

No. 636,360.

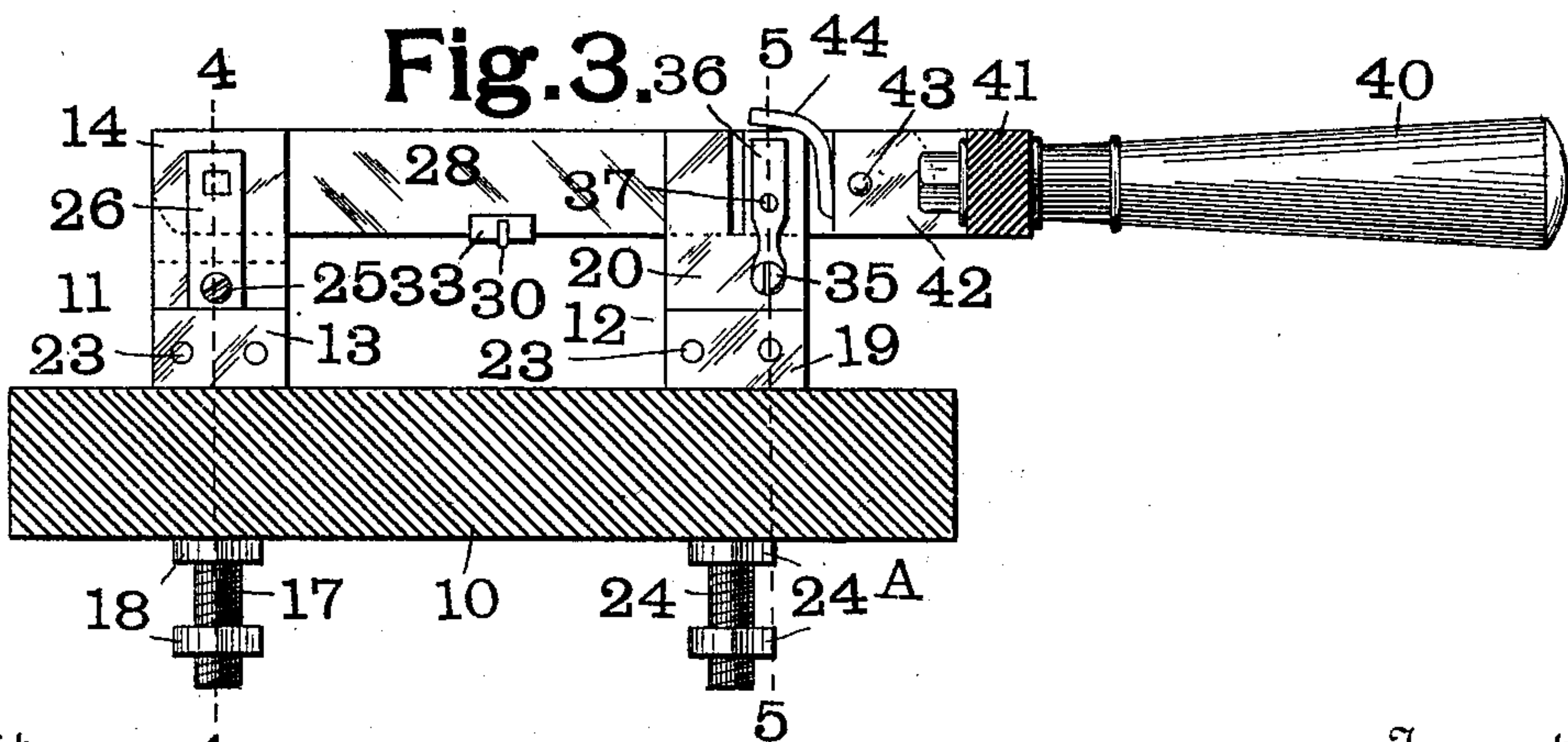
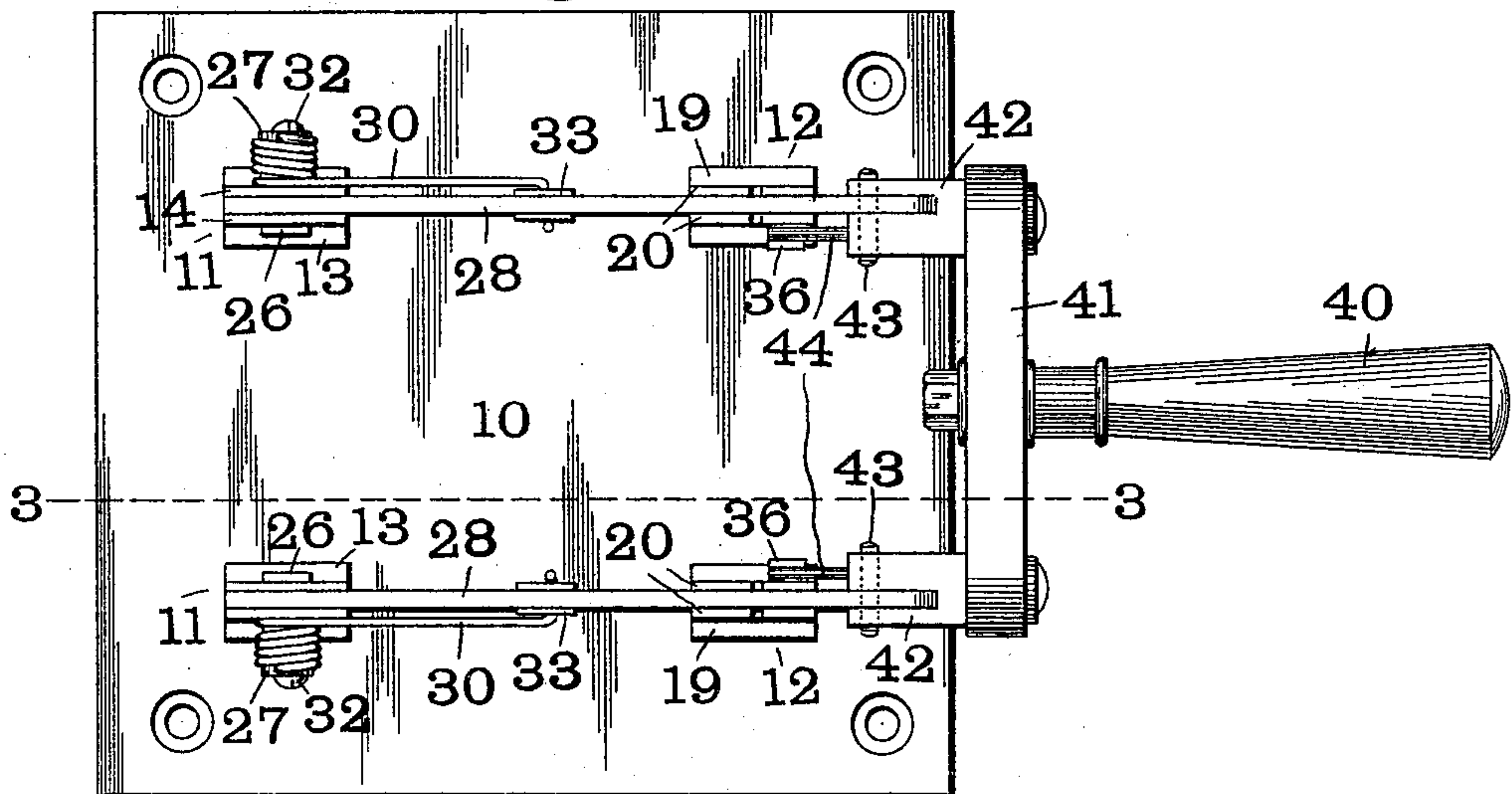
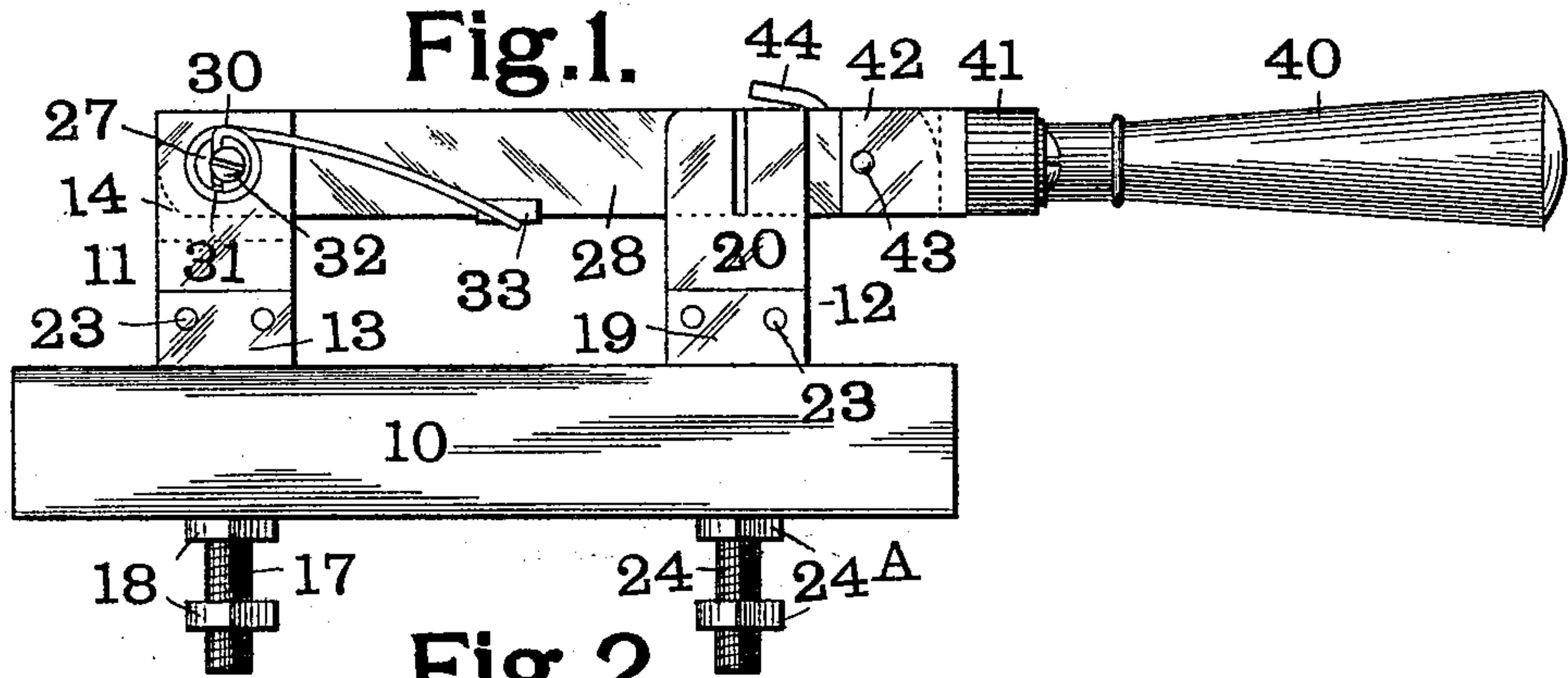
Patented Nov. 7, 1899.

F. SCHWEDTMANN.  
ELECTRIC SWITCH.

(Application filed Mar. 15, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses 4

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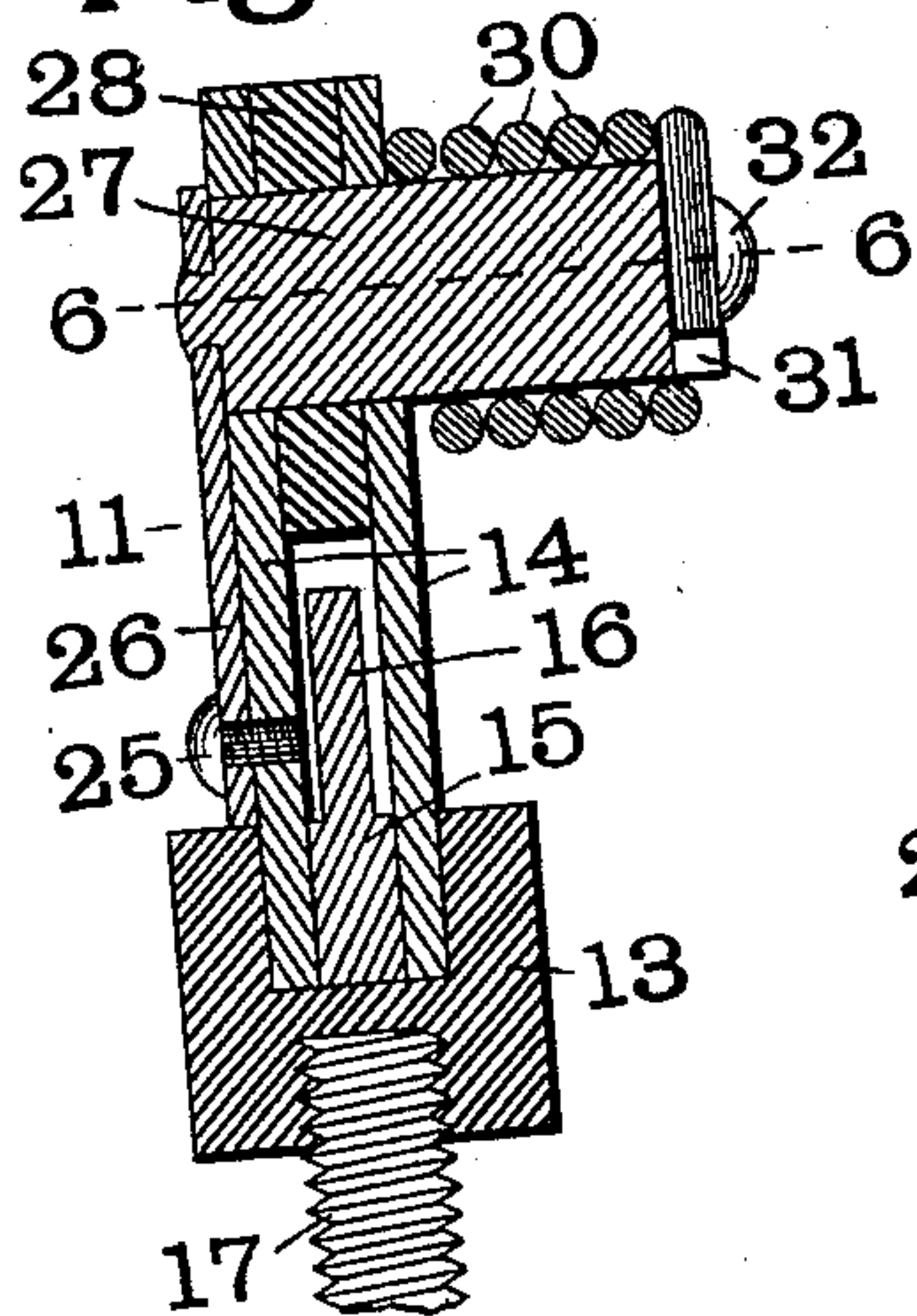
Howe & Fowler

(No Model.)

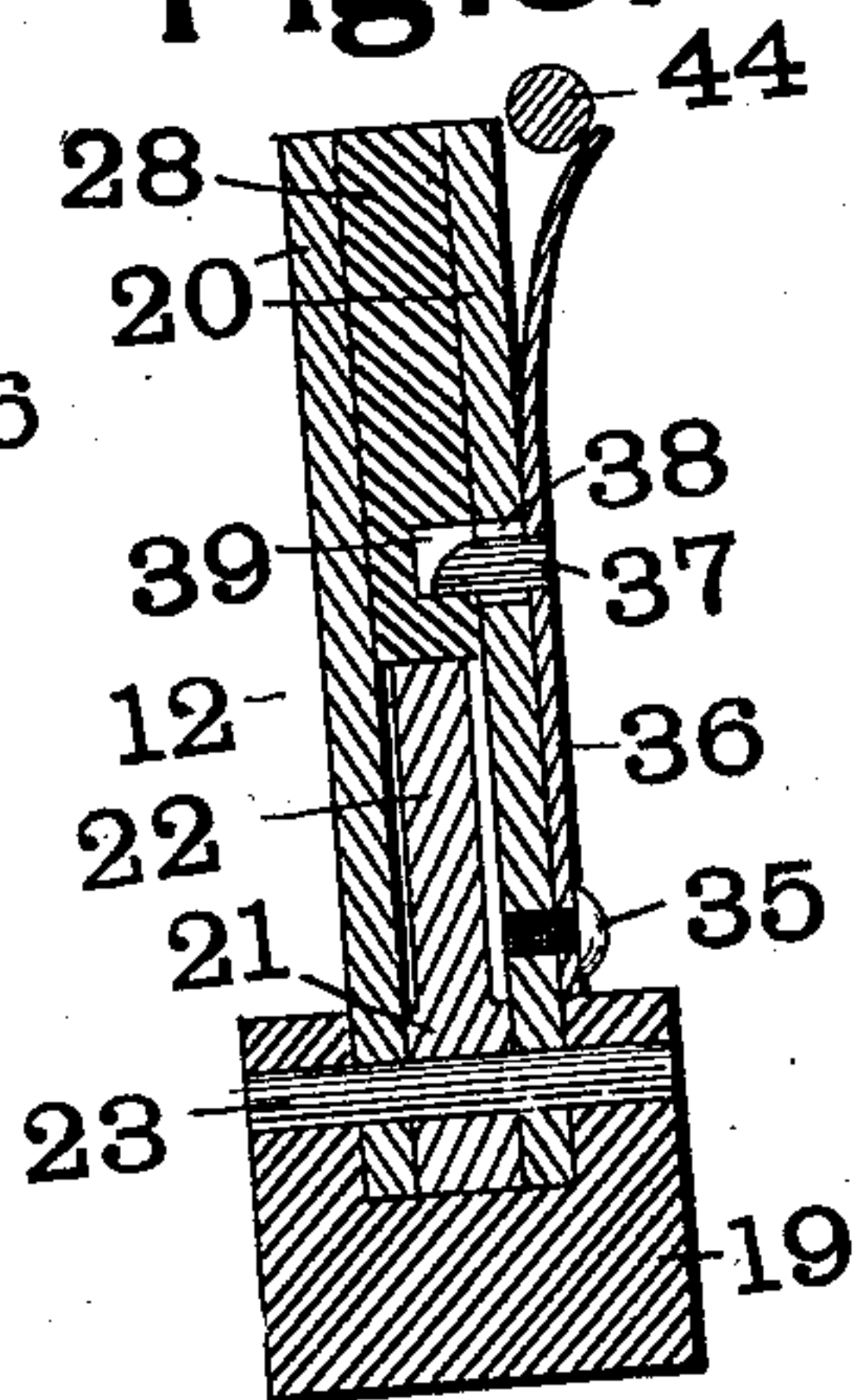
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**2 Sheets—Sheet 2.**

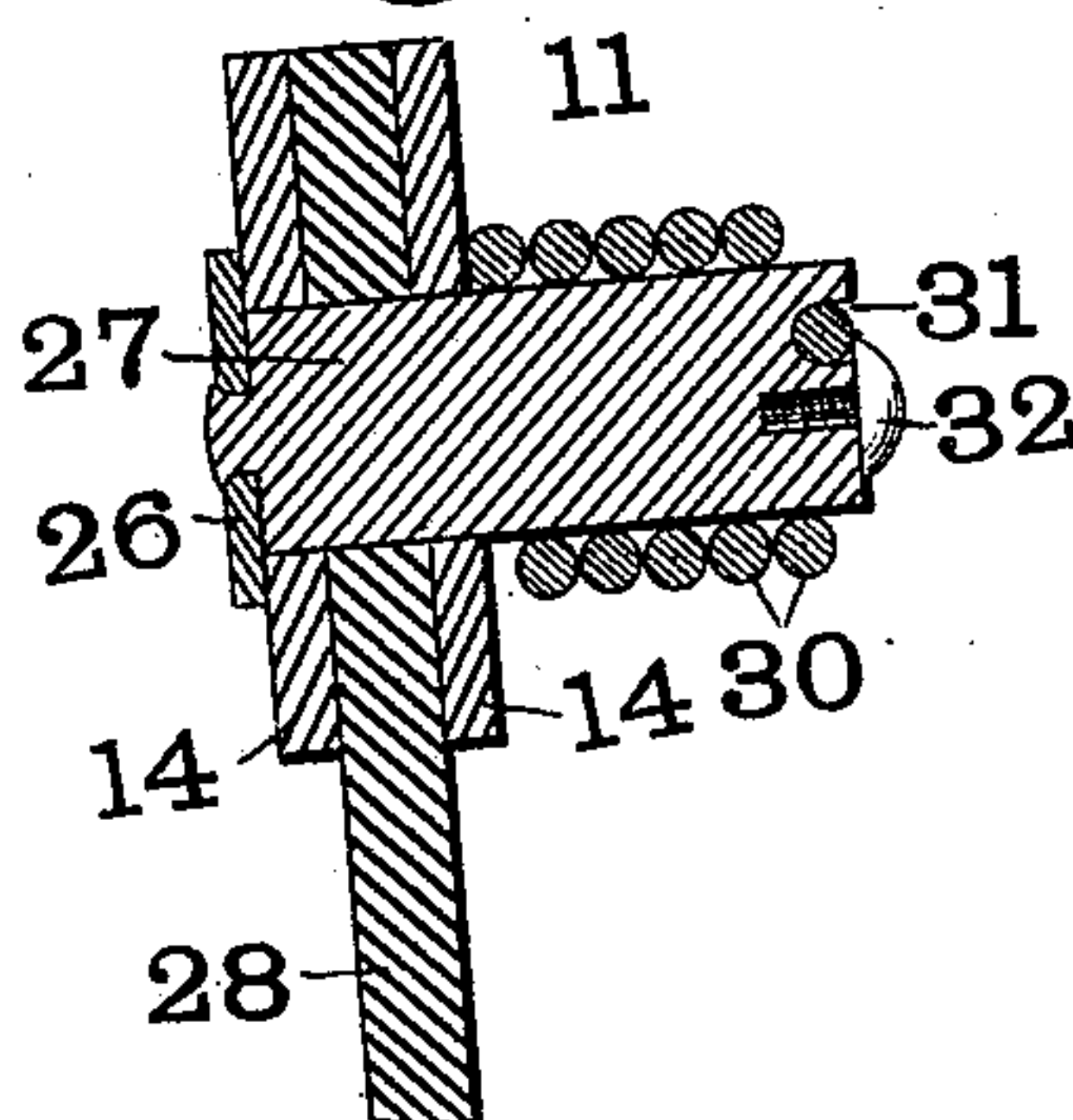
**Fig.4.**



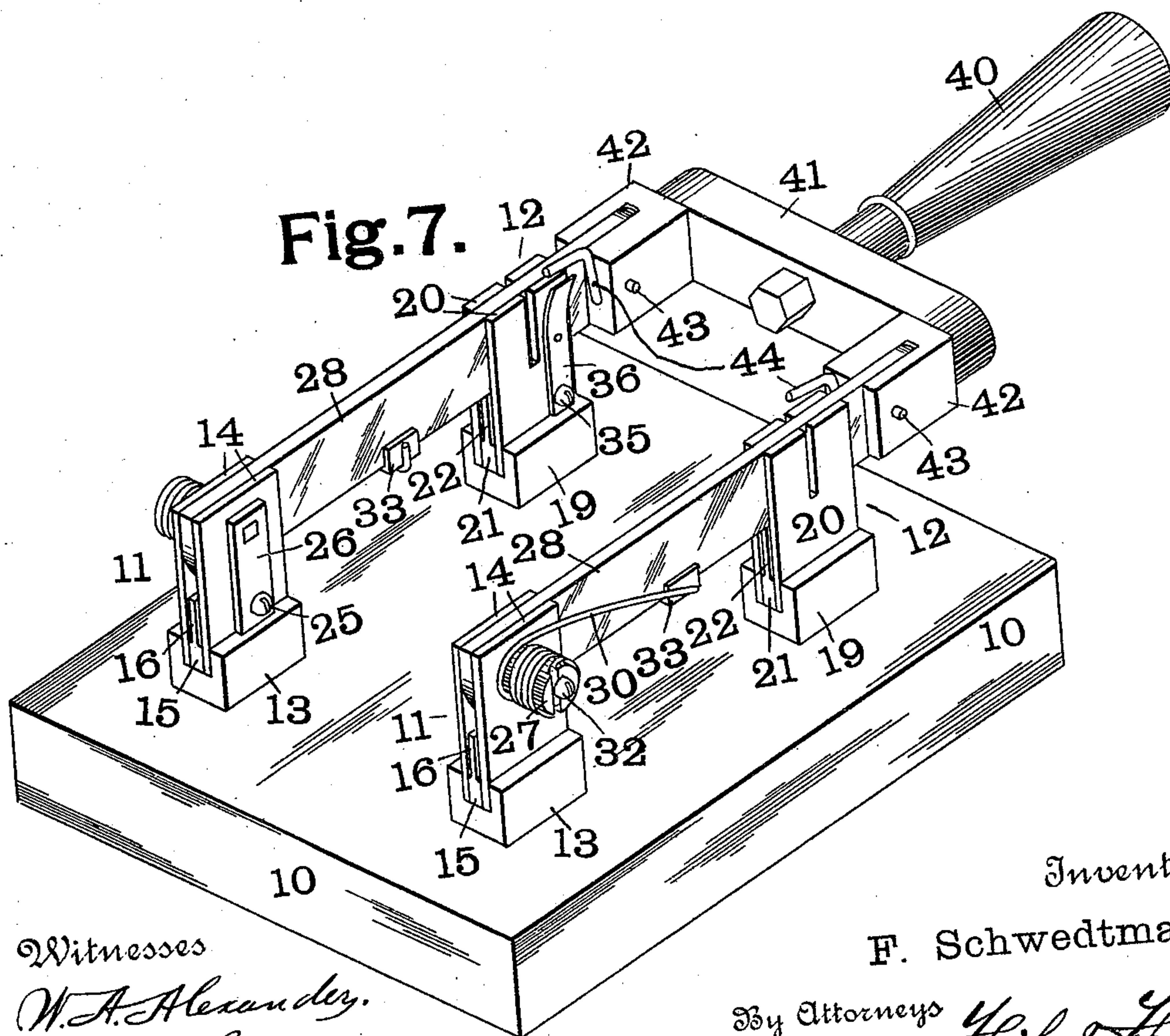
**Fig.5.**



**Fig.6.**



**Fig.7.**



Witnesses

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# UNITED STATES PATENT OFFICE.

FERDINAND SCHWEDTMANN, OF ST. LOUIS, MISSOURI.

## ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 636,360, dated November 7, 1899.

Application filed March 15, 1899. Serial No. 709,139. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND SCHWEDTMANN, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Electric Switch, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates more especially to electric switches of the quick-acting type—that is, switches in which the blade or blades are provided with springs to throw them from the closed to the open position more quickly than could be done by hand with the ordinary knife-switch.

One object of my invention is to so construct a switch of the type above referred to that it can be operated by simply actuating the handle like an ordinary knife-switch. Another object of my invention is to simplify and improve the construction of such switches.

My invention consists in the combination, with one or more spring-actuated switch-blades, of means for locking said blade or blades in closed position and means for releasing said blades by the movement of the switch-handle.

My invention also consists in various novel features and details of construction, all of which will be described in the following specification and pointed out in the claims affixed hereto.

In the accompanying drawings, which illustrate a double-pole switch embodying my invention, Figure 1 is a side elevation. Fig. 2 is a top plan view. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is a section on the line 5 5 of Fig. 3. Fig. 6 is a section on the line 6 6 of Fig. 4, and Fig. 7 is an isometric projection of the entire switch.

Like marks of reference refer to similar parts in the several views of the drawings.

10 represents a switch-base, which may consist of a slab of marble or other suitable non-conducting material.

11 are pivot-posts, and 12 the contact-posts. Each of the pivot-posts 11 consists of a base 13, U-shaped in cross-section, two spring

contact-strips 14, and a central strip 15, which fits between the two spring-strips 14 and is provided with a reduced upwardly-extending portion 16. The ends of the switch-blades, hereinafter described, strike against the portions 16 when the switch is opened, and thus stop the said switch-blades when they have reached a position at right angles to the base 10. Each of the posts 11 is preferably held in position on the base 10 by means of a screw-threaded rod 17, which passes upwardly through the base 10 into the U-shaped portion 13 and is provided with suitable nuts 18. The rods 17 and nuts 18 may also serve as an electrical terminal for the posts 11.

The contact-posts 12 each consists of a base 19, two spring-strips 20, and a central strip 21, provided with an upwardly-extending portion 22. The portions 22 serve as stops for the switch-blades, hereinafter to be described, when the switch is closed, as is clearly shown in Figs. 5 and 7. The parts of the posts 12 are in all respects like those of the posts 11, except that in the exact construction shown the upward extension 22 of the central strip 21 is higher than the upwardly-extending portion 16 of the central strip 15.

The various parts of the posts 11 and 12 are held in position by pins 23, Figs. 1, 3, and 5. The posts 12 are held on the base 10 by means of bolts 24 and nuts 24<sup>a</sup>, similar to the bolts 17 and nuts 18.

Secured to each of the pivot-posts 11, at or near the base 13 and preferably on the inner side, by means of a screw 25 is a strip 26. Rigidly secured to each of these strips 26, near its top, is a stud 27, which passes loosely through the two spring-strips 14 and the switch-blade 28, thus serving as a pivot for the said switch-blade without interfering with the elasticity of the strips 14. Around the projecting end of the stud 27 is a coil-spring 30. One end of said coil-spring 30 passes into a groove 31 in the end of the stud 27 and is held in place by a screw 32. The other end of said spring is extended forwardly and passes under the switch-blade 28. The spring 30 is preferably insulated from the switch-blade 28 by means of a U-shaped piece 33, of fiber or other suitable insulating material, so as to prevent the possibility of any current passing from the pivot-post 11 to the blade 28 through the spring 30, as this



might heat the spring, and thus destroy its temper and render it useless.

To each of the posts 12 is secured, by means of a screw 35, a spring-strip 36, which has its upper end curved away from the said post 12. In each of the strips 36 is rigidly secured a detent 37, Fig. 5, which passes through an opening 38 in the spring-strip 20, to which it is secured, and engages with a depression 39 in the switch-blade 28, so as to hold the said switch-blade in a closed position.

40 is the switch-handle, which is preferably made of insulating material and is secured to a cross-strip 41, also preferably of insulating material. Secured to each end of the cross-strip 41 is a block 42, each of which is pivoted, by means of a pin 43, to one of the switch-blades 28. Extending from each of the blocks 42 is a rod or wire 44, which is adapted to pass between the spring-strips 20 and 36, and thus withdraw the detent 37 from the depression 39 in the switch-blade 28 and release the same.

In operating my switch the handle 40 is grasped and drawn upward in the same manner as an ordinary knife-switch. This will swing the handle 40 and attached parts on the pivot 43, and thus depress the rods 44. The rods 44 will pass between the spring-strips 36 and the posts 12, thus forcing the said strips 36 away from the posts and withdrawing the detents 37 from the depression 39 in the switch-blades 28. This will release the switch-blades 28 and allow the springs 30 to throw the switch-blades upwardly and away from the contact-posts 12.

On account of the manner in which the pivot and contact posts are constructed they can readily be made of drawn copper, which is more desirable than cast metal. The separate parts of the posts are drawn out in long strips and cut off into the desired lengths, when all that is required is to assemble the parts and secure them together by means of the pins 23.

Because of the stud 27, which serves as the pivot for the switch-blade, being secured to the supporting-strip 26 instead of to the

spring-strips 14 of the pivot-post 11 the said spring-strips 14 retain all their elasticity and the pivot in no way interferes with their making good electric contact with the switch-blade.

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

1. In an electric switch, a spring-actuated switch-blade, a contact-post provided with spring-strips for making contact with said switch-blade, a spring-actuated detent passing through one of said spring-strips and engaging said switch-blade, a handle pivotally mounted on said switch-blade, and means carried by said handle for withdrawing said detent to release said switch-blade.

2. In a post for electric switches, a base-piece having a groove formed therein, two spring-strips in said groove and adapted to make contact with the switch-blade, a central strip inserted between said spring-strips within said base, and means for securing said parts together.

3. In an electric switch, a pivot-post composed of spring-strips, a switch-blade between said spring-strips and making contact therewith, a pivot passing loosely through said spring-strips and switch-blade, and supporting means carried outside of said spring-strips for rigidly carrying said pivot.

4. In an electric switch, a pivot-post composed of spring-strips, a switch-blade between said spring-strips, a pivot passing loosely through said spring-strips and switch-blade, means for rigidly supporting said pivot outside of said spring-strips, and a coil-spring secured to and passing around said pivot and connected to said switch-blade for actuating the same.

In testimony whereof I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

FERDINAND SCHWEDTMANN. [L. s.]

Witnesses:

A. C. FOWLER,  
DAVID STANNARD.