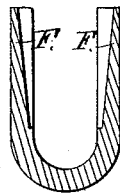
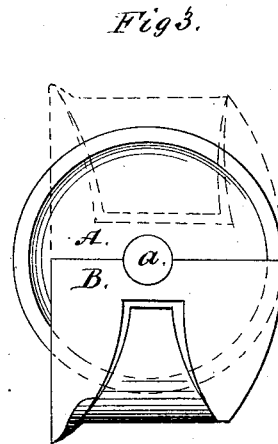
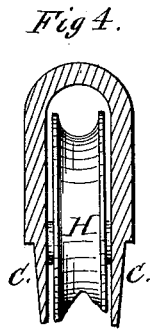
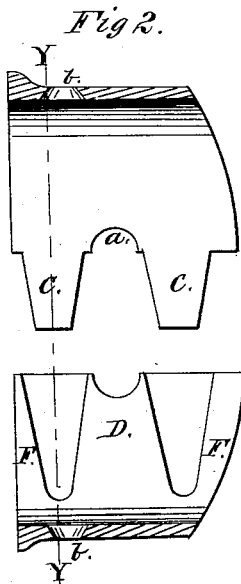
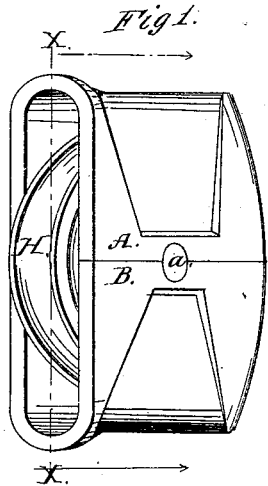


C. B. CLARK.  
Sash-Pulleys.

No. 163,459.

Patented May 18, 1875.



Witnesses:

C. H. Woodward  
Th R. Clark.

Inventor:

Charles B Clark

# UNITED STATES PATENT OFFICE.

CHARLES B. CLARK, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN SASH-PULLEYS.

Specification forming part of Letters Patent No. **163,459**, dated May 18, 1875; application filed March 15, 1875.

### CASE M.

*To all whom it may concern:*

Be it known that I, CHARLES BASS CLARK, of Buffalo, in the county of Erie and State of New York, have invented an Improved Window-Sash Pulley, of which the following is a specification:

My improvement belongs to that class of sash-pulleys which are constructed without a face-plate, the case of the same being let into the frame like an ordinary escutcheon.

My improvement has for its object to produce a cheap, compact, and durable pulley, to be so molded and cast that its several parts may be readily joined and adhere together without drilling or riveting.

It consists in forming the case in two parts, the line of division extending horizontally from front to rear of the case, so that the axle-bearings may be molded out either wholly in one part of the case or the other, or partly in both.

It further consists, by reason of said division, of forming the ends of the case whole, thus affording a suitable base for the screw-holes, and yet allowing the sides of the case to yield when pressed together.

In the accompanying drawings, Figure 1 is a perspective elevation of my improved pulley, with all the parts in position. Fig. 2 is a sectional elevation with the wheel removed. Fig. 3 is a side elevation of the pulley, showing the contour of wheel. Fig. 4 is a transverse section of the case, on the line *yy* of Fig. 2, the parts being separated to show the friction-arms and the interior ribs, which form the recesses for the said arms.

Similar letters of reference indicate corresponding parts.

As represented in the drawings, A B is the divided case of the pulley. From the sides of the part A, at each side of the axle-bearing *a*, two sets of arms, C C, project into the interior of the case part B, as shown in Figs. 2 and 4, and adhere to the sides thereof by friction. The inner edges of these arms embrace a friction guide or rib, D, projecting from the center of the case part B on each side, in a line with the axle-bearing *a*, as shown in side elevation in Fig. 2. Ribs F F also embrace the outer edges of the friction-arms C

C, and these, with the center rib D, serve as guides to the ready and accurate connection of the divided case, and also to strengthen the same where most necessary, and to form wide bearings for the pulley-axle, as shown in Fig. 2. The coincident sides of the case part B and the friction-arms C C are slightly inclined, and act as wedges when forced together.

By means of this arrangement of the arms C C, and their recesses formed by the ribs D F F, a large frictional surface is secured, rendering the connection reliable, while the strengthening of the case part B with the ribs D F F enables the portions between to be cast thin, and thus secure elasticity, and consequently great adhesion. The sides of the case part A are also made thin, margin enough being left to suitably strengthen the case and support the axle-bearing.

A greater or less number of friction-arms than four may be employed; or the friction-arms may be placed outside instead of inside the case without changing the nature of the improvement, namely, holding the case together by friction-arms.

The ordinary method of constructing this class of sash-pulley is by dividing the case flat-wise and in halves. This method leaves the parts loose, which is a serious objection in handling, transporting, and adjusting them to the frame, and even then their fastening in tends to wedge the axle-bearings apart, and the shrinkage of the mortise often loosens the pulley, so as to render it worthless.

By my improvement I avoid the defects above mentioned, and am enabled to mold the case so that the arms on the one part and their recesses on the other, together with the axle-bearings, may be drawn from the sand; also, that the screw-holes may be molded entire and undivided through each end of the case, and to combine great strength and elasticity in a symmetrical form, in which the adhesion of the parts firmly binds the case together.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A sash-pulley case formed in two parts, A

B, when the line of division is made horizontally from front to rear, so that the arms C C and the ribs D F F, together with the axle-bearings *a a* and screw-holes *b b*, may be molded and cast in the manner described and shown, substantially as and for the purpose set forth.

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

CHARLES B. CLARK.

Witnesses:

EDWIN L. FERGUSON,  
HENRY R. CLARK.