

No. 777,215.

PATENTED DEC. 13, 1904

C. R. MESTON.
SHAFT COUPLING.
APPLICATION FILED MAR. 21, 1904.

NO MODEL.

Fig. 1.

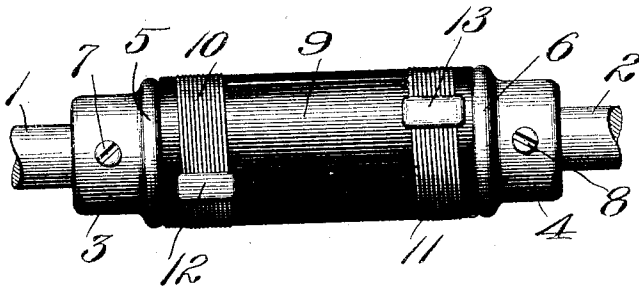


Fig. 2.

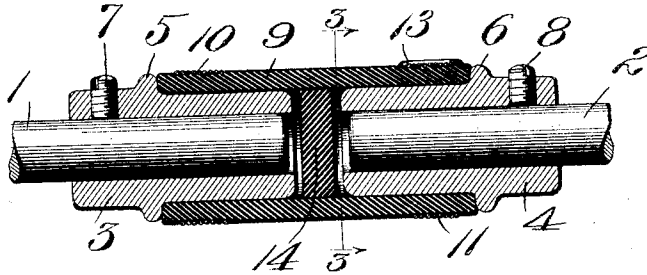
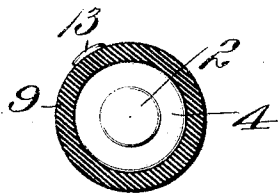


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES R. MESTON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO EMERSON ELECTRIC MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 777,215, dated December 13, 1904.

Application filed March 21, 1904. Serial No. 199,137. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. MESTON, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Shaft-Couplings, of which the following is a full, clear, and exact description, such as will enable others 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, in which—

Figure 1 is a view in side elevation of the coupling complete. Fig. 2 is a longitudinal sectional view through the coupling, showing the parts assembled; and Fig. 3 is a cross-sectional view on the line 3 3 of Fig. 2.

This invention relates to shaft-couplings, the primary object being to provide a coupling whereby the ends of two alining shafts can be conveniently centered and connected together.

Another object of the invention is to provide a coupling capable of being utilized as a connector for coupling an electric conductor to a non-conductor part to be used in connection therewith.

Another object is to provide a coupling capable of connecting an energized part or body with a body to be insulated or non-energized.

Other objects, as well as the novel details of construction of this invention, will be specifically described hereinafter, and the novel features will be defined in the claims, it being understood that changes in the form, proportion, and minor details of construction may be resorted to without materially departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawings, 1 designates one member, and 2 the other member to be connected.

3 and 4 designate tubes for engaging the respective bodies to be connected, which tubes I prefer to make counterparts of each other, so that they can be interchangeable and so that it will not be necessary to have rights and lefts in forming the coupling. This is a material advantage from the manufacturer's

standpoint, as considerable difficulty is experienced from time to time where it is necessary to have the coöperating parts of different formation. Each tube is provided with a circumferential shoulder or flange, (designated by the reference-numerals 5 and 6, respectively.) The tubes are capable of being attached to the respective ends of the bodies, rods, or shafts to which they are to be secured by removable fastening devices, illustrated as comprising screws 7 and 8.

9 designates a tube-engaging sleeve, which is preferably constructed of a suitable flexible insulating material. In actual practice I have found that ordinary hose-pipe will efficiently answer for the purpose, although I reserve the right to use any other flexible insulating material, if desired.

In assembling the parts the coupling members 3 and 4 are first secured to the bodies to be connected and their ends are forced into the opposite ends of the sleeve 9, which preferably is provided with a bore slightly less than the exterior diameter of the engaging ends of the tubes. When the ends of the tubes are forced into the sleeve, said sleeve will be slightly expanded, so as to firmly bind against the outer walls of the tubes 3 and 4. In order to insure a rigid connection between the ends of the sleeve and each respective tube, I provide a fastening means, illustrated as comprising a binding of wire or suitable material successively wound near each end, as illustrated in Figs. 1 and 2. Each binding 10 or 11 is first tightly wound around the outer sleeve 9, and the free end and the adjacent convolutes of the binding are fastened together, as by solder, as at 12 or 13. An insulating-disk 14 may also be used to space the connected parts away from each other and insulating them, so that in assembling the coupling any liability of the respective ends of the bodies 1 and 2 coming in contact will be obviated—as, for instance, when either of the parts is a shaft to a motor. The disk 14 can easily be interposed between the tubes 3 and 4 before the sleeve 9 is secured in position,

and I prefer to construct this tube of a diameter equal to the diameter of the adjacent portions of the tubes for obvious reasons.

It is obvious that the coupling device can be used for a multiplicity of purposes.

The shoulders 5 and 6, between which the sleeve 9 is positioned, prevent the respective tubes from coming together, so that when the device is used as a coupling for attaching an energized body to an unenergized body the liability of the non-energized body being energized will be remote.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A coupling for connecting and centering two alining shafts comprising two tubular members, the bores of which extend throughout the entire lengths of the members, and a flexible insulating-sleeve engaging said members; substantially as described.

2. A coupling for centering and insulating two alining shafts, said coupling comprising two rigid tubular members, and a tubular flexible insulating-sleeve engaging the ends of said members; substantially as described.

3. An insulating-coupling comprising two tubular members one of which is interchangeable for the other, and a connecting member exteriorly engaging the two members and consisting of a flexible insulating-sleeve frictionally engaging the adjacent ends of the two tubular members so as to space them apart; substantially as described.

4. An insulating-coupling comprising two tubular members one of which is interchangeable for the other, a connecting member exteriorly engaging the two tubular members, and a flexible binding around the connecting member to bind it to the respective tubular members, substantially as described.

5. An insulating-coupling comprising two interchangeable tubular members, and an insulating-sleeve engaging the members and spacing them apart; substantially as described.

6. An insulating-coupling comprising two tubular members, and a spacing, connecting and insulating sleeve fitting over the ends of the tubular members; substantially as described.

7. An insulating-coupling comprising a pair of shaft-engaging tubes having shoulders, a flexible spacing, connecting and insulating sleeve fitting over the tubular shaft-engaging members and abutting against the shoulders; substantially as described.

8. A pair of spaced coupling-tubes, an insulating-sleeve fitting over the tubes, and an insulating-disk within the sleeve and between the tubes; substantially as described.

9. A pair of spaced coupling-tubes, an insulating-sleeve fitting over the tubes, and an insulating-disk within the sleeve and between the tubes, said disk being of a diameter equal to the diameter of the adjacent portions of the tubes; substantially as described.

10. A coupling comprising two tubes having circumferential shoulders, an insulating-sleeve fitting over the ends of the tubes and terminally engaging the shoulders, an insulating-disk between the tubes and within the sleeve, and binding devices near the respective ends of the sleeve for securing said sleeve to the respective tubes; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 18th day of March, 1904.

CHARLES R. MESTON.

Witnesses:

GEORGE BAKWELL,
HERBERT I. FINCH.