

**tropp**

THOMAS J. TROPP, D.MUS.  
MUSIC SERVICES

Tropp Music Services, LLC  
proudly presents

## **Paul G. Mehlin #35220**



*Built 1916*  
*Awaiting refurbishment*

**Price range: \$5,800 to \$40,000**



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## 1916 Mehlin & Sons piano, S/N 35220 Inspection Report and Restoration options

### General commentary

Paul G. Mehlin & Sons was established in 1889. After immigrating from Stuttgart in the early 1850s, Paul Mehlin worked at several other New York piano factories before establishing his own, with offices, factory, and showrooms located in West New York, New Jersey. Mehlin pianos were built in low quantity, but very high quality. Many pianists in the late nineteenth and early twentieth centuries considered them comparable with the premium American and European makers. The company was particularly known for their “Inverted Grand” piano, an upright piano with a plate and stringing scale similar to that of a grand. Unlike the vast majority of American makers, the company survived the Great Depression and remained in business until about 1960.

This piano is their Style No. 20: the “Violagrاند.” According to their 1916 catalog (found at [antiquepianoshop.com/online-museum/mehlin/](http://antiquepianoshop.com/online-museum/mehlin/)), the instrument is, “Made in Choice Figured Mahogany case.” It is 5 feet 4 inches in length and 4 feet 8 inches wide. The catalog shows a retail price of \$1,225 (a little more than \$28,000 in today’s dollars), which is a high-priced instrument for the time. Not surprising, considering some of the premium features found in this piano: a full sostenuto, vertically oriented soft pedal, and most unexpectedly, a tunable aliquot triplex scale in the treble. The following description is taken from the aforementioned catalog:

The Violagrاند (patented Nov. 4, 1913; Dec. 2, 1913; Feb. 3, 1914; March 17, 1914; Dec. 15, 1915; March 7, 1916. Trade mark No. 102899) takes its name from the fact that it is an application to pianoforte construction of the acoustical principles of the violin. While only five feet four inches in length, its power, grandeur and volume of tone are comparable only with grands of the largest size; it is a veritable flower garden of harmonious beauty, and is made in both Colonial and Louis XV designs, Styles 20 and 21.

This particular instrument, serial number 35220, was played hard by a serious pianist for many years. The hammers are deeply grooved, the ivories well worn. While it was certainly well cared for during its early life, it shows signs of neglect in the past several years. There is a round stain on the right side of the music desk, water marks on the soundboard, and dried rose petals inside the action cavity; this indicates that a potted plant likely stood on that spot for many years. The cabinet has its share of nicks and bruises, and the casters were so thoroughly corroded that they had to be cut off (the screws were rusted) and replaced before we were even able to set up the piano in our workshop.

Still, the quality of this instrument, the creativity of its design, and the near-perfect condition of the soundboard should make it an excellent candidate for restoration. Fully restored, it should carry a value of around \$25,000 to 30,000.

**Price range for restoration: \$5,800 for minimum shop preparation, up to \$40,000 for complete restoration. The restoration components recommended by Dr. Tropp are highlighted in this document.**

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Style No. 20  
Violagrاند

Made in Choice Figured Mahogany case. All other fancy woods to order.

Length. . . 5 feet 4 inches  
Width. . . 4 feet 8 inches  
Net weight. . . 600 pounds  
Gross weight. . . 930 pounds  
Board. . . . 74 cubic feet

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\$1395

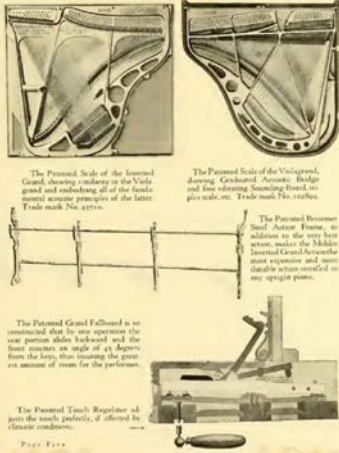
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Style No. 20

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Mehlin Patented Specialties



The Patented Scale of the Grand showing a melody in the Violagrاند and embodying all of the fundamental acoustic principles of the latter. Trade mark No. 42710.

The Patented Scale of the Violagrاند, showing Graduated Acoustic Bridge and low vibrating sounding board in perspective. Trade mark No. 122820.

The Patented Resonance Steel Action Frame, in addition to the very low action, makes the Mehlin Patented Grand Acoustically most expansive and most flexible action created in any upright piano.

The Patented Grand Fallboard is so constructed that by one operation the war portion slides backward and the front remains at an angle of 45 degrees from the keys, thus leaving the greatest amount of room for the performer.

The Patented Touch Repetition adjusts the touch perfectly, if affected by climatic conditions.

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Mehlin Individuality

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**W**HAT the very reasonable and increasing prejudice in favor of the House of Mehlin, conducted so long on personal lines, has taken such deep root in the hearts of the American people, is shown by the daily increase of its present large patronage.

From the small beginning has grown this illustrious house under the careful guidance of that veteran inventor and acoustician, Paul G. Mehlin, and his sons, who from the start realized that, in the science and craft of piano construction, personal supervision is the most important and valuable factor. With persistent, ideal endeavor they have from time to time invented such priceless improvements for pianofortes, hereinafter explained, that it has brought the House of Mehlin and the Mehlin Pianofortes to a point where they are today a dominating force in the musical world.

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## Cabinet

The outer structure, including the lid, legs, fallboard, and music desk.

### OBSERVATIONS

	<p>The piano's case is very well built. It has stood the test of time and remains thoroughly solid.</p>
	<p>There are several stains, especially on the music desk and the soundboard. They appear to be water stains; my guess is that a potted plant lived on the desk for a time and periodically leaked onto the soundboard.</p>
	<p>All hardware is intact and in good shape, but needs polishing. The exception is the casters, which were thoroughly corroded and have already been replaced for safety reasons.</p>

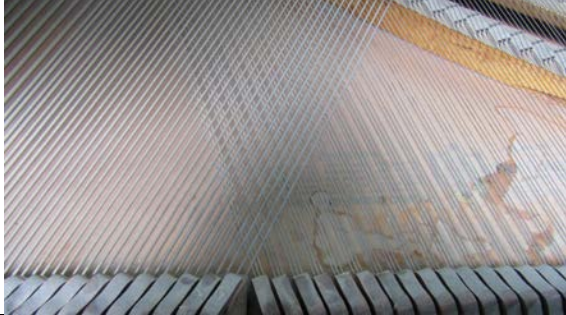
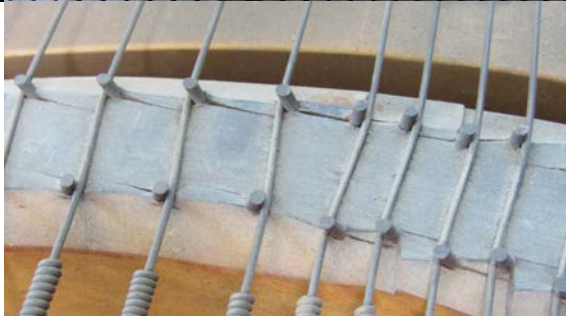

### OPTIONS

- **Thorough cleaning and polishing:** All wooden surfaces will be cleaned and polished using the same 3-step process as in our cleaning service. Soundboard will be dusted (thoroughly cleaned and polished if piano is being restrung), plate will be cleaned. All hardware and metal components will be polished, replaced if necessary. Stains and scratches will remain, but it will be a generally clean instrument.
- **Basic refinishing:** All services above, but outer case components will receive a fresh coat of finish.
- **Complete refinishing:** Entire case will be sanded down, stained, and varnished. Plate will be removed and re-gilded. (Plate removal requires restringing.) All hardware and metal components will be polished, replaced if necessary. Piano will look brand new.

## Soundboard, Bridges, and Plate

The soundboard is the primary resonating surface for the instrument and must be clean and free of major cracks. The bridges are attached to the soundboard and are the only contact points by which the strings cause the soundboard to vibrate. The plate, sometimes called a “harp” is the large cast-iron frame that holds the strings. As the stretched steel piano strings exert approximately 18 tons of pressure on the plate (nearly 30 tons in a concert grand), a crack in this part usually means death for the piano.

### OBSERVATIONS

	<p>Soundboard is fully intact. No cracks have been detected on the top or bottom. It has also retained a fairly strong crown. The staining mentioned above is quite visible in this photo.</p>
	<p>The bass bridge shows some significant cracking. All bridge pins appear to be holding firmly at this time, but the bridge might require recapping if the cracking continues to spread.</p>
	<p>The plate is solid and shows no signs of cracking. As with the soundboard, there are some stains on the plate.</p>



### OPTIONS

- **No direct action:** Clean and re-gild the soundboard and plate, as described in the Cabinet section. Leave cracks in the bridges and hope for the best.
- **Repair bridge cracks:** Treat the bridge caps with epoxy in order to solidify them. This option requires restringing.
- **Recap bridges:** Completely replace the top portion of the bridges with new Bolduc quarter-sawn rock maple bridge caps and new pins. Re-notch the caps to accommodate the strings. This option requires restringing.

## Keys

The wooden blocks that act as a conduit between the player and the piano action. Since only about 25% of the key stick is visible and open to the elements, most of the wear and tear on this part is to the player end, especially the key tops, the white or black covering of the wood. Key tops were originally made of ivory, but are now very resilient plastic.

### OBSERVATIONS

	<p>The keys themselves are in remarkable shape. Wood is clean and fully intact, the bushings are in fine shape. The damper lift felts must be switched out and the backchecks either releathered or replaced, but all other key components are fine.</p>
	<p>With the exception of one head and one tail, all original ivory is present and fully intact, though the keytops are filthy and several are cracked.</p>

### KEY OPTIONS

- **Clean, travel, and space keys:** Keys will be thoroughly cleaned and then re-aligned and rebalanced to assure optimum performance.
- **Re-felt keys and key frame, replace key capstans:** All old felt will be replaced from the key frame, and the will be rebushed with new felt. In addition, new capstan screws will be provided.
- **Repair broken keys and replace all key buttons:** We have not identified any broken keys on this keyboard, but replacement of the key buttons would help to mitigate such damage in the future.
- **Replace all keys with new:** A complete set of new sugarpine keys will be custom-milled to this piano's key frame.


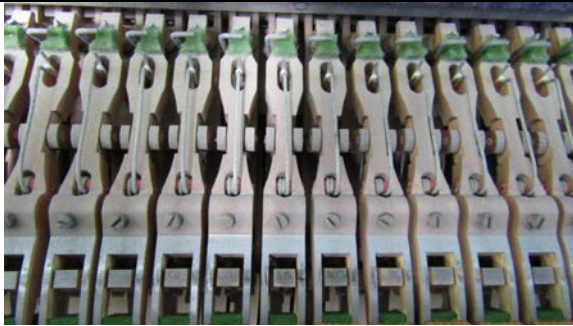
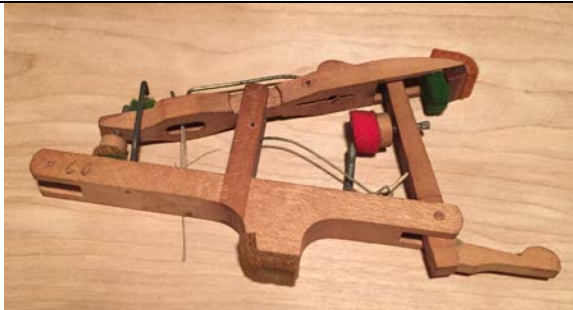
### KEYTOP OPTIONS

- **Clean, sand, and buff ivory keytops:** Keytops will be cleaned and polished as closely as possible to their original luster. Two missing tops will be replaced and loose keys will be reglued as necessary. Ebony sharps will be cleaned and polished. (Chips and scratches will remain.)
- **Acrylic repair of chipped ivories:** In addition to the above services, chipped lips will be restored with acrylic repair compound.
- **Recap all ivory keys.** Ivory keytops will be removed and replaced with Vagias artificial ivory.
- **Recap all keys.** In addition to the above, sharps will be recapped with new ebony wood.

## Action

The extremely complex mechanical workings of the piano. There are about 7,500 parts here, all playing a role in sending the hammers against the strings when the keys are struck. Keeping each part perfectly aligned is vital to the continued health of the instrument.

### OBSERVATIONS

	<p>All repetition levers are functioning properly but are rather sluggish and require extensive regulation or replacement.</p>
	<p>The design uses an older spring style that has been greatly improved in the last 100 years.</p>
	<p>The wippens used in this action use a unique design that will be difficult to replicate (and difficult to repair, should this become necessary). As a result, action rebuild quotes include retrofitting or replacing the action frame to accommodate standard parts.</p>




### OPTIONS

- **Thoroughly regulate action:** A few more years may be squeezed out of these action parts with a complete regulation.
- **Refurbish original action components:** The existing wippens will be refurbished with new felt, screws, and springs. Center pins will be replaced as necessary.
- **Rebuild action with new wooden components:** Retrofit action frame and replace whippens with new, modern components made up of traditional materials: wood, felt, metal. For this instrument, we have chosen Tokiwa action parts, manufactured in Japan. Upgrade to Renner is available.
- **Rebuild action with new composite components:** A new, state-of-the-art action manufactured by Wessel, Nickel, and Gross will be installed. Decades in development, these action parts are precision engineered to match the weight and geometry of traditional materials, but are made of nearly indestructible composite compounds.

## Hammers

Once set in motion by the action, the hammers strike the strings to make them vibrate. Because the force and speed with which the hammer moves actually causes the shank to flex, various parts of the hammer's head are hardened or softened to fine-tune the piano's tone in several different playing styles. Of course, this pressure on the shank also means that they break from time to time and must be replaced.

### OBSERVATIONS

 	<p>The hammers are all intact, but severely worn with deep grooves and rock-hard felt. This piano was used very heavily by a previous owner, and this wear shows.</p>
	<p>Some of the treble hammers have worn all the way through to the underfelt, or even the wood.</p>

### OPTIONS




- **Reshape and revoice:** It might be possible to shave away the bad felt and revoice these hammers, but so much felt must be removed from some of them that it will substantially change the geometry of the hammers. We can try this, but it is not recommended.
- **Replace hammers but keep existing shanks and flanges:** All hammer shanks except one are still intact. It would be possible to replace the hammers on the existing shanks. The one shank that was repaired, seen in the bottom photo, was done using a method that is no longer in use. This shank will be replaced. We have chosen Abel "Royal Blue" hammers for this project, as they most closely match the specifications of the German-trained Paul Mehlin's piano. Imadegawa hammers may be substituted for a slight savings.
- **Replace hammers, shanks, and flanges using traditional components:** It is recommended that the hammers and all related hardware be replaced, the existing shanks work, but no longer have any flexibility or play to them; they are likely to start breaking under heavy use.
- **Replace hammers, shanks, and flanges with composite parts:** If we are replacing the action parts with Wessel, Nickel & Gross ones, we have the option to match the hammers to these parts.



## Strings, Pins, Pinblock

Not actually strings, per se, but rather high tensile strength steel wire, the vibrating strings are the sound source for the piano. Kept clean and rust-free, the strings of a piano can last for decades, but they will eventually wear out and require replacement. A piano can usually be completely restrung *once* without replacing the pin block – the wooden block into which the tuning pins are driven.

### OBSERVATIONS

	<p>The strings are hanging in, although they will need replacement soon. Treble strings have some advancing rust deposits and have lost much of their elasticity; but they are still holding pitch quite well – an indication that the pinblock is also still in good shape.</p>
	<p>The bass strings are currently producing a very “dead” sound, which is typical at their age. Even if the treble strings are not replaced, it would be possible to replace these. It should be noted, however, that this will make a treble restringing more expensive later.</p>
	<p>Tuning pins and stringing felt are dull and sad-looking, but will continue to function until the piano is restrung.</p>



### OPTIONS

- **Clean and polish strings:** Strings will be polished to remove rust and coated to prevent further deposits. This will allow the restringing to be tabled for another five to ten years.
- **Replace bass strings only:** Bass strings will be removed and replaced with new strings, custom made to match the specifications of the old ones. This will make treble stringing more expensive whenever it is completed, as those wires will have to be strung underneath the bass strings.
- **Completely restring the instrument:** This will need to be done eventually. All strings and tuning pins will be removed and replaced. Existing agraffes can probably be polished and reused. All stringing felt will be replaced in the process.

## Dampers

Particularly in the lower section of the piano, healthy strings can continue to vibrate for a minute or even longer. Without the dampers, the long sustain of the strings would wreak musical havoc. The complex mechanism that allows control of the dampers by both keys and pedals must be maintained, regulated, and adjusted. In addition, the felt base for the damper itself must be maintained.

### OBSERVATIONS

	<p>The dampers are still mostly functional, though the felt is extremely worn and dirty. The blocks are fine. They can be polished and retained. Felt should be replaced whenever the instrument is restrung.</p>
	<p>Damper lift mechanism needs regulation but is still functional. Regulation might turn up sluggishness that only replacement will fix. The sostenuto system, while functional, also needs to be thoroughly cleaned and lubricated.</p>

### OPTIONS

- **Clean and polish damper heads; regulate damper mechanism:** We will leave all mechanical components and felt in place, but make sure the dampers are as functional as possible.
- **Replace damper felts:** Recommended in conjunction with restringing. Damper felts will be replaced with new and mechanism re-regulated.
- **Replace damper felts and all mechanical components:** Damper system will be brand new. Only the damper blocks themselves will be original.

### Bench

Often manufactured and even purchased separately on modern pianos, the bench was often a matching piece of furniture on early pianos. In either scenario, the bench must be properly maintained for the player's comfort and safety.



### OBSERVATIONS

The piano has no bench with it. Several options will be included on the service quote; other options are available.

### Trapwork

A fancy name for the piano's pedals and all the corresponding hardware that sits below the piano, attached to the key frame.

### OBSERVATIONS

		<p>All trapwork is in solid mechanical shape</p>
		<p>The pedals are old and tarnished, but functional. They may be cleaned and polished or may be replaced if desired.</p>

### OPTIONS

- **Clean and polish all metal components, clean and lubricate mechanism**
- **Replace pedals and rods with new; clean and lubricate mechanism**



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### Pricing scenarios

While some of the components discussed above are interdependent, the option to “mix and match” leads to dozens of possible pricing scenarios. We are providing the adjoining Excel spreadsheet to help you in pricing these options. Below are a few possible scenarios, intended to give you a ballpark.

#### **Scenario 1: Minimum work for reasonable playability**      **Asking price: \$8,580**

All standard inclusions, with the following exceptions:

- Replace hammers on existing shanks
- Purchase standard mahogany bench

#### **Scenario 2: Tom’s recommendation**      **Asking price: \$20,820**

- Included case work, pinblock, trapwork
- Restore and refinish soundboard and plate
- Recap bridges and completely restring
- Re-felt keys and keybed, recap natural keys
- Rebuild action and hammers with composite parts
- Replace damper felts only
- Purchase mahogany “Petite” artist’s bench

#### **Scenario 3: Everything: a complete rebuild**      **Asking price: \$42,090**

- Complete restorative refinishing
- New soundboard and bridge caps (old bridges moved to new soundboard)
- Refinish plate
- New 5-ply Maple pinblock
- Complete restring with new agraffes
- All new keys
- Action, hammers, and damper action completely rebuilt using traditional components
- New pedals and rods fitted to existing lyre
- Purchase artist’s bench and quilted cover

### A comparable new piano?

There are only a few piano factories left in the United States. In our opinion, the closest comparable piano to this one is a Mason & Hamlin Model B. The 2016 MSRP for this instrument in Satin Mahogany finish is \$63,923.

A comparably sized and outfitted Kawai (GL-30) carries an MSRP of \$31,395.