looking into the trumpet. Fig. 5 is a rear end view. Fig. 6 is a vertical cross-section through the nipping-slide in a plane indicated by the line 6 6. Fig. 7 is a vertical cross-section in front of the weighted plunger and its anvil in a plane indicated by the line 7 7; and Fig. 8 is a face view of the upper side of the anvil, also illustrating the bottom of the weighted plunger.

A is the condensing trumpet or funnel, which receives the sliver from the usual gill-bars B. This condensing-trumpet is made in a single piece, and is long enough to provide a gradual taper, so as to gradually and easily guide the slivers to the passage or throat *a* of the trumpet. The trumpet is cut away on its lower side, as shown, so that the trumpet is essentially a funnel-shaped hood having an open bottom, whereby it overhangs the gill-bars B and permits the sliver to be fed by the gill-bars and their hackle-pins *b* close up to the throat of the trumpet. Owing to this construction of the trumpet the sliver is gathered together by the overhanging funnel-shaped open-bottom hood, so that it is all wiped off, as it were, from the gill-bars by the lower edge of the trumpet into the throat of the trumpet.

Immediately after entering the throat of the trumpet the sliver passes between the bottom anvil C and the weighted plunger D. The bottom anvil is triangular in cross-section and is adjustable in a vertical direction, it being held in a vertically-extending guide-channel E, similarly shaped, in a conducting-extension F of the trumpet by means of a set-screw *c*. When the condensing-trumpet is in use, however, the anvil is immovable and unyielding. The channel E is located immediately behind the throat *a* of the trumpet, with its broadest portion in front and with its side walls converging to a point in the rear in line with said throat. Thus the anvil is located with one side crosswise the throat *a* of the trumpet and its other two sides converging to a point back from but in a line with the center of the throat. The upper surface of the anvil is generally flat, but has a semi-conical recess *d*, the broad mouth of which is at the front side or edge of the anvil and the contracted end of which is at the rear apex of the anvil, as shown. The weighted plunger D, which coacts with the anvil, is similarly triangular in cross-section, and it is free to rise and fall vertically, being held and guided in the vertically-extending guide-channel E in the extension F of the trumpet, from which it is easily and quickly removed by simply lifting it out. The weighted plunger may be weighted in any suitable manner, either (and preferably) by a heavy ball *e*, as shown, by a weighted lever, as in the Furst and Chadwick patent above referred to, or by a spring. The bottom surface of the plunger is generally flat and wholly unobstructed on its under surface, except that it has a semi-conical recess *d*, similar to that on the upper surface of the anvil C. When the trumpet is not in use, the plunger rests directly upon the anvil, and the two semi-conical recesses *d d* on the plunger and anvil, respectively, constitute an open conical recess or passage, constituting a continuation of the throat *a* of the trumpet. The area of the mouth of the conical passage is at least as large as the area of the throat in cross-section, so that it will receive all of the slivers, and the conical shape of the passage, which thus constitutes a yielding portion of the trumpet, causes the slivers to be further con-

densed, and the weight of the plunger causes them to be compressed together. The chief improvements in this anvil and plunger consist in there being no overlapping of one upon the other, the adjustability of the anvil, the conical shape of the passage formed by the recesses in the coacting faces of the anvil and plunger, and the triangular shape of the plunger and of the channel in which it fits. In case there should be any knots in the sliver or lumps of lint and dirt in the same the plunger would be lifted entirely clear of the anvil and permit the passage of the same without the breaking of the sliver. In case a lump of lint goes between the anvil and the plunger and is spread out by the weight of the latter, so that it is not retained wholly within the conical passage formed by the recesses *d d*, it will be again condensed by the converging walls of the channel E, which thus act as an auxiliary condensing-trumpet. The main weight of the plunger rests upon the sliver after it has passed through the conical passage, so that the twist of the flier does not affect the sliver passing through the passage. The adjustability of the anvil enables the conical passage to be always properly centered and the wear to be taken up. The triangular shape of the plunger enables it to rise and fall in a true vertical line without its being provided with any projecting guide-flanges.

The ready removability of the plunger, which can be done by simply lifting it out of the guide-channel, is a feature of importance in case of the sliver breaking. When this occurs, the plunger is removed and the broken end is thus easily inserted in place. A weight is preferable to a spring for the plunger, since a spring would be weakened by the repeated movement of the plunger by the passage of knots and lumps.

From the rear of the anvil and plunger (considering the trumpet-funnel to be the front end) there extends a longitudinal channel *f* in the conducting-extension F, which is open at the top and in line with the throat of the trumpet and the conical passage formed by the recesses *d* in the anvil and plunger. The bottom *g* of this channel is curved and is in a plane even with or just below that of the surface of the anvil. The rear of the channel is closed by the rear plate *h* of the extension, which, however, has an eye *i* in line with the throat of the trumpet. Fitting and sliding vertically within the channel *f*, and removable therefrom, is the weighted nipping-slide G, which is provided on its bottom with a longitudinally-extending curved groove *m*. The curved bottom *g* of the channel and the curved groove *m* of the nipping-slide together form a circular passage for the thread. The nipping-slide is preferably weighted by a lever *o*, pivoted to a bracket *p* on the conducting-extension F, passing through an eye in the slide and carrying on its free end an adjustable weight *s*. The adjustment of the weight is accomplished by sliding it on lever 5 and securing it in position by means of a set-screw *t*, and it enables a varying tension to be given to the nipping-slide so as to make the twine heavy or light. The nipping-slide is guided between the plunger and the back plate *h*, so that laterally-projecting side flanges are dispensed with. Owing to the anvil being unyielding when in use it cannot be depressed so as to bring its upper surface below the channel *f*, which would cause the sliver to drag over the front edge of said channel.

It will be observed that the entire trumpet, with the improvements applied thereto, is made of a minimum number of parts consistent with accomplishing the best results in an effective manner.

I claim as my invention—

1. A condensing-trumpet having a normally-unyielding but vertically-adjustable anvil back of its throat, in combination with a vertically movable and removable weighted plunger adapted to said anvil, substantially as set forth

2. A condensing-trumpet having an anvil back of its throat and a vertically-extending channel triangular in cross-section above said anvil, in combination with a vertically-movable weighted plunger adapted to said anvil, said plunger being triangular in cross-section and fitting in said channel, said anvil and plunger having their coacting faces generally flat and wholly unobstructed, each of said faces, however, having corresponding semi-conical recesses, as described, whereby a conical passage in line with the throat of the trumpet is formed, substantially as set forth.

3. A condensing-trumpet having a rearward conducting-extension having a vertically-extending channel triangular in cross-section, in combination with a vertically-adjustable anvil and a vertically-movable weighted plunger, said anvil and plunger being triangular in cross-section and fitted in said channel, substantially as set forth.

4. A condensing-trumpet having a vertically-extending channel triangular in cross-section back of its throat, said channel by reason of its shape in cross-section acting as an auxiliary condensing-trumpet in combination with a vertically-movable weighted plunger triangular in cross-section and fitting and moving in said channel, the said channel by reason of its shape in cross-section acting as an auxiliary condensing-trumpet, substantially as set forth.

5. A condensing-trumpet having back of its throat a vertically-extending channel, said channel being widest next said throat and having its side walls converging in the rear, said channel by reason of its shape in cross-section acting as an auxiliary condensing-trumpet, in combination with a vertically-movable weighted plunger moving and fitting in said channel, substantially as set forth.

6. A condensing-trumpet provided with a

rearward conducting-extension having a vertically-extending channel triangular in cross-section in communication with the throat of the trumpet, and having an open-top horizontally-extending channel communicating with said vertically-extending channel, and a rear plate closing said horizontal channel, but having an eye for the passage of the sliver, in combination with an anvil and a vertically-moving weighted plunger adapted to each other and fitting in said vertical channel, and a vertically-moving weighted nipping-slide located in said horizontal channel and guided by said rear plate and said plunger, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FREDERICK P. BALDNER.

Witnesses:
WILLIAM F. STILES,
WILLIAM K. DAVIS.