(No Model.)

S. R. & F. A. WILMOT.

SHEAVE STAND FOR SWITCH OPERATING MECHANISMS.

No. 489,174. Patented Jan. 3, 1893.

Fig. 1.

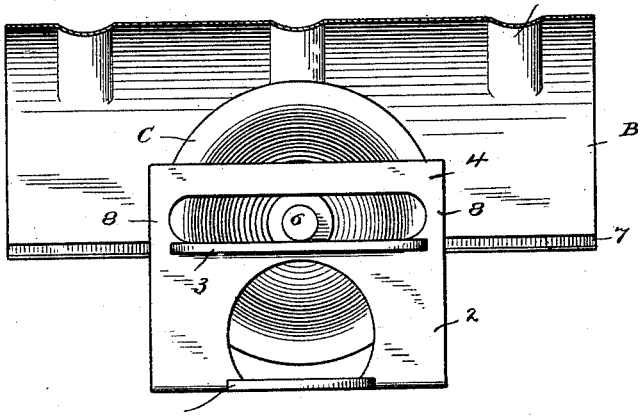


Fig. 2.

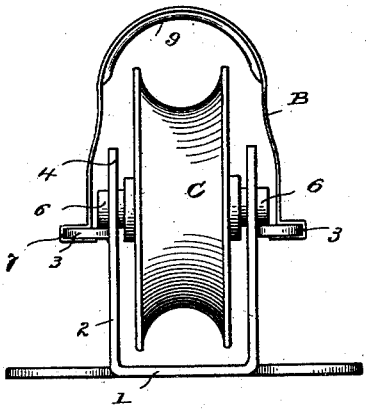


Fig. 3.

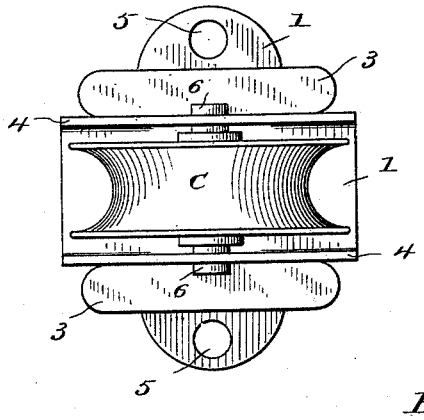


Fig. 4.

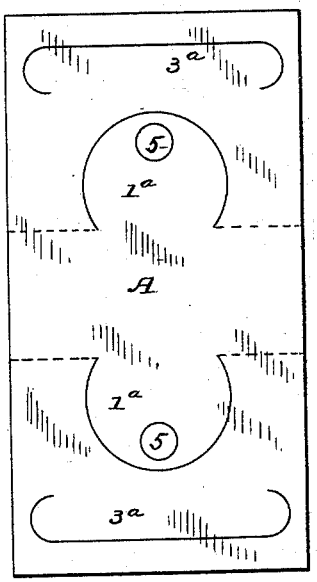


Fig. 5.

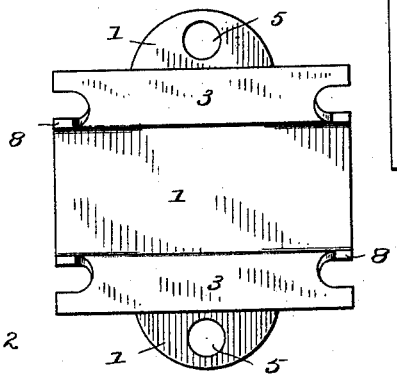
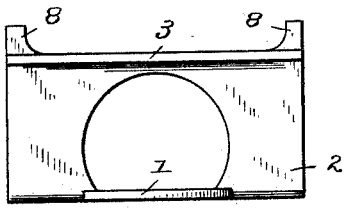


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL R. WILMOT AND FRANK A. WILMOT, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE WILMOT & HOBBS MANUFACTURING COMPANY, OF SAME PLACE.

SHEAVE-STAND FOR SWITCH-OPERATING MECHANISMS.

SPECIFICATION forming part of Letters Patent No. 489,174, dated January 3, 1893.

Application filed September 30, 1892. Serial No. 447,430. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL R. WILMOT and FRANK A. WILMOT, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sheave-Stands for Switch-Operating Mechanisms; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has for its object to provide a covered sheave stand especially adapted for use in connection with switch operating mechanism.

It is of course well understood that switches located at a distance from the operating stands or towers are manipulated by means of iron pipes extending from the switch mechanism proper to the operating levers at the stand or tower. In order to reduce friction to the minimum these tubes are supported and run upon grooved pulleys or sheaves. In order to prevent the sheaves from being clogged or their action impeded by ice or snow it is necessary that the stands by which the sheaves are carried should be provided with covers. It is furthermore essential that the stands should be made strong so that they will stand hard and constant use for an almost unlimited length of time. In order to provide a stand of this class which shall be simple, inexpensive to produce, firm, strong and durable we have devised the novel sheave stand and cover therefor which we will now describe referring by numbers to the accompanying drawings forming part of this specification in which:

Figure 1 is a side elevation of the stand and sheave the cover being in longitudinal section. Fig. 2 an end elevation of the stand and cover. Fig. 3 a plan view of the stand and sheave. Fig. 4 a view of the blank from which the stand is formed and Figs. 5 and 6 are respectively a plan view and side elevation corresponding with Figs. 3 and 1, of a form of stand in which the holding strips are dispensed with.

The cover and stand are each formed from a single piece of sheet metal, all of the metal in each of the respective blanks being used so that all waste from scrap is avoided.

A, see Fig. 4, denotes the blank from which the stand is formed. It will of course be apparent that in order to give great strength and solidity to the stand a wide base is required.

The essential parts of the stand are the base denoted by 1, the side pieces denoted by 2, and side flanges denoted by 3 which receive and hold the cover which is denoted by B. To these parts in our preferred form we add holding strips 4 by which the sheaves are retained in the stands at all times and are prevented from tilting when used on a curve. Holes 5 are punched through the blanks through which bolts are passed in use to attach the stands in place. As the greatest strain in use comes transversely to the stand we make the transverse dimension of the base greater than the longitudinal dimension. The longitudinal dimension of the base is the full width of the blank as indicated by dotted lines in Fig. 4. The transverse dimension of the base is secured by punching out pieces 1^a from the blank, and the side flanges are obtained by punching out pieces 3^a from the blank, the inner ends or pieces 1^a and 3^a being left attached as clearly indicated in Fig. 4, the lines of the cut in punching out said pieces 1^a and 3^a being clearly shown by full lines in said figure.

In the completed stand the side pieces are turned upward at a right angle to the base as clearly shown, and the side flanges are turned downward at a right angle to the side pieces as is also clearly shown.

C denotes the sheave which is provided with hubs or trunnions 6 ordinarily cast integral with the sheave. In the form shown in Figs. 1, 2 and 3 it is necessary to place the sheave in position when the side pieces are bent to place, in which position they are retained by holding strips 4. These holding strips insure that the sheave be retained in place at all times and also prevent the hubs or trunnions from tilting when the stands are used on a curve.

In making the form illustrated in Figs. 5

and 6 a shorter blank is used and the holding strips are dispensed with. Aside from this difference the construction is practically the same.

The cover B is formed from a single piece of sheet metal. The essential feature of the cover is that the transverse edges are curved outward and then re-curved inward to form grooves 7 which engage the edges of the side flanges as clearly shown in Fig. 2. In practice the trunnions rest upon the side flanges. In order to reduce friction to the minimum the side flanges are made long enough so that the trunnions may roll thereon the full distance required when the switch connection, not shown is moved in either direction, and the blank is made wide enough to leave sufficient metal at the ends of the side flanges to form stops 8 upon each side of the stand which prevent the possibility of the sheave being moved off from the stand. The cover is made long enough so that the sheave is fully protected at each extreme of its movement, and is preferably provided with corrugations 9 for the purpose of imparting strength and rigidity to it. It may be locked to the stand in any suitable manner, as by one or more rivets passing through the metal on opposite sides of the grooves and through the side flanges, or by compressing the metal forming the grooves at the ends of the side flanges.

Having thus described our invention we claim:

1. A sheave stand formed from a single piece of sheet metal, the same consisting of a base formed from the full width of the blank, side pieces formed by bending the ends of the blank at right angles to the base, pieces 1^a being struck out from the side pieces to increase the size of the base transversely, side flanges formed by bending portions of the side pieces outward at right angles thereto, and stops at the ends of the side flanges.

2. A sheave stand formed from a single piece of sheet metal, the same consisting of a base formed from the full width of the blank, side pieces formed by bending the ends of the blank at right angles to the base, pieces 1^a being struck out from the side pieces to increase the size of the base transversely, side flanges formed by striking out metal from the side pieces at right angles thereto, and stops at the ends of the side flanges, the extreme ends of the blank forming holding strips extending between the stops which retain the sheave in place.

3. The combination with a sheave having trunnions on opposite sides thereof, of a stand consisting of a base formed from a sheet metal blank, the transverse dimension thereof being the full width of the blank, side pieces formed by bending the ends of the blank at right angles to the base, pieces 1^a being struck out from the side pieces to form the transverse dimension of the base, and side flanges formed by bending portions of the side pieces at right angles thereto leaving stops at the ends of the side pieces adapted to be engaged by the trunnions to prevent the sheave from running off.

4. The combination with a sheave stand formed from a blank of sheet metal and consisting of a base, side pieces formed by bending the ends of the blank at right angles to the base, and side flanges formed by bending metal from the side pieces outward at right angles thereto, of a cover likewise formed from a blank of sheet metal the opposite ends of the blank being curved outward and then re-curved inward to form grooves which engage the side flanges.

5. The combination with a sheave stand formed from a blank of sheet metal and consisting of a base, side pieces and side flanges substantially as described, of a cover likewise formed from a blank of sheet metal and having grooves formed by curving the transverse edges of the blank outward and then re-curving them inward, which engage the side flanges to hold the cover in place.

In testimony whereof we affix our signatures in presence of two witnesses.

SAMUEL R. WILMOT.
FRANK A. WILMOT.

Witnesses:
A. M. WOOSTER,
PEARL M. REYNOLDS.