C. BAUER.

ROLLING SCREEN.

APPLICATION FILED SEPT. 8, 1908.

930,923.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.

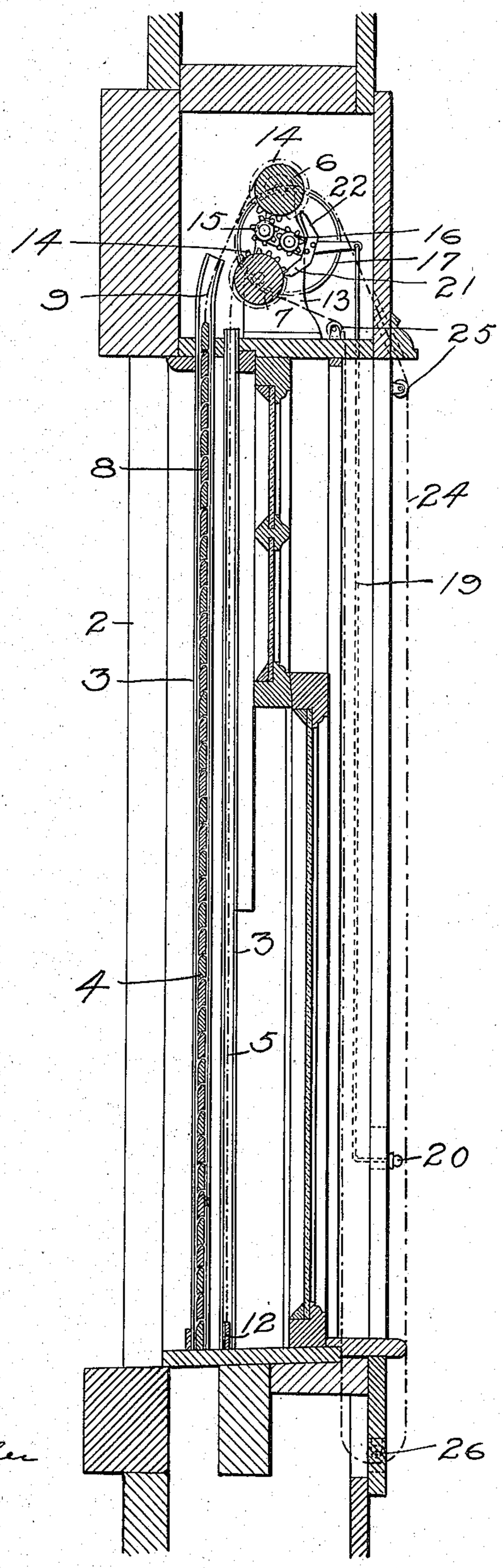


FIG. 1

WITNESSES

M. Arthur Keller

M. A. Barth

INVENTOR

Conrad Bauer

by Samuel E. Rockwell

his attorney

C. BAUER.

ROLLING SCREEN.

APPLICATION FILED SEPT. 8, 1908.

930,923.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 2.

FIG. 2

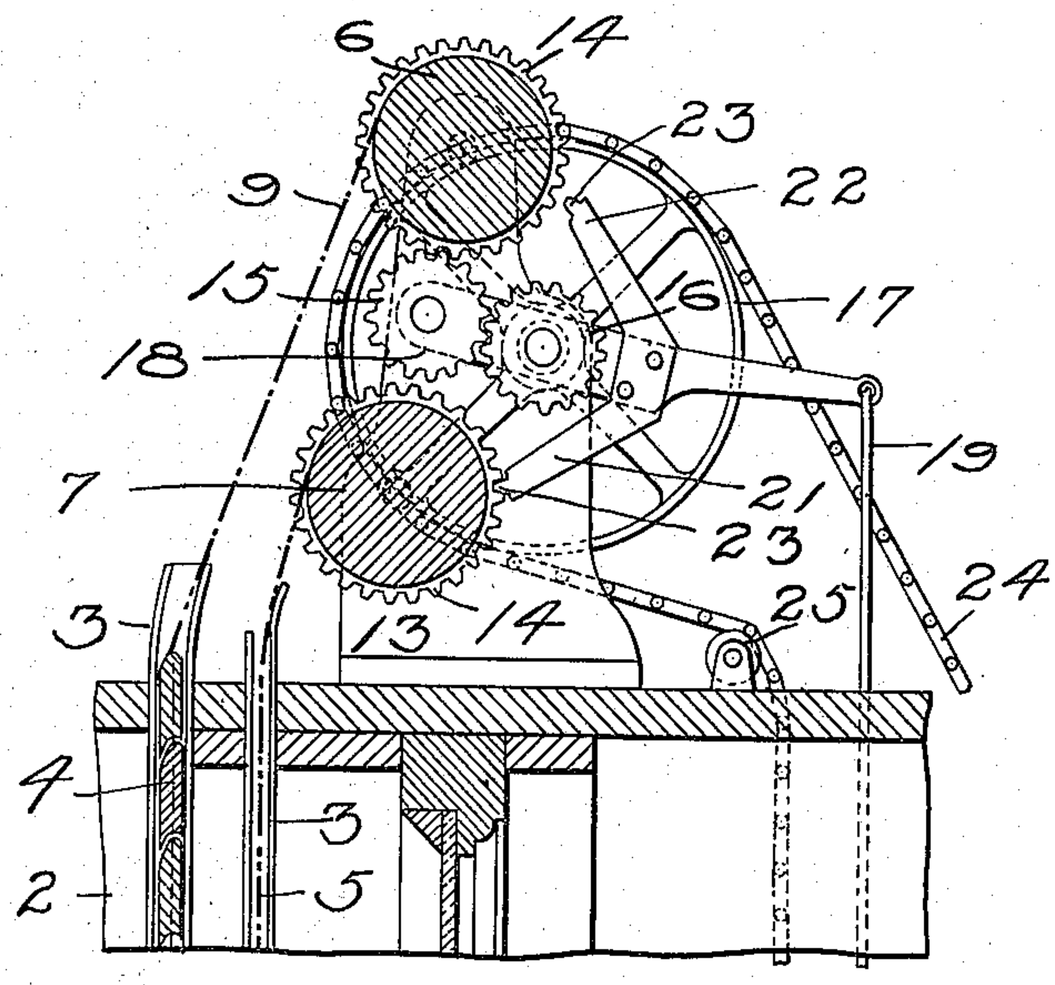


FIG. 3

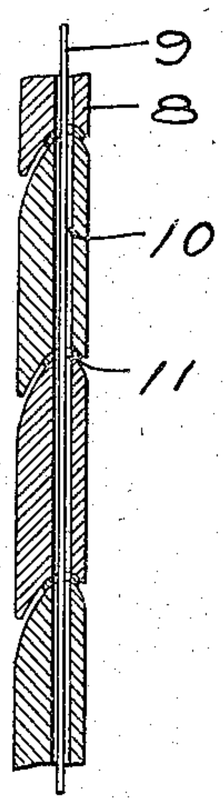
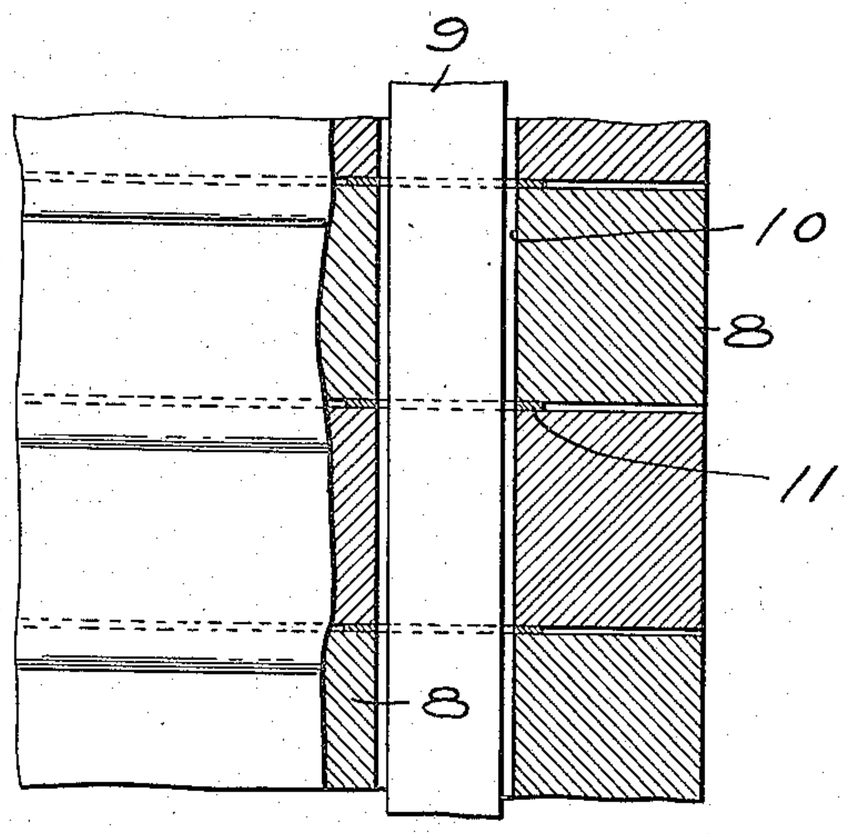


FIG. 4



WITNESSES

M. Arthur Keller.

M. A. Barth

INVENTOR

Conrad Bauer

by Thomas E. Bakewell

his attorney

UNITED STATES PATENT OFFICE.

CONRAD BAUER, OF PITTSBURG, PENNSYLVANIA.

ROLLING SCREEN.

No. 930,923. Specification of Letters Patent. Patented Aug. 10, 1909.

Application filed September 8, 1908. Serial No. 451,989.

To all whom it may concern:

Be it known that I, CONRAD BAUER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Rolling Screens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view of a window provided with my improvement; Fig. 2 is an enlarged vertical sectional view illustrating the operating mechansim, and Figs. 3 and 4 are detailed views of a portion of a screen to be hereinafter referred to.

My invention relates to an improvement in rolling screens and I have shown it applied to a shutter screen in combination with a fly screen for a window, although it may be used in like manner in connection with other flexible screens for doorways and other openings.

I will now describe my invention so that others skilled in the art to which it appertains may understand and construct the same.

In describing my invention, the reference numeral 2 illustrates a window frame which is provided with the usual sashes and at each side of the frame, secured to the upright portions thereof are the vertical guideways 3 in which are adapted to travel, the screens 4 and 5 carried by the rollers 6 and 7 at the top of the window frame. The outer screen 4, which is carried by the roller 6 is composed of a series of transverse slats 8 which are hinged together by means of tapes 9 which are threaded through the centrally disposed openings 10 of each slat. These slats are provided with space pieces 11 which fit between and conform to the shape of the adjacent edges of the slats. The purpose of these space pieces is to admit light and air and to also prevent rubbing and friction of the slats during the rolling operation of the screen. The inner fly-screen 5 carried by the roller 7 may be formed of any suitable material, such as wire netting and may be provided with an end weight as indicated by the reference numeral 12 for the purpose of keeping the screen in a taut or stretched condition.

The rollers 6 and 7 at the top of the window-frame are journaled at one end in the standard 13 and are provided each with a gear wheel 14 adapted to mesh with the intermediate pinion 15 which in turn meshes with the pinion 16 carried by the journal of the sprocket wheel 17. The pinion 15 is journaled on the end of the lever arm 18 which is loosely mounted on the journal of the operating sprocket 17. The opposite end of the arm 18 is provided with an operating rod 19 which projects down along the inside of the casing of the window and terminates in the outwardly projecting handle 20. By means of the rod 19 the lever arm 18 is caused to be shifted so as to bring the pinion 15 alternately into mesh with either of the gear-wheels 14, according as it may be desired to roll or unroll the outer or inner screen.

Carried by the lever arm 18 are the locking fingers 21 and 22 provided with teeth 23. These locking fingers are adapted to alternately engage with the teeth of the gear-wheels 14 so as to hold one of the rollers 6 and 7 against rotation while the other is being operated.

When it is desired to operate the outer screen, the lever arm 18 is caused to be shifted so as to bring the operating pinion 15 into mesh with the upper gear-wheel 14, the tooth carried by the locking finger 21 engaging with the teeth of the lower gear-wheel and holding the inner screen roller against rotation. When it is desired to bring the inner screen into operative connection with the winding mechanism the lever arm 18 is caused to be shifted so as to disengage the locking finger 21 from the lower gear-wheel 14 and to simultaneously bring the operating pinion 15 into engagement with the lower gear-wheel 14 and the locking finger 22 into locking engagement with the upper gear-wheel 14 carried by the roller 6. The sprocket wheel 17 is operated by the sprocket chain 24 which passes over the guide rollers 25 at the top of the window frame and the guide roller 26 at the bottom of the window-frame. By pulling on the sprocket chain, the inner or outer screen, according to the connection of the pinion 15, may be raised or lowered.

It will be apparent to those skilled in the art that many changes may be made in the construction of the mechanism without departing from the spirit of my invention.

My invention will be appreciated by those skilled in the art. The screen is simple, strong and durable and by means of its compactness may be readily applied to a window casing of ordinary construction.

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

1. In a screen, the combination of a plurality of rollers, screens adapted to be wound thereon, gear-wheels carried by the rollers, a shiftable actuating device intermediate the gear-wheels, and means for bringing the said actuating device into engagement with any one of the gearing-wheels.

2. A window screen including in combination an inner and an outer screen, rollers on which said screens are adapted to be wound, gear-wheels carried by the said rollers, an intermediate drive gear and devices for bringing the intermediate drive gear alternately into mesh with the roller gear-wheels.

3. A window screen including in combination an inner and an outer screen, rollers on which said screens are adapted to be wound, gear-wheels carried by the said rollers, shiftable actuating and locking means intermediate the roller gear wheels, and devices for simultaneously bringing the actuating device into operative engagement with one of the roller gear-wheels and the locking device into engagement with the other gear wheel.

4. A window screen, including in combination an inner and an outer screen, rollers on which said screens are adapted to be wound, actuating means intermediate the rollers, and means for bringing the said actuating means alternately into operative connection with said rollers.

5. A window screen including in combination an inner and an outer screen, rollers on which said screens are adapted to be wound, drive-wheels carried by the said rollers, an intermediate drive-wheel, and means for bringing the intermediate drive wheel alternately into engagement with the roller drive-wheels.

6. A window-screen, including in combination an inner and an outer screen, rollers on which said screens are adapted to be wound, actuating means intermediate the said rollers, locking means intermediate the said rollers, and means for simultaneously bringing the actuating means into operative connection with one of the rollers and the locking means into connection with the other roller.

In testimony whereof, I have hereunto set my hand.

CONRAD BAUER.

Witnesses:
M. A. BARTH,
M. ARTHUR KELLER.