No. 774,409. PATENTED NOV. 8, 1904.

W. H. WISE.

HINGE JOINT.

APPLICATION FILED JUNE 16, 1904.

NO MODEL.

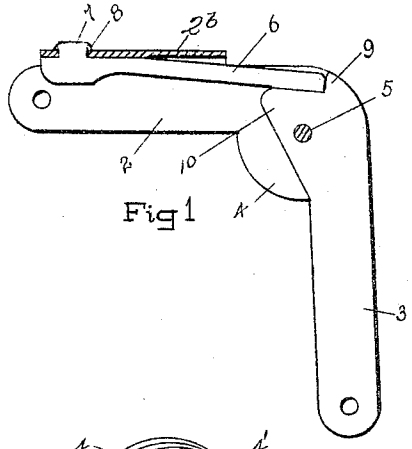


Fig 1

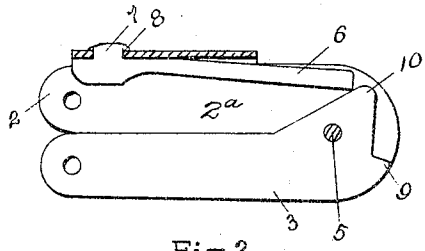


Fig 2

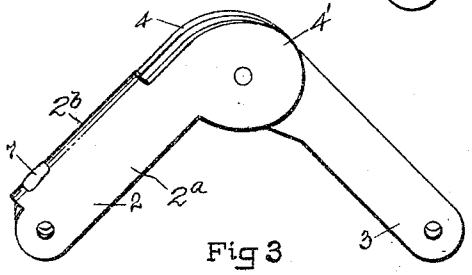


Fig 3

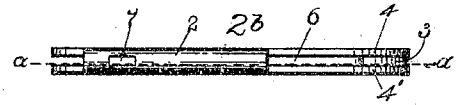


Fig 4

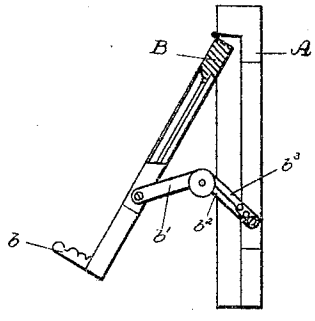


Fig 5

Witnesses.

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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 774,409. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM HENRY WISE, OF WATERTOWN, NEW YORK, ASSIGNOR TO JAMES B. WISE, OF WATERTOWN, NEW YORK.

HINGE-JOINT.

SPECIFICATION forming part of Letters Patent No. 774,409, dated November 8, 1904.

Application filed June 16, 1904. Serial No. 212,861. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY WISE, a citizen of the United States, and a resident of Watertown, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Hinge-Joints, of which the following is a specification.

This invention relates to improvements in hinge-joints or toggle-arms designed particularly for use in connection with music-racks for pianos and like devices of the class that is described and shown in Letters Patent heretofore issued to one Joseph Gramer, numbered and dated as follows: No. 314,375, dated March 24, 1885.

The particular object of my invention is to improve and simplify the construction of the class of hinge-joints referred to and facilitate their manufacture by employing a less number of parts and by reason of said improvement to lessen the cost of manufacture and at the same time increase the durability and strength of such hinge-joints.

A prominent feature of this invention compared with previous inventions lies in a handle or supporting-arm for the blade of the hinge-joint consisting of a single piece of metal having parallel sides connected together by a spanning web, to which web is secured a controlling-spring by means of a projection on the spring passing through said web and having an enlarged head to prevent detachment of the spring.

The above and other features and details of the invention will be understood from the accompanying drawings, forming a part of the specification, and in which—

Figure 1 is a sectional view of the hinge-joint on the line *a a* of Fig. 4, with one side of the handle cut away and showing the manner of attaching and securing the spring and also the blade as embodied in my invention. Fig. 2 is a sectional view on the same line as shown in Fig. 1 and which shows the hinge-joint in its closed position and the manner of constructing and connecting the spring and the blade so that the constant tension of the spring will prevent the blade from turning on its pivot or axis except by the employment of some force. Fig. 3 is a perspective view of the hinge-joint, showing it in its open position. Fig. 4 is a view of the back of the hinge-joint, showing the handle or blade-support formed as an integral part. Fig. 5 is a view taken from the former patent referred to above, which shows the application of this class of hinge-joints to a music-rack and also shows the mode of construction of the handle, as well as the manner in which the spring was attached to the handle or supporting-arm.

Similar numbers refer to similar parts throughout the several views.

The numeral 2 designates the handle or arm supporting the blade of the hinge-joint and consisting of two parallel members or sides 2^a, connected together by a web 2^b, spanning the space between said members, which parts may be made by folding a single piece of metal or by casting. The members 2^a are formed with lugs 4 and 4′ at one end, to which is pivotally secured the blade or arm 3 by means of the pin or rivet 5. The spring 6, which applies tension to the blade or arm, lies between the parallel members and at or near one end is formed with a projecting lug or stud 7, which preferably is rectangular in cross-section, as appears. This spring is secured in place by passing its lug or stud 7 through a correspondingly-shaped hole or opening 8 in the spanning web 2^b and then upsetting or otherwise forming an enlarged head thereon to prevent the detachment of the spring. This makes a very simple and durable means of attaching the spring 6 and effects a considerable saving of both time and expense in the manufacture of this class of hinge-joints. The blade 3 at its pivoted end has a shoulder 9 to engage the free end of spring 6 when the hinge is opened and which operates as a stop and limits the movement of the two arms or either of them to an angle of a little more than ninety degrees. When the hinge-joint is closed, as shown in Fig. 2, the free end of spring 6 exerts its force and tension against the cam-like projection 10 of the blade 3 and prevents the joint from opening except when force is employed in operating same.

What I claim as my invention is—

1. A hinge-joint of the class described, comprising an arm formed of parallel members

connected together by a spanning web, a blade pivotally connected to said members, and a spring for controlling the tension between said arm and blade, said spring being rigidly secured to the spanning web, against detachment therefrom, by means passing through the web, substantially as described.

2. A hinge-joint of the class described, comprising an arm formed of parallel members connected together by a spanning web, a blade pivotally connected to said members, and a spring for controlling the tension between said arm and blade, said spring having a projection passing through said web and formed with an enlarged head to prevent detachment of the spring from the web, substantially as described.

3. A hinged joint of the class described, comprising an arm formed of oppositely-disposed members connected together by a spanning web, a blade pivotally connected to the arm, and a spring for controlling the tension between said arm and blade, said spring having a projection near one end passed through the web and secured thereto to prevent its withdrawal, substantially as described.

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

WILLIAM HENRY WISE.

Witnesses:
EDGAR O. BLOODOUGH,
EVA VAN LOAN.