J. RUSSEL.

SOCKET FOR FAN BLADES.

APPLICATION FILED JAN. 20, 1908.

925,030.

Patented June 15, 1909.

FIG. 1

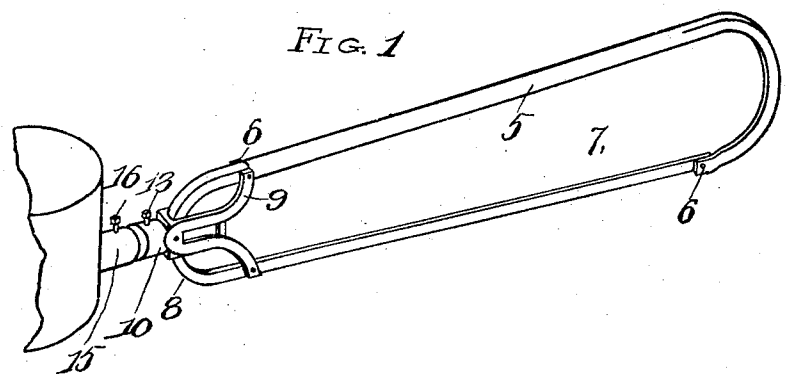


FIG. 2

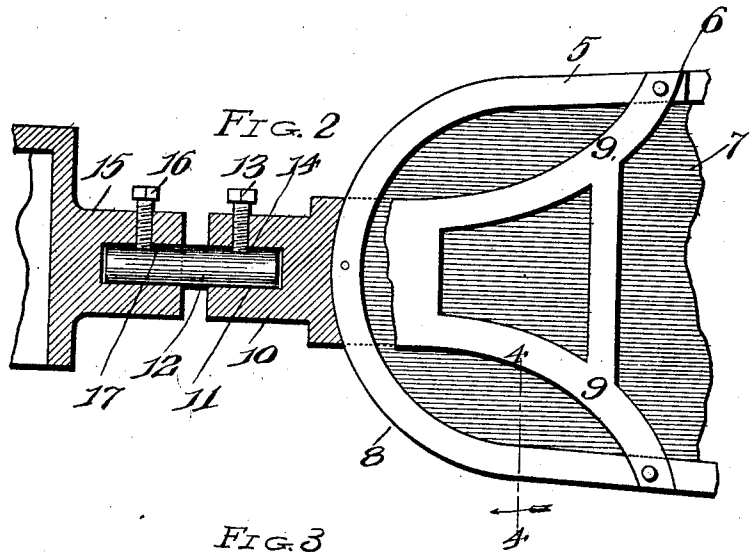


FIG. 3

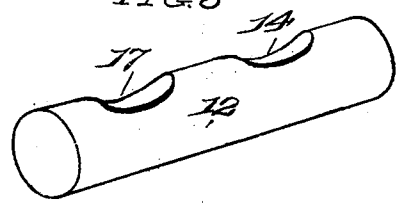
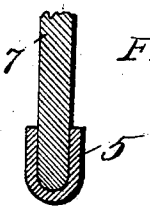


FIG. 4



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH RUSSEL, OF ST. LOUIS, MISSOURI.

SOCKET FOR FAN-BLADES.

No. 925,030. Specification of Letters Patent. Patented June 15, 1909.

Application filed January 20, 1908. Serial No. 411,836.

To all whom it may concern:

Be it known that I, JOSEPH RUSSEL, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Sockets for Fan-Blades, of which the following is a specification.

This invention relates to improvements in fan blades and consists in the novel arrangement, construction and combination of parts as will be fully hereinafter described and claimed.

The object of my invention is to construct a fan blade consisting of a channel frame in which is placed a blade of card-board or similar material, and the said frame is retained in position upon the motor by means of a pin connection, said pin being composed of brittle and frangible material, so that in the event of breakage, the sockets will at all times remain intact.

A further object of my invention is to construct a fan blade to be removably and adjustably attached to a motor, or like operating mechanism by means of a pin constructed of brittle material, so that in the event of accident, the pin will break without in any way injuring the sockets in which the pin is secured.

Figure 1 is a perspective view of my complete invention. Fig. 2 is an enlarged sectional view of my invention, showing parts thereof broken away. Fig. 3 is a detail perspective view of the pin made use of in carrying out my invention. Fig. 4 is an enlarged detail cross-sectional view taken on the line 4—4 of Fig. 2.

In the construction of my invention I provide a fan blade consisting of a channel frame 5, preferably formed of two sections, and connected together at the points indicated by the numeral 6. In the channel frame is inserted the blade 7, which I construct of heavy card-board, and the said form is supported at its end 8 in supporting arms 9.

The supporting arms 9 radiate from a socket 10, and are formed integral therewith. In the socket is formed a bore 11, in which is inserted one end of the connecting pin 12, which pin is made of brittle and frangible material and the said blade is held in position upon the pin, by means of the set screw 13, which passes through the socket 10, and its end fitting into a recess 14, formed in the surface of said pin. The opposite end of the pin 12, is inserted into a socket 15, forming part of the motor, and is held in position by means of a set screw 16, its end fitting into a recess 17, formed in the pin 12, and in alinement with the recess 14.

My invention has been devised to remedy the frequent breakage of fan blades and their connections, occasioned by accidental shock; the pin being of material so brittle that in the event of shock or jar to the fan blade, the pin will break without injury to the fan blade, sockets or motor.

Should the pin become broken, a new one can be easily and readily inserted. This invention is an improvement upon my application for patent now pending, Serial Number 335814, and 377083.

In the preferred embodiment of my invention, the pin 12 is of such length that when seated in the bores of the sockets, the faces of said sockets will be held slightly apart, as shown in Fig. 2, in order to insure the sockets against injury in the event of the breakage of the pin 12.

Inasmuch as the particular formation of the fan blade, the reinforcing thereof, and the manner of securing the same to the coupling claimed herein constitute the subject matter of another co-pending application Serial No. 429,380, filed April 27, 1908, such features are not claimed herein.

Having fully described my invention, what I claim is:

1. In combination, a motor. a channeled revolving socket actuated by the motor, a fan blade, a socket mounted upon the inner end of the fan blade and channeled to register with the channel in the first named socket, a pin of frangible material mounted in the channels of said sockets, and means for locking said sockets in place upon said pin.

2. In combination, a motor, a channeled revolving socket actuated by the motor, a fan blade, a socket mounted upon the inner end of the fan blade and journaled to register with the channel in the first named socket, a pin of frangible material mounted in the channels of said sockets, said pin being of such length with reference to the depths of said channels as to keep the faces of the sockets apart, and means for locking said sockets in place upon said pin.

3. In combination with rotary propelling means, a fan driven thereby, a breakable coupling between said fan and said means including socket members, a pin removably engaging both of said members, and means for

securing the pin to the socket members including screws, one engaging each of said members and entering recessed portions in the pin.

4. In combination with a motor, a fan blade, securing devices on the motor and fan blade, and a removable device constituting the connecting means between the blade and motor formed for engagement with the securing devices on the blade and motor, said connecting device being also formed of frangible substance.

5. In combination with driving means, a fan blade, and a device for supporting the fan blade upon the driving means, said device constituting the sole coupling between said blade and driving means and being formed to relieve the blade under abnormal shock to prevent breakage thereof.

6. In a device of the class described, an operating member, a fan, and a removable coupling detachably secured to both said fan and operating member formed to permit separation of the fan from its operating member under abnormal shock or strain.

7. In a device of the class described, an operating member, a fan, and a removable coupling detachably secured to both said fan and operating member and comprising a pin, and means interlocking therewith to prevent the normal tendency to separate in an axial direction under the operation of the fan.

8. In a device of the class described, an operating member, a fan blade of light material such as paper, a reinforcing frame for the same, attaching means for the fan blade, and a separable coupling between said attaching means and the operating member detachably connected to both of the same formed to permit separation of the fan from its operating member under abnormal shock or strain.

9. In a device of the class described, an operating member, a fan blade of light material such as paper, a reinforcing frame for the same, attaching means for the fan blade, and a breakable coupling between said attaching means and the operating member detachably connected to both of the same formed to permit separation of the fan from its operating member under abnormal shock or strain.

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

JOSEPH RUSSEL.

Witnesses:
ALFRED A. EICKS,
WALTER C. STEIN.