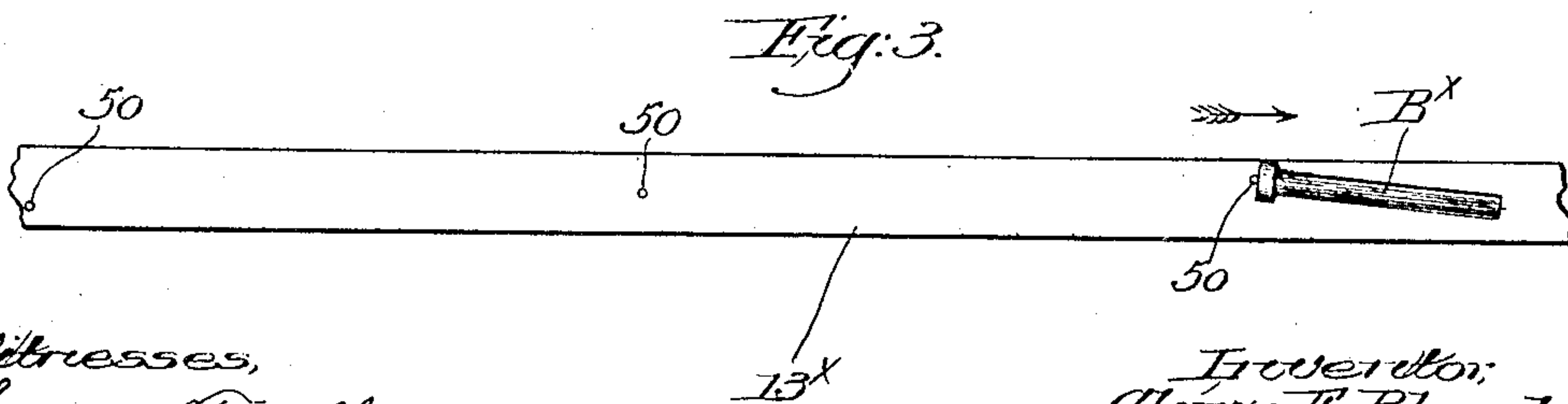
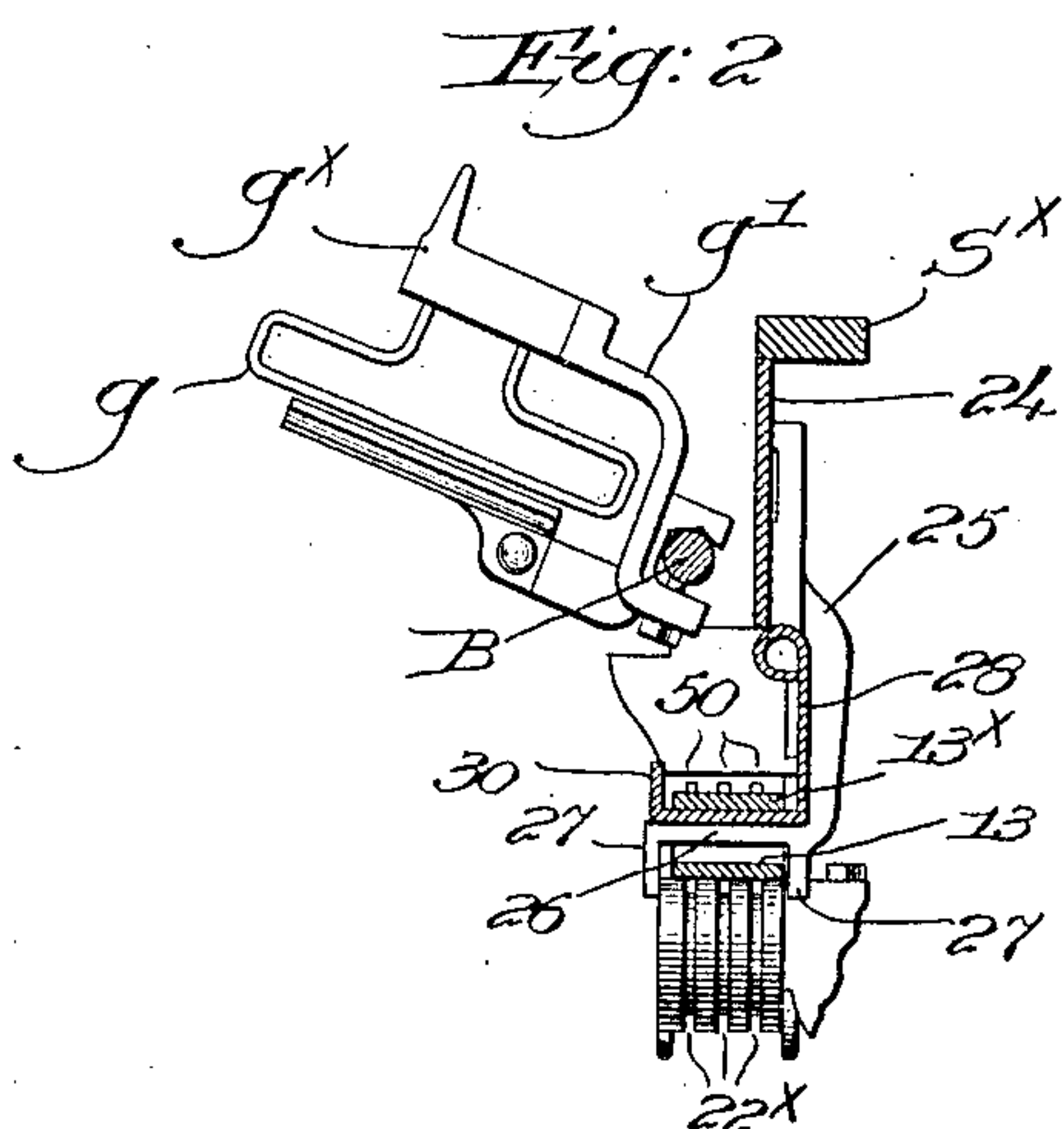
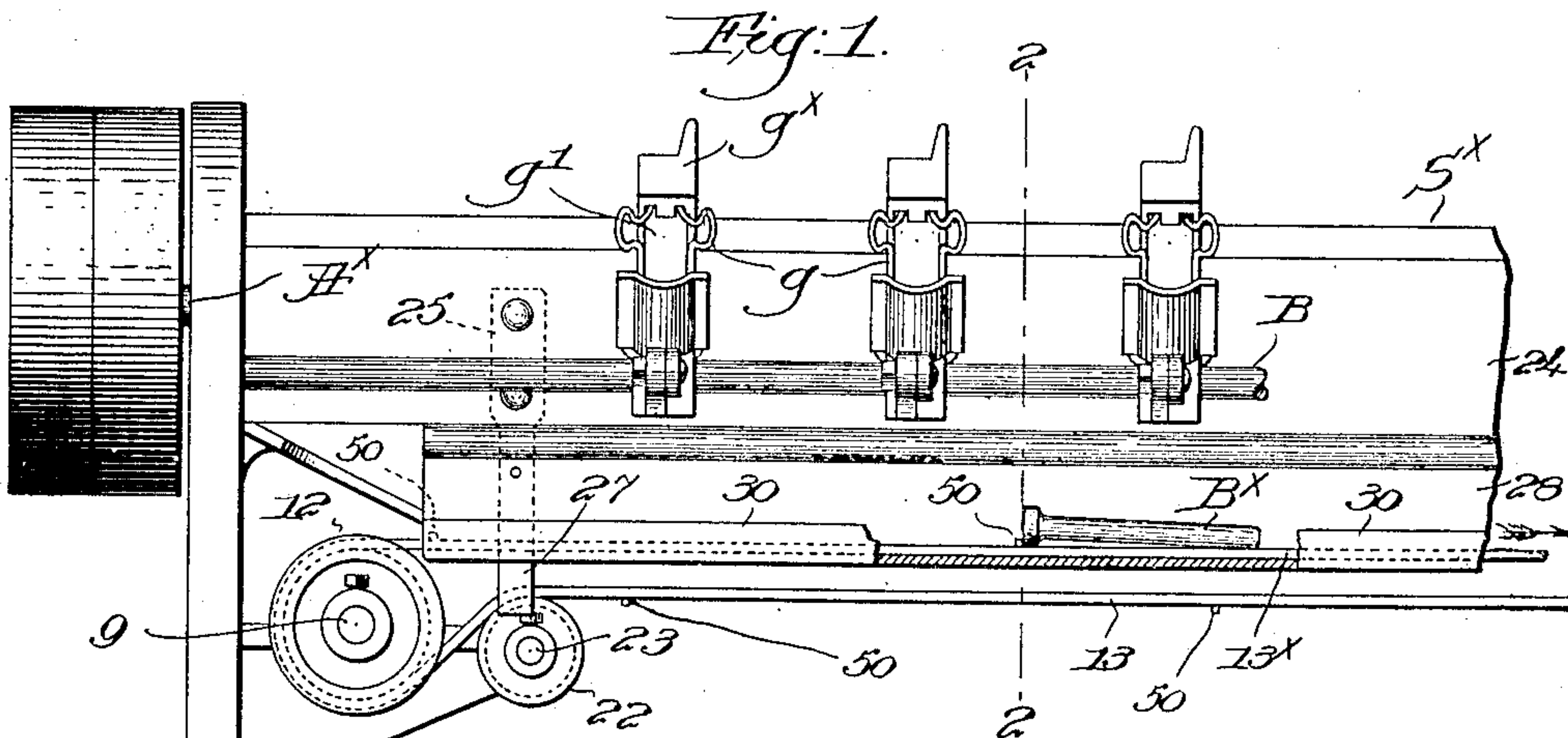


No. 869,519.

PATENTED OCT. 29, 1907.

A. E. RHOADES.
SPOOLER.

APPLICATION FILED MAY 3, 1907.



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SPOOLER.

No. 869,519.

Specification of Letters Patent.

Patented Oct. 29, 1907.

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To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, and resident of Hopedale, county of Worcester, State of Massachusetts, have invented an
5 Improvement in Spoolers, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to spoolers of the type forming
10 the subject-matter of United States Patent No. 760646 granted to me May 24, 1904 wherein the bobbin-holders, which are arranged in a series at each side of the frame, are each provided with means to permit ejection
15 of a spent bobbin, the bobbins so ejected falling onto an endless traveling conveyer or belt. The upper run of the belt or conveyer forms the bottom of a longitudinally-extended receptacle below and back of the series of bobbin-holders, and as the spent bobbins fall onto
20 the conveyer they are carried thereby to the open end of the receptacle and discharged into suitable boxes or cans provided for the purpose.

It happens at times that a number of bobbins thrown onto the conveyer become bunched and caught between the upright sides of the receptacle, jamming in
25 such a position that the moving belt ceases to act upon them. When such a jam occurs a species of blockade results, preventing any bobbins dropped onto the belt back of the jam from being conveyed forward to the box designed to receive them.

My present invention has for its object the production of simple and efficient means to prevent the formation of a blockade such as described. To this end I provide the outer face of the traveling conveyer or belt with small projections preferably arranged diagonally
35 and a suitable distance apart in a plurality of longitudinal rows. In practice should a number of bobbins fall in a bunch and tend to jam and form a blockade one or more of the projections will come into contact with a bobbin and effect its positive movement with the conveyer, permitting the other bobbins in the jam thus
40 broken to assume new positions and be carried along by the conveyer.

The novel features of my invention will be fully described in the subjoined specification and particularly
45 pointed out in the following claims.

Figure 1 is a side elevation of a portion of a spooler at one end thereof, with one embodiment of my invention shown in connection therewith; Fig. 2 is a transverse sectional detail on the line 2—2, Fig. 1, looking
50 toward the left; Fig. 3 is a top plan view of a portion of the upper run of the traveling conveyer or belt, showing the arrangement of the projections thereon.

Referring to the drawings the drum-shaft A^X , the rods B, one at each side of the frame, on which the
55 bobbin-holders are mounted, the bobbin-holders each

comprising guards g , mounted in a carrier g^X , to rock on the overhanging arm g' clamped to the rod B (said bobbin-holders being substantially such as shown in United States Patent No. 731617, granted to me June 23, 1903,) the transverse drum-shaft 9 at the left-hand
60 end of the main frame, see Fig. 1, and the flanged drums 12 secured to the shaft 9, one at each end, may be and are all substantially as in my Patent No. 760646 referred to. So too, an endless conveyer or belt 13 is passed around each drum 12 and extended longitudi-
65 nally of the frame below each series of bobbin-holders, as in said patent, one of such conveyers being partly shown in Figs. 1 and 2, the opposite turn of the conveyer being supported on an idler-pulley (not herein shown) at the right hand end of the frame. 70

The idlers 22, adjacent each drum 12 and mounted on shaft 23, to enable the belts 13 to get a firm grip on the drums, are located herein as in my patent just referred to, and herein such idlers are peripherally grooved, as at 22^X , Fig. 2, for a purpose to be described,
75 three grooves being illustrated.

The upper run 13^X of each belt or conveyer 13 forms the traveling bottom of a trough-like receptacle arranged below each series of bobbin-holders, the depending flange 24 of the rail S^X having secured to it
80 depending hangers 25, each provided with an out-turned foot 26 projecting between the upper and lower runs of a belt, see Fig. 2. Downturned toes 27 on the feet prevent lateral displacement of the lower run of the belt, as in Patent No. 760646, and a shallow, elongated sheet-metal box having a high back wall 28 is
85 seated on the feet 26, the wall rising to the bottom of the flange 24, so that bobbins ejected from the bobbin-holders cannot fall into the interior of the spooler. The upper run 13^X runs in the box, the front wall 30
90 thereof being upturned far enough to act as a guide for the outer edge of the belt, all as in my Patent No. 760646. As therein provided the spent bobbins are ejected from the bobbin-holders by the attendant and they fall into the box upon the upper run 13^X of the
95 conveyer and are carried thereby to the right hand end of the frame and discharged into a suitable box or receptacle provided for the purpose.

Sometimes the spent bobbins will fall into the box in such a way that they will lodge between the front
100 and back walls 30, 28 and form a species of jam, so that bobbins moving forward on the conveyer from a point behind the jam will be held up and a blockade formed, interfering greatly with the operation of the apparatus. Heretofore it has been necessary for the attendant to
105 break the blockade by separating the bobbins forming the jam, and thereby restoring the apparatus to normal working conditions. In my present invention I provide means to remove or break up a jam automatically. Herein I accomplish this object by providing 110

the belt or conveyer with projections 50, formed conveniently as metal studs fastened to the belt and extending a short distance from its outer surface. I prefer to arrange the projections in diagonal lines across the belt, and in practice I have found that a convenient distance lengthwise of the belt between successive projections is about two feet, and I have herein shown three studs or projections in each diagonal line, see Fig. 3, making three rows of studs along the belt, the distance between two successive studs along one of the longitudinal rows being about six feet. The middle projection of each diagonal set is shown as on the median line of the belt, and the outer projections of the several sets are located on parallel lines, near the longitudinal edges of the belt. When a jam occurs one or more of the bobbins forming such jam will be engaged by one or more of the projections 50 and the engaged bobbin, as B^x, Figs. 1 and 3, will thereby be caused to move forward positively, with the belt, changing the position of the bobbins forming the jam and breaking the latter as the bobbins assume new positions. By the means described a jam is broken up before a serious blockade can be formed, and the spent bobbins ejected from the bobbin-holders are moved forward properly and regularly to the discharge end of the conveyer.

Referring to Fig. 1 it will be seen that on the lower run of the conveyer the projections 50 will depend from the under face of the conveyer, and the grooves 22^x in the idler 22 are provided to afford a clearance for said projections as the belt passes around said idler.

I have omitted from the drawings numerous parts of the spooler shown in Patent No. 760646 as they

form no part of my present invention and are not necessary to a clear understanding of the construction and operation of the novel parts forming the subject matter of this invention.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a spooler, a series of bobbin-holders each provided with means to permit ejection of a spent bobbin, a longitudinally-extended trough-like receptacle below the series of bobbin-holders, to receive the bobbins ejected therefrom, a longitudinally-extended, endless traveling belt forming by its upper run the bottom of the receptacle, to convey spent bobbins to one end of the frame, and separated sets of projections diagonally arranged on the outer face of the belt to engage and effect positive movement of the bobbins with the belt, the distance between successive projections diagonally of the belt being greater than the length of a bobbin.

2. In a spooler, a series of bobbin-holders each provided with means to permit ejection of a spent bobbin, a longitudinally-extended trough-like receptacle below the series of bobbin-holders, to receive the bobbins ejected therefrom, a longitudinally-extended, endless traveling belt forming by its upper run the bottom of the receptacle, to convey spent bobbins to one end of the frame, longitudinal rows of diagonally arranged projections on the outer face of the belt, to engage and effect positive movement of the bobbins with the belt, successive projections in any longitudinal row being further apart than successive projections in a diagonal line across the belt, and a guide-roll for the lower run of the belt, having peripheral grooves to permit the passage of the projections on the belt.

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

ALONZO E. RHOADES.

Witnesses:

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CLARE HILL DRAPER.